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BANGLADESH JOURNAL OF POLITICAL ECONOMY

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ECONOMICS OF FOOD, AGRICULTURE AND WATER

INDUSTRY, TRADE AND TRANSPORT

Bangladesh Journal of Political Economy, Vol 11 No. 2

THE PRESENT STATUS OF BAOR FISHERIES IN BANGLADESH : AN EVALUATION OF GOVERNMENT POLICIES

M. SERAJUL ISLAM

1. INTRODUCTION

Inland culture fisheries including baor (ox-bow lake or dead river) can play an important role in fish production of Bangladesh but it constitutes only 21.3 pre cent of total catch. Most of these resources are unutilized or underutilized for fish production although they may be the principal media for increasing the animal protein output which is highly deficient in the diet of Bangladeshi people. The scope for production of animal protein from other sources than fish is limited because of high pressure on land for the cultivation of crop and other uses. It is observed that production of capture fisheries has decreased due to some factors such as unjudicious catching or overfishing, large-scale silting, extensive use of insecticides and brought low-land under HYV of paddy [2; 35-51, 10; 211-21, 7; 84-94]. On the other hand, the production of culture fisheries has increased steadily for the last few years (Appendix I). However, adequate attention was not paid to develop these resources during the past decades, consequently, there had been a wide gap between the actual production of these water bodies and their potential level.

Ponds, ox-bow lakes and shrimp farms in brakish water are the major sources of inland culture fisheries where scientific culture and better management can be adopted easily to increase the production. Among these sources, ox-bow lake culture fisheries is relatively new in Bangladesh [11].

In Bangladesh, there are 70 baors in Jessore, Kusshtia, Faridpur and Khulna districts which cover 5488 ha of water surphase in the winter season and produce 1254 mt of fish annually [5]. The baors are owned by the government and leased out to private fishermen. Therefore, considering the potential of baor fish production, the government of Bangladesh undertook policies for baor development. Accordingly, the Department Of Fisheries (DOF) included 6 baors namely, Baluhar, Joydia, Katgora, Fetehpur, Morjad and Bergobindapur under the Baor Development Project (BDP) in 1979-80. All these baors are located within

Jessore, Jhenidah and Kushtia districts. The estimated development cost of this project was Tk. 185.16 million of which 73 per cent cost was financed by the World Bank [4]. Among others, the main objectives of this project are: (1) to increase the production of the inland fisheries by developing the 6 ox-bow lakes and supporting hatchery facilities to baor fisherman and (2) to improve the well-being of fishermen through increased income.

A few emperical studies have been conducted on pond fish production [1;103-114, 6; 1-20,9]. and shrimp farming in brakish water [2, 12; 164-8] but baor fisheries which could turn up to a very important component of culture fisheries has remained unexplored. Therefore, the present study made an attempt to examine the present status of project baors where culture fisheries is introduced and its impact on increasing the income of baor fishermen. All project baors set target of production in each production year depending on aquatic condition of individual baor. Accordingly, economic status of these baors are measures here in terms of two indices. (i) production gap between the target and achievement and (ii) economic return of respective baor. Selected baors are of different sizes and varied from 47 ha to 283 ha. Therefore, returns were measured in terms of per hectare. Although 6 baors were undertaken by BDP in 1979-80 but actually, production started as project baor from 1982-83. Accordingly, this study considered the production period from 1982-83 to 1988-89. For this study data were collected from official records of project baors and other secondary sources. But to examine the impact of BDP on changing income from fishing, 50 licensed fishermen from 5 project baors were selected purposively. Another 50 fishermen from 5 non-project baors were also selected to compare income of fishermen between project baors and non-project baors. Both for project baors and non-project baors data were collected for the period 1985-86 to 1988-89. To know the production performance of non-project baors, data were collected from these same non-project baors during the period 1988-89.

The paper is organised as follows: Section II discusses the production practices and achievement, and causes of not achieving the target. Section III analyses the economic returns of project baors and some related socio-economic factors influencing it. Some conclusions are drawn in the final section of this paper.

II. PRODUCTION PRACTICES AND ACHIEVEMENT OF PROJECT BAORS

Fingerlings are stocked in baor normally in August-September but some of the species such as carpew are stocked in May-June. The peak stocking

season is October to February. It is general practice that in every year a certain quantity of different species of carp fishes are stocked depending on target of production. All stocked fishes are not harvested in next year but some quantity of stockings are kept in baor for harvesting in second year. Only desired or marketable size of fishes are harvested. Generally, quantity of harvesting depends of size and quantity of fingerlings stocked and unharvested stocking of previous year.

Although fingerlings are stocked in different months of the year but artificial feed and fertilizer are not applied in baor for two reasons : (1) almost all baors cover vast area of containing huge water bodies and (2) baors are rich in aquatic weeds and natural foods which stocked fishes can easily consume. Actually, quantity of stocking and target of production depend on size and aquatic condition of a particular baor. It can be seen from Table 1 that number of fingerlings stocked in different baors varies widely among different baors and also within the same baor for the period 1982-83 to 1988-89. Considering all project baors, stockings/ha increased in 1986-87 to 1988-89 compared to previous years. In study period per hectare stocking was higher in Baluhar baor and was lower in Morjad baor compared with other baors. In Fatehpur baor, stocking/ha was lowest in 1982-83 but in the following study years it was highest (except in 1984-85) among all the baors.

Per hectare stocking rate was increased in all the project baors to achieve the target of production set in the following study years. From Table 2 it is clear that all baors had same target of production in each particular year except in 1988-89,

Table-1 : Fingerlings Stocked in Project Baors No/Ha

Name of baor	Area(ha)	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Baluhar	282	2184	1553	2705	1297	2092	1706	2009
Joydia	189	1407	768	746	1063	1820	1262	2225
Katgora	71	465	507	1008	1199	790	1049	2457
Fatehpur	47	64	1553	1286	4045	3249	3723	2838
Morjad	253	775	217	534	561	1078	640	1423
Bergobindapur	217	940	659	585	832	1290	1410	2736
All baors	1059	1245	836	1225	1100	1601	1357	2123

Source : Adopted from Official records of the BDP

but the target was raised from 148 kg/ha in 1982-83 to 741 kg/ha in 1985-86 which was continued upto 1987-88. In 1988-89, however, production target was fixed differently for 6 baors considering the differences of size and aquatic condition of these baors. But Table 2 shows that the target of production was rarely achieved. Only Baluhar and Joydia baor achieved the target of production during the years 1982-83 to 1984-85. Production of other baors in different years were much more lower than the target. It was reported that after completing the development work World Bank handed all project baors over DOF in 1985-86 and in this year target was raised sharply from 371 kg to 741 kg/ha but actual production increased a little only in 1986-87 and 1987-88 compared with the production of 1985-86 but considering all baors, production decreased again in 1988-89.

There are several reasons for non-fulfilment of production target. First, baor fish production mainly depends on its size, aquatic condition and its overall management. Ignoring all these factors, same production target was fixed for all baors in each year considering the production potentiality of Baluhar baor which is one of the best in all baors. Secondly, according to the project proposal it was decided that 1800 fingerlings would be stocked against 741 kg/ha target of production from 1985-86 and other following years. But actual stocking rate was lower than that of the proposed rate which caused the production lower than the target. In addition, inefficient management and poor supervision, weak administration, imbalanced and untimely stocking, insufficient and late release of fund and illegal or unauthorized catch by local people or corrupt staff are thought to be constraints in achieving the target of baor fishing.

Table-2 : Target and Achievement of Production, Kg/Ha

Name of baor	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	
	Target=148 Achievement	Target=188 Acihevement	Target=371 Achievement	Target=741 Achievement	Target=741 Achievement	Target=741 Achievement	Tar-get	Achiev-ment
Baluhar	408	548	951	701	712	630	709	367
Joydia	294	127	375	404	500	630	635	389
Katgora	30	11	89	110	113	258	353	311
Fatehpur	91	71	200	204	161	157	319	323
Morjad	86	42	99	44	86	87	158	91
Bergobindapur	94	104	148	95	400	447	461	370
All baors	208	204	389	308	397	422	353	300

Source : Adopted from official records of the BDP

III. ECONOMIC RETURNS OF PROJECT BAORS

Achievement of production target is directly related to the level of income earned through selling fishes. Table 3 reveals that with few exception, all baors had positive trend of increasing income specially from 1984-85. Considering all baors, income increased from Tk. 3307/ha in 1982-83 to Tk. 8908/ha in 1987-88. It can be seen from Table 3 that, there was a wide range of variation of income among the baors and also within the same baors in different study period. This variation has two reasons (i) achievement of production and (ii) sales price of fish. Between these two, first reason is more important to influence the income because sales price of project baor fish is fixed by DOF and it is always lower than the local market price so that local people can purchase. The average sales price of baor fish varied from Tk. 15.90 to Tk. 21.14/kg throughout the study period. Sales price varied in a small scale among the baors in the same year and also in different years due to quality and size of fishes sold.

Table-3 : Income Earned* in Project Baor, Taka/Ha

Name of baor	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Baluhar	6814	9150	14623	13363	12284	12914	7857
Joydia	4657	1955	6861	10384	9967	13660	8035
Katgora	363	131	1814	2364	2070	6646	6295
Fatehpur	1258	1044	3137	4774	3673	3540	6773
Morjad	1262	611	1377	914	1881	1912	1854
Bergobindapur	1376	1670	2414	2488	9866	9266	4113
All baors	3307	3329	6203	6510	7822	8908	5535

Source : Adopted from Official records of the BDP.

* Income earned means total gross income of which 60% for government and 40% for fishermen.

It may be noted here that 40 per cent of total catch or total income of each project baor is paid to licensed fishermen of that particular baor. For this share of income, fishermen are supposed to harvest the fishes with their own management and expenses. For licensing, every genuine fisherman deposits Tk. 100 to government treasury. Licensed fisherman shares income of fishing and he gets addition right to harvest rani fishes (small size fishes of wild species) from baor throughout the year. Accordingly, harvesting cost was not included in total expenditure (Table 3).

Salaries allowance and contingencies were the main two cost items of baor fish production and considering all baors, they shared 28 to 62 per cent and 38 to 72 per cent respectively in the study period. Concerning the total expenditure, with few exception in Fatehpur and Joydia, there was a

small variation among the baors in the same year and also in different years. However, the average per hectare cost varied from Tk. 1809 in 1984-85 to Tk. 3613 in 1987-88. Average cost expenditure increased by Tk. 1470 and Tk. 1270 in 1987-88 and 1988-89 respectively compared to 1982-83. Salaries allowances were allocated for government officials and staffs, and contingencies were spent for purchasing fry and fingerlings, transportation, fuel, baor maintenance and office management. Some of the fixed costs such as construction of office building and hatchery, development of access road and other infrastructures were not considered in this analysis. Due to uncertainty it is very difficult to estimate the longivity of these items and their consecutive uses in different years. On the other hand, cost of producing fry and fingerlings and maintenance of office building and other infrastructures were included in contigencies.

Table - 4 : Percentage Distribution of total Expenditure* of Project Baor/Ha.

	Name of Project Baor						
	Baluhar	Joydia	Katgora	Fatepur	Monad	Bergobindapur	All Boars
1982-83							
Total expenditure (Tk)	2055	4247	1578	2952	1269	1453	2143
Sal. allowance %	26	19	69	69	41	35	35
Contingencies %	74	81	31	31	59	65	65
1983-84							
Total expenditure (Tk)	2542	1530	2429	3243	771	1456	1739
Sal. allowance %	14	28	38	24	52	40	28
Contingencies %	86	72	62	76	48	60	72
1984-85							
Total Expenditure (Tk)	2354	1435	2506	3804	927	1796	1809
Sal. allowance %	32	45	39	50	66	46	43
Contingencies %	68	55	61	50	34	54	57
1985-86							
Total Expenditure (Tk)	1959	1998	3712	6403	1361	2487	2246
Sal. allowance %	5757	46	45	67	64	61	58
Contingencies %	43	54	55	33	36	39	42
1986-87							
Total Expenditure (Tk)	2325	2254	2438	3774	1372	2275	2148
Sal. allowance %	67	57	48	68	65	60	62
Contingencies %	33	43	52	32	35	40	38
1987-88							
Total Expenditure (Tk)	2900	3329	3774	7557	2072	3511	3613
Sal. allowance %	49	40	50	27	58	48	49
Contingencies %	51	60	50	73	42	52	51
1988-89							
Total Expenditure (Tk)	2549	3301	5317	8232	2306	4344	3413
Sal. allowance %	34	38	49	57	49	42	43
Contingencies %	66	62	51	43	51	58	57

Source : Adopted from official records of the BDP.

* Total expenditure excluded expenses of harvesting by licensed fishermen.

Net Returns and Related Socio-economic Factors

Production attainment and its relative expenditure cause the variation of net returns. In Baluhar baor, net return was highest due to higher level of production and lower production expenditure, and it is the only baor where net return increased in the following years compared to 1982-83 (Table 5). Joydia baor stands second in respect of earning net income. Only in 1982-83 and 1983-84, this baor earned negative net return but in the following years net return turned into positive and increased significantly. Except these two baors, other project baors had negative net returns in almost all the study years. However, the total net returns from Baluhar and Joydia baor were so higher that made the average net return of all baors positive for the years 1983-84 to 1987-88. In other two years i.e., in 1982-83 and 1988-89, average per hectare net return of all baors were Tk. 159 and Tk. 92 respectively.

Concerning the net returns of project baors fisheries, there are some socio-economic and administrative factors which are responsible for having the lower level or even negative net returns.

Table-5 : Net Return* Earned by Project Baor, Taka/Ha

Name of Project baor	1982—83	1983—84	1984—85	1985—86	1986—87	1987—88	1988—89
Baluhar	2034	2948	6420	6059	5045	4848	2165
Joydia	—1453	—357	2682	4232	3726	4867	1520
Katgora	—1360	—2350	—1418	—2294	—1196	214	—1540
Fatehpur	—2197	—2617	—1922	—3539	—1570	—5433	—4168
Morjad	—512	—404	—101	—813	—243	—925	—1194
Bergobindapur	—627	—454	—348	—994	3645	2049	—1876
All baors	—159	258	1913	1660	2545	1732	—92

Source : Adopted from Table 3 and 4.

* Net return = 60% income of government portion — Total expenditure.

The very objectives of project baor are to develop the infrastructures needed for baor fisheries and to increase the income of baor fishermen. Therefore, all project baors produced and distributed fishes with welfare motive. With this view, 40 per cent income was distributed to licensed fishermen as a share for harvesting but normally, that could be done even with 15 to 20 per cent of total catch.

Secondly, produced fishes were sold by average price Tk. 15.90 to Tk. 21.14/kg in the study period so that general people can purchase but the per unit price was more lower than the local market price.

Thirdly, due to inefficiencies of baor managers and other staffs, most of

the baors could not produce fish upto the potential level which is the most important reason for having the lower level of income in baor fish production.

IV. CONCLUSIONS

Out of 70 baors in Bangladesh, DOF has taken up 6 baors under BDP with the financial assistance of World Bank in 1979-80 but production actually started from 1982-83. All these baors fixed their target of production for the year 1982-83 to 1988-89 but almost all the baors in each year could not achieve the target.

It was found that the average production of baor fish increased from 204 kg to 422 kg/ha in study period but the level of production was lower (except in 1982-83 and 1983-84) than the target set in each year. Due to increased fish production in the following years, project baor fishermen were benefited as they got 40 per cent of total catch or income for harvesting the fishes with their own arrangement. Annual income of baor fishermen increased significantly during the period 1985-86 to 1988-89 than income of fishermen is non-project baor (Appendix 2). Following the non-profit motive and considering the condition of consumer, produced fishes were sold out by minimum price fixed by DOF and the average sales price varied from Tk. 15.90 to Tk. 21.14/kg in studied years which was very much lower than the market price. However, 40 per cent share of income of fishermen and lower sales price made the average net return lower or even negative in some years.

Policy Implication

Baor fishery is one of the neglected sector of inland culture fisheries in Bangladesh but almost all 70 baors have great potentiality to increase fish production through scientific culture and better management. Moreover, there is a big gap between the production of project baor and non-project baor. From the survey of 5 non-project baors, it was found that in 1988-89 average fish production was only 184 kg/ha which is about 100 per cent lower compared to project baors (Appendix 3). Therefore, considering the production performance of project baors, all other baors should bring under scientific fish culture to increase the production. On the other hand, production of project baor can be increased further through proper supervision and effective management, and removing the identified constraints.

Secondly, under the BDP, 6 hatcheries in 6 respective baors and one large central hatchery were constructed with huge amount of expenditure

to supply a good quality of fry and fingerlings for the baor fishermen. But in the present management system, baors are leased out to middlemen intermediaries through auction. Most of them are not genuine fishermen and do not show their interest to introduce culture fisheries in their respective baors. Therefore, hatchery facilities will be extended only when this traditional baor management system will be replaced by new fisheries management policy declared by Bangladesh government [3, 13; 14-23, 8; 34-6] or all baors may be brought under the BDP so that culture fisheries can be introduced.

Thirdly, the government should take strictest measure to stop unauthorised fishing from the baors under culture.

If these policies are adopted, total baors fish production can be increased in several times.

Apendix-1 : Annual Total Catch and Area Productivities by Sectors of Fisheries for 1984-85 to 1987-88

Sector of Fisheries	Water area (ha.)	Total catch (m.ton) 1984–85[a]	1985–86[a]	1986–87[a]	1987–88[b]
A. Inland Fisheries					
a) Capture :					
1. Rivers and estuaries except Sundarban area	1031563	213057	199600	195117	183817
2. Sundarban	—	6825	7112	6035	8066
3. Beels	114161	45893	45258	42077	45610
4. Kaptai lake	68800	2700	2433	3981	4068
5. Flood lands	2832792	194130	187396	183796	182037
Capture total	4047316	462605	441799	431006	423598
		(59.8%)	(55.6%)	(52.6%)	(51.2%)
b) Culture :					
1. Ponds	146890	111567	123804	142876	149423
2. Baors	5488	962	968	1174	1254
3. Shrimp farms	64246	11246	19951	22050	25248
Culture total	216624	123811	144723	166100	175925
		(16.0%)	(18.2%)	(20.3%	(21.3%)
Inland total	4263940	586416	586522	597106	599523
		(75.8%)	(73.0%)	(73.4%)	(72.5%)
B. Marine Fisheries					
a) Industrial fisheries (trawler)		12440	11898	12356	10395
b) Artisanal fisheries		175123	195503	205223	217187
Marine total		187563	207401	217579	227582
		(24.2%)	(26.1%)	(26.6%)	(27.5%)
Country total catch		773979	793923	818685	827105
		(100%)	(100%)		(100%)

a. Fish catch statistics, Department of Fisheries (1987).
b. Department of Fisheries, unpublished data.

Appendix -2 : Annual Income of a Baor Fisherman, 1985-86 to 1988-89

Taka

Name of Boar	Fishing Years			
1985-86	1986-87	1987-88	1988-89	
Project Baor:				
Joydia	4384	6269	7000	6000
Katgora	4500	6208	6583	6208
Fatehpur	6143	6714	7429	7214
Morjad	4107	4857	5642	5821
Bergobindapur	4500	5000	5167	4458
All Project Baors	4754	7546	6385	5908
Non-Project Baors:				
Nosti	3923	5000	5385	5577
Solamanpur	3875	4333	4833	5125
Chapatola	4250	4656	5250	5375
Benipur	5344	5469	6313	6906
Sasta baor	519	475	350	344
All Non-Project Baors	3552	3926	4364	4603

Source : Baor survey.

Appendix -3 : Target and Achievement of Non-Project Baor, 1988-89

Name of Non-Project Baor	Area (ha)	Target (ton)	Achievement (ton)	Production (kg/ha)
Nosti	41	25	8.7	212
Solamanpur	56	4	3.6	64
Chapatola	28	15	14.0	500
Benipur	47	9	7.0	149
Sakor	20	3	2.0	100
Total	192	56	35.3	184

Source : Baor survey.

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REGIONAL VARIATION IN THE ADOPTION OF HYV RICE TECHNOLOGY IN BANGLADESH

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A.S.M. SHAFIUL ISLAM **
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Difference in productivity in different crops particularly in rice is a widely discussed phenomena. But strangely enough no serious attention is given to this issue in policy-making regarding agricultural development. This does not mean that no research has been undertaken by researchers relating to important issues of crop production. In Bangladesh it is difficult to have reliable farm level data to perform empirical research. Using the survey data conducted by the Bangladesh Institute of Development Studies (BIDS) some researchers undertook studies on important issues of Bangladesh Agriculture relating to farm size and productivity, relative productivity efficiency of different tenure classes, share cropping and economic efficiency. Some of the studies have genuine merit. But there is no indepth study on regional productivity differences and regional pattern of growth.

Only few studies threw some light on regional productivity differences in Bangladesh [10; 67-86, 17, 16; 143-55]. Except Islam [17] none of them undertook detailed study to this vital issue. They put superficial comment in productivity differences. Zaman [20; 149-62], Hossain [13] and Jabbar [18; 17-50] attempted to analyse some of the issues. For their analysis they threw logical arguments rather than deep rooted analysis. They analysed the issues from different angle but most of their claims were not supported by detailed empirical and quantitive evidence.

Although in Bangladesh the different regions experience output losses due to frequent natural disaster, still some regions are leading and some regions are lagging in productivity performances.

There are some physical constraints like topography, temperature, rainfall, soil fertility, and water resources which hamper production in

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different regions in different points of time. In a small country like Bangladesh it would be unwise to give much importance to these points for the difference in productivity among different regions.

Therefore, policy relating to seed fertilizer technology is likely to be the main factor which creates much of the difference in productivity particularly in rice along the regional lines.

The objective of the present study is to identify the factors affecting the adoption of modern varieties in Bangladesh. In this study it is hypothesized that besides physical and agronomic factors the unequal distribution of modern inputs has created much of the differences in productivity of various crops among the regions.

HISTORICAL PERSPECTIVE : ROLE OF BANGLADESH ACADEMY FOR RURAL DEVELOPMENT

To propagate the new technology government established Bangladesh Academy for Rural Development (BARD) in the year 1960. Through this academy government has been trying to focus the importance of HYV. The main approach of this academy was not only to distribute credit to the farmers but also to experiment with a new variety to boost up production through the distribution of modern inputs and lending extension services required by the new variety. The cooperatives were formed by the adjoining land owners and cultivators. They procured modern inputs like fertilizers, pesticides, irrigation materials, government credit, and high yielding variety (HYV) seeds. These inputs were distributed either by government agencies or strictly regulated by them. These inputs were distributed at subsidized rate. However, the supply of these inputs were not adequate to meet up the total demand. To coordinate the input allocation process the new cooperative have been functioning their programme in four different stages. The cooperative functioned throughout the crop season and rendered their help to post-harvest operation and marketing of output. These cooperatives are production based cooperatives rather than only credit based societies. To be a member of these type of cooperatives one had to own and/or cultivate a land of particular size within the block rather than residentship of a particular village. The operatives of this type were experimented in Kotwali Thana of Comilla district. From its inception this cooperative gained quick publicity both in national level and international level. The international aid giving agencies came forward to render financial support to this cooperative. To ensure virtually free supply of modern inputs government did everything

for this cooperative. Attracted by astonishing production gain cooperative expanded their programme to the eastern districts surrounding Comilla. To attract the people to this type of production based cooperative throughout the country government established Integrated Rural Development Programme (IRDP). To quicken the expansion government also established Regional Academy for Rural Development of Bogra.

For the adoption of new technology at the early stages the pioneering role of Comilla Academy can be readily admitted. However, in the long run the approach has not been found successful in Bangladesh. Even now the cooperative do not turn out to be a self-supporting cooperatives. The institutional credit are allotted to the members but the repayment is not satisfactory. Large and middle farmers take dominant part in the cooperative. In order to attract the allocation of subsidized modern inputs fictitious memberships have been manufactured.

Most of the institutional credits are distributed among large and middle farmers. They spend these credit to purchase additional land and to unproductive uses. The viability of these cooperatives are dependent on government subsidy which is increased every year. For this season government concentrated the programme initially in north-east region ignoring the agricultural sector of other regions. Due to this reason the agricultural production particularly in the north-west and south-west regions came to stagnation. Further the agricultural extension in HYV rice propagation was highly focused in north-east region.

Some possible sources of inter-regional differential productivity of rice:-

In Tables 1 and 2 it is observed that north-east region leads in rice area. But its production performance ranks behind south-east region in all the years – south-east region being the lowest in ranking in area.

It may be observed that one of the reasons for this productivity differential may be that the difference lies in the adoption rate of HYV among the regions. Table 3 gives the regional shares of HYV rice area.

Table -1 : Regional Shares (in percentages) of rice area in Bangladesh, 1980-81 to 1987-88

Years	Regions				Total rice area in Bangladesh (million acres)
	SE	SW	NE	NW	
1980-81	15.40	25.80	30.05	27.57	25.474
1981-82	16.00	25.10	31.32	25.19	25.846
1982-83	15.56	25.23	31.31	27.78	26.159
1983-84	15.48	30.56	25.19	28.77	26.064
1984-85	15.83	24.78	30.42	28.97	25.263
1985-86	15.55	26.21	29.18	29.05	25.696
1986-87	16.00	27.06	29.57	27.37	26.216
1987-88	15.94	28.85	28.84	26.37	25.507

Source : Compiled from BBS (1984, 1985, 1988, 1989)

Table -2 : Regional Shares (in percentages) of rice production in Bangladesh 1980-81 to 1987-88

Years	Regions				Total rice Production in Bangladesh (million acres)
	SE	SW	NE	NW	
1980-81	19.09	21.61	32.87	26.43	13.662
1981-82	18.12	20.72	35.31	27.84	13.415
1982-83	18.91	20.94	33.33	26.82	13.991
1983-84	18.46	21.54	31.35	28.63	14.278
1984-85	18.40	22.12	27.42	28.27	14.391
1985-86	17.53	22.97	29.46	30.03	14.803
1986-87	18.22	23.07	30.16	28.54	15.163
1987-88	17.89	24.85	29.68	27.58	15.414

Source : Compiled from BBS (1984, 1985, 1988, 1989)

Table-3: Regional Share of HYV rice area as a percentage of total cultivated area of each region, 1980-81 to 1986-87.

Year	Regions				Total HYV area in Bangladesh (Million acres)	Percentage of rice area under HYV
	SE	SW	NE	NW		
1980-81	39.17	8.95	20.14	8.73	5.421	16.67
1981-82	39.20	9.07	21.33	10.46	5.745	17.60
1982-83	40.50	10.81	24.49	12.36	6.497	19.74
1983-84	40.07	10.56	23.34	14.57	6.498	19.84
1984-85	41.17	11.70	25.57	15.21	6.860	21.11
1985-86	39.84	10.33	24.62	18.66	7.095	21.21
1986-87	40.84	10.96	24.32	20.67	7.738	22.18

Source : Compiled from BBS (1984, 1985, 1988)

* Land utilization figure is not available by region the year 1987-88.

Table - 4: Regional Share of irrigated rice area as a percentage of total cultivated area of each region, 1980-81 to 1986-87.

Years	Regions				Irrigated rice area in Bangladesh (in Million acres)	Percentage of rice irrigated area
	SE	SW	NE	NW		
1980-81	14.45	5.69	15.61	4.64	3.110	9.56
1981-82	14.26	6.08	14.96	5.73	3.309	10.14
1982-83	15.26	6.46	19.96	6.72	3.606	10.96
1983-84	13.22	5.78	18.05	8.06	4.744	14.49
1984-85	14.28	7.15	18.66	8.86	5.121	15.76
1985-86	13.89	6.95	17.56	9.83	5.183	15.49
1986-87	14.18	7.05	16.49	11.30	5.434	15.58

Source : Compiled from BBS (1984, 1985, 1988)

Table-5: Regional Share of gross irrigated area as a percentage of total cultivated area of each region, 1980-81 to 1986-87

Years	Regions				Gross irrigated area in Bangladesh (million acres)	Percentage of gross irrigated area
	SE	SW	NE	NW		
1980-81	16.97	6.36	16.73	9.57	4.050	12.45
1981-82	17.12	9.26	19.00	10.89	4.264	13.06
1982-83	18.20	9.13	18.17	11.57	4.565	13.87
1983-84	15.95	9.37	19.51	13.38	4.744	14.49
1984-85	17.31	10.54	18.10	15.24	5.121	15.76
1985-86	17.45	9.95	19.44	15.71	5.183	15.49
1986-87	17.48	10.29	18.00	16.83	5.434	15.58

Source : Compiled from BBS (1984, 1985, 1988)

Table-6 : Regional Share of irrigated area by modern methods as a percentage of total cultivated area of each region, 1980-81 to 1986-87.

Years	Regions				Total irrigated area by modern methods (in million acres)	Percentage of irrigated area by modern methods
	SE	SW	NE	NW		
1980-81	10.21	4.41	8.44	5.38	2.198	6.76
1081-82	9.99	4.72	9.33	6.44	2.410	7.38
1982-83	10.87	5.18	11.48	8.19	2.863	8.70
1983-84	10.34	5.84	13.56	10.23	3.295	10.06
1984-85	13.25	6.73	15.33	12.27	3.853	11.85
1985-86	12.30	6.38	14.76	12.93	3.883	11.60
1986-87	12.72	6.52	13.80	13.48	4.056	11.63

Source : Compiled from BBS (1984, 1985, 1988)

Considerable variation in adoption rate of HYV may be observed among the regions from Table 3. The adoption rate of HYV in south-east region is much higher as compared to other regions. As evident from the corresponding table adoption rate of HYV in north-west region varies from 5 per cent to 21 per cent during the period indicating a gradual increase in the adoption rate. Althouth this implies that regional gap in the adoption rate of HYV technology is narrowing down it still varies from 11 per cent to 41 per cent in the year 1986-87.

The reasons for the large gaps in regional adoption rate can be partially observed from Tables 4 and 5.

In Table 4 it is observed that north-east region leads in irrigated rice area. However, the gap is more pronounced if we compare the Table 4 with Table 5 where we consider the gross irrigated area instead of irrigated rice area. The overwhelming domination of irrigated rice area is shown in Table 5 as a percentage of total cultivated area-figures ranging from 10 per cent ot 18 per cent.

Table 6 reveals that the overall area covered by modern irrigation methods such as low lift pump, shallow tubewell and deep tubewells came to be 4.06 million acres in the year 1986-87 which was almost double than the year 1980-81. The proportion of area under modern methods is also increasing steadily. This implies that the modern methods are being increasingly substituted for indigenous methods. The area under modern irrigation technology is higher in north-east region than the other three regions. The proximity of the country's capital may have some bearing on this gain.

Table 7 presents the consumption of fertilizers in different regions. The consumption of fertilizers is more or less stagnant in north-east region but it is decreasing gradually in the south-east region. This corresponds well with the HYV adoption in these two regions. But here, the seemingly interesting information relates to the gradual increase in the share of north-west region at the cost of south-east region.

The per acre use of fertilizer in rice is given in Table 8. It is observed that per acre fertilizer use in north-west region is much below than the south-east region. The improvement in consumption of fertilizer in north-east region that we find in Table 7 may indicate an increasing adoption rate of HYV but the proportion of HYV area is still very small in north-west region.

Table -7 : Regional Share (in percentages) of chemical fertilizers distributed in Bangladesh, 1980-81 to 1986-87.

Years	Regions				Total amount of chemical fertilizers used (thousand)
	SE	SW	NE	NW	
1980-81	24.78	16.52	28.51	30.19	888.677
1981-82	23.91	15.95	29.73	30.40	842.633
1982-83	24.04	15.17	29.35	31.43	952.659
1983-84	20.42	16.52	28.99	34.07	1128.196
1984-85	20.81	17.44	29.57	32.18	1253.163
1985-86	11.11	17.19	31.15	33.55	1148.858
1986-87	19.61	17.42	28.34	34.63	1311.974

Source : Compiled from BBS (1984, 1985, 1988)

Table - 8 : Amount (Kgs) of chemical fertilizers used per acre, 1980-81 to 1986-87

Years	Regions				Bangladesh
	SE	SW	NE	NW	
1980-81	50.01	20.16	35.83	33.96	31.20
1981-82	45.16	18.66	27.62	31.35	29.15
1982-83	50.01	19.41	30.61	36.95	32.55
1983-84	48.19	22.28	35.05	39.64	35.01
1984-85	54.62	26.37	40.53	44.11	39.18
1985-86	43.27	22.45	38.56	38.37	34.89
1986-87	50.77	25.24	36.02	45.95	38.21

Source : Compiled from BBS (1984, 1985, 1988)

Next we collect the regional information supplied in Tables 1 to 8 for single year 1986-87 for comparison among regions in a nutshell. For all inputs except modern irrigation the share of the south-east region is higher than south-west region. This is due to the proportionate increase in the HYV rice area in this region. So it is evident that adoption rate of HYV is one of the main reasons for the regional variation in productivity difference (Table 9).

There are some other institutional factors that may have played a vital role in the regional variation in rice productivity. First let us consider the population characteristic. From Table 10 it appears that the density of population is lower in south-west and north-west regions than the other two regions. However, south-west and north-west regions are lagging regions. This means that in a overpopulated country like Bangladesh the density of population with all its drawbacks may not be a prime factor by itself. As for literacy rate north-west region is the most lagging region but south-west region occupies the top of the rank. Since south-west region is the most lagging region, this higher literacy rate could not help in explaining the problem for the difference in productivity. One thing should be noted that the ecological constraints that lies in this region may be a factor for the variation in rice productivity. Therefore, the effect of literacy should not be confused with the increasing rice productivity. If we look to the literacy rate of north-east and south-east regions we see that the rate is rather high.

Now we shall concentrate on some institutional factors related to the social and economic structure of the regions that in some way affect the population characteristics themselves.

Table 11 shows the percentage distribution of employment categories of agricultural economically active population by regions. Here we find some interesting regional differences.

Table-9: Regional Share of rice output and some input (in percentage) in Bangladesh, 1986-87.

	Regions			
	SE	SW	NE	NW
Rice area	16.00	27.06	29.57	27.37
Rice output	18.22	23.07	30.16	28.54
HYV rice area	40.84	10.96	24.32	20.67
Irrigated rice area	14.17	7.05	16.49	11.30
Total area under irrigation	17.48	10.29	18.00	16.83
Irrigated area under modern methods	19.61	17.42	28.34	34.63
Fertilizer used per acre (Kg.)	50.77	25.24	30.02	45.95

Table-10: Region-wise distribution of some vital population characteristics in Bangladesh, 1981.

Item	Regions				Bangladesh
	SE	SW	NE	NW	
Population (million)	16.94	21.91	27.13	21.32	87.12
Regional share (percentages of population)	19.44	25.15	31.15	24.26	100.00
Area (square miles)	12,625	15,620	14,135	13,219	55,598
Density of population per square mile	1,342	1,403	1,920	1,599	1,567
Percentage of population living in rural areas	82.91	87.26	80.06	89.92	84.82
Literacy rate 5 years and above	23.65	26.63	23.16	20.08	23.80

Source: Compiled from BBS (1984).

Table-11: Percentage distribution of employment categories of agricultural economically active population (employed: 10 years and over) by region, 1974.

Employment	Regions				Bangladesh
	SE	SW	NE	NW	
Owner cultivator	34.82	29.71	33.48	27.27	31.15
Owner sharer	9.68	14.95	12.43	14.79	13.18
Share-cropper	3.77	3.26	2.69	4.31	3.46
Agricultural labourer	22.26	27.34	23.62	25.68	24.84
Unpaid family helper	29.50	24.74	27.80	27.92	27.38
Total agricultural active population employed (million)	2.89	3.92	4.83	4.20	15.84
Total active population employed	3.87	4.88	6.42	4.85	20.02
Percentage of active population in agriculture	74.75	80.33	75.14	86.63	79.11

Source: Compiled from BBS (1977).

(1) Owner cultivatiors—that means land-owner cultivate their own land are higher in south-east regions. South-east regions has 34.82 per cent of agriculatural labour force categorised as owner cultivators compared to only 27.27 per cent in north-east region.

(2) Agricultural labour force categorized as owner sharer are maximum in lagging regions. This means land owner do not cultivate their all lands because of larger size of the land. They rather lease out a part of their land to tenants. This indicates a presence of semifeudal elements in land ownership structure with relatively big land owners, absentee landlordship, etc.

(3) North-west region occupies the top rank in the sharecropper category. This also represents a more skewed distribution of land ownershiop and semi-feudal characteristics of agriculture in that region.

The above discussion are supported by the next two tables. It appears from the Table 12 that 7 per cent and 4 per cent of farmer commanding 29 and 25 per cent of area respectively in the north-west and south-west regions are bigger than 7.5 acres. Whereas the corresponding number are 2 per cent and 6 per cent commanding 15 per cent and 29 per cent area respectively in south-east and north-east regions. The large land ownership in the lagging regions are the main symptoms of feudal influence. Table 13 shows that 55 per cent of farms are owner operated in the north-west region but the figures in the south-east region is 64 per cent. In the south-east region 35 per cent of farms are owner-cum-tenants but in the north-west region the corresponding number is 44 per cent.

Table-12: Region-wise classification (in percentages) of Bangladesh farms by size, 1983-84.

Farm size (acres)	Regions								Bangladesh	
	SE		SW		NE		NW			
	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
0.05-0.49	28	5	20	3	23	3	19	1	24	3
0.50-1.00	21	9	31	6	15	4	14	4	16	5
1.00-1.49	15	11	11	7	12	6	13	6	13	7
1.50-2.49	17	19	14	15	16	12	17	13	17	14
2.50-4.99	13	27	15	28	20	27	21	28	18	27
5.00-7.49	4	14	5	16	8	19	9	19	7	18
7.50&Above	2	15	4	25	6	29	7	29	5	26

Source: Compiled from BBS (1986).

Table-13; Region–wise classification (in percentage) of Bangladesh farms by tenure, 1977.

Tenure type	Regions								Bangladesh	
	SE		SW		NE		NW			
	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
Owner	64.1	59.0	55.0	50.4	60.6	58.2	55.0	56.8	58.3	55.9
Owner cum-tenant	35.2	40.0	44.4	49.3	38.2	40.6	44.2	42.7	41.2	43.7
Tenant	0.7	1.0	0.6	0.3	0.2	0.2	0.8	0.5	0.5	0.4

Source: Compiled from BBS (1981).

FACTORS AFFECTING HYV ADOPTION AND FERTILIZER USE

There lies a considerable variation in the use of irrigation and in the adoption rate of HYV seed among the different regions of Bangladesh. In the year 1986-87 the proportion of area irrigated under rice varied from 5 per cent in Khulna to 31 per cent in Kishoreganj and the adoption of HYV rice varied from 5 per cent in Patuakhali to 75 per cent to Chittagong. Therefore using distict level cross section data it is suitable to see econometrically the relationshiop between HYV adoption and some other factors such as irrigation, tenancy, farm size and literacy.

It was not possible to collect primary data. For this reason the data were collected from the various publications of Bangladesb Bureau of Statistics for the year 1986-87. The data for the year 1987-88 and 1988-89 were not considered for the study due to the occurance of severe flood in these two years.

Before performing econometric analysis it is to be noted that which variable should be placed as dependent variable and which variable should be considered as independent variables. Since adopting HYV seed and using more fertilizer are the simultaneous decision of the farmers, therefore, regressing one variable to other will give biased and inconsistent result. The test based on these regression co-efficients will not bring out underlying factors responsible for the variation and a high value of R^2 in such cases will give the complementarity in innovation [11]. So in performing econometric analysis both fertilizer use and HYV adoption were considered as dependent variables.

HYV variable is defined as the percentage of area under HYV rice to total rice area of a particular region. So the values of the variable lies between o and 1 (0 to 100 in percentage terms). When the dependent variable has values in percentages simple multiple regression will have specification bias and may produce wrong prediction outside the interval. Therefore to identify the relationship between HYV adoption and other factors the logistic regression was applied [12]. When fertilizer use was considered as dependent variable the simple multiple regression was applied.

REGRESSION RESULTS

1. HYV = —1.885+0.058*** IRRIG R^2=0.39
(0.002)

2. HYV = —2.980+0.077*** IRRIG+0.030*** TNS+0.081*** LTC
(0.002) (0.002) (0.013)
—0.158 FS
R^2 = 0.49 (0.027)

3. FERT = —40.61+1.983*** IRRIG—0.490 TNS
(0.363) (0.415)
+8.414*** LTC—2.001 FS
(2.327) (4.609)
R^2=0.72

Where

HYV = HYV rice area as a percentage of total rice area.

IRRIG = irrigated rice area as a percentage of total rice area.

TNS = Total rented land as percentage of total cultivated land.

LTC = Percentage of rural male population over 25 years of age having more than 5 years of schooling based of population census data.

FS = Average farm size

Judged by the value of R^2 the regression result are satisfactory. As expected irrigation has a strong positive impact on HYV adoption. Irrigation alone contributes 39 per cent of the variation in HYV adoption rate. All the coefficients in equation (2) are highly significant at 1 per cent level of significance. Expept tenancy variable all other coefficients also show expected sign. The effect of farm size deserves particular attention.

It is known that with proper institutional support the big farmers lag behind small in adopting HYV in initial years because the big farmers have easy access to irrigation facilities by public agencies. Due to this reason the coefficient of irrigation picks up some favourable effect in HYV adoption by large farmers. On the other hand, the coefficient of farm size reflects the effect of subsistence pressure in the case of small farmers.

It also reflects the effect of socio-economic factors that hinder the large farmers and induce the small farmers to adopt HYV. The positive impact of tenancey in the adoption of HYV is rather unexpected. It should be noted that the result relates to positive effect to tenancy on HYV adoption does not necessarily challenge the so-called inefficiency of the institution of share tenancy [14]. It just explains under the present agrarian structure that prevails in Bangladesh tenant farmers for their survibility get incentive to adopt HYV by using some inputs mainly excess family labour with which they are blessed. When fertilizer is considered as dependent variable the effect of tenancy shows the expeted negative sign. This reflects that the data of fertilize used by the small farmers is at a low level due to financial constrain faced by them. Similar results for tenancy were also obtained by Mahmud and Muqtada [19] and Hossain [15]. As expected literacy variable has a strong relationship with HYV adoption and also in the use of fertilizer per acre. The coefficient is highly significant at one per cent level of significance with expected positive sign in both equation (2) and (3).

CONCLUSION

The hypothesis that the unequal distribution of modern impacts and some institutional factors are the impediments for the wide variation in HYV adoption among the regions of Bangladesh has been established by our emparical study. Out of the all factors considered irrigation and fertilizer come out to be important factors for the variation in the adoption rate of HYV.

Therefore to minimize the regional gap in the production of rice and hence the adoption of HYV seed, policy makers shoud be given due attention in supplying modern inputs to the lagging regions according to the regional need.

APPENDIX

A1. Demarcation of Regions of Bangladesh.

Region	Location	Agricultural Districts Under Jurisdiction
SE	South and Sout-East Region	1. Comilla 2. Noakhali 3. Chittagong Hill Tracts 4. Chittagong
NE	North Central and Central Region	1. Sylhet 2. Dhaka 3. Kishoregonj 4. Mymensingh 5. Tangail
SW	South and South West Region	1. Kushtia 2. Jessore 3. Faridpur 4. Khulna 5. Barisal 6. Patuakhali
NW	North-West Region	1. Rajshahi 2. Dinajpur 3. Rangpur 4. Bogra 5. Pabna

Source: MPO (1984)

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SOME OBSERVATIONS ON PRICING OF PUBLIC SECTOR GOODS AND SERVICES AND COST RECOVERY IN WATER RESOURCES DEVELOPMENT PROJECTS

MURSHED AHMED*

1. OBJECTIVE AND JUSTIFICATION OF THE STUDY

The main objective of this paper is to explore the areas of weaknesses in the operation and maintenance (O & M) process pursued in the Bangladesh Water Development Board (BWDB) schemes, formulate a policy fremework for pricing of BWDB inputs and outputs, elicit effective ways and means to grow out of the aid dependency syndrome and finally, cater for a soft cushion to the stringent revenue budget of the Government of Bangladesh (GOB) by raising revenues through a viable system of cost recovery in BWDB irrigation projects.

As Bangladesh is mainly characterized by agrarian structure, the overall development strategy centres around agricultural development. Recently declared Fourth Five Year Plan (FFYP) assigns top most priority to development of the agriculture sector. Regarding the water sector, the instruments to achieve this national priority include (i) bringing shallow to medium flooded lands under controlled flooding to improve agricultual productivity; (ii) providing submersible embankments in suitable deeply flooded areas to protect the boro crop until harvest; and (iii) ensuring rapid increase of irrigated area to sustain technological transformation [1; V. B-2]. Water resource sector plays a vital role in achieving this objective through providing the base needed for vertical expansion (water-seed-fertilizer technology) in order to increase foodgrain production within the shortest possible period.

Flood control, drainage, irrigation (FCDI) and associated infrastructural development cost the GOB a significant proportion of budgetary resources every year. Although it is not expected that the full amount of it could be recovered through the pricing/tax policies, in order to ensure adequate mobilization of resources for a continued funding of the growing needs of

* Chief Economist, Master Plan Organization (MPO). Views expressed herein are those of the author and do not reflect in any way those of MPO.

vital activities including funding of O &M of BWDB Schemes, at least a portion of the government outlays need to be directly or indirectly recovered through pricing or taxation of the services rended to the beneficiaries of the project.

Increased self-reliance has been identified as one of the dominant objectives of the FFYP. However, there has been an alarming increase of dependence on foreign assistance for financing Annual Development Plan (ADP) expenditure. It appears that the economy over time has shown a tendency of growing dependence on foreign assistance. Project aid was originally used mostly to fianance the foreign exchange components of the schemes included in the ADP. The foreign aid share rose from 60 per cent in 1973/74 to about 90 per cent in 1990/91 and is now used also to finance a large part of local costs in addition to foreign exchange. This apparently defeats the objective of self-reliance. It must be realized that the nation has to pay a heavy price for this in the shape of undue interference of the donor agencies/countries with the decision making process and policy making. The way out of this apparent conflict is to recognize that there is an urgent need to put our economic house in order through imposing strict financial discipline and cultivation efficiency. Necessary fiscal measures would include, among others, containment of expenditures in unproductive sectors and mobilization of additional domestic resources through taxing those who have relatively greater ability to pay, without, of course, unduly impairing their incentive to save and invest. The combined effect of all these measures would, hopefully ensure that an increasing proportion of development expenditure is financed out of resources domestically mobilized.

Organization of the Study

The rest of the paper is divied and structured as follows: As a background to the study, Section II contains a discussion on public vs private investments in water resources sector. Section III deals with the pricing policy issues of BWDB inputs and outputs together with other agencies. Section IV justifies the recovery of O & M costs in irrigation projects along with policy decisions of the GOB. Section V explains the guiding principles of water sector development and focuses on the three phases of project development. Section VI attempts to discuss issues related to planning and budgeting of BWDB's O & M expenditure. By identifying the poor record of O & M and low tax/GDP ratio, Section VII briefly reviews the water rate collection measures that the government has introduced in the past few years. Then it shows the desirability of improving

cost collection needs updating and upgrading. Section VIII presents the concluding remarks and a few observations along with recommended policies for improved water rate collection.

Sources of Data and Procedure for Study[1]

Baseline data for O & M of FCD an FCDI schemes are inadequate for good analytical work. The flow of fund for O & M is irregular and untimely which results in emergency repairs falling short of maintaining full long term structural integrity to derive optimum efficiency. These make the level and degree of O & M work done by government and public sector agencies appear unplanned, uncoordinated and unpromising. As such, the O & M activities under BWDB are poorly done and there is a serious lack of cost recovery from FCDI projects. MPO has, however, generated some useful primary and secondary level data for this purpose. A multi-disciplinary team from MPO undertook a field study programme and survey operation on six completed BWDB schemes during December 1989 to March 1990 for post project appraisal survey to collect the necessary information. The present study is, therefore, based on survey of BWDB schemes, investigations and observations in the field, comprehensive discussions, interview with BWDB/BADC professionals and grassroot level farmers. Besides, the published documents of MPO, the World Bank, BWDB, Agriculturel Sector Team (AST), Bangladesh Bureau of Statistics (BBS), National Board of Revenue (NBR) etc., and Regional Seminar on BWDB small schemes project, Bangladesh Economic Association (BEA) conference papers were also consulted and used as data sources and materials for the study.

With the flow of firm data in future, there will be ample scope for updating and upgrading the basic findings and research results presented in the paper.

The study attempts to analyse the existing problems of pricing public sector inputs and outputs with special reference to water resources sector in order to improve revenue receipts through cost recovery policies. Over the cycle of planning, implementation, and O & M stage, a synchronic idea has been tried to provide in terms of methodology of project development as given below.

1. Most of the data and information are based on initial experiences of BWDB schemes while the author served as Economist of BWDB. Currently, the author carried out post-project appraisal survey of six BWDB schemes under the supervision of Dr. David F. Schuy, Resource Economist and Expatriate Advisor in MPO. The institutional support and other logistics to the study were provided by Mr. Arifur Rahman Khan, Member Implementation, BWDB and Mr. Tutiar Rahman, Chief Engineer, MPO.

Active involvement of beneficiaries has been proposed right from the planning stage up to the stage of operation, maintenance and repair (O, M& R) through the physical implementation stage. The planning and design of the project would thus be suited to the needs and aspirations of the beneficiaries. Implementation would experience massive participation of beneficiaries in tems of provision of land for building infrastructure and finally the O, M &R would be best cared for by the polder committees to be formed by the potential project beneficiaries. Thus a bottom up strategy for project development is translated into practice whereby the project beneficiaries would spontaneously join hands to raise revenues for project O, M & R rather than their present aversion to the payment of water rates.

II.PUBLIC SECTOR INVESTMENTS IN WATER RESOURCES SECTOR

During the last decade (1980-1990) water resources sub-sector under BWDB of the Ministry of Irrigation, Water development and Flood Control (MOIWDFC) received an allocation of around Tk. 3,000 crore which has entirely been a public investment through ADP. The water resources sector share of the total plan for FFYP is 13 per cent[2]; compared with TFYP's-11 per cent, SFYP's-17 per cent, and First Five Year Plan's-15 per cent. Allocations in water resources as a percentage of total agriculture sector allocations in different plans have been around 52 per cent in FFYP, 38 per cent in TFYP, 49 per cent in SFYP, 56 per cent in First Five Year plan [2]. This commanding share in the public development outlay reconfirms its traditional importance in the economy.

The investment projects in terms of FCD, FCDI and Irrigation projects in this water resources sector during the different plan periods since 1973 brought about substantial growth in agricultural sector and contributed to the overall development of the country. It directly increased foodgrains production and thus saved foreign exchange in terms of import substitution (food). The tangible physical benefits out of water resources sector in terms of foodgrain production achieved against targets of each plan period in the past has been summarized below in Table 1.

It is here important to recognize that the growth of foodgrain output has suffered during late 1980's due to government policy restructing STW's and natural hazards. The occurrence of devastating floods in 1987 and 1988 argues for a greater commitment to water resources development.

Over the past five year period, 1984/85 to 1988/89, the public investment allocated to water resources through the Annual Development

2. Excludes allocation for special flood control projects.

Programme budget allocation was Tk. 3,044 crore. Of this amount, 68 per cent was for surface water development by FCD and FCDI projects. The remaining 32 per cent of public investment was allocated to groundwater development [3].

As of june 1986, BWDB had completed 411 projects of which 42 were irrigation and the remaining 369 were of other types, providing irrigation facilities to about 0.33 Mha; drainage and flood control facilities to about 2.71 Mha. Against these achievements at a huge public sector investment as mentioned above, the issue of pricing of output of water development projects for the purpose of cost recovery has never been on full cost basis. (For details please refer to Section-III, Pricing Policies).

Table-1: Summary of Water Resources Sector Development

National plans	Foodgrain production (M.Mt.)	Irrigation (M.Ha)		Flood Control & Drn. (M.ha)		Expenditure (Exist. Price (M.Tk.)
		Incr.	Cum.	Incr.	Cum.	
Benchmark 1973	10.3	0	0.94	0	1.21	—
FFYP (1973-78)						
-Target	15.5	1.10	3.04	0.87	2.08	5,783
_Achieved	13.2	0.21	1.15	0.61	1.82	5,250
TYP (1978-80)						
Target	14.4	0.50	1.65	0.28	2.10	4,690
-Achieved	13.6	0.23	1.38	0.12	1.94	4,005
SFYP (1980-85)						
-Target	17.5	1.49	2.87	0.68	2.60	18,500
_Achieved	16.2	1.10	2.48	0.65	2.59	19,110
TFYP (1985-90)						
-Target	20.7	1.43	3.91	0.75	3.34	27,030
-Achieved						
(Expected)	18.5	0.64	3.12*	0.77	3.36	26,000

Source: TFYP and Mid-term Evaluation of TFYP, Planning Commission.

*About 300,000 ha is from BWDB irrigation projects, with the balance from minor and traditional irrigation that is largely the result of private investment.

Privat Sector Irrigation Development

Government policies concerning minor irrigation include reducing and ultimately eliminating subsidies on irrigation equipment; abolition of the rental system; improving the utilization and maintenance of irrigation equipment; encouraging the private sector to play a greater role in the supply, distribution and servicing of minor irrigation equipment; and supporting the domestic manufacture of such equipment.

Considering that about 90 per cent of irrigation development has been financed through the private sector, without subsidy, it seems reasonable that farmers receiving water from publicly financed projects should be able, and still find irrigation profitable, to pay at least the same level of costs for water as incurred under private sector development. In other words, farmers on public projects should be able to pay all of the project O & M costs, and a share of the construction investment upto the level of cost incurred for private development of STW. The water rental rate commonly charged on the private market is about Tk. 3000 to Tk. 4000/ha which is a good indication of payment capacity on the public water projects for a full water supply in Boro season.

The above observation may be substantiated by the following statistics in Table 2:

Table-2: Area Irrigated by Method of Irrigation, 1980-81 to 1986-87 (thousand hectares)

Method of Irrigation	Time Period							Annual Growth Rate (%)
	80/81	81/82	82/83	83/84	84/85	85/86	86/87	
Modern Method	1033	1130	1340	1536	1739	1721	1841	10.1
Tubewell	227	227	421	682	898	963	982	27.6
Lowlift pumps	681	720	763	682	696	609	660	—0.5
BWDB Gravity set	125	133	156	172	145	149	199	8.1
Traditional	643	634	546	463	376	377	360	—9.2
Swing Baskets	85	88	87	86	81	84	94	—
Doons	377	364	300	244	188	170	179	—
Canals	28	34	8	0	2	14	8	—
Others	153	148	154	133	105	109	87	—
Total	1676	1764	1886	1999	2115	2098	2201	4.6
Modern (%)	61.6	64.1	71.0	76.8	82.2	82.0	83.6	—
Traditional (%)	38.4	35.9	20.0	23.2	17.8	18.0	16.4	—

Source: BBS

As for minor irrigation equipment the following statistics reflect a favourable indication of private sector development. The available information in Table-3 clearly shows that there was a substantial acceleration of growth in the use of minor irrigation equipment in 1988/89.

In view of the said context of irrigation development, the minor irrigation has experienced an extensive adoption by individual farmers on private investment. This need not be an issue for consideration in pricing analysis

as it is already left to encounter open market competition. But so far as major irrigation (surface) is concerned, the issue of full cost pricing is yet to be rethought in view of its huge capital and O &M cost which is very hard till now to impose 100 per cent on beneficiaries. This pricing must be differentiated from that under minor irrigation projects because major surface water irrigation projects are not expected to be implemented under private investment in the context of Bangladesh. And hence 100 per cent recovery of its cost is not also desirable in view of much more unit cost than that under the minor irrigation. So in its turn, BWDB or so to say GOB has still been hesitating to legislate full 100 per cent cost recovery for major irrigation projects. The pricing of major irrigation facilities needs to be moved with care lest it should jeopardise the incentive of grassroot farmers.

Table-3: Ministry of Agriculture Census of Minor Irrigation Equipment

Year	STWs		Large LLPs		Small LLP's	
	('000)	(%)	('000)	(%)	('000)	(%)
1985/86	145	*	31	—	7	—
1986/87	159	10	33	6	8	14
1987/88	183	15	34	3	8	0
1988/89	223	22	41	21	10	25

Source: AST, "Census of Minor Irrigation Equipment", Ministry of Agriculture, Four Annual Reports, 1986 to 1989.

* Per cent increase over previous year.

III. PRICING POLICIES

3.1 Policy Framework for BWDB

The element of subsidy in minor irrigation now mostly prevails in case of Deep Tubewells (DTW's). Subsidy on Shallow Tubewell (STW) was eliminated much earlier and that in case of Low Lift Pump (LLP) has been reduced to a minimum. On the other hand, the government bears almost the entire cost of irrigation provided under BWDB's gravity schemes which service about 10 per cent of the total irrigated area.[3]

Although public sector investmment in BWDB projects is reasonable as a percentage of total development outlay in periodic plans, the pricing of its outputs and inputs is not done on full cost basis for the purpose of cost recovery. O & M of completed projects are the mainstay for proposing funds from the GOB's revenue budget. Project beneficiaries are only charged the rate for irrigation water to the extent to cover the expenditure

3. However, the government has recently introduced water tariff aimed at 100 per cent recovery by FY 1995.

for O, M & R of irrigation facilities. Town protection, flood control, drainage, flood forecasting and warning and other services are all outside the scope of pricing jurisdiction for cost recovery. While capital costs of goods and services of irrigation like structures, gates, pump houses, pumps, barrages, channels, water supply, roads, bridges, culverts, protective works, limited extension services, etc. remain outside the scope of cost recovery, only operation of those facilities and maintenance of projects constitute the basis of O, M & R requirement in the revenue budget. These O, M & R facilities are, therefore, priced conventionally to ask it beneficiaries for payment in terms of water rates.

Traditionally FCD projects are preconceived as public welfare projects. GOB has been overlooking the issue of pricing its inputs and outputs through time. As for FCDI and irrigation projects there has been a policy of pricing inputs in terms of infrastructure like embankments, drainage network and irrigation facilities. But this pricing has never been on a full cost basis. Rather for the purpose of cost recovery the pricing only considered the operational cost of irrigation component of the projects. Even this partial costing could not be effectively enforced for recovery from the beneficiaries for a jumble of complex socio-economic reasons standing in its way of implementation.

As previously noted, subsidies have been eliminated on LLPs and STWs. Farmers served by DTWs pay about 1/3 of the capital investment cost and all of the O, M & R cost. Therefore, it is only reasonable to expect that farmers served by BWDB, FCD & FCDI projects should at least pay their annual O, M & R cost (in cash or service) and perhaps some portion of capital cost considering their ability to pay as a simple matter of equity.

In the backdrop of such rigid constraints to optimal pricing of goods and services produced and rendered by BWDB a major breakthrough by virtue of political commitment through constitutional manner has been imperative of late. The preparation is under way to require full cost pricing for Water Resources Projects so as to reduce the chronic deficit in ADP allocations and to achieve the level of debt servicing satisfactory to the donors.

Although public sector investment in BWDB projects is reasonable as a percentage of total development outlay in periodic plans, the pricing of its inputs (services of embankment, canals, pumps. roads, bridges, culverts, water control structures etc.) has not been possible to be done on full cost basis. FCD part is simply overlooked considering it to be public welfare oriented project. The irrigation component is not again traditionally priced

on full cost basis. Only the operation, maintenance and replacement part is priced in terms of recurrent costs for the purpose of cost recovery. This has even been insignificant in view of the achievement in collection of water rates during the recently completed TFYP (vide Table 6).

So the policy should be formulated with a built-in mechanism for continuous enforcement through a regular system of assessment and collection of water rates.

The following policies may be considered for pricing BWDB inputs and outputs:

—O, M & R components should be assessed correctly and priced fully.

—Output should be assessed on the spot (crop cutting basis) and priced to assess the value added to the individual farmer to make the basis of imposition of water tax.

—Water rates be assessed on the basis of gross output per irrigated acreage or net output (value added) per irrigated acreage or on the basis of surplus or on the basis of land value so that the O &M cost is fully met.

3.2 Policy Framework For BADC

As for Bangladesh Agricultural Development Corporation (BADC) the present strategy of the GOB to privatize the major and minor irrigation equipment, chemical fertilizer and pesticides/insecticides from the basis of offering the whole logistic services to the open market situation for fixing the price variable under the traditional interaction of demand and supply forces. This is obviously a judicious decision because persisting subsidization of these physical inputs is too costly for the governments recurrent budget to provide for. In this context the following policies may be considered:

—Subsidies may be withdrawn gradually from irrigation equipment till the termination of the FFYP period.

—Package programme for selling DTW's of different capacities may be pursued at full cost afterwards.

—Water conveyance losses should be minimized to the economically feasible extent under direct technical supervision and Command Area Development (CAD).

—Gradual delivery of infrastructural facilities to private enterprise on full cost basis

3.3 Policy Framework For LGEB

The government contemplates to entrust O & M of completed projects and realization of water rates to Local Government Engineering Bureau (LGEB). In order to accomplish the task the organization should maintain close link with BWDB and it should undertake projects complementary to BWDB and BADC projects with its limited capability.

LGEB may play a leading role along with Department of Agricultural Extension (DAE), Bangladesh Rural Development Board (BRDB) and BADC in the command area development of existing irrigation facilities (STW, LLP and DTW not covered by BADC).

IV. COST RECOVERY IN IRRIGATION PROJECTS

Cost recovery for what and for whom? Regarding this question and for initiating a viable system of cost recovery from the beneficiaries, GOD accords priority to the recovery of O & M costs of irrigation projects. The reasons are as follows:

—Costs and benefits of irrigation facilities are generally much larger on a per hectare basis than those for flood control and drainage project (FCDP),

—Irrigation facilities open up the possibilities of multiple cropping and intensity of cropping is much higher in the irrigated farms than that of the non-irrigated farms.

—Irrigation benefits can more readily be quantified,

—Irrigation increases the expansion of rural employment opportunities as HYV technology itself is very much labour intensive,

—Beneficiaries of irrigation are generally in a better financial position to contribute to the project's O & M costs.

Benefits from flood protection generally take two forms: (i) expected value of prevented damage, (ii) net value of improvement in cropping patterns. But cost recovery from the veneficiaries of FCDP is a complex and difficult issue. First, the reason has always been the traditional value judgement of welfare philosophy in the sense that FCDP in Bangladesh is considered a social service. The flood control and gravity drainage has always been treated as a public good for which no individual has to be charged for payment of either capital or O & M cost. Second, benefits of FCDP vary from one plot to another, depending on their location, topography and soil fertility. Third, assesment of prevention of crop damage due to FCDP development is a difficult task. Hence in absence of reliable estimates of crop damage prevention benefits, water rate collection

sounds rather unreasonable. It would be very difficult to determine fair rates reflecting the benefits obtained by the farmers and their ability to pay. In view of the cited reasons, cost recovery for FCDP is neither feasible nor desirable in the foreseeable future.

The BWDB thus makes no effort to assess the O & M costs of FCDP against the beneficiaries of such projects. As argued earlier, FCDP's are preconceived as public welfare projects. Another reason for not assessing the beneficiaries of FCDP is the difficulty of identifying the extent of benefits received by farmers. Impression gained from field trips indicate that the level and extent of benefits of FCDP varies over different elevations of the land. In addition to the good results of the project, the level and degree of the gravity of the adverse impact in an FCDP happen due to the specific circumstances as to the effectiveness of the project, location and soil associations. The survey findings also indicate that some farmers are favourably benefited in terms of enjoying controlled flooding, increased yield per hectare, increase in cropping intensity, increased employment opportunities and better production environment while some are adversely affected by FCDP in terms of loss of land to the project, unsuitable cropping pattern, loss of fishery, increase in water logging, drainage problems and increased salinity etc. consequent to project implementation.

As indicated, BWDB, however, gives priority to improving the recovery of O &M costs on irrigation and FCDI projects. Production benefits such as greater physical production and increased farm income from irrigation are more easily identified and more uniformly distributed across the land. More importantly, the availability and quality of water for irrigation, better cropping pattern as good results of the project make the beneficiaries aware and conscious what they are receiving in return for payment.

As described under Section III, GOB has sought to reduce the public sector's financial burden through reductions in producer subsidies and privatization of supply of main input items such as fertilizers and minor irrigation equipment. The GOB in recent years has decided to strengthen existing legislation and to impose effective water rates in all operational irrigation schemes managed by BWDB. Accordingly, the government has decided to impose water rages on gravity irrigation schems. The rates would be raised periodically with the objective of reaching full O & M cost recovery by 1990. This is critical to BWDB's ability to provide adequate services to farmers.

V. GUIDING PRINCIPLES OF WATER SECTOR DEVELOPMENT

BWDB operates under the supervision of the MOIWDFC. It is charged with the responsibility of planning, constructing and operating and maintaining all FCDP's as well as major, medium and small sized irrigation systems.

Water subsector development is guided by the following objectives:

(i) Improving water sector planning
(ii) Strengthening the implementation capacity of BWDB
(iii) Operating and maintaining the BWDB schemes and
(iv) Rehabilitating the opeatioal schems.

All in all, BDB's manadate is to plan, construct, operate and maintain schemes for surface water irrigation, drainage, flood and salinity control, erosion control, town protection and river training throughout Bangladesh. BWDB schemes, therefore, range from coastal embankments to large scale pumping of surface water for irrigation or drainage or both. O & M requirements differ with each scheme. Its main sources of funding are the development and revenue budgets.

5.1 Three Phases of Project Development

Three consecutive stages can be distinguished in the development process of BWDB schemes:

—The stage of physical implementation
—The stage of development (O & M stage)
—The stage of consolidation

The second stage of development i. e. O &M deserves a closer scrutiny because of its stupendous importance in developing the primary resources of the target groups. It would finally augment the indigenous forces to manifest in optimum consolidation at the final stage in terms of rural development. So the second stage is the determinant for achieving the genuine results of project implementation.

Both the physical implementation and subsequent O & M stage of FCD and FCDI projects are suffering from severe inadequacies. Several subsequent reviews of works under the 1964 Master Plan led the World Bank to conclude that the performance in implementation, O & M and enhanced productivity of major FCD and FCDI projects has generally been poor. In their 1972 sector review, IBRD recommended a strategy consisting of small, low-cost, quick gestation FCD projects and minor irrigation works

LLP, STW and DTW in order to achieve foodgrain self-sufficiency in the face of rapidly increasing population and limited financial resources. Since 1972, water resources development has been a mix of minor irrigation modes and low cost FCD schemes along with larger more capital intensive FCD and FCDI schemes [4;1-1]. However, the pervasive problems of inadequate funding and inefficient conduct of O & M are expected to be addressed in the institutional development study under the Flood Action Plan (FAP).

VI. PLANNING AND BUDGETING OF BWDB's O & M EXPENDITURES

The expenditures of BWDB are funded from four separate sources: (i) Revenue Budget; (ii) Food For Works (FFW) Programme; (iii) Cash Foreign Exchange Budget and (iv) Development Budget/ADP.

BWDB estimates annual requirements for O & M separately for each of the four sources but it does not consolidate them. As a result, it is difficult to obtain a accurate picture of total O & M budget allocations and expenditures for BWDB's projects. This difficulty is made more severe because much of BWDB's establishment (manpower) costs are arbitrarily allocated between the construction of new schemes funded under the development budget and O&M of completed projects funded under the revenue budget. It has been observed that most of the O & M budget is spent on salaries.

The planning and allocation processes under each of the four categories that provide funding for O & M expenditures of BWDB are detailed as follows:

(i) Revenue Budget

This budget is captioned "163-Irrigation, Navigation, Drainage and Flood Control" or 163-INDFC. BWDB sends its consolidated demand for all completed projects to the Ministry of Finance through the MOIWDFC. The consolidated demand originates from the approved project proforma (PP) where the O & M costs for respective projects are clearly shown. These costs are, however updated every year within the life of such projects on the basis of inflationary accounting technique. Ministry of Finance then allocates a lump amount on the basis of overall availability of funds. According to BWDB's estimates, the shortfall in financing for O & M requirement during the last six years has consistently been on the order of about TK. 32 crore (about US $ 10 million) in Financial year (FY) '89 prices or about 40 per cent of the funding requested by BWDB in the Revenue Budget.

(ii) Food For Works (FFW) Programme

BWDB plays a very important role in FFW Programme. This is a resource provided by UN/FAO/World Food Programme (WFP). BWDB is the main implementing agency for the UN/FAO/WFP. Wheat supplied by WFP and other donors is utilized as payment in kind for manually executed earthworks. Wheat from FFW is used by BWDB primarily for two-fold purposes:

(a) Operation and Maintenance of comleted projects, and

(b) Construction of earth work component (embankment and canal) of approved on-going projects.

(iii) Cash Foreign Exchange Budget

BWDB prepares every year a budget which includes the cost of imported goods. This budget is used in financing the cost of imported goods for maintenance of capital items like pumps, machinery, equipment, spares etc. In case foreign exchange (FE) falls short of reqirement, BWDB has to use taka fund from budget for purchase of FE.[4]

(iv) Development Budget/ADP

In Addition, funds are routinely allocated in the development budget for O & M of completed sections of on-going projects.[5] The amounts allocated for O & M under this budget in FY '85 are believed to be relatively small.[6]

In addition to the above four sources of O & M costs, Flood Damage Rehabilitation (FDR) resources to the tune of about 2150 M. Tk. and "Decentralized Pilot O & M Programme" resources to the tune of 3050 M. Tk. have been used since 1987-88 and 1985-86 respectively. The "Decentralized Pilot O & M Programme" has been declared completed in June 1990.

6.1 Financial Resource Availability for O&M Activities

It has been revealed in various World Bank review reports that GOB's recurrent budget contiued to be seriously uderfinanced, particularly the

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4. Eventual shortfalls in the approved foreign exchange budget can be met, provided that the field engineers submit their requests on time to headquarters, by (i) allocation of foreign exchange funds under a foreign grant or loan; or (ii) Purchase of foreign exchange in the open market using funds allocated to BWDB under the Revenue Budget.

5. Projects are transferred to the Revenue Budget for O & M funding after completion of the entire project and, as indicated above, the maintenance of completed earthwork sections in on-going projects is now undertaken under the FFW programme.

6. Another category of recurrent expenditures to be financed under the ADP is the O & M component of the IDA financed BWDB Small Schemes Project, With a total cost of about Tk. 300 million over five years starting from FY '86

O&M of existing physical infrastructure of completed FCDI projects. Allocation of budgetary resources has been biased towards new investments, and the requirements for O&M are generally either accorded low priority or not properly assessed. FCDI type of projects are, however, given relatively higher importance than FCD projects while assessing O&M cost at the initial stage of project implementation because FCDI facilities have to be preserved from deterioration on the one hand and the system has to be kept in optimal operating condition with assurance of the longest life simply to make the investment economical. Starting with the FY '87 budgets, attempts have been made to establish a link between the funding of new investment and O&M by creating a clearly identified development related O&M budget component. Nevertheless, underfunding persists averaging 40 per cent to 50 per cent of estimated requirements and only in certain instances it is higher.

It can be observed that there is a serious lack of adequate maintenance on FCD and FCDI projects and the related problem, lack of adequate funds for maintenance. At the same time, cost recovery from the beneficiaries has been negligible as well as underparticipation of the beneficiaries in the O&M activities reduced the effectiveness of the projects so that their potential benefits could not be realized. There are other factors which limit achieving the potential benefits largely due to lack of forward planning, insufficient staff capabilities, lack of motivation and increasing tendency of the responsible agencies and their staff to take up new projects over O&M of existing ones.

It may be stated that donors have been assisting the maintenance programme in recent years. BWDB's System Rehabilitation Project (SRP) provides for rehabilitation of some 83 BWDB projects includig the O&M for two years after rehabilitation is completed at a cost of Tk. 3,608 million ($ 111 million at 1989 prices) [5;2]. The benefited area is 400,000 ha out of a gross area of 600,000 ha. The average investment cost per benefited ha is Tk. 9,020. There is a far reaching objective of this endeavour in terms of attaining desired efficiency of cost recovery from the beneficiaries. Althouth this entails the debt burden even for O & M yet it is worthwhile because this critical minimum budget is necessary to avert the present inertia in O & M activities. Once O & M gets momentum, the whole host of project oriented activities, people's participation and project efficiency at large will experience a big push.

6.2 Insufficient Fund for Operation and Maintenance

As slow implementation of projects means delayed benefit, slack O&M inflicts more severe sacrifices to attainable benefits. The O&M problems are common in public sector projects. Because of lack of operational plan, BWDB fails to provide for adequate funds for O&M of facilities. This necessitates the replacement of assets through the ADP [1; XVIII-I]. Thus what is contributed annually to the development programme by failure to provide adequate maintenance is later lost to pay for replacement. This costs more to the economy as inadequate maintenance of assets also reduces their benefits.

It has also been observed that the supply of O&M fund is much less than the requirement. This is a regular feature prevailing in most of the BWDB schemes. This leads to dealing with the problems in piecemeal manner on the priority of relative urgency of the situation.

Thus due to extremely meagre supply of funds for O&M of projects many projects have sufferend so much that the accumulated maintenance problem was estimated in 1989 to cost Tk. 4 billion. An O&M study of the maintenance problem in 1986 brought to the surface the intense and diverse nature of the problem. In some cases, projects had to be abandoned (e.g. Shampur LLP scheme in Rajshahi O&M division). In general, projects have come to be used at much below their planned levels due to poor maintenance. Small irrigation projects in Rajshahi O&M division covered only 22 per cent of projected acreage. Floods, erosion, siltation and scouring have depleted the project's productive capacity. In some cases, original design was also found to have become insufficient for local cross-drainage (e.g. Kushiyara flood embankment). There has also been over use of water at low tail water level (e.g. Shorai-Somespur Beel Drainage Scheme). From the 1986 study of the four O&M divisions, one can add examples of substandard performance of small irrigation, flood control and drainage schemes in terms of physical facilities, partly due to inadequacy of original design, but mainly due to inadequate maintenance and operation in a changing environment. Inadequate project O&M adversely affecting project benefits raises questions about the advisability of investing in new projects while completed projects are short of funds for O&M.

The performance of BWDB schemes such as the Pabna, Meghna-Donagoda and Kurigram projects has not been satisfactory due to high unit cost on the order of Tk. 60,000/ha for protected and irrigated land. While

some large irrigation projects e.g. Chandpur, Muhuri and Karnafuli are performing well, the physical performance of other projects (e.g., Barisal) has been below expectations due to weak management of the pumping stations and neglect of O&M. Some of the problems are related to the large scale of projects, but many of the smaller projects (so-called Early Implementation Projects) have suffered from high unit costs and weak operational performance as well [3; 137].

As can be seen from the above, the potential benefits of past investments in BWDB schemes have not been fully realized due to weaknesses in O&M activities which included : (a) insufficient budget allocations, (b) insufficient use of available funds, (c) inadequacies in BWDB's organizational and O&M system and (d) insufficent participation of farmers.

Revenue resources allocated during the last few years for BWDB are furnished in Table 4, which shows quite constricted budgeting and release of O&M fund except for 1988-89, because of very fragile revenue sources in the economy.

The public revenue mobilization effort in Bangladesh is one of the weakest in the world. This represents a significant constraint on the level of national savings and the implementation of the public expenditure programme. The government has been unable to increase revenue collections as a percentage of GDP throughout the 1980's. The rate has been mostly stagnating at around 9 per cent during the last few years. In large part, this is due to the in-built inelasticity of the current tax system. Unless taxes are judiciously imposed on FCD/FCDI facilities, the domestic resources are sure to be minimum with no commitment for future development.

Table-4 : BWDB O&M Revenue Budget

In Million Taka (MTk)

Year	BWDB Request (Revised)	GOB Allocation (Revised)	Actual Taka	Expenditure Percentage
1985-86	616.1	370.0	404.6	66
1986-87	696-6	460.1	435.7	63
1987-88	647.3	473.9	483.1	75
1988-89	810.3	779.8	761.5	94
1989-90	1091.9	681.2	—	—

Source : BWDB

The typical types of expenditure under O&M activities of BWDB involve overhead, electricity, dredging, fuel/oil, repairs, tree plantation, land revenue, debt servicing etc.

VII. REVIEW OF WATER RATE ASSESSMENT AND COLLECTION MEASURES

The more fundamental question is one of assessment of water charges. Since an economically viable project should be self-supporting, assessment and collection of water charges is neccessary to finance O&M. This aspect of the problem has acquired greater importance because of reduction/elimination of subsidies on minor irrigation equipment.

In addition to the allocation arrived at under GOB's revenue budget, FFWP, ADP and others, BWDB also collects revenue in terms of water rates covered by statutory provision of the Irrigation Ordinance of 1963 at first and that of 1983 later. The later Ordinance provides for a fixed rate per acre per crop season (Kharif-I, Kharif-II and Rabi) and has eliminated the complicated procedure of assessing gross incremental benefit as was provided under the 1963 Ordinance. The preliminary assessment under 1983 Ordinance started in 1985. The position of assessment and collection of water rates in irrigation projects for the initial year 1984-85 is provided in Table-5.

Table-5 : Status of Irrigation, Assessment and Collection of Water Rates in 12 Notified Irrigation Projects Under 1983 Ordinance

(Amount in lakh Taka)

Sl. No.	Name of Project	Programme 1984—1985		Irrigation Achievement (in acre)	Assesable Amount	Assessment Position		Amount
		Irrigation (in acre) Collected	Assessment Amount			Acres Assessed	Amount Assessed	
1.	GK Project	2,95,000	430.00	2,73,872	413.22	1,49,043	193.58	7.45
2.	GWD & LLPI Project	1,07,341	114.88	32,169	37.48	24,154	20.66	4.64
3.	Buri, Buli and Pathraj Schemes	16,721	12.03	3,021	1.51	2,744	1.37	—
4.	Buri Teesta Project	28,000	17.00	10,397	6.39	8.16	0.41	—
5.	DND Project	16,202	30.38	14,129	26.82	13,344	25.25	—
6.	Dhurang Irrigation Project	2,500	2.50	1,149	1.15	1,149	1.14	0.32
7.	Chandpur Irrigation Project	1,18,500	97.75	1,06,608	85.05	20,844	20.84	0.12
8.	Barisal Irrigation Project (Phase-1)	61,500	55.85	20,857	20.86	—	—	—
9.	Manu River Project	14,775	16.58	3,240	2.24	—	—	—
10.	North Mymensingh Tubewell Project	187	0.23	—	—	—	—	—
	Total :	6,60,726	777.20	4,65,442	594.72	2,12,094	263.25	12.53

Source : BWDB. Acres assessed is less than the irrigation achievement because of shortage of assessment staff. During 1985-86 the target for irrigation was set at 577, 131 acres and for water rates at Tk. 702.24 lacs. The assessment and collection position will improve gradually.

It, however, appears that very little success has been achieved in collecting water charges in BWDB project areas under the Ordinance of 1983. In 1984/.85, in 12 BWDB projects, in the cited Table 5 only Tk. 1.3 million was collected against an assessment of Tk. 26.3 million on an assessed area of 85.9 thousand ha such area being even less than half of that irrigated (188.3 thousand ha). Collection has been persistently much below the assessment during the Third Plan as in the Second Plan. The estimate of collection for the Third Plan is Tk. 17 million against an assessment amount of Tk. 163.5 million for an area of 0.46 million ha. Though compared to 1984/85 there has been significant improvement in collection, (collection per ha of assessed area increasing from Tk. 15 in 1984/85 to an average of Tk. 37 during the 3rd Plan) the amount collected was only a small fraction of the total cost of O&M. The difficulties of identifying beneficiaries and the varying level of benefit makes taxation or any levy of water charges extremely problematic. As a result, O&M of BWDB projects has come to depend almost entirely on inadequate revenue support from the public exchequer, though it is a semi-autonomous body.

It is evident from Table 6 that water rate collection vis-a-vis its assessment is disappointing. While assessment has been low in comparison to the O&M cost of facilities, collection has been even lower and is far below the target. In fact, performance seems to be getting worse rather than better judging by the most recent year of record.

Table-6 : Annual Water Charge Assessments and Collections on twelve selected BWDB Irrigation Projects (MTk)

In Million Taka

Year	Assessment	Amount Collected	Collection as % of assessment
1984-85	26.32	1.25	5
1985-86	23.75	1.3	6
1986-87	26.60	1.54	6
1987-88	26.29	0.65	2
1988-89	33.69	3.46	10
1989-90	14.07	0.82	6

Source : BWDB

In 1989-90 assessments and collections fell to 42 per cent and 24 per cent respectively of the amounts achieved in the previous year. In general, the situation may be summarized as follows :

—Charges were assessed only on 12 irrigation projects which account for approximately 60 per cent of the land irrigated by BWDB projects.

— The assessment rates per ha were less than the actual O&M costs on these projects.

— In most years, less than one half the assessable land on the 12 projects was actually assessed.

— Over the six years of record, actual collections have been only six per cent of assessments.

— Therefore, actual collections from water users were about two per cent of potential assessments, and about one per cent of actual O&M costs.

However, the following points need to be considered to identify the reasons for failure of water rates collection.

(a) A serious limitation in water use efficiency in gravity irrigation under the aeigis of BWDB is the lack of Assurance of steady water supply which is rather better attained under privately operated minor irrigation schemes. It is, therefore, important to redress the operational deficiencies of BWDB gravity irrigation projects through assurance of planned water supply specially to the tail-end farmers.

(b) In contrast, in a privately operated minor irrigation scheme, farmers sometimes pay apparently exhorbitant prices for water, because they are assured of adequate supply when needed and a good subsequent harvest.

(c) Water rates collected go to the treasury and are not used for O&M within the area. This impedes growth of confidence of farmers in BWDB system. However, since O&M cost is largely borne by the public exchequer this sentiment is not only inconsequential but also counterproductive since it tends to avoid scrutiny of collection of water rates at a level which ultimately will have to provide the fund for O&M.

BWDB has, however, some formidable constraints in terms of mandatory formalities to be observed under the 1983 Ordinance. For example, objections and hearings to be taken and recorded against assessment, serving of demand notice, and the grace period allowance, etc., need time, money and energy ahead of collection. These resources BWDB hardly has and therefore, structural limitation paves the way for ultimate escape from taxation, partly if not almost totally.

The annual water rates for each cropping season on BWDB projects are shown in Table 7.

It may be said that maintenance of small projects should be left to the local communities, while BWDB should provide technical support only. This will of course require educating and training farmers at the grassroot level. This is feasible, for most of the rehabilitation problems entail earth work. Such transfer of cost of O&M rather than cost recovery is justified not only in view of the poor collection performance in the past, but because of the likely acceleration of O&M cost over the next plan (1990-95).

Table-7 : Water Rates for Different Crop Seasons, 1983 Ordinance

Sl. No.	Name of the Scheme	Annual O&M cost ('000 Acre)	Net Irri-gable Area ('000 Acre)	Per Acre Annual O&M Cost (Tk.)	Water Rate (Taka) per Acre		
					Kharif-I Season (Mar-Jun)	Kharif-II Season (Jul-Oct)	Rabi Season (Nov-Feb)
1.	DND Project	10,300	15.00	686	350.00	150.00	200.00
2.	GK Project	111,600	239.00	466	250.00	100.00	150.00
3.	GWD & LLP Project	29.500	115.00	256	150.00	50.00	150.00
4.	Buri Teesta Project	2,200	25.00	88	100.00	50.00	100.00
5.	Buri Bund Project	300	8.50	35	100.00	50.00	100.00
6.	Buri Bund Project	200	4.20	48	100.00	50.00	100.00
7.	Pathraj Bund Project	200	6.20	30	100.00	50.00	100.00
8.	Dhurang Irrig. Project	400	2.50	160	100.00	50.00	100.00
9.	Chandpur Irrigation Project	172,000	60.00	286	150.00	50.00	100.00
10.	Barisal Irrig. Project	21,000	141.00	151	100.00	50.00	100.00
11.	Manu River Project	2,800	28.50	98.2	150.00	50.00	100.00
12.	North Mymensingh Tubewell Project	81	0.22	368	200.00	50.00	150.00

Source : BWDB

Note : The Water Rates are subject to modification based on variation in O&M Costs.

O, M&R costs are expected to more than double from 2,752 MTk during the Third Plan period to 6,832 MTk during FFYP.

With increased financial support to O, M&R, there is a need to strengthen the O, M&R organizations and their logistic and technical capability as indicated by the 1986 study discussed above.

The findings from the above review logically lead to the conclusion that BWDB should take a careful look at the problems of recovery and appropriate action in the future.

VIII. CONCLUDING REMARKS AND OBSRVATIONS

The upshot of all these discussions is that the water resources sector must reinforce self-augmenting efforts to recapitalize itself mainly on its own axis. The persisting unfavourable balance of receipts and expenditures must be averted to a self-generating revenue budget which not only would cover the O&M expenditure but also contribute

substantially to the amortization costs of the government. The cost recovery as such of course must not exceed the farmers ability to pay by encroaching upon the critical surplus needed to provide incentive to the farmers.

The intermediate step to attain the aforestated objective is a firm commitment and workable policies towards improving the productivity prevailing in the water resources sector as a whole. There must be an overall consistency in the pricing policy, so that agriculture sector is not overburdened with taxes. Judicious pruning of projects associated with efficient implementation and O, M&R should be done by combining the sectoral project specific issues into an aggregate macro-framework so that agriculture still continues to remain a net recipient of transfer of resources from government.

The macro-economic framework as such should involve each part and parcel of productive protential of basic resources like land and water associated with institutional development aimed at improving the public resources mobilization and utilization. These efforts can be translated into raising tax and non-tax revenue, reduction of wastage of public resources and subsidies. BWDB, BADC, DOF, LGEB and Department of Public Health Engineering (DPHE) have been the potential users of surface and ground water, the first two public sector agencies being predominant. So economic exploitation of water resources for agricultural purposes deserves judicious investment, efficient O, M&R, reasonable level of cost recovery from beneficiaries, and prospective reinvestment in the context of long term perspective.

Policy Recommendations

Based on the preceding remarks and observations, the following recommendations are offered for consideration for framing a policy during FY 1991 :

General Recommendations

— Emphasis should be given to adequate O&M to avoid costly rehabilitation in the future. O&M requirements are expected to rise as additional projects are completed. To realize the potential of water resources development projects, greater attention must be paid to O&M funding requirements.

— The flow of O&M funds must be ensured on a regular basis for the year and if necessary just after flood damages.

—Preference should be given to completed projects as far as practicable in providing adequate flow of funds for meeting its O, M&R cost rather than investing money on new projects specially when there is a fund constraint. As the responsibility does not end after construction of a project, the same should be maintained and operated properly for deriving optimum benefit from the projects [6; 40]. A recent WFP/UN/FAO/ ILO mission recommended that BWDB should given even higher priority to proper O&M of completed projects and to the completion of on-ging projects before starting new schemes.

—Priority should be given to simpler schemes which are technically uncomplicated. The schemes should be economically and socially feasible with pragmatic and realistic ideas which are easy to execute as against large and complex projects. Preference should, therefore, be given to schemes with simple engineering practice even if the efficiency of performance is less than large complicated projects which are difficult to execute [7;12].

—In order to encourage farmers to pay their dues they should benefit from adequate O &M services. It is suggested that there should be a direct relationship between payment performance and the quality of O & M services received. This may make cost recovery for O & M more acceptable politically to those who must pay an increasing share of the costs.

—Farmers' participation should be encouraged through facilitating greater agricultural extension and support services input supply such as HYV seeds, irrigation devices, chemical fertilizers, expansion of the flow of institutional rural credit, etc. [8;14].

—Polder committees should be fromed and beneficiaries must be informed and involved from initial planning stage up to the stage of O,M&R to ensure their rights to contribute to the project development and exercise their responsibilities to pay the water rate [9;15].

—Pond fisheries and open water culture fisheries should be developed in the project area to compensate for loss of fisheries in the post project condition.

— Training is required at different levels from top management to the farmers to achieve the benefits of the project and for proper maintenance[4.

—An arrangement for in-service training imvolving the engineers, the hydrologists, the economists and the agronomists on choice of techniques and irrigation system should be made before construction of irrigation projects.

Specific Recommendations

For effective implementation of the present Water Rates ordinance of 1983, the following specific recommendations are offered for consideration:

—Efforts to increase the availability of resources to fund O & M expenditures should be made through improved revenue performance from taxes and user charges as well as, whenever possible, increased private sector participation in the financing of investments and their operation.

— Water charges should be imposed on the beneficiaries to cover annual O & M costs commensurate to the income and/or increase in income of beneficiaries to enable the authorities financial strength for the maintenance of the project components and creating confidence in the beneficiaries for their greater participation.

—Water rate has to be realized from the farmers after obtaining public confidence in the project. The water rate should be based on actual benefit derived by farmers as well as consumption of water from a project, not on what BWDB or any public agency spends on a project.

—The fixation of water rates is to be finalized through the processes of notification, recording, hearing and disposing of objections, etc., in each season such as kharif—1, kharif—2 and rabi season. Arrangment should be made, to notify farmers of the water rates before planting, and the demand notice of water rate must reach the farmers soon after harvesting of crops. The assessing authority should do the needful in the matter [10;5].

—Individual project officials including the Project Director shall be responsible, so that water tax collection targets are achieved. He will distribute all works on assessment and collection of water tax among the concerned officers and staff under his jurisdiction [10].

—Provision may be made for a farmer to produce a certificate from the concerned assessing authority to the effect that no arrear irrigation tax is due to him while applying for agricultural loan in the project area and for water in the next year (10).

—Water rate assessment should be under an independent sole authority of BWDB Land and Revenue Directorate.

—Provision may be made to collet water tax by the Patwaries; and by other deputed employees of the Board selected by the concerned project Director/Assessing Authority where Patwaries are not available.

—Performance of individual officers in the projects may be evaluated on the basis of achievement in terms of water tax collection. A merit system of award and accelerated promotion should be instituted to reward the concerned officer for good performance in collection of water rates.

—Provision for authorization to the collecting personnel/ agency to deduct the water rate collection fee at source.

—Assessment and collection of water taxes in the 12 notified projects as already noted in Section VII should be undertaken by strengthening organization and capabilities of its officer and staffs.

—The experiences of irrigation projects in India and Pakistan may be gainfully employed in designing a suitable mode of water rate collection in case of Bangladesh too. For example, the Damodar Valley Corporation and the East Punjab Irrigation projects in India pursue a policy of militant administration in water rate collection through the Block Development Officer empowered with magisterial authority mandated by the legislature of the land. Similarly, Pakistani irrigation engineers also apply magisterial power in respect of water rate collection and irrigation management.

—Viewed from another angle, local block committees or turn out committees based on physical facilities (e. g. sluices, regulators, canals etc.) used by or benefiting a group of farmers may be entrusted with the collection of water rates in respective localities on the basis of commission or other suitable basis.

—An instance of Nepal may be cited in this context where farm groups on mangement of irrigation facilities impose and collect water rate according to certain official guidelines regarding structures, sharing of water and assessment of rates.

—In the United States, after the irrigation project is constructed, it is turned over to an organization of the project water users (called an irrigation or conservancy district) organized under state law, with responsibility for O&M with full authority to charge water users, retain the revenues, and use them for the project.

— A unified and integrated tax structure may be executed under the existing local body of the Union Parishad (UP) level instead of collecting it through different bodies like Tahsil Office, BWDB Patwaries or UP Tax Collector. Before taking such steps it should be studied carefully from administrative and social point of view.

—O&M cost should be recovered seasonally during payment of power charges while capital cost may be designed to recover from the beneficiaries through a long term policy of pricing the capital goods like main pumps, pump houses and other associated sturctures.

It is expected that more revenue resources will be mobilized for financing O,M&R cost in future after completion of projects through changes in the existing water rate ordinance and rules.

However, since water rates are uniform for all farms sizes and abide by benefit principle, equity still remains to be attended. Large farms have rather greater ability to pay, so in the context of domestic resource constraints a new thrust may be necessary in tax administration. The most formidable constraint on economic growth and development in Bangladesh has been the low level of domestic resource mobilization which resulted in a heavy dependence on external assistance to finance development expenditure and sometimes consumption needs too. In order to prevent the adverse effects of inadequate domestic resources from affecting investments and operations in water resource projects, efficient financial management is sine-qua non in this area. Notwithstanding the need for greater resource mobilization in water resource projects there will still be a significant resource transfer from both government revenue budget and ADP every year. However, for this to happen and from the point of view of overall economic development, a fundamental reform of the tax system is essential. Introduction of value added tax (VAT) and other tax reforms to this end would greatly contribute towards overall resource mobilization and would establish an efficient, broad-based and elastic tax system for Bangladesh. VAT is going to be introduced for providing the tax structure greater flexibility to accommodate the financial, economic and structural realities of Bangladesh in its long term perspective.

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IMPLEMENTATION OF LAND REFORMS AND AGRICULTURAL LABOUR (MINIMUM WAGES) ORDINANCES 1984—A CLOSER LOOK

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I. INTRODUCTION

The Martial Law Government of 1982 constituted the Land Reforms Committee in 1983. The committee made several recommendations which have five major aspects : (i) reduction of land ceiling from 33.3 acres to 20 acres; (ii) recognition and protection of rights of sharecroppers; (iii) establishment of a minimum wage rate for agricultural labours; (iv) decentralization and strengthning of survey and settlement administration and (v) expansion of resource base of local government institutions [11]. These recommendations were given legislative shapes, first in the Land Reforms Ordinance 1984 and second in the Agricultural Labour (Minimum Wages) Ordinance 1984.

The ordinances represent remarkable agrarian reforms from the viewpoint of social justice and economic efficiency. However, mere ordinances of laws do not bring about agrarian reforms. There is a rich history of land reforms ordinances and Acts in this part of Indian subcontinent [17, 15, 2, 10, 1, 7]. One of the reasons for so many Acts is that these reform measures were hardly implemented. Thus implementation of an ordinance is more important than just promulgating a good ordinance.

About six years have elapsed since the land reforms and agricultural labour ordinance were promulgated. No studies have been undertaken to investigate the extent of implementation of these ordinances. In this study, an attempt was made to examine the extent of implementation of the two important reform measures of these ordinances viz. reform of share-cropping and establishment of minimum agricultural wage rate.

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The paper has been organized as follows: Provisions of the ordinances regarding share-cropping and minimum agricultural wage rate are briefly discussed in the next section. Section III gives the methodology of the study. In Section IV, nature of tenant security and input-output sharing in cropshare tenancy are discussed while Section V deals with the economics of minimum agricultural wage rate. Conclusions and policy recommendations are given in Sections VI and VIII respectively.

II. LAND REFORMS AND AGRICULTURAL LABOUR (MINIMUM WAGES) ORDINANCES 1984

Land Reforms Ordinance 1984 : Provisions About Sharecropping

Sharecropping arrangement is traditionally regarded unfair for the tenants for two reasons. First, they can be evicted from land by the land owner at their convenience. Second, while sharecroppers provide all or most of the production inputs, they usually receive only 50% share of output.

The Land Reforms Ordinance, 1984 seeks to remove these two unjust and unfair provisions of sharecropping arrangement. The important laws are as follows [11]:

(i) The Ordinance stipulates that the land owner and sharecropper must sign a legal contract without which sharecropping is illegal.

(ii) The period of contanct shall be five years. But the contract can be terminated under conditions specified by law.

(iii) The output of the sharecropped land shall be divided into three segments – the land owner shall receive one segment as rent; the tenant shall receive one segment for his labour; and the remaining segment shall be shared by the land owner and sharecropper in proportion to the cost of cultivation incurred.

(iv) The sharecropped land cannot be sold out to any person other than the immediate relatives to the land owner or the sharecropper. In case the sharecropper is unable to buy the land, it can be sold to other persons, but the sharecropper shall retain the right of cultivation of the land as per contract.

(v) A land owner can sharecrop out a maximum of fifteen bigha or five acres.

Agricultural Labour (Minimum Wages) Ordinance 1984

The ordinance has prescribed a minimum wage rate for agricutltural labourers who are defined to be persons engaged in agricultural crop production. The minimum wage rate is 3.27 kilograms of rice per day or money wage equivalent to the value of this quantity of rice in the local market. The ordinance also provides that this minimum wage rate may differ from one area to another.

To implement these laws regarding sharecropping and minimum wage rate, the Ordinances proposed to establish administrative and institutional set-ups. For implementing measures relating to sharecropping, an authority was proposed to be established which would arrange for legal control and settle disputes. The village court has been given the authority to implement the minimum wage law. Additionally, the Ordinance proposes to constitute a Council of Minimum Wages and Prices for Agricultural Labourer which will recommend for the determination of minimum wages in different areas.

The government has not created necessary administrative and legal infrastructure to implement the laws in six years since the Ordinances were proclaimed. Sharecropping is totally informal because virtually no contracts are signed for sharecropping and local practices determine the nature of output and input sharing. Agricultural wage rates are largely determind by the demand and supply of agricultural labourers.

III. METHODOLOGY OF THE STUDY

The problem of implementation of the reform measures regarding sharecropping and agricultural wage rate has two dimensions. The first dimension is the development of necessary legal and administrative infrastructure. The previous section shows that this infrastructure has not been created. The second dimension is the examination of economic aspects of sharecropping and agricultural wage rates : their present status, feasibility of implementation of the laws and their economic impacts. This study was specially designed to explore the economic aspects of sharecropping and minimum agricultural wage rate.

The field survey included sixteen upazilas from sixteen districts in Dhaka Division. Three kinds of respondents were included in the survey : (i) land owners who shared out cultivable land on sharecropping contract but did not share in; (ii) tenants who sharecropped in but did not sharecrop out land; and (iii) agricultural labourers who were mainly engaged in crop production activities. Total number of respondents was 180 of which 61 were land owners; 59 sharecroppers and 80 agricultural labourers.

Information was collected on the folloing items (i) number of plots and area shared in an out, (ii) duration of sharecropping, (iii) number of sharecroppers, (iv) nature of contract, (v) sharing of inputs and outputs, (vi) monthly agricultural wage rates and (vii) local rice prices by months.

This information reveals the nature of security of sharecropper, pattern of input and output sharing and variations in agricultural wage rates. The results of the analyses are presented in the following two sections.

IV. NATURE OF TENANT SECURITY AND INPUT-OUTPUT SHARING IN CROPSHARE TENANCY

Security of Tenants

Sharecroppers are insecure in the sharecropping arrangement because they can be evicted by land owners at their convenience since no legal contracts are signed. This concerns both politicians and economists. To politicians, sharecropping should be made secured for social justice and equity while economists argue that insecurity of sharecropping makes the system ineffient because tenants do not make adequate short-term and long-term investments in land [16].

In order to determine the extent of insecurity of share tenancy, this study collected data on the duration of share cropping from land owners and tenants. Table 1 shows the distribution of sharecropped plots of land owners according to duration of sharecropping. The table clearly indicates that land owners do not share out a plot of land for longer time.

Table-1 : Security of Tenant : Land owner's response on duration of sharecropping.

Duration of share-cropping	No. of plots	Percen-tage	Cumulative percentage	No. of share-croppers	No. of sharecropper/ plot
One Year	27	15.5	15.5	31	1.15
Two Year	40	23.0	38.5	51	1.28
Three Year	27	15.5	54.0	49	1.81
Four Year	18	10.3	64.3	26	1.44
Five Year	16	9.2	73.5	29	1.81
More than Five Year	46	26.4	99.9	87	1.89
Total	174	100.0		273	1.57

Twenty-three per cent plots were shared out for a period of two years. Then the percentage of plots under sharecropping decreased as the duration of sharecropping increased. Fifty-four per cent plots were shared

out for periods from one to three years. Only 10% and 9% plots were shared out for four and five-year periods respectively. Thus, the table demonstrates a pattern which indicates that sharecroppers are largely insecure in terms of the duration of tenancy.

The table also indicates that many plots were shared out to more than one sharecropper and number of sharecropper per plot increased as the duration of sharecropping increased.

Table-2 shows the distribution of shared out plots by duration of sharecropping and number of tenants. Out of 174 plots shared out, 114 plots (65.5%) were shared out to one sharecroppers, 42 plots (24.1%) shared out to two sharecroppers and 8 plots (4.6%) shared out to three sharecroppers. The most important point that meants from the table is that number of plots shared out to more than one sharecropper increased as the duration of sharecropping increased. Eighty per cent plots which were shared-out for a two-year period, were shared out to one share cropper, while only 31% plots which were shared out for a five-year duration were shared out to one share cropper.

Table-2 : Security of Tenant : Distribution of shared out plots by duration of sharecropping and by number of sharecroppers.

Duration of share-cropping	One s.c.	Two s.c.	Three s.c.	Four s.c.	Five s.c..	More than Five s.c.	Total
One	23	4	—	—	—	—	27
Year	(85.2)	(14.8)					(100)
Two	32	5	3	—	—	—	40
Year	(80.0)	(12.5)	(7.5)				(100)
Three	11	12	3	—	1	—	27
Year	(40.7)	(44.4)	(11.1)		(3.7)		(100)
Four	12	5	—	1	—	—	18
Year	(66.7)	(27.8)		(5.6)			(100)
Five	5	9	2	—	—	—	16
Year	(31.3)	(56.3)	(12.5)				(100)
More than	31	7	—	2	2	4	46
Five Year	(67.4)	(15.2)		(4.3)	(4.3)	(8.7)	(100)
Total	114	42	8	3	3	4	174
	(65.5)	(24.1)	(4.6)	(1.7)	(1.7)	(2.3)	(100)

Figures in the parentheses indicate per cent of row total.

Table 3 shows the distribution of sharecropped in plots by duration of sharecropping. About 74% plots were sharecropped in for one to three-year periods. Only 9% and 6% plots were sharecropped in for 4-year and 5-year periods respectively. The percentage of plots under sharecropping decreased consistently as the duration of sharecropping increased. The insecure position of sharecropper is more vividly understoood from the responses of sharecroppers than land owners about the duration of sharecropping. The difference in responses between the land owners and sharecroppers is entirely due to the fact that if a land owner shares out a plot of land for a longer period of time he will usually chose more than one sharecroppers to cultivate the land during the period.

Table-3 : Security of sharecroppers : Sharecroppers' response of duration of sharecropping.

Duration of Sharecropping	No. of plots	Percen-tage	Cumulative percentage
One Year	43	26.7	26.7
Two Year	41	25.7	52.4
Three Year	34	21.1	73.5
Four Year	15	9.3	82.8
Five Year	10	6.2	89.0
More than Five Year	18	11.2	100.2
Total	161	100.0	

Input-Output Sharing in Cropshare Tenancy

The Marshallian theory of sharecropping, although often criticised, is thought to describe the input use picture in cropshare tenancy [5, 9, 14]. It holds that the cropshare tenancy is inefficient because it does not provide incentive to employ input upto their optimal level. The essence of the theory is that in a traditional sharecropping arragement, the land owner provides land only while the tenant provides all costs of cultivation but the output is shared equally. Consequently, the level of input use in sharecropped land is lower than that on owner operated land, because the tenant equates half of the MVP with MFC to determine the level of input.

The empirical evidences of the inefficiency of sharecropping system are not conclusive: some studies found the yield rate and the intensity of input use to be lower under cropshare tenancy while others found no significant difference between sharecropping and owner cultivation [5, 8, 16].

Table - 4 : Distribution of Sharecropped Plots by Share of Material Inputs and by Crops

(Sharecropper's Share of Inputs)

	Seed				Fertilizer				Irrigation				Insecticides			
	100%	50%	0%	Total	100%	50%	0%	Total	100%	50%	0%	Total	100%	50%	0%	Total
Boro	146	31	33	210	76	120	14	210	58	119	33	210	68	77	65	210
	(69.5)	(14.8)	(15.7)	(100)	(36.0)	(56.9)	(7.1)	(100)	(27.4)	(56.7)	(15.7)	(100)	(32.2)	(36.7)	(31.0)	(100)
Aman	14	13	9	36	8	28	0	36	7	25	4	36	19	13	4	36
	(38.9)	(36.1)	(25.0)	(100)	(22.2)	(77.8)		(100)	(10.4)	(69.4)	(11.2)	(100)	(51.4)	(37.2)	(11.4)	(100)
Aus/	19	1	2	22	11	11	0	22	0	0	0	0	12	2	8	22
Jute	(86.4)	(4.5)	(9.1)	(100)	(50.0)	(50.0)		(100)					(54.5)	(9.1)	(36.4)	(100)
Others	38	12	20	70	30	19	21	70	10	22	38	70	23	10	37	70
	(54.3)	(17.1)	(28.6)	(100)	(43.5)	(26.1)	(30.4)	(100)	(14.5)	(30.4)	(55.1)	(100)	(31.9)	(14.5)	(53.6)	(100)

Figures in the parentheses indicate percentages.

The Marshallian assumption that the tenant bears all production cost was probably true in the past. However, the assumption is subject to criticism now. The terms and conditions of sharecropping may vary from one area to another depending upon the demand and supply of sharecropped land. They may also vary depending upon which crop is grown and who sharecrop land to whom. Particularly, these terms and conditions have been greatly influnced by the introduction of HYV rice which have increased cash costs of production substantially.

Table 4 shows the distribution of sharecropped plots by share of material inputs and crops. Four major material inputs were considered in the survey : seed, fertilizer, insecticides and irrigation costs. The 100%, 50% and 0% indicate the percentage of each input provided by the sharecropper.

It is important to note that 62.1% plots were under boro crop while only 10.7% and 6.5% plots were respectively under aman and aus/jute crops. More than 20% crops were under other crops which included sugarcane, potato etc. Thus, boro appears to be the most important sharecropped crop.

Table 4 nullifies the Marshallian assumption that only sharecroppers bear all production cost. All inputs are shared in varying degrees. However, input sharing differs by crops : sharecroppers provided major proportion of material inputs for aus/jute where costs of material inputs are low but in case of boro, land owners bears a significant proportion of production costs.

Table 5 shows the distribution of sharecropped plots by crop and cropshare. The 50-50 output sharing was the dominant form of sharecropping arrangement in the study area. Above 86% plots were under 50-50 output-sharing arrangement under all crops. The next important output sharing arrangement was the 66.6 : 33.3 (tenant : land owner) arrangement. This arrangement is in total conformity with the enacted law—the sharecropper bears all costs of production and receives two-third share of output. Under boro crop, this arrangement had about 7% plots.

Table-5 : Distribution of Sharecropped Plots by Crop and by Cropshare.

(No. of Plots)

Cropshare of sharecropper	Boro	Aman	Aus/Jute	Others
50%	177 (85.9%)	30 (85.7)	19 (86.4)	33 (86.8)
66%	14 (6.8%)	2 (5.7)	3 (13.6)	4 (10.5)
33%	1 (0.5%)	0	0	1 (2.6)
Others	14 (6.8%)	3 (8.6)	0	0
Total No. of Plots	206 (100)	35 (100)	22 (100)	38 (100)

Figures in the parentheses indicate percentage of column total.

Table 6 shows the division of material input costs between sharecropper and land owner under 50-50 output sharing arrangement. The division of material input costs between sharecropper and land owner greatly varies between crops. For

Table-6 : Division of Material Input Costs Between Land Owner and Sharecropper by Crop Under 50-50 Output Sharing.

Name of crops	Percentage Share of Material Input Costs		
	Share-cropper	Land owner	Ideal output share
Aus Local	77.3	22.7	59 : 41
Aus HYV	59.2	40.8	53.47
Jute	73.3	26.7	58:42
B. Aman	84.3	15.7	61.39
T. Aman Local	79.0	21.0	60.40
T. Aman HYV	60.7	39.3	54.46
Boro Local	63.8	36.2	55.45
Boro HYV	60.7	39.3	54.46

traditional crops-local aus, jute, broadcast aman and transplanted local aman-sharecroppers bear the major proportion of material costs. Consequently, ideal ratios of output sharing are significantly different from actual ratios. But in case of modern crops, land owners bear a significant proportion of material costs although it must be mentioned that sharecroppers bear the greater proportion of costs. As a result, ideal ratios of output sharing are close to actual ratios.

V. ECONOMICS OF MINIMUM AGRICULTURAL LABOUR WAGE RATE

Two aspects of agricultural labour wage rate are investigated here : (i) variations in agricultural wage rates in order to determine the deviations of actual rates from legislated rates; and (ii) impact of minimum wage rate on profitability of different crops.

There are several modes of payment for agricultural labourers. These modes of payments may vary from one area to another and from one period to another due to seasonal nature of agricultural activities, demand and supply conditions, local traditions, customs and other non-economic factors (Biggs and Burns 1973, Clay 1976, Mondal 1980). In this survey, data were collected on two types of wage rates—daily wage rate with meal (WRWM) and daily wage rate without meal (WRWOM). These two wage rates, however, are not alternatives, because opportunity costs of agricultural labour are low and agricultural labour market is highly imperfect.

Besides, WRWM is often preferred by employer. Here analyses were done in terms of both rates.

Table 7 shows variations in actual wage rates and legislated minimum wage rates and their differences. The highest WRWM was in Jaistha while the lowerst WRWM was in Aswin. The difference between the highest and lowest wage rates was Tk. 11.36 per day. Wage rates were higher in Baishak and Jaistha

Table-7 : Variation in Actual Agricultural Wage Rates and Legislated Minimum Wage Rates by Months

(Average Rate in Taka)

Month	Wage Rates			Price of Rice/ seer	Legis-lated minimum wage rate	Difference from minimum wage rate	
	With meal	Without meal	Diffe-rence			With meal	Without meal
Baishak	27.54	34.07	6.33	10.67	37.33	9.79	3.26
Jaistha	29.32	35.89	6.57	9.65	33.78	4.46	-2.11
Ashar	23.60	30.50	6.90	9.87	34.56	10.96	4.06
Sravan	22.94	32.38	9.44	10.13	35.45	12.51	3.07
Vadra	22.01	30.58	8.57	10.26	35.90	13.89	5.32
Aswin	17.96	29.80	11.84	10.67	37.36	19.4	7.56
Kartik	20.57	29.86	9.29	10.93	38.27	17.7	8.41
Agrahayan	23.02	32.21	9.19	10.08	35.26	12.24	3.05
Poush	23.75	28.91	5.16	10.09	35.33	11.58	6.42
Magh	23.10	32.05	8.85	10.51	36.78	13.68	4.73
Falgun	20.75	30.29	9.54	10.84	38.12	17.37	7.83
Chaitra	20.58	29.76	9.18	11.62	40.60	20.02	10.84
Average	22.93	31.36	8.43	10.45	36.57	13.64	5.21

and very low in Aswin. In other months, wage rates varied from Tk. 23.75 in Poush to Tk. 20.75 in Kartik. The yearly average WRWM was Tk. 22.93.

The variations in WRWOM were relatively mild compared to those in WRWM. The difference between highest and lowest rates was Tk. 6.98. The yearly average rate was Tk. 31. 36.

In general both WRWM and WRWOM move in the same direction, but the decrease in WRWM is much higher than that in WRWOM. The monthly variations in differences between WRWM and WRWOM are significant. These differences are smaller during months of peak agricultural activities while they are higher during months of slack agricultural operations. This

indicates that labourers loose their bargaining power and are forced to accept lower wage rates during the periods of slack agricultural operations.

The legislated minimum wage rates (LMWR) also vary significantly between different months. The lowest LMWR was in Jaistha (Tk. 33.78) while the highest LMWR was in Chaitra (Tk. 40.6). The variation is entirely due to variation in paddy prices in local market which fluctuate mainly due to seasonal harvest. The yearly average of LMWR was Tk. 36.57.

It is momentous to note that LMWRs are very high in Aswin, Kartik, Falgun and Chaitra when WRWMs are very low. These are the months of slack agricultural activities. On the other hand, the differences between LMWR and WRWM are low in the months of peak agricultural operations.

This raises serious question about the feasibility of the implementation of the law and its consequence upon demand for agricultural labour.

Table 8 shows the per hectare net return and incremental cash cost of production of different crops at various wage rates. The incremental cost of different crops due to implementation of LMWR depends upon the amount of hired labur used.

Table-8 : Per Hectare Net Return and Incremental Cash Cost of Production of Different Crops at Various Wage Rates.

(Taka)

Name of crops	Net Return At Wage Rate			Incremental Cost At	
	With meal	Without meal	Minimum rate	Wage rate with meal	Wage rate without meal
Aus (local)	5390.24	5004.17	4848.62	541.62 (10.05)	155.55
Jute	4303.40	3554.56	3182.08	1121.32 (26.06)	372.48
B. Aman	5327.17	4887.36	4652.00	675.17 (12.67)	235.36
T. Aman (local)	8877.83	8260.20	7893.00	984.83 (11.09)	367.20
Aus (HYV)	7620.23	6953.62	6737.35	882.88 (11.59)	216.27
T. Aman (HYV)	13147.32	12342.12	11863.40	1283.92 (9.76)	478.72
Boro (local)	11068.01	10582.37	10174.94	893.07 (8.07)	407.43
Boro (HYV)	12134.30	11296.88	10623.70	1510.60 (12.44)	673.18

Figures in the parentheses indicate percentage of net return at WRWM.
Source : Appendix Table 1.

The table indicates that the LMWR has significant impact upon the profitability of different crops. Jute, being a labour intensive crop will be most affected by the law. At WRWM, per hectare return will decrease by Tk. 1121.32 which is 26% of the net return. In general, the law will decrease the net return by approximately 10%.

VI. CONCLUSIONS

The Land Reforms and Agricultural Labour Ordinances 1984 represent significant reforms of the sharecropping arrangement and agricultural wages in Bangladesh. But the ordinances have not been implemented because the government have not yet developed necessary administrative and legal infrastructure.

The study shows that the sharecropping is totally informal and very insecure, and hence is not encompassed by the enacted law. However, material inputs of production are shared by land owners in all crops at varying proportion. More importantly, the share of material inputs by land owner in modern varieties of paddy is significant. Consequently ratios of output sharing in different modern paddy crops are chosen to legislated ratios.

Actual wage rates differ notably from legislated wage rates. The more disturbing fact is that these differences increase during the slack period of agricultural activities because the wage rates fall while the legislated minimum wage rates increase. Additionally, if implemented, the legislated minimum wage rates significantly increase the cost of production.

VII. POLICY RECOMMENDATION

The study has not examined the legal and administration aspects of the sharecropping and agricultural wage legislation. Assuming that these matters can be settled, the following observations are made.

First, the implementation of agrarian reforms measures primarily depend upon political will, administrative commitment and popular acceptance of the reform measures. Given political will and administrative commitment, it will be easier to implement input-output sharing provisions. Respondents in the survey also suggested that government initiatives are needed.

However, it will be difficult to establish the rights of tenant. In West Bengal, the law has made the cultivation of sharecropped land hereditary and the "Operation Barga Programme" has established the hereditary rights of the sharecroppers. To establish the rights of tenants in Bangladesh, such political will is necessary.

Second, under present economic conditions of Bangladesh, the minimum agricultural wage legislation is not implementable. The study indicates that the deviation of actual wage rates from legislated minimum wage rates increase significantly during the slack periods of agricultural operations. Moreover, the profitability of crops decreases significantly at the minimum wage rates. It may be noted that the profitability of irrigated HYV paddy has already declined at the present wage rates in recent years. Thus, the minimum wage legislation is likely to reduce the employment significantly. More importantly, it may increase the unemployment in the slack period of agricultural operation, thereby further aggravating the unemployment and underemployment situations in agriculture.

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Appendix Table-1 : Calculation of Net Return Per Hectare of Different Crops

Name of crop	Gross return	Total cost WOH.L	Mandays of hired labour	Wage rate of Hired Labour			Total Cash Cost			Net Return		
				WRWM	WRWOM	MWR	At WRWM	At WRWOM	At MWR	At WRWM	At WRWOM	At MWR
Aus (Local)	8412.5	1734.0	51.0	25.26	32.83	35.88	3022.26	3408.33	3563.88	5390.24	5004.17	4848.62
Jute	10800.0	4099.0	97.0	24.8	32.52	36.36	6504.60	7253.44	7625.92	4303.40	3554.56	3182.08
B. Aman	7980.0	1457.0	51.5	23.22	31.76	36.33	2652.83	3092.64	3327.99	5327.17	4887.36	4652.00
T. Aman (Local)	11636.5	1300.0	67.5	21.61	30.76	36.20	2758.68	3376.30	3743.50	8877.83	8260.20	7893.00
Aus (HYV)	13849.5	3966.0	89.0	25.43	32.92	35.35	6229.27	6895.88	7112.15	7620.23	6953.62	6737.35
T. Aman (HYV)	17666.0	2617.0	88.0	21.61	30.76	36.20	4518.68	5323.88	5802.60	13147.32	12342.12	11863.40
Boro (Local)	13979.7	1618.8	58.4	22.15	30.47	37.45	2911.70	3397.33	3804.76	11068.01	10582.37	10174.94
Boro (HYV)	18895.5	4395.5	102.5	23.08	31.25	37.91	6761.20	7598.63	8271.80	12134.30	11296.88	10623.70

Source : Bangladesh Rice Research Institute (1989). Annual Internal Review 1988. Joydebpur, Dhaka. Pathmark Associates Limited (1990). Draft Final Report on All Agricultural Crops, Planning Commission, Government of Bangladesh, Dhaka.

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MIXED AND RELAY CROPPING PACTICES OF RABI CROPS AND THEIR ECONOMICS AT FSR SITE, BAGHERPARA, JESSORE, 1989-90

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INTRODUCTION

Mixed, inter and relay cropping were considered to be efficient age old practices for higher yield, risk adjustment and at the same time crop diversification. These cropping practices dominant in Jessore district. Farmers used varied crop combinations and seed ratios. The practices are mostly done with the traditional pulses and oil crops under rainfed condition. With the increasing irrigation facilities these crops are looking their areas. To maintain the nutritional requirement, soil health etc. the said practices should be continued by the farmers even in the marginal lands for increased benefit from unit area. In order to make any improvement in such practices of the farmers these need to be understood first. With these objectives the monitoring was undertaken at the FSR site Bagherpara, Jessore.

MATERIALS AND METHODS

The monitoring was conducted at FSR site, Bagherpara, Jessore during Rabi 1989-90. All the existing mixed and relay cropping practices were identified through meetings with the farmers and field staff of OFRD, BARI & DAE. Five dominant crop mixture were selected for detailed monitoring. Ten plots for each crop combination were selected prior to sowing with the help of the farmers and field staff. Data of all these mixed and relay cropping practices were obtained in a pre-designed schedule. The collected informations were edited and local units and measurements were converted into metric systems. The analysis employed was mostly simple and relied on tabulator analysis using means and per centages.

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RESULTS AND DISCUSSION

The group discussion revealed that Lentil + Mustard, Chickpea + Mustard, Chickpea + Linseed, Chickpea + Corriender, B. Aman/Grasspea, Chickpea + Rai, Lentil + Rai, Fieldpea + Rai, Potato + Sweet gourd, Khira + Lentil were the mixed and relay croppings practiced by the farmers. Lentil + Mustard, Chickpea + Mustard, Chickpea + Linseed, Chickpea + Corriender, and B. Amon/Grasspea, being the dominant mixed and relay croppings were studied. Land and soil type, Land preparation, seeds, fertilizer and crop yield were monitored. Land equivalent ratio (LER) and monetary advantage (MA) of the crop mixtures were calculated except those with linseed and corriender. Because sole crop of this two crops were not found.

(a) Lentil + Mustard : Lentil + Mustard mixed cropping was practiced in cropping patterns Jute-Fallow-Lentil + Mustard and Aroid-Fallow-Lentil + Mustard. But in the previous years the same land was utilized with crops in cropping patterns Aus or Jute-Fallow-Lentil + Mustard or Chickpea + Mustard and Aroid-Fallow-Lentil + Mustard (Table 1).

This mixed cropping was practiced in the sandy loam soil of flood free high land. Farmers gave 4 to 6 ploughing and 4 to 6 laddering. Only 10 to 20 per cent farmers used fertilizer and the average rate used was 7,30 and 4 kg/ha urea, TSP and MP respectively. The sowing period was from October 20 to November 12. Farmers used 36 and 7 kg/ha local seeds of Lentil and Mustard respectively. The harvesting period of Lentil was from February 8 to 12 and that of Mustard was from January 1 to 30. Yield of Lentil and Mustard was 475 and 201 kg/ha respectively. Sole crop yield of Lentil was 788 kg/ha and that of Mustard was 415 kg/ha. The LER was 1.09 (Table 2).

The human and animal labour requirement was 88 man-days and 35 pair-days per hectare respectively (Table 3).

The gross benefit of the crop mixture was Tk. 10,826/ha with a total variable cost (TVC) of Tk. 5046/ha and a total cash cost (TCC) of Tk 1773/ha. Therefore the gross margin over TVC was Tk. 5780 and that over TCC was Tk. 9053. The ratio of gross benefit and TVC was 2.15 and the ratio of gross benefit and TCC was 6.11. The monitary advantage was Tk. 893 per hectare (Table 4).

(b) Chickpea + Mustard : Chickpea + Mustard mixed cropping was practiced in cropping patterns Fallow-T. Aman-Chickpea + Mustard, Aus or

Jute-Fallow-Chickpea + Mustard and Jute-Munghean-Chickpea + Mustard. The previous cropping patterns were Fallow-T. Aman-Chickpea + Mustard. Aus or Jute-Fallow-Chickpea + Mustard of Lin-seed + Mustard (Table 1).

This mixed cropping was practiced in the sandy loan soil of flood free high land and medium high land. Farmers gave 2 to 6 ploughing and 4 to 8 laddering. Only 10 to 20 per cent farmers used fertilizer and the average rate stands 4, 22 and 16 kg/ha urea, TSP and MP respectively. The sowing period was from October 20 to November 30. Farmers used 39 and 6 kg/ha local seeds of Chickpea and Mustard respectively. The harvesting period of Chickpea was from February 25 to March 20 and that of mustard from January 10 to February 10. Yield of Chickpea and Mustard was 189 and 210 kg/ha respectively. Sole crop yield was 238 and 495 kg/ha of Chickpea and Mustard respectively. The LER was thus 1.22 (Table 2).

The human labour requirement was 61 man-days and animal labour requirement was 32 pair-days per hectare (Table 3).

The gross benefit of the crop mixture was Tk. 5055/ha with a total variable cost (TVC) of Tk. 4066/ha and a total cash cost (TCC) of Tk. 1451/ha. Therefore the gross margin over TVC was Tk. 1189 and that over TCC was Tk. 3804. The ratio of gross benefit and TVC was 1.29 and the ratio of gross benefit and TCC was 3.62. The monetary advantage was Tk. 1015 per hectare (Table 4).

(c) Chickpea + Linseed : Chickpea + Linseed mixed cropping was practiced in cropping patterns Aus-T. Aman-Chickpea + Linseed, Aus-Mungbean-Chickpea + Linseed and Fallow-T.Aman-Chickpea+Linseed. The previous cropping patterns were Aus or Jute-T.Aman-Chickpea + Linseed or Chickpea + Mustard and Fallow-T. Aman-Chickpea + Linseed or Chickpea + Mustard (Table 1).

This mixed cropping was practiced in the sandy loam to loam medium high land flood prone areas, which duration of flooding was from mid July to mid September and average depth was 19 cm. The farmers gave 4 to 6 ploughing and 6 to 8 laddering and on fertilizer was used. The sowing period was from November 20 to December 13. Farmers used 49 and 7 kg/ha local seeds of Chickpea and linseed respectively. The harvesting period of Chickpea and Linseed was from March 15 to April 10. Yield of Chickpea and Linseed was 67 and 90 Kg/ha respectively (Table 2).

The human and animal labour requirement of this combination was 67 man-days and 24 pair-days per hectare respectively (Table 3).

The gross benefit, total variable cost (TVC) and total cash cost (TCC) was Tk. 1882, Tk. 3872 and Tk. 950/ha respectively. The gross margin over TVC was Tk. (-) 1990/ha and that of over TCC was Tk. 932/ha. The ratio of gross benefit with TVC and TCC was .49 and 1.98 respectively (Table 4).

(d) Chickpea + Corriender : Chickpea + Corriender mixed cropping was practiced in cropping pattern Jute-T. Aman-Chickpea + Corriender. It was same for the previous years also (Table 1).

This crop mixture was practiced in the sandy loam soil of medium high land flood prone areas. Duration of flooding was from mid July to last September and average depth was 12 cm. Farmers gave 1-4 ploughing and 2-3 laddening and, 20 to 33 per cent of them used. Fertilizer and the average rate was 13 and 7 kg/ha urea and TSP repsectively. Sowing period was from November 10 to December 16. Farmers used 41 and 5 kg/ha local seeds of chickpea and corriender respectively. The harvesting period was from March 27 to April 4 for chickpea and from March 25 to April 4 for corriender. Crop yield was 43 and 13 kg/ha chickpea and corriender respectively (Table 2).

The human labour requirement was 24 man-days and animal labour requirement was 5 pair-days (Table 3).

The gross benefit, total variable cost and total cash cost of this combination was Tk. 830, 2411 and 968 per hectare respectively. Gross margin over TVC and TCC was Tk. (-) 1581 and (-) 138 per hectare respectively. The ratio of Gross benefit with TVC and TCC was .34 and .86 respectively (Table 4).

(e) B. Aman/Grasspea : Relay cropping of Grasspea with B. Aman was practiced in cropping pattern Fallow-B. Aman/Grasspea. It was same for the previous year also (Table 1).

This crop mixture was practiced in the medium low land flood prone areas, which duration of flooding was from 1st July to 1st October and average depth was 122 cm. Farmers gave 1-4 ploughing and 2-3 laddering. No fertilizer was used. Sowing period of grasspea was from October 18 to Novermber 29. Farmers used 107 kg local seed of grasspea. Harvesting period was from February 15 to March 18 and yield was 1011 kg/ha (Table 2).

Human labour requirement was 30 man-days and animal labour requirement was 23 pair-days (Table 3).

The gross benefit, total variable cost, total cash cost was Tk. 3873, 2537, and 769 respectively. Gross margin over TVC and TCC was Tk. 1336 and 3104 per hectare respectively. The ratio of gross benefit with TVC and TCC was 1.53 and 5094 respectively (Table 4).

CONCLUSION

Both agronomic and economic performance revealed that Lentil + Mustard gave higher benefits than the other combinations. The results could not be confidently confirmed because of abnormal low yield of chickpea due to unusual rainfall at the reproductive stage of the crop. Although chickpea suffered from rainfall, Chickpea + Mustard gave higher LER of 1.22 and monetary advantage of Tk. 1015/ha than Lentil + Mustard having LER of 1.09 and monetary advantage of Tk. 893/ha. This might be the reason the farmers are practicing mixed cropping to minimize risk. As such effort must be made to improve the farmers mixed cropping practices. In order to confirm the findings the monitoring be repeated.

Table-1 : Crop mixture and cropping pattern of Bagherpara FSR site, Jessore.

Crop mixture	Cropping pattern
1. Lentil + Mustard	1) Jute-Fallow-Lentil + Mustard Aroid-Fallow-Lentil + Mustard b) Aus or Jute-Fallow-Lentil + Mustard or Chickpea + Mustard Aroid-Fallow-Lentil + Mustard
2. Chickpea + Mustard	a) Fallow-T. Aman-Chickpea + Mustard Jute or Aus-Fallow-Chickpea + Mustard jute-Mungbean-Chickpea + Mustard b) Fallow-T. Aman-Chickpea + Mustard Aus or Jute-Fallow-Chickpea + Mustard or Mustard + Linseed.
3. Chickpea + Linseed	a) Aus-T. Aman-Chickpea + Linseed Aus-Mungbean-Chickpea + Linseed Fallow-T. Aman-Chickpea + Linseed b) Aus or Jute - T. Aman-Chickpea + Lineseed or Chickpea + Mustard Fallow-T. Aman-Chickpea + Linseed or Chickpea + Mustard.
4. Chickpea + Corriender	a) Jute-T. Aman-Chickpea + Corriender b) Jute-T. Aman-Chickpea + Corriender.
5. B. Aman/Graspea	a) Fallow-B. Aman/Grasspea b) Fallow-B. Aman/Grasspea.

a) This Year (1989-90)
b) Previous Years.

Table-2 : Agronomic practices of mixed and relay cropping practices at Bagherpara FSR site, Jessore.

Crop Mixture	Land type	Soil type	Duration of Flooding	Average Depth of Flooding (cm)	No. of ploughing & Laddering	Fertilizer used (Kg/ha)			Date of sowing (Kg/ha)	Seed rate	Variety	Date of harvest—ing	Crop yield (kg/(ha)	Sole crop yield (Kg/ha)	LER
						Urea	TSP	MP							
1. Lentil + Mustard	High land	Sandy loam	Flood free	—	P:4—6 L : 4—10	7 (10)	30 (20)	4 (10)	Oct 20 to Nov 12	36 7	Local do	Feb 8—12 Jan 1—30	475 201	788 415	1.09
2. Chick—peas + Mustard	High and medium high land	Do	Do	—	P : 2—6 L : 4—8	4 (10)	22 (20)	16 (20)	Oct 20 to Nov 30	39 6	Do Do	Feb 25— Mar 20 Jan 10— Feb 10	189 210	238 495	1.22
3. Chick—pea + Linseed	Medium high land	Sandy Mid July loam & loam	to Mid sept.	19	P:4—6 L : 6—8		—	Nov 20	49 to Dec 13	Do 7	Mar 15— Do	67 Apr 10 Mar15— Apr 10	— 90	—	
4. Chick—pea + Corrien—der	Sandy Do	Mid July loam	12 to last Sept.	P : 1—4	13 L : 2—3	7 (33)	— (20)	Nov 10	41 to Dec 16	Do 5	Mar 27— Do	43 Apr. 4 Mar 25— Apr 4	— 13	—	—
5. B. Aman/Medium - Grasspea low	1st July land	122 to	P : 1—4 1st Oct.	L : 2—3	—	Oct 18	to	Do 107 Nov. 29	Feb. 15—	Do	Mar 18	1011	—	—	

Figures in the parenthesis represents per cent farmer responded.

Table-3 : Human and animal labour requirement for mixed and relay cropping practices at Bagherpara FSR site, Jessore.

Crop Mixture	Human labour (man-days/ha)		Animal labour (Pair-days/ha)	
	Own	Hired	Own	Hired
1. Lentil + Mustard	58	30	30	5
2. Chickpea + Mustard	39	22	32	—
3. Chickpea + Linseed	54	13	24	—
4. Chickpea + Corriender	16	8	4	1
5. B. Aman/Grasspea	26	4	23	—

Average cost of cultivation with tractor was Tk. 470.00 per hectare.

Table-4 : Economic performance of mixed and relay cropping practices at Bagherpara FSR site, Jessore.

Items	Lentil + Mustard	Chickpea + Mustard	Chickpea + Linseed	Chickpea + Corriender	B. Aman Grasspea
1. Gross benefit (Tk/ha)	10,826	5255	1882	830	3873
2. Total Variable cost (TVC) (Tk/ha)	5046	4066	3872	2411	2537
3. Total Cash Cost (TCC) (Tk/ha)	1773	1451	950	968	769
4. Gross margin over TVC (Tk/ha)	5780	1189	(-) 1990	(-) 1581	1336
5. Gross margin over (TCC (Tk/ha)	9053	3804	932	(-) 138	3104
6. Gross benefit/TVC	2.15	1.29	.49	.34	1.53
7. Gross benefit/TCC	6.11	3.62	1.98	.86	5.04
8. Monetary advantage	893.00	1015.00	—	—	—

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COMPARATIVE FOREIGN EXCHANGE POTENTIALS OF JUTE AND COMPETING RICE IN BANGLADESH

A. K. MAKSUDUL BARI*

1. INTRODUCTION

Since independence of Bangladesh in 1971, the picture of the trade sector as a whole and of trade and production prospects of the major export item, jute, has been rather poor. Adverse terms of trade and poor export performance have resulted in a large and growing trade deficit. This large macro-economic imbalance has made the country chronically dependent on foreign economic assistance dependence on jute and jute goods for about 50 per cent of the total export earnings until recently, kept Bangladesh vulnerable to the outside world. As an export commodity jute has been facing problems on both demand and supply sides. Recent decline in exports from Bangladesh was due to low demand for jute goods. But the supply problems appeared to have induced most of the demand problems. The erratic relative prices caused the area under jute unstable causing uncertain supply of jute to the world market.

At the same time, besides some favourable years in the late 1970s, the foodgrain import situation has remained very unsatistactory. Despite some success in spreading modern inputs in the agricultural sector and some improvement in domestic foodgrain production, large food imports continued to keep the country vulnerable to the outside world. This is of particular concern because reliance of food aid imports constituted over 7 per cent of the average food imports since 1973. Any situation of substantially reduced food aid would bring about tremendous pressure on the already chronic deficit in the current account of the balance of payments.

Against the background of these circumstances, this article attempts to study the comparative foreign-exchange potentials of growing jute vis-a-vis rice per unit of land area in Bangladesh. Such an attempt would provide valuable indication for policy makers looking forward to improving policy

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measures for augmenting export and/or food crops production. Available knowledge appears to be inadequate. The comparative position of jute has so far been considered with respect to competing local rice only [13,1]. But since the introduction of HYV ric, jute has been competing for land with HYVs as well. So, it is desirable to consider the comparative position of jute with particular reference to competing HYV rice, and this is what this article intends to do.

The foreign exchange potentials of rice and jute are examined by estimating domestic resource sosts (DRC) incurred to produce these crops in saving or earnig a unit of foreign exchange. Although DRC analysis is theoretically sound, its practical application calls for a number of restricting assumptions. For this reason, a simpler approach is preceded to assess the comparative foreign exchange potentials of rice and jute considering prices and yields of these crops for a period of about two and a half decades. The following section deals with this approach. Section 3 first discusses the method of DRC analysis along with the assumed conditions, which is followed by the estimates of DRCs of jute and rice. Finally, section 4 concludes the article.

II. PRICES, YIELDS AND EARNING POTENTIALS OF JUTE AND RICE

The trends in the relative position of jute in terms of world and domestic prices and those in the relative export earning potentials of jute over time would indicate probable changes in government's external revenue positions owing to changes in jute production.

Table-1 depicts the world and domestic jute-rice price ratios in periodic averages for the 1965-88 period. The jute-rice price ratio in the world market represents the amounts of the rice that can be imported in exchange for a unit of jute. That in the domestic market may be interpreted as the domestic resource cost[1] at the margin, measured in amounts of rice that can be locally acquired by a unit of jute. The jute-rice price ratio in the world market has shown that while up to the early 1970s substantially more rice could have been imported per unit of jute, during most of the 1970s and up to the early 1980s either equal or less amount of rice could be imported for the same unit of jute. This means that over this period comparative position of jute in the world market was markedly weaker. However, since the mid-1980s the situation has improved in favour of jute.

1. Formal estimates of domestic resource costs of jute and rice are prsented in the following section.

Table-1: Price Ratios of Jute and Rice in World and Domestic Markets, 1965-88.

Period[1]	World Jute/Rice Price Ratio	Domestic Jute/Rice Price Ratio
1965-68	1.59	0.98
1969-72	1.89	0.85
1973-76	0.87	0.52
1977-80	1.01	0.82
1981-84	1.07	0.70
(1981-83)	(0.82)	(0.68)
1985-88	1.61	0.82
(1986-88)	(1.29)	(0.63).

Sources: For world prices, World Bank 1985, 1989 : for domestic prices, World Bank 1983, BBS 1979, 1989.

Notes: 1) Four-Year averages. The periods in parentheses are three -year averages which excludes 1984 and 1985 respectively, the years of abnormally high world price of jute.

The domestic jute-rice price relatives were unstable and lower than unity throughout the period of 1965-88. This indicates that variable but smaller amount of rice could be bought in the local market out of the outlay of a unit of jute. Another point worth mentioning here. Although per unit price of jute was higher than or at least comparable with that of rice in the world market in most of the times of the 1965-88 period, in the domestic market in most of former price was always lower than the later price. So throughout the period comparable position of jute at home appears weaker than that at the world market. Moreover, the potential of a marginal unit of jute in financing rice imports has improved during the late 1980s compared to the 1973-84 period.

In Table 2 the foreign exchange potentials per unit area of jute versus rice are considered in terms of yields and world prices. In this approach two things should be kept in mind-- (1) substantially more resources are used to produce HYV rice, (ii) the use of imported inputs in HYV rice cultivation is also substantially larger. Nevertheless the exercise would provide valuable indications on the issue, particularly for a longer time span, and domestic resource costs of jute and rice cultivation are estimated below which take the above mentioned aspects into account.

Studying yields and prices of jute and different varieties of rice, it shows that the difference of foreign exchange potentials between jute and HYV rice was substantial when relative world price of jute was weaker (Table 1 and 2). Even if allowances are made for extra amount of domestic and imported inputs needed for HYV rice cultivation, it still seems that an area of

HYV rice would be more potential under the relative price that prevailed during the 1970s and early 1980s. However, when the relative price of jute was stronger, in particular during the 1985-88 period, foreign exchange potential of jute relative to HYV rice was better.

The estimation of domestic resource costs below considers these two situations —weaker and stronger relative price of jute in the world market.

III. DOMESTIC RESOURCES COSTS OF JUTE AND RICE CULTIVATION

Concept of DRC: Here it is attempted to assess the comparative advantage of jute and rice in earning or saving a unit of foreign exchange in terms of costs of domestic resources to produce these crops. The measure used is called domestic resource cost (DRC) which is defined as:

$$DRC = \frac{\text{Value added at domestic prices in local currency}}{\text{Value added at world prices in foreign currency}} \quad [8; 438]$$

Domestic value added measures the actual payments to factors of production (wages, rent, inputs etc.) in local currency units. However. it can be measured at the actual value to the society, the opportunity costs or shadow prices of these factors. The denominator, value added at world prices, is the difference between the world price of the competing imports or exports and the cost of imported inputs used to produce that commodity. Thus DRC becomes a measure of domestic cost of earning or saving foreign exchange and is an explicit expression of comparative cost principle in international trade.

Mathematically, $DRC = \frac{\Sigma f_{ij} v_i}{u_j - m_j}$

phere, f_{ij} = input i used to produce commodity j (i =1,2,.....n);

v_i = Prices of input i in local currency;

u_j = marginal revenue of commodity j in foreign currency;

and m_j = import requirements for the unit production of commodity j in foreign currency (see [7;18-21] details of the derivations).

The DRC has dimensions of local currency per unit of foreign currency, e.g., TK/$. If for a particular investment this ratio is below the official exchange rate it implies that the country could save or earn foreign exchange through this project. For the purpose of comparing domestic jute production with that of rice in Bangladesh, the lower the DRC the more potential is the crop, i.e., the crop would earn (save) more foreign exchange than the other.

Table-2: Foreign Exchange Potentials of Jute and Rice, 1965-88

Period[1]	Yield (Ton/hectare)[2]				World Price (US$/ton)		Foreign Exchange Potentials or Hypothetical Earnings US$/hectare)[5]			
	Jute	Local Aus	HYV Aus	HYV Boro	Jute[3]	Rice[4]	Jute	Local Aus	HYV Aus	HYV Boro
1965-68	1.38	0.96	—	3.28	280	177	386	170	—	581
1969-72	1.28	0.84	2.69	3.36	286	152	366	128	409	511
1973-76	1.28	0.79	2.64	2.74	327	377	419	298	995	1033
1977-80	1.41	0.79	2.25	2.49	355	352	501	278	792	867
1981-84	1.51	0.83	2.09	2.73	342	326	516	271	681	809
(1981-83)	(1.51)	(0.82)	(2.12)	(2.74)	(288)	(351)	(435)	(288)	(744)	(961)
1985-88	1.53	0.85	1.83	2.66	386	240	591	204	439	638
(1986-88)	(1.52)	(0.88)	(1.84)	(2.64)	321)	(248)	(488)	(218)	(456)	(655)

Source: For yields, Jute Division 1982, BBS 1984, 1989,1990; for Prices World Bank1985,1990.

Notes: 1) Same as Table-1

2) Yield in Bangladesh.

3) F.O.B. Chittagong/Chalna, Bangladesh; BWD grade.

4) 5 Per cent broken milled, f.o.b. Bankok, Thailand.

5) Calculated by multiplying yield figures by respective prices.

Assumptions

In peasant agriculture the amount of imported inputs used in producing food or export crops is not usually very large. However, in HYV technology a certain amount of imported inputs are used, but it is difficult to diasggregate them from the local component of those inputs, particularly when we use secondary data. In Bangladesh agriculture, fertilizers, irrigation equipments and pesticides are the main imported inputs used. With respect to fertilizers, the proportion imported of the total distributed in a particular year is used to estimate the imported component of fertilizer applied to grow a particular crop.

To estimate an approximate average of the imported component of the resources used to irrigate the crops in question a number of points are taken into account: (i) some of the irrigation equipments and spare parts are locally manufactured, (ii) in some areas imported fuel is the source of energy and in other areas it is the electric power, (iii) indigenous method is still in practice. Considering these points, 50 per cent of the cost of irrigation is assumed as imported component. Here we should take note of the fact that if the DRCs are distorted by this assumption, this would be in the case of HYV Boro rice as its cost of irrigation is significant. The cost of the small amount of pesticides applied to HYV rice is taken as imported.

Another problem is that of getting appropriate world prices to measure the marginal revenue in foreign currency of the commodity in question. With respect to jute, however, there is no problem in using its world price which is based on Bangladesh export price. But rice prices in the world market vary considerably depending on quality. Bangladesh produces a range of different qualities of rice. The rice in question here can be considered as a medium quality rice.

But it is still arguable to use the world price of medium quality rice to estimate the marginal revenue, as this price may not be the real price of this particular medium quality rice in the world market. Nevertheless, the Bankok price of 5 per cent broken rice is used as an approximation for the purpose.

Shadow Pricing

(i) Labour—During the crop production seasons in Bangladesh, the labour market can be considered as fairly competitive, because most of the labourers can find work in one farm or another. So the actual wages paid by the farmers are taken as the opportunity costs of labour. The implicit wages for family labourers are also considered similarly.

(ii) Fertilizer—The offical fertilizer prices in Bangladesh were subsidized

until the early 1980s. So we have adjusted the cost of fertilizer by the proportion of subsidy on official price to get its shadow price for the 1983 estimates. As the fertilizer marketing is in the private sector now, for the 1988 estimates the market price is taken as the shadow price. However the question still exists whether we have really got the economic price by these assumptions.

(iii) Land—The rent of land, as estimated by the Ministry of Agriculture, is taken as the opportunity cost of land.

(iv) Capital—Opportunity cost of operating capital (cash cost) is taken as the interest on it at a rate of 15 per cent for a period of six months. The rate is the approximate rate of interest on bank loans.

However, the sensitivily of DRCs are examined by considering alternative assumptions on the shadow prices of labour and land.

The DRC Estimates

To estimate DRCs of jute and different varieties of rice two different point of time is choosen, 1983 and 1988 representing the weaker and the stronger relative price of jute in the world market respectively. As the DRCs are price sensitive, we have also used the average world price of 1981-83 and 1986-88 for the 1983 and the 1988 situations respectively. As the world price of jute was abnormally high in 1984 and 1985, these years are excluded. Due to unavailability of data DRC of HYV Boro rice could not be estimated for 1983.

The domestic resource costs per unit of foreign exchange of jute and different varieties of competing rice in 1983 and 1988 under various situations are presented in Table 3. It is found that jute cultivation would cost more domestic resources to earn a net unit of foreign exchange than HYV Aus rice would to save the same unit of foreign exchange in 1983 under various assumptions of costs and world prices. Thus jute cultivation had less potential compared to HYV Aus with respect to the cost of domestic resources when the relative world price of jute was weaker.

However, in the 1988 situation, the DRCs per unit of foreign exchange of jute were less than those of different varieties of rice under different assumptions of costs and world price. Thus it appears that the relative foreign exchange potential of jute has improved substantially during the late 1980s. The relative structure of costs and productivity of these crops did not appear to have changed to a large extent [10,11, Table 2]. So it seems that the substantial change in the relative world price of jute in its favour has mostly contributed for its better relative position. One point

should be noted here. The DRC analysis has shown that jute had more potential than local rice throughout the period.

Sensitivity of the results is also tested under alternative assumptions on shadow pricing of labour and land (Table-4). The results obtained are similar in order of comparative advantage of jute and rice and thus confirm the findings.

Table-3: Domestic Resource Costs of Jute and Competing Rice Incurred to Earn or Save a Net Unit of Foreign Exchange, 1983 and 1988 (Tk/US$).

Particular	Jute	Local Aus	HYV Aus	HYV Boro
Using Actual payments to Factors[1]				
1983 World Prices	11	19	10	—
1981-83 Average World Prices	12	15	8	—
1988 World Prices	18	29	21	22
1986-88 Average World Prices	21	36	26	28
Using Shadow Payment to Factors[2]:				
1983 World Prices	17	29	15	—
1981-83 Average World Prices	18	23	12	—
1988 World Prices	25	41	28	30
1986-88 Average World Prices	29	51	34	37

Sources: Costs—Ministry of Agriculture 1984, 1989; World Prices —World Bank 1985, 1989; yields-BBS 1984, 1989 : Jute Division 1982; Subsidy—Rahman and Reza 1985; proportion of fertilizers imported—BBS 1984; 1989.

Notes: 1) Actual costs include all costs except land rent and interest on operating capital as there was no payment involved. However, family labour and home supplied inputs are priced as per wage rate and other purchased inputs because these home inputs have a ready market.

2) Shadow prices of the factors are same as actual payments for all inputs except the cost of fertilizers in 1983 which is adjusted for subsidy. In addition opportunity cost for land and interest on operating capital are added.

Table-4: Sensitivity of DRCs under Different Assumptions of Shadow Prices of Labour and Land, 1983 and 1988 (Tk/US$)

Crops	Oppoutunity cost of labour at 20% lower than Actual wages		Opportunity cost of labour at 20% Higher than Actual wages		Opportunity cost of land in jute as Net Return from Local Aus and vice versa[1]	
	1983	1988	1983	1988	1983	1988
Jute	15	22	19	28	14	16
Local Aus	27	38	32	45	22	26
HYV Aus	14	26	16	30	12	18
HYV Boro	—	28	—	32	—	21

Source: Same as Table 3 and for net retun-Bari 1986, Ministry of Agriculture 1989.

Note: 1) Opportunity cost of Aus (jute) land is taken as net returns forgone due to not growing jute (Local Aus). If opportunity cost of jute land is considered as net returns of HYV rice, the comparative advantage of jute would be worse, as net returns of HYV rice were substantially higher than of Local Aus.

IV. CONCLUSIONS

From the above analysis it is found that when the price of jute was weaker relative to that of rice in the world market, domestic resource cost of jute cultivation to earn a net unit of foreign exchange was more than that of HYV rice cultivation to earn a net unit of foreign exchange was more than that of HYV rice cultivation to save the same unit of foreign exchange. Simply speaking, foreign exchange potentials of jute was less than that of HYV rice when relative world price was weaker.

However, when the relative world price has improved substantially in favour of jute, particularly during the late 1980s, the cost of domestic resources per unit of foreign exchange was less for jute than HYV rice. This indicates that due to the favourable change in the relative world price, the comparative position of jute has moved in its favour. Forecasts on the prices of jute and rice indicate that the relative price would remain stronger in favour of jute upto the end of the century [16]. So it appears that the foreign exchange potentials of jute would not be weaker than HYV rice during this period. This suggests that under the present situation the production of jute should not be discouraged just to expand HYV rice production.

In support of this suggestion the following points can also be cited. Although there is evidence that there would probably be no negative effect on farm employment and farmer's income [5;198-200], a large reduction of raw jute output would cause serious unemployment in the manufacturing sector. Second, as most of the food imports are still aid financed, the savings from less food imports would not compensate for the large loss of foreign exchange from jute exports in the short-term. However, the issue of food aid imports should also be considered taking its other inhibiting implications into account [6]. The policy makers should also keep in mind that the present crisis in the Gulf region would probably worsen the competitive position of the synthetic substitutes of jute products in the world market due to rise in the petroleum prices.

Under these circumstances the policy on jute should be formulated in such a way that sustained production of raw jute is ensured by maintaining an incentive price for the growers and the production of jute goods is rationalised to keep the costs of production competitive in the world market.

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THE MATBARS AND RURAL POWER STRUCTURE IN BANGLADESH

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1. INTRODUCTION

In a country where resources are scarce and competition for their control is fierce, the 'gainers' are a few and the 'losers' are many. Some can gain only at the cost of many. Such processes (of gaining) involve the systematic 'bending of institutional rules and sanctions against those who are economically and politically disadvantaged' [3;11]. Conflicts arise during such processes of gaining resources by a few. However, there are some mechanisms for resolution of such conflicts as well. These mechanisms can be both traditional and modern. Invariably, there is a tendency to reach a compromise among the disputants for their long term mutual interest. Even though the losers are seen to be apparently 'consenting' to these outcomes, in reality they do not 'consent'. They are simply powerless and have no options but to agree to the formula given by the power-holders. This is done by invoking some kind of ideological or metaphysical notions which apparently uphold the status quo. However, as Adnan has emphasized in the context of rural Bangladesh:

> The consequence may be not only that the devaluation of the norms and principles (the moral/ideological order) informing social conduct but also that of the systematic erosion of the mediating social institutions, undermining in the long run, the hegemonic domination itself. Such tendencies may serve to bring both the ideolocial and the socio-economic order to crisis points. To the extent that such actual or potential crises remain irresolvable within the prevalent structure, societal transformation itself might be put on the agenda [3;11].

The burden of this paper will include:

a. an examination of the nature of the ideological practices which help to maintain the status quo in rural Bangladesh;

b. a focus on the existing social institutions through which these ideological practices have been emerging due to the increased interventions of modern institutions primarily mediated by the state;

c. an analysis of the socio-economic position of custodians of the

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indigenous social institution called Samaj[1] and their perception about the emerging power-holders in rural Bangladesh and finally

d. a look into the conseqences of this transition of the rural power structure in terms of rural development in Bangladesh.

2. THE IDEOLOGICAL ORDER IN RURAL BANGLADESH

The household is the basic organisational unit in rural Bangladesh. 'Such units are under the control of patriarchal authority usually that of the eldest male' [3;12]. Such males are called maliks (i.e. 'farmers in their own right'). Those who do not control such units also aspire to eventually attain such a status. So the dominant aspiration of the peasants in general in rural Bangladesh is the attainment of the status of owner-farmer. Not all owners have the same endowment of resources. 'Inequalities in their resource endowments and social status are perceived as pre-ordinated—a matter of divine will' [3;12]. Despite these differences, all owners (maliks) are formally equal in the society.

The path of piety and prayer leaves open the door for possible improvements in the lot of those who are poor and disadvantaged; correlatively, those who persistently fail to improve, or actually worsen, their lot, must seek explanations in terms of their individual lapses which have incurred divine displeasure and retributive wrath.

Despite this lonesome and individuated predicament in terms of the material conditions of this world, men (and women) are accorded the status of social beings and exhorted to enter the fraternity of a worldwide communitas (Umma) in the sphere of social, religious and ceremonial activities. At the local level, they belong to a specific community [s (h) amaj] with reciprocative and redistributive rules, where they are accorded formally equal status. This is reinforced and 'recharged' by symbolic acts and ceremonies in religious and life-cycle rituals where even ancient enemies and economically advantaged exploiters will done the mask of formal fraternity and share the stresses of familial crisis situations [3;14-5].

There are mechanisms of bichar and salish to set things right if there are deviations from the accepted codes of conduct.[2] Since these proceedings

1. Samaj is same thing as community. It is like a 'confederation of one or more agnatic kin-groups, where leadership has been entrusted, by common consent, upon one or more influential individuals' (Adnan, ibid: 13). These influentials individuals wield power and are known as Matbars/Sardars/Paramaniks/Prodhans/Mondals etc. in different regions of Bangladesh. In the anthropological literature tern Matobbar rather than Matbar has been more frequently cited. But Matbar is more often used by the rural population and we felt we can go nearer to the ground by using the colloqual term.
2. Usually bichar and salish are interchangeable terms. These are mechanisms of conflict resolution. However, Zaman in a recent study (1981) has brought out certain subtle differences between these two term. According to him the former is a zerosum game aiming at a definite judgement from the bench, the latter is a compromise amining at longer terms social interests. More on these later in the text itself.

take place in public, operate within the boundaries of precoded rules, they serve as the mechanism of legitimising the prevalent status quo. In the event of any shortcoming of this 'ideal ordering', there remains the ultimate day of judgement when all scores will be settled by the creator himself. Thus, 'even the most 'wretched of the earth' might pass through a life-time of unmitigated poverty, exploitation and deprivation in the villages of Bangladesh, and yet retain the metaphysical solace that redemption will eventually come in the life after" [3;15]. "There will be pie in the sky when you die!"

The ideological ordering depicted above relates primarily to the Muslim peasantry, who predominate in rural Bangladesh. For detailedanalysis see [11]. The essence of it, however, does not vary significantly in the cases of other religious groups, particularly the Hindus.

3. THE SOCIAL INSTITUTIONS SAFEGUARDING THE IDEOLOGICAL ORDER

Next to household, the kin-groups play an important role in mediating the control and division/subdivision of landed property through patrilineal inheritance. Bertocci thus finds good reasons for the tendency of households belonging to a common patrilineage reside in close surroundings [4]. Joint property rights for ponds and orchards in the villages of Bangladesh also point to the fact that these household branch out of a common agnatic or affinal root. The kin members chose one or more influential individuals, mostly maliks with greater weather and social prestige, to represent them in a higher order social organisation called Samaj. although all members of a particular lineage are members of a Samaj with equal rights and obligations, some of them are 'more equal' than their fellow members. And these are the individuals who are leaders of the Samaj.

> The s (h) amaj is no economic corporate group in any sense: it does not organise production (on a communal level) and, unlike kin-groups, it does not own landed property, except perhaps in the sense of its leaders being made possible trustees of a religious institutions.....what it is concerned with is the social, moral and religious life of its members, if necessary, enforced i.e. departures from approved norms, if any, are made subject to corrective sanctions [3;13].

The leaders of the Samaj normally sit in a salish for resolutions of councils among its members. The judges or arbitrators are known as Saliskars. Usually, if the disputants belong to the same Samj, the salish proceedings are conducted in public in front of all Samaj members. The Salishkar, are expected to be neutral and impartial and arrive at a

consensual compromise. If they fail to reach such a compromise, the salish can be taken to a higher salish proceedings with Salishkars from other Samaj groups. It may also be taken to the local self-government institution i.e. Union Parishad (Council).

According to Adnan salish and bichar are interchangeable terms meaning court or bench [3;13]. However, Zaman differs with him and emphasises different processes both in content and outcome. According to Zaman (1981:170):

> First, a bichar aims at a judgement on a dispute, but a salish is invariably a compromise attempt between disputants. Secondly, in a bichar the judgement given is regarded as a social verdict that possesses a socially coercive power to implement it where as a salish is an agreement arrived at by compromise decision having no compulsion to acceptance by parties concerned. The rejection of compromise decision that allows disputants to reopen such dispute in a different arena is easily possible. Thirdly, bichar is usually held for trials of those people who violated social norms, mortality, and other social matters that are highly valued by the Samaj. A salish is always made on issues involving material basis like land and other property distribution among heirs..The bichar is always held in bench of Paramaniks (Salishkars) to mediate a mean position to make it acceptable to disputants.

Zaman's pinpointing of subtle differences between bichar and salish are worth noting. Perhaps this was the first note of dissent on the interchangeability of the two terms put forward by earlier social scientists. However, the village leaders who sit in as judges in both bichar and salish have been described as Sardars, Paramaniks, Mondals, Matbars by various scholars [10,4,1]. I would personally like to take the term Matbar irrespective of the regional variations. The Matbars, in their capacity as village judges, wield enough power and serve to uphold the 'more order' of the Samaj. They may also innovate new rules to meet unforeseen situations. They, by din't of their veil of neutrality and impartiality, help legitimate the dominant notions of what is right for the coummunity.

In reality, however, the acts of Matbars may not always conform to the ideals expected from them. The agrarian structure of Bangladesh is highly unequal [6,8]. As a result most of the poor are dependent on the handful of rich landowners for employment and credit. The poor, therefore, can hardly resist any unjust verdict imposed on them by Matbars who are usually very rich. On the otherhand, Matbars may choose the path of 'considered inaction' if both parties are rich and powerful.

One should not in any case overemphasize the manipulating power of these Matbars. Islam noted the dwindling power base of traditional leaders like Matbars as early as in the late 1960s [5]. He clearly observed an

emerging leadership from among the younger members of the Samaj as a by-product of the intervention of the central government in the guise of rural works programmes implemented by 'basic democrats' in the 1960s. He even termed them as 'brokers'. However, the younger leaders were not very many in number and they too came from the land-rich families. The trend continued throughout the seventies and eighties [7]. In recent years, thanks to the increased flow of resources in the name of rural development, there has been greater visibility of the younger power-holders and I have bracketed them as Touts[3] elsewhere (Rahman, 1988). These are a more aggressive kind of rural leaders who can make alliance with the major power-holders in the urban areas. As a consequences, the power of the traditional village leaders called Matbars in rural Bangladesh has been on the wane. The trend is however, yet to be validated empirically. It is with this concern that we have collected information on the socio-economic characteristics of Matbars existing in rural Bangladesh and in particular on their perception of the emerging power-holders. The information was collected from only 50 Matbars from six different regions of Bangladesh chosen randomly. These 50 Matbars again identified 93 emerging power-holders along with their socio-economic characteristics. The survey was conducted in 1986. It is true that the sample size is not large enough to make conclusive statements about the transformation of the power structure that has been going on in rural Bangladesh. But one can obviously observe some interesting indications of how new kinds of leaders are replacing the old guards, though not necessarily in class terms.

4. SOCIO-ECONOMIC CHARACTERISTICS OF MATBARS

4.1 Age groups and the family size of Matbars

It is true that Matbars belonging to the age groups of over forties dominate in rural Bangladesh. However 28% of them are from an age group which is less than forty. These are the leaders who have come from the new generation of family members (on an avarage more than 10). This number is nearly double the average family size of rural households in Bangladesh. That means, the Matbars have greater control over manpower of their own, compared to an average household head. But the average number of earning members in a Matbar family is just over two. This is indicative of the fact that Matbars continue to depend on others' labour for their family income (see Table 1).

3. Touts are middlemen, very skillful in cheating innocent people. They are now a part of clientilism and they can flourish in a society where there is an ample scope for rent-seeking (see Rahman, 1988 for details).

4.2 Ownership and utilisation of land by Matbar households

The fifty Matbars together owned 610.31 acres of land in 1970. Out of this 533.51 acres (i.e 87% of owned land) were cultivated land. By 1986, although the total land owned by them declined to 598.55 acres, the cultivated land, in fact, increased to 534.55 acres (i.e. 89% of the former). That means more land used to be left fallow earlier. Of the cultivated land, they rented out 28.73 per cent of it in 1970. The proportion of land rented out remained more or less same in 1986 (29.40%). One can also notice a revers lease in 1986. At least 4.10% of total owned cultivated land was rented in by the Matbars. Many poor farmers have in fact rented out their small patch of land to these Matbars. This is normally observed once the scope for irrigation and modernisation of agriculture increases. The Matbars have thus adequately reaped the benefits out of state sponsored Green Revolution. While the land (owned by Matbars) under irrigation was less than one per cent in 1970, the figure shot up to more than 44 per cent in 1986 (see Table 2). This new interest in irrigation technology by Matbars has many pointers to explain the changes going in the rural power structure.

In terms of landownership, the Matbars appear to have maintained their wealthy status. There has not been drastic change in the average amount of land owned by the sample Matbars during the period between 1970 and 1986 (the mean hovers around 12 acres, at least six times higher than the national average). It should also be noted that 12 acres of 1986 is not the same as in 1970. With 44% land under irrigation, the effective landholding is much greater in 1986, particularly after the adjustments made for cropping intensities.

As can be seen from Table 3, 48 per cent of the Matbars owned about 12 per cent of the total land of the sample. By 1986, the proportion did not change much (46% of them owned 12% of land). However, there has been some changes is the proportion of households who owned more than 12.5 acres of land. In 1970, there were 30 per cent of them in this land rich group. They owned more than 68 per cent of the total land. By 1986, the proportion belonging to this group increased to 38 per cent. They then owned 75 per cent of land. Clearly there has been some upward mobility at the cost of the middle groups. This also supports our earlier findings that there has been greater concentration in landownership in Bangladesh [8].

4.3 Occupational pattern of the earning members of Matbar families

One can notice significant changes in the occupational patterns of the earning members of Matbar families during the period of enquiry (see Table

4). There were 89 earning members in these fifty households in 1970. This went up to 118 by 1986 (i.e. a 33% increase). Sixty five per cent of the earning members had agriculture as the principal occupation in 1970. By 1986, the percentage figure dropped to 40. That means more people engaged themselves in non-agricultural sectors in the later years. While 24 per cent of earning members of Matbar families had business as the principal source of income in 1970, the proportion increased to 35 per cent in 1986. Also more earning members engaged themselves in other service sectors in the recent times.

The above trend is further validated by the relative positions of the sources of income of Matbar house holds.

4.4 Sources of Income.

One has to take the absolute income figures provided by the respondents with a bit of caution. The recall method used in capturing the income figures is not always consistent and unbiased. However, the relative figures may be used comfortably as the same kind of bias exists in all cases.

The average income of Matbar household from all sources of income was Tk. 19,878 in 1970. The corresponding figure was Taka 1,17,712 in 1986. These are in current prices. Even after making price adjustments, the 1986 figure is much higher than that of 1970. However, in both instances, the average income of Matbar households was at least six times greater than that of an average household.

In relative terms, the information is more illuminating. Back in 1970, 60 per cent of total income of Matbar households came from agriculture. But by 1986, the proportion dropped to 53 per cent. Of the 40 per cent originating from non-agricultural sources; 30% came from business. There was no contribution from contracting services. It should be mentioned here that all kinds of physical infrastructure building activities are implemented by contractors supposedly supervised by Project Implementation Committees. In effect a symbiotic relationship has already developed between these committees and the contractors. Both elected representatives and government officials share the 'kickbacks' from the contractors. The contractors are usually sons and other close relatives of the local power elities. The income earned through contracting services has been increasingly becoming significant recently. In 1986, one can see greater diversification in the non-agricultural sources of income. While business contributed 27 per cent non-agricultural incomes, contracting

services contributed 6%, administrative responsibilities and jobs in both private and public offices accounted for 2% and 7% respectively (see Table 5). The latter sources of income are, in fact, related to the greater involvement of the state in development activities at the local level. It is not surprising that the opportunities created by state have been captured by the well-connected members of the Matbar families.

The relative importance of the sources of income of the Matbar households clearly confirm the hypotheses that land has been loosing out as the principal source of power and a number of new sources of power, mostly aided by the state, have been emerging in rural Bangladesh.

The change in the pattern of utilization of others' labour in the production organisation of rural households can also indicate the trend of transformation of power undergoing the rural society. This also points to the structural changes which may have been already in action in the production relations in rural Bangladesh. We now turn to this issue.

4.5 Utilization of labour

The majority of the respondent Matbars (64%) disclosed that there has been an increase in the use of wage labour during the period of enquiry i.e. 1970-1986 (see Table 6). What is more significant, Matbars orginating from larger landholding groups who previously had more sharecroppers attached to them, gave this piece of information. This is also indicative of the fact that the large landowners have been reaping the benefits of modern technology introduced into the agricultural sector, mostly patronized by the state.

There has been some change in the mode of wage payment as well. Before 1970, most of the agricultural wage used to be paid in kind. But things have changed by now. More than half of the respondent Matbars informed that they pay only cash to the labourers. The provision of also feeding them (i.e. partpayment in kind) has been gradually diminishing. Only seven per cent of the Matbars said to us that they pay cash plus one meal a day to the wage labourers. Forty two per cent of them, however, said that they provide three meals in addition to the cash payment.

The domain of influence of the Matbars still exists around their own villages. About 72 per cent of wage labourers working in Matbars' fields came from the same villages as of Matbars'. The remaining 28 per cent of them come from outside. They were either from the neighbouring villages or from far away places. The emigration of these labourers from outside

villages also speaks of the mobility in the rural labour market, a sign which can have significant impact on the power relations in the villages.

The labour market in rural Bangladesh is still in transition. Despite increase in the incidence of wage labour and its mobility, Matbars still have permanent labourers. While there were on an average 1.56 permanent labourers per Matbar family in 1970, the figure dropped to 1.06 by 1986. Even then, the presence of at least one permanent labourer per Matbar family does indeed indicate the incompleteness of rural proletarianisation in Bangladesh. Those who own more lands had also more permanent labourers. In other words the labour sale has not become completely commercialized. Permanent labourers may be interlinked with their employers in some other transactions (e.g. credit market).

The permanent labourers pointed out in the above paragraphs are male labourers. There are female labourers attached as well to the Matbar families. Again the presence of attached female labourers is more visible with Matbars originating from larger landholding groups. There has been a slight decrease in the use of attached female labourers in the Matbars families in recent times than in the earlier period.

Thus, the Matbar households, while on the one hand use modern technology in farming and employing daily wage labourers, on the other hand do also employ permanent labourers, both male and female. Indeed these households are passing through a transitional phase, particularly with regards to the use of others' labour.

As we have already mentioned traditional Matbars are loosing ground as power-holders. But their sons are emerging as the new power elites. That is the trend identified by respondent Matbars. We asked our respondents to identify at least three of the powerful persons in their villages who sit in the village Salish (or bench). Not all respondents could identify more than one such power-holder. Some villages were virtually monopolized by a single Matbar. So in all the respondents indentified 93 power-holders,, excluding themeselves. We will now have a glance at the socio-economic characteristics of these power elites as they appeared to our respondent Matbars.

5. POWER ELITES AS IN THE EYES OF MATBARS

5.1 Age

The respondent Matbars identified about 19 per cent of the power elites to be aged below forty. Another 17 per cent of them were more than sixty.

The remaining leaders were in between. In other words, the emerging leaders were relatively younger in age (see Table 8).

5.2 Education

Nearly one third of power elites had formal education. They were either school or college graduates. The educated leaders came mainly from the younger age groups. Command over the written word has been emerging as an important source of power. It is a necessary precondition for getting near to the political and administrative elites (see Table 8).

5.3 Landownership

The power elites identified by Matbars come from land-rich groups. They too own over 12 acres of land. These are again younger leaders (64% of them are below forty). Nearly half of these power-holders own more than 7.5 acres of land. Thus the emerging leaders too have originated from the landrich groups. Those who ownless land have formal education as the new sources of their power.

5.4 Occupation

Fifty nine per cent of the 93 power-holders identified by Matbars have agriculture as their primary occupation. Thirty per cent of them are businessmen. Three per cent of them are contractors. What is of critical significance is that none of the power-holders who are below thirty have agriculture as their principal occupation. Their main sources of income are business, contracting and other non-agricultural activities (see Table 10). Thus the emerging power elites have diversified sources of income and are not necessarily solely dependent on rural based income earnings.

5.5 Family Backgound

The new power-holders as pointed out by the Matbars are not necessarily a completely new social category. Of these 93 power-holders 71 per cent happen to be sons of ex-Matbars (see Table 11). The remaining 29 per cent come from ordinary backgound. Their fathers were not Matbars. And three-fourths of these power-holders are below thirty. But must not overemphasize this trend. The major portion of the power-holders still originate from traditionally powerful families.

Power is generally conceived of in terms of control over men and materials. So we wanted to know about the perception of the respondent Matbars about the men supposedly in their control. We therefore, turn now to the perception of Matbars about the nature of proletarionsation of the labourers they normally employ for their farming activities. This will also

indicate the nature of counter-vailing power unfolding among the labourers.

6. LABOURERS' ATTITUDES AS IN THE EYES OF THE MATBARS

6.1 Collective Bargaining

The level of collective bargaining of the agricultural labourers in negotiating their wage level is quite underdeveloped. As is evidenced from Table 12, 78 per cent of the Matbars stated that the going wage rate has been predetermined by the employers themselves without much resistance from the labourers. The labourers have not yet been fully orgainsed to ask for a higher wage rate. There is no systematic pattern in this response vis-a-vis landownership groups.

6.2 Mode of Wage Payment

Next we wanted to know from Matbars if the wage labourers tended to put pre conditions with regards to the mode of payment including the quality of food which is normally treated as a part of wage and also the working hours involved etc. Matbars confirmed that some changes have been taking place in some of these aspects. Sixty four per cent of the Matbars said that labourers tended to be quite clear on each of the above aspects before they committed themselves. However, since the labourers are not yet unionised, they avoid confrontations on these scores. The employers who do not agree to their points are avoided by the labourers. This is, however, true only during the peak seasons when the demands for wage labour shoots up. In the slack period, the labourers have very little option but to agreeing to whatever terms are given to them by the employers.

7. SUMMARY AND CONCLUSIONS

In the foregoing sections we have noted a kind of transition taking place in the rural power structures in Bangladesh. We have noted the following trends:

1. There is an ideological ordering in rural Bangladesh. The ultimate goal of all individuals is to become owner of a piece of land (Maliks). Inequalities in resource endowments that one can see in rural society are pre-determined by divine will. However, one can still hope to improve his/her lots if he/she chooses the path of piety and prayers.

2. Despite these differences, all men are taken as social beings and accorded similar social status at least outwardly. They all belong to a community called Samaj. All members of Samaj are supposed to

stand by others during familial crisis situations and at the time of religious rituals. Any deviation from notions of this 'proper conduct' is taken care of by the mechanism of traditional village courts called Bichar and Salish.

3. Even though all members of a Samaj can take part in these traditional benches the power ultimately lies with a handful of individuals who normally play the part of custodians of peace and justice in the rural settings. They are the local judges. They are know as Matbars, Paramaniks, Sardars, Mondals, Prodhans etc. These terms are interchangeable. We have chosen here Matbars as a representative terms for all of them.

4. Matbars are thus a part of a traditional power structure in charge of safegurding the ideological order to maintain the rural status quo.

5. Matbars of today originate mainly from large families. The average family size of respondent Matbar households is more than ten, which is doubles the average family size in rural Bangladesh. The control over men is still an important consideration in the rural power structure. However, a group of younger Matbars with smaller family size, thought insignificant in number are visible as well.

6. Control over material resources is also crucial in the rural power relations. Thus most of Matbars (48%) own more than 7.5 acres of land. On an average a Matbar household owns about 12 acres of land, a figure which is atleast four to five times higher than the national average. Of course, a new generation of Matbars, though not big in number, are emerging from even the land poor groups. Sources of power of these leaders are mostly education and their connection with the state.

7. The state has been aiding the introduction of modern technology in farming mainly in the form of providing subsidised irrigation water. Subsidies in fertilizer and insecticides have, of course, been gradually lifted. But the subsidies on irrigation equipments, which still exist in substantial amount, have mostly gone to these Matbar families. The Matbar families have taken full advantage of this state patronage and 44 per cent of their cultivated land is thus under irrigation (the national average is still less than 20 per cent). Concomitantly, there has been a significant rise in the use of hired labourers in farming in the last decade or so. Of course, use of

permanent labourers, both male and female, still prevails among the Matbar households.

8. Despite the spread of modern technology in farming, the Matbar family members have diversified their sources of income. While 65 per cent of the earning members of Matbar families had agriculture as the primary occupation in 1970, the figure dropped to 40 per cent in 1986. The proportion engaged in business increased from 24% to 35% during 1970-86. Contracting, a by-product of state involvement in building infrastructures and other rural development activities, has also been gaining grounds as sources of income for some members of the Matbar families. This has been possible due to the closer affiliation of these members with the local political and administrative elites. One can thus see how the rural traditional power structure is being gradually integrated into the modern state structure.

9. The above trends are further corroborated by the perceptions of the Matbars about the emerging power elites in rural Bangladesh. Most of them provide information on the socio-economic characteristics of the rural power-holders which in no way deviate significantly from their own class background. The landholding pattern, the occupations, sources of income, use of labour mostly conform to the above traits of Matbars. What is of significance is that 29 per cent of the power-holders identified by Matbars do not originate from traditional powerful families. Their sources of power are education and connection with the local government officials and politics. They are younger in age and not dependent on agriculture.

10. But equally significant is the fact that 71 per cent of the power-holders' fathers were also Matbars. So they have simply graduated in the new leadership from their fathers. This means that no fundamental change has really been taking place in the power structure. The sons and relatives of the old Matbar families are still dominating the rural power structure. They are maintaining this domination by taking advantage of the opportunities opened up due to increased state intervention in rural areas. They are educated and getting involved in non-agricultural activities for earnings.

11. Salish, though waning in its importance, again due to the close proximity of the modern court, still plays an important role in providing legitimacy of social power through the exercise of 'hegemonic authority based on consent or of imposed class dominated by the rich and powerful' [2].

So those who think seriously about radical transformation of the traditional power structure in rural Bangladesh need not be overenthusiastic about the apparent changes taking place in the style and form of rural leadership. The fundamental structure remains as it was in the past. Matbars, the custodian of Samaj or Community, though they appear to be impartial guardians of the community as a whole, in effect help maintain the status quo in order to both re-route resources already in the villages, and ones coming from outside due to state intervention, towards the rich and powerful.

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Table-1 : Demographic Structure of the Matbar Households

Age groups (in years)	No. of respondents	Average family size	Average earning members per family
Below 30	3	5.33	1.00
31-40	11	10.18	2.45
41-50	14	12.64	2.35
51-60	12	8.66	1.75
60+	10	11.70	3.20
All groups	50	10.52	2.32

Sources: Fieldwork by the author, BIDS, 1986.

Table-2: Land Use Pattern of Matbar Housholds

Year	No. of Matbar	Total owned land (acres)	Total agricultural land (acres)	Land sharecropped out (acres)	Land sharecropped in (acres)	land mortgaged in (acres)	Land mortgaged out (acres)	Total land under irrigation (acres)	Total cultivated land (acres)
1970	50	610.51	533.31	153.20	—	14.50	—	5.00	3.94.81
		—	(100.00)	(28.73)		(2.72)		(0.94)	(72.74)
1986	50	598.96	534.55	157.16	21.90	9.00	—	235.80	408.29
			(100.00)	(29.40)	(4.10)	1.68)		(44.11)	(76.38)

Note: Figures in the parentheses are in percentages.

Table-3: Distribution of Land Owned by Matbar Households

Land ownership groups	Total land owned (acres)		Average land owned (acres)		% of Matbars belonging to the said land group		Per cent of land owned by Matbars (acres)	
	1970	1986	1970	1986	1970	1986	1970	1986
Below 2.50	11.83	12.85	0.99	1.61	24	16	2.04	2.15
2.51-7.50	54.93	60.86	4.54	4.06	24	30	9.48	10.24
7.51-12.50	118.40	75.25	1076	9.44	22	16	20.43	12.66
12.50-25.00	194.50	243.40	19.45	17.39	20	28	33.57	40.94
25.01+	230.85	206.60	46.17	41.32	10	10	34.48	34.41
All Groups	610.51	598.96	12.21	11.96	100	100	100.00	100.00

Table-4: Occupational Pattern of the Earning Members of Matbar Households

Year	No. of house holds	No. of earning members	Distribution of earning members according to their primary occupation				
			Agriculture	Business	Service	Self-employed	Others
1986	50	118	47	41	26	3	1
		(100)	(39.83)	(34.75)	(22.03)	(2.54)	(0.85)
1970	50	89	58	21	6	3	1
		(100)	65.17)	(23.60)	(6.74)	(3.37)	(1.12)

Note: Figures in parentheses are in percentages.

Table-5: Sources of Income of Matbar Households

Items	1970	1986
1. Average household income (in current prices) (in Taka)	19,878	1,17,712
2. Distribution of income (as %of total income)		
i. Income from Agriculture	60.48	53.38
ii. Income from Business	30.32	26.97
iii. Income from Contracts	—	6.20
iv. Income from holding Public Office	0.12	2.12
v. Income from Services	0.53	7.27
vi. Income from other sources	8.55	4.06

Table-6: Opinion of Matbars on the Utilisation of Hired Labourers

Land ownership groups (in acres)	Number of Respondents	No. of Matbar informing that the use of hired labourers has	
		increased over the period: 1970-1986	decreased over the period: 1970-1986
Below 2.50	8	5	3
2.51-7.50	16	7	9
7.51-12.50	8	5	3
12.51-25.00	13	11	2
25.01+	5	4	1
All groups	50	32	18
Percentage:	(100)	(64)	(36)

Table-7: Use of Permanent/Attached Labourers

Land ownership groups (in acres)	Number of respondents	No of permanent male labourers per family		No. of attached female labourers per family	
		1970	1986	1970	1986
Below 2.50	8	0.25	0.13	0.13	0.25
2.51-7.50	16	0.94	0.50	0.69	0.56
7.51-12.50	8	1.75	1.38	1.13	1.25
12.51-25.00	13	2.23	1.54	1.08	1.00
25.01+	5	3.60	2.60	2.40	2.20
All groups	50	1.56	1.06	0.94	0.90

Table-8: Age and Educational Levels of Power-holders Identified by the Respondent Matbars, 1986

Age groups years)	Graduates	Higher Secondary & Secondary School Certificate holders	Class V to Class X	Upto Class IV	Illiterate	Total(in years)(in
Below 30	2	2	—	—		4
	(50.00)	(50)				(100.00)
31—40	2	8	4	—	—	14
	(14.28)	(57.14)	(28.56)			(100.00)
41—50	—	5	14	5	1	25
		(20.00)	(56.00)	(20.00)	(4.00)	(100.00)
51—60	—	7	13	12	2	34
		(20.59)	(38.23)	(35.29)	(5.88)	(100.00)
61+		2	6	8	—	16
		(12.50)	(37.50)	(50.00)		(100.00)
All groups	4	24	37	25	3	93
	(4.30)	(25.81)	(39.78)	(26.88)	(3.22)	(100.00)

Table-9: Distribution of Land owned by the Power-holders Identified by Respondent Matbars, 1986

Age Groups (in years)	Land ownership groups (in acres)				
	Below 2.50	2.51-7.50	7.51-15.00	15.01+	All groups
Below 30	2	2	—	—	4
	(50)	(50)			(100)
31-40	2	7	2	3	14
	(14.29)	(50)	(14.29)	(21.43)	(100)
41-50	1	12	5	7	25
	(4)	(48)	(20)	(28)	(100)
51-60	2	12	9	11	34
	(5.88)	(35.29)	(26.47)	(32.35)	(100)
61+	1	7	—	8	16
	(6.25)	(43.75)		(50)	(100)
All groups	8	40	16	29	93
	(8.60)	(43.01)	(17.20)	(31.18	(100)

Note: Figures in parentheses are percentages.

Table-10: Primary and Secondary Occupations of Power-holders Identified by Respondent Matbars

	Primary Occupation					Secondary Occupation				
Age groups (in years)	Agricul ture	Business	Contrac— ting	Others	All	Agricul— ture	Business	Contrac— ting	Others	All
Below 30	—	2	1	1	4	1	1	2	—	4
		(50)	(25)	(25)	(100)					(5.33)
31—40	3	6	2	3	14	6	4	—	—	10
	(21.43)	(42.85)	(14.29)	(21.43)	(100)					(13.33)
41—50	12	13	—	—	25	10	11	—	—	21
	(48)	(52)			(100)					(28)
51—60	26	4	—	4	34	6	15	5	2	28
	(76.47)	(11.76)		(11.76)	(100)					(37.33)
61+	14	—	—	2	16	2	6	3	1	12
	(87.50)			(12.50)	(100)					(16)
All groups	55	25	3	10	93	25	37	10	3	75
	(59.14)	(29.88)	(3.23)	(10.75)	(100)	(33.33)	(49.33)	(13.33)	(4)	(100)

Note: Figures in parentheses are in percentages.

Table-11: Family Background of the Power-holders

Age groups (in years)	No. of power-holders whose fathers were Matbars	No. of power-holders whose fathers were not Matbars	Total
Below 30	1	3	4
	(25)	(75)	(100)
31-40	7	7	14
	(50)	(50)	(100)
41-50	17	8	25
	(68)	(32)	(100)
51-60	26	8	34
	(76.47)	(25.53)	(100)
61+	15	1	16
	(93.75)	(6.25)	(100)
All groups	66	27	93
	(70.96)	(29.04)	(100)

Note: Figures in parentheses are in percentages.

Table-12: Attitudes of the Wage Labourers as Perceived by Matbars

Land ownership groups (in acres)	No. of respon-dents	Per cent of Matbars informing that the wage labourers do not bargain for a predetermined wage rate	Percentage of Matbars saying that labours try to put conditions about quality of food, working hours, mode of payment before community to work
Below 2.50	8	81.87	62.50
2.51-7.50	16	91.87	43.75
7.51-12.50	8	72.50	50.00
12.51-25.00	13	58.46	84.61
25.01+	5	84.00	100.00
All groups	50	77.70	64.00

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PROCESS LEVEL LABOUR PRODUCTIVITY IN COTTON TEXTILE SPINNING MILLS

A. F. M. MAFIZUL ISLAM*

INTRODUCTION

Productivity has acquired great importance in the industrial sector today. The productivity indices, among others, are used for evaluating the effectiveness of the various schemes for rationalisation and scientific management. Traditionally, productivity is measured at the macro level or at the plant level, and this, perhaps, fails to provide effective solutions of the problems to improve productivity.

Problem lies at the production process level and the management is more concerned with labour. This paper attempts to measure productivity of labour at each stage of production process. The sample covers nine cotton textile spinning mills under public sector.

The paper is organised in four sections. Section II gives a brief description of different stages of production process. Section III identifies the variables to be used in the regression models. Section IV provides results and explanations. Finally, conclusions are provided in Section V.

II. PRODUCTION PROCESS : A BRIEF DESCRIPTION

At the production process levels, before we analyse factors affecting labour productivity it is instructive to briefly discuss different stages of production process of cotton textile mills. The basic raw cotton obtained is a mass of entangled fibre - entangled because it is required to be highly compressed to facilitate transportation. This cotton contains natural and other impurities including fibres of different lengths and qualities. It is, therefore, required to clean and mix the fibres and then straightened. Thus the first step in manufacture is to clean and mix the fibres. These are then generally straightened. Thereafter, the fibres are drawn out to form a sliver. The fibres are then further attenuated and twisted (to impart strength) to produce rovings which are finally twisted into yarn. The following 'Flow Chart' will be helpful in getting in understand the process.

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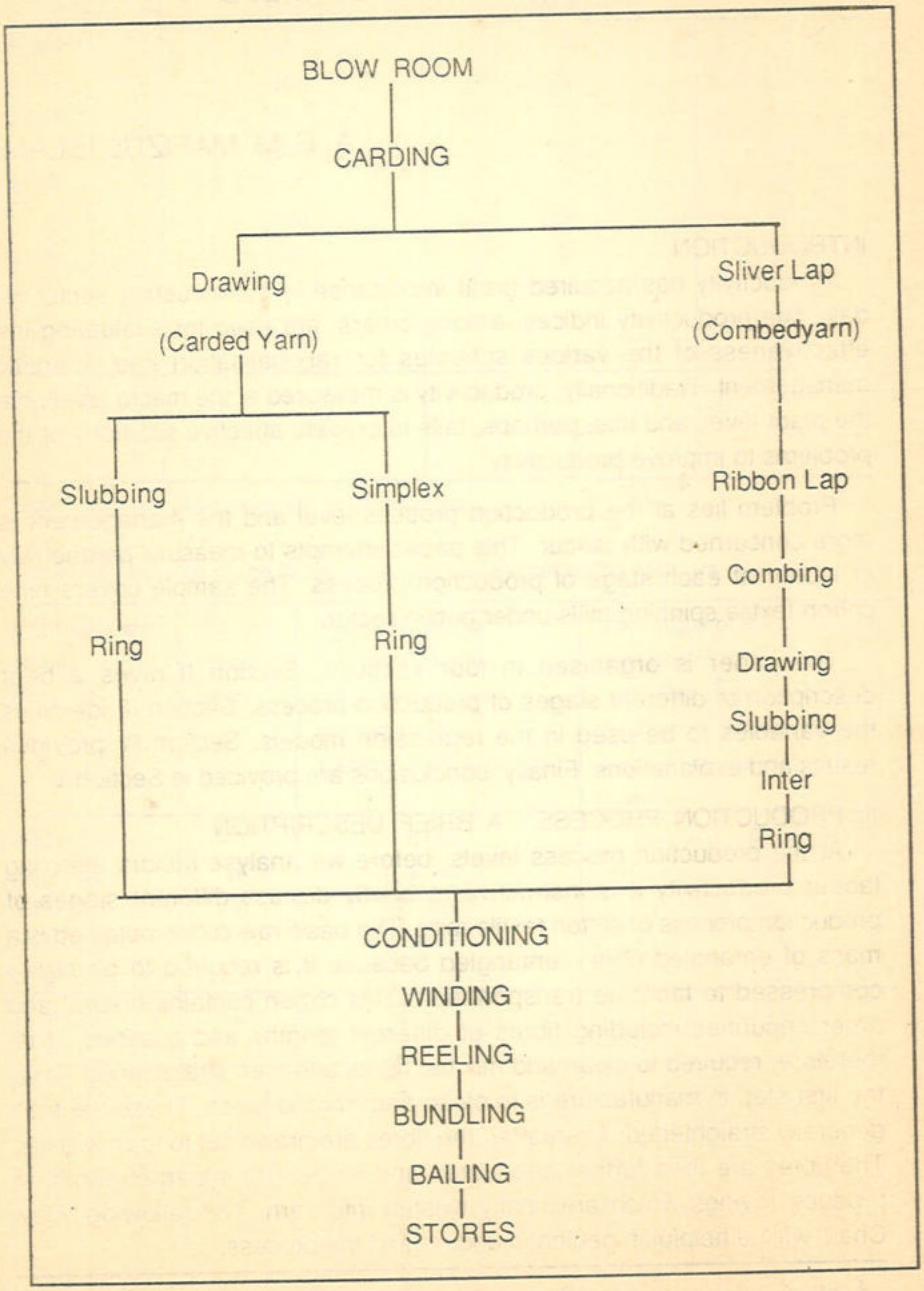
FLOW PROCESS CHART (SPINNING)



The processes can be thought of as parts of two broad processes-viz. (I) preparing the cotton for spinning and (ii) spinning the cotton into yarn. These two processes are composed of five stages. These are :

Opening and Cleaning Stage

Carding Stage

Drawing Stage

Roving Stage, and

Spinning Stage

A detailed description of each stage is provided below.

Opening and Cleaning Stage

The function of this stage of process is to blend cotton so as to get a uniform raw material, clean it by removing leaf, dirt and trash, open up the fibres, since these have been compressed in bales, and deliver a cleaned, uniform product in a suitable form to the next stage. Opening and cleaning takes place in the blow room and involves a range of four or five machines. These comprise an opener, mixing and cleaning machines and a scutcher. The opening involves inter alia beating the cotton in such a way that loosened extraneous matter is disposed of through a suitably located grid. The cleaning machines make use of combing and beating (and in some cases, differential air speeds) further to purify the cotton which emerges in lap form. It is then fed to the scutcher which basically comprises a rapidly revolving, multi-bladed beater mounted over a rid. The cotton which passes under this beater, is still further loosened by suction, and is delivered as a continuous flat sheet (or lap) of uniform thickness which is made into a large roll to be fed to the carding machines. The line normally works without human intervention except for the possibility of feeding in cotton at one end and removing the finished product (lap) at the other. At the end of the range the choice is at the delivery end of the last machine, the scutcher. Laps can be doffed manually or automatically.

Carding Stage

In this stage carding machine is used to remove most of the remaining impurities from the cotton as well as relatively short fibres left in from the previous stage. It also breaks up any hard tufts which survives the earlier opening and cleaning operations. At this stage a basic objective is the formation of sliver from the lap. The core of the modern carding machine comprises of a composite fabric in which are anchored densely-packed

fine-pointed wires the pointed ends of which are bent over. This material covers a large horizontal cylinder in the machine as well as a smaller cylinder on the one side of the machine. Another small cylinder on the other side of the machine has cut teeth. The lap from the scutching machine is fed to this toothed roller (the lickerin) which rotates rapidly. Its teeth pierce the lap and carry it forward, attenuating the cotton in the process, to meet the large cylinder where it is taken off with more attenuation by the wire points. The cotton spread film-like on the cilinder is passed under moving wire points on "flats" above the large cylinder. As a result, the cotton is combed and straightened as it moves forward to meet the other (card-clothed) small roller which removes it from the cylinder. The lapped cotton is then collected by roller and narrowed to a thick sliver which is coiled into tall narrow cans.

Drawing Stage

The draw frame draws several slivers from the card and attenuates them to the dimensions of one thus increasing the uniformity of the product. The draw frame uses pairs of rollers in line and suitably spaced so that the differential speeds of the rollers attenuate the fibres without causing them to break.

Roving Stage

The object of the roving frame is to further attenuate. The actual draft being about 7 - an even the sliver, which at this stage is order to give strength requires some twist, and to wind it into bobbins suitable for spinning. Use is again made of rollers.

Spinning Stage

Two types of spinning are generally used : ring spinning and opened or break spinning. In ring spinning bobbins of roving are placed on the upper part of the ring frame. The roving - a sliver of the thickness of coarse string is led downwards through drafting rollers on to a vertical spindle which rotates at a very high speed. There is a light ring round the spindle which is fitted with a traveller and the roving comming from the drafting rollers is threaded through a small yarn guide vertically over the spindle through the traveller of the spindle. The traveller imparts a slight drag to the roving and this has a tensioning effect as the roving is being guided round the spindle. This effect facilitates the twisting and winding operation.

In ring spinning then the roving is further attenuated by roller drafting to the fineness of the yarn required, usually a draft of 22 to 24, and at the same time further twist is inserted to give the yarn the necessary strength.

The amount of twist is measured by the number of turns per inch in the yarn and the finer the yarn the smaller the number of fibres per unit of cross section area and the greater the amount of twist required. The usual relation is for the number of turns per inch to be four times the square root of the yarn count. The number four is called the twist factor and is higher if a shorter staple (cheaper) cotton is used. The amount of twist is regulated by drawing of the yarn at the right rate in relation to spindle speed. In general the spindle is run at its maximum speed of up to 15,000 rpm but at low count this means that the roving emerges from the rollers at a higher rate so that breakages are difficult to attend to and slower spindle speeds may be needed while operations are acquiring the necessary skill in piecing up. The ultimate limit to spindle speed is set by the centrifugal force on the traveller so that narrower diameter rings permit high speeds than wide diameter. This method of operating means, however, more frequent doffing.

III. PRODUCTIVITY MEASUREMENT AND REGRESSION ANALYSIS

In measuring productivity we have attempted to use the standard output estimates prepared by management. On the basis of experience management has made estimates of what should be normal output in physical terms at each stage of production process. These estimates were made by adjusting the International Standards according to the conditions of their own mills. The actual production of each stage was converted into percentages of the standards fixed for them and this was taken as their productivity level.

The primary purpose of our study here is to analyse what factors affect productivity of labour at each level of production process. We have made use of linear multiple regression analysis to find out which variables are important in explaining the variations in the level of productivity at each level of production process. The strength of relationship is measured by the co-efficient of correlation R. The regression equation takes the form :

$$P_L = a + \sum_{i=1}^{7} bi\, x\, i$$

Where P_L = Productivity of labour expressed as output produced in physical terms divided by total manhours worked.

x_1 = Absenteeism measured in terms of total absentee manhour divided by the total manhours worked.

x_2 = Shortage of back process expressed as the ratio of the total production hours lost due to shortage of backprocess to the total production hours worked.

x_3 = Mechanical defect measured in terms of production hours lost due to defect in the machine divided by the total production hours worked.

x_4 = Electrical defect measured in terms of production hours lost due to electrical defects divided by the total production hours worked.

x_5 = Power failure expressed as total manhours lost due to electricity failure divided by total manhours worked.

x_6 = Strike/gate meeting expressed as total manhours lost due to strike and gate meeting divided by the total manhours worked.

x_7 = Religious affairs expressed as total manhours lost for worship and other religious functions divided by the actual manhours worked.

IV. RESULTS AND EXPLANATION

Total Process Level

The average level of labour productivity at the total process level of 9 spinning mills under observation came to 31.97% below its standard level and the variation between the stages was found to be substantial. Not all the variables were found significant at the total process level. In terms of significance, our multiple regression was as follows :

$$P_L = 54.16 - 1.4368x_1 - 0.0328x_2 - 1.9077x_5$$

(0.1614) (0.007) (0.318)

$$R^2 = 0.7797$$

The figures in parengheses are the standard errors of the regression co-efficients. The three independent variables together (absenteeism, shortage of back process and power failure) explain 77.97% of the variation in labour productivity at the total process level. The co-efficients of indepenent variables x_1, x_2 and x_5 are significant at the 99.5% level. The variable with the highest explanatory power is x_1 (absenteeism) which

alone explains (63.02%) of the variation in labour productivity. When x_1 is run together with x_2, the two independent variables explain 75.15% of the variation in productivity of labour. The two variables x_1 and x_2 are not correlated between themselves, which is important, for if they were, our result would have been methodologically wrong. When these two variables are run along with x_5 which shows production interruption due to electricity failure, the explanatory power is increased by 2.82%.

i) Opening and Cleaning Stage

The opening and cleaning stage shows an average of 29.74% lower productivity of labour in our sample mills. The result of the regression equation was as follows :

$$P_L = 69.91 - 0.7589x_1 - 0.01266x_2 - 3.2246x_5$$

$$(0.2632) \quad (0.000808) \quad (0.70529)$$

$$R_2 = 0.7596$$

The three variables (absenteeism, shortage of back process and power failure) explain 75.96% of the variation in productivity of labour in this stage. Power failure alone explained 67.04% of the variation of labour productivity and, together with absenteeism, the value of R^2 came to 73.72%. Both power failure and absenteeism are significant at the 99.5% level, while the shortage of back process hasmuch lower significance.

ii) Carding Stage

It has been observed that productivity of labour is as low as 50.37% at this stage. The regression equation gave the following result.

$$P_L = 47.936 - 1.1128x_1 - 0.01864x_2 - 0.9732x_5$$

$$(0.2984) \quad (0.0014) \quad (0.2323)$$

$$R^2 = 0.7621$$

The three variables are all significant at 99.5% level and explain 76.21% of the variation in labour productivity. The single largest contribution to the explanation of labour productivity in this stage was made by power failure, which alone explained 66.40% of the variation in labour productivity. Absenteeism together with power failure explained 70.64% of the variation.

iii) Drawing Stage

The regression equation for this stage in our sample mills stood as follows :

$$P_L = 48.47 - 1.252x_1 - 2.3268x_3 - 1.602x_5$$

(0.337) (0.6766) (0.2585)

$$R^2 = 0.7309$$

All the three variables, namely, absenteeism, mechanical defect and power failure are significant at the 99.5% level. The equation gives 73.09% explanation of the variation of labour productivity at this stage. Mechanical defect alone explains 7.5% of the variation of labour productivity.

iv) Roving Stage

At this stage, two variables namely mechanical defect and electrical defect add significantly to the explanation of the variation in labour productivity. The explanatory power of the equation came to 82.18% as is evident from the regression equation given below :

$$P_L = 41.1544 - 1.1853x_1 - 0.0212x_2 - 7.61817x_3 - 10.5826x_4 - 1.349x_5$$

(0.1955) (0.00565) (2.5076) (2.3076) (0.3477)

$$R^2 = 0.8218$$

A substantial proportion of the low productivity of labour in this stage is explained by the defects associated with mechanical and electrical matters.

v) Spinning Stage

In this spinning stage the productivity of labour came to at 49.7% lower than its standard level. The following regression equation was obtained to explain the variation of Labour productivity at spinning stage.

$$P_L = 30.9997 - 1.0127x_1 - 2.3965x_2 - 23.2467x_3 - 28.3982x_4 - 1.6758x_5$$

(0.1792) (0.4583) (3.9915) (3.8712) (0.2895)

$$R^2 = 0.8482$$

At this stage, all the five variables run in our regression are highly significant. The explanatory power of the equation came to 84.82%. Mechanical defect along with electrical defect explain about 10% of the variation of labour productivity. Absenteeism and shortage of back process explain 34.9% variation.

CONCLUSIONS

Productivity levels at different stages of production process as has been observed are relatively low. Various technical and management problems are associated with this low productivity. It has been observed that some of the problems are common at each stage of production process and some are different; and again, the problems which are common are not equally strong at all the stages of production process. Of the factors affecting productivity, three in particular, namely, absenteeism, power failure and shortage of back process explain the variation of the productivity of labour significantly. There is some scope to improve productivity by appropriate measures, particularly by reducing absenteeism and maintaining inter-stage input-output balance. Absenteeism is a serious factor affecting productivity of labour. Being piece-rated workers, they avail themselves of the opportunity to do some other work outside as and when they find these suitable. Thus it is difficult to remove absenteeism overnight. However increasing rate of absenteeism could be pulled down by providing incentives through recognition by the top management, increased wages, maintaining participative management and awards for recognised works. Inter-stage input-output balance should be maintained by proper assessment of input fed and output at each stage of production process through a careful supervision on back process adopting correct methods of fitting machines and proper utilisation of labour.

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INDUSTRIES WITH GROWTH POTENTIALS : A REVIEW OF FOURTH FIVE YEAR PLAN STRATEGIES

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INTRODUCTION

During the last two decades, attempts have been made through the implementation of three Five Year Plans and one Two Year Plan to develop all sectors, including industrial sector of Bangladesh. The Forth Five Year Plan (FFYP) has also finalised its priorities with regard to industrial development. To achieve the objectives of the FFYP, the need for industrialisation has been reemphasized. The industrial policies are being revised again (new industial policy is likely to be made public soon) with a view to encouraging and supporting the high potential industries.

Bangladesh is still an agrarian economy. The highest contribution to GDP continues to come from agriculture, although it has been decreasing. In 1972-73, the contribution of agriculture sector to GDP was 56.1% which decreased to 47.53% in 1988-89. (Some estimates show lower figures.) On the other hand, contribution of industrial sector has not changed much during the last two decades. During Pakistan period, contribution of industrial sector to GDP increased from 3.5% in 1950 to 7.8% in 1970. By 1977, it increased to 10.1%; but since then it has stagnated at around 10%. The NIP of 1982 and RIP of 1986 have not been able to change its position substantially. However, structural changes have occurred between sub-sectors of the industrial sector. The shares of fertilizer, communication equipment, pharmaceuticals, cement and sugar industries increased noticeably; but those of cotton textiles, jute manufactures and tea decreased. Changes in the market structures and policies of the government have contributed to these changes. Because of the changes in the international markets, some industries have been threatened seriously, for example jute industry, and new opportunities have opened up for others such as textiles, leather and electronics. In this review article we analyze the status of four industries which have high export potentials. In the process we examine the viability of the strategies stated in the Fourth Five Year Plan (FFYP), and draw conclusions which have policy implications for increasing competitiveness of those industries in international markets.

REVIEW OF PAST AND PRESENT INDUSTRIAL POLICIES

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Past Industrial Policy 1971-82

During Pakistan time (1950-70), the policy makers focused on the development of import substitution in consumer goods industries, such as textile, sugar, paper, etc. though the growth of the leading" sector, namely, cotton textile lagged behind. The period was also characterized by the development of export oriented industries based on indigenous raw materials such as jute manufactures. Development of heavy and basic industries was not emphasized. In the post independence period import substitution seemed to have received some priority, though not enough. A clear dominance of consumer goods industries still persists. In Table-1 are presented the relative positions of these categories of consumer, intermediate and capital goods industries in Bangladesh.

Table-1: Structure of Value Added in Manufacturing by End-Use of Products (in %)

Types of Industries	1965-66*	1979-80	1981-82	1985-86
Consumer goods	53.0	59.0	52.0	53.0
Intermediate goods	43.5	35.0	36.0	45.0
Capital goods	03.5	06.0	12.0	02.0
	100.0	100.0	100.0	100.0

Source: FFYP, table-11.2, p.-x1, and * planning Commission

New and Revised Industrial Policy: NIP and RIP 1982-86

The first Bangladesh Government laid a strong emphasis on the role of public enterprises, therefore private investment was highly restricted. However, there was a turning point in 1974 when it was recognized that private sector must be allowed to play more effective roles. Eventually the process of denationalization started in 1975. It got high momentum in 1982 with the New Industrial Policy (NIP) in place. The NIP shifted the emphasis from public sector-led growth to private enterprise-based growth. The main concern of NIP was to ensure expanded role of private sector, to foster resource-based industrialization to enhance export earning capacity, and to create new opportunities for industrial employment. NIP also made provisions for special export incentives, import liberalizaton and special incentives for foreign investment. Under NIP an increasing number of public enterprises was privatized. But the results were somewhat disappointing. The private entrepreneurs who were "made" industrialists overnight through privatization could not demonstrate any better performance. Most of the privatized units became what the Ministry of Industry called "sick industry". To ameliorate the situation the GOB felt the necessity of improving policy instruments. The NIP was revised in 1986.

The Revised Industrial Policy (RIP) extended the privatization programmes from the previous focus on returning the nationalized units to their former owners to the development of joint ventures involving the sale of 49% of the stock of selected public enterprises to private entrepreneurs. RIP further sought to introduce improved foreign exchange management system. It extended the policy liberalization process by encouraging firms to meet their foreign exchange needs through the secondary markets known as Wage Earners Scheme. The other major features of RIP are:

1. Investment approval procedures have been relaxed. Official approval is no longer required for self-financed projects and for those with an import content of raw-materials of less than 50%. Projects which need approval can be sanctioned by the development finance institutions (DFIs) up to Tk. 60.00 million, by the Director General of Industries and Commercial Banks up to Tk. 30.00 million, and Bangladesh Small and Cottage Industries Corporation up to Tk. 15.00 million, without referral to the main regulating body, Board of Investment. (WB Report, 1989, p. 21).

2. Private sector's access to foreign exchange has been substantially improved by simplifying licensing procedures for importing raw materials and machinery. This has been done (a) by specifying broad categories of eligible imports of raw materials and spare parts and requiring a pass book for record purposes, and (b) by expanding the secondary market for those who want to make such imports at the premium secondary market exchange rates, (WB Report, 1989, p.21).

As a result of this policy restructuring the private sector is somewhat free from official regulations which were very extensive before the promulgation of NIP/RIP.

Impact of Policy Changes

The GOB has accomplished one of the most extensive denationalization programmes of public sector enterprises in the world. According to an assessment made by the World Bank, "whatever achievement of higher growth rates during the following years in industrial sector was accomplished by increased private sector investment was partly due to liveralization of imports and also due to improvements in export and exchange rates policies." (op. cit. p. 101)

Under NIP denationalization was emphasized. By 1989, over 650 public enterprises were transferred to the private sector, leaving only 160 in the public hands, and reducing public sector share of fixed industrial assets

from 85% in FY 81 to 40% in FY 86. The main concern of the government has been to increase the resources mobilization capacity of the manufacturing corporate sector. With privatization, government subsidies have been significantly reduced.

However, these turn-arounds in the policy changes have had mixed results: the performances of many privatized units were poorer than their performances under public management. To be sure, a few however did better under private management. To be more specific following findings are presented below:

(1) A number of large and medium size privatized enterprises; notably in jute and textile sub-sectors, were closed down. On the other hand many new units in chemicals, drugs, engineering, food sub-sectors were established perhaps due to the government supports provided under NIP/RIP. Table 2 provides some estimates of increase or decrease based on a sample survey undertaken by a local consulting firm appointed by the Ministry of Industry in 1989.

Table-2: Growth of Private Manufacturing by Sub-Sectors (Increase/ Decrease in Number of Units)

Sub-Sectors	Number in 1981-82	Number in 1986-87	Increase/ Decrease
Food and Allied Ind.	456	1290	843
Textile Industry	1005	723	—283
Jute and Allied Ind.	184	110	—74
Paper, Printing, etc.	175	76	—99
Tannery, Leather, Rubber	147	198	55
Glass, Ceramics, etc.	51	69	18
Chemicals, Drugs, & Plastics	432	641	209
Engineering Industry	601	1125	524
Total	3051	4232	1181

Source : Ministry of Industry, "An Analysis of the causes of Industrial sickness and Suggestions for Remedies", Part III, Private Sector Manufacturing prepared by House of Consultants, Dhaka, 1989.

(2) Many of the privatized units faced continuing problems. These units could hardly run at 20% of their capacity. The survey referred to above found that most of the privatized industries became "Sick Industries" therefore could not run long enough and efficiently to generate necessary surpluses to repay loans and meet other essential expenses. The main

reasons for this disappointing performance were the inadequate managerial skills of the "traders-turned-into-industrialists", lack of technical and engineering skills, restricted availability of working capital loans from the commercial banks, low demand for their products in the domestic markets, above all unscrupulous behavior of many owner-managers. According to a survey sponsored by the Ministry of Industry in 1988-89, the sickness was pervasive among the privatized sector. The extent of sickness in the private sector is presented in Table 3.

Table-3: Extent of Sickness in Private Manufacturing Sector

Sub-sectors	% sick
Food and Allied Industries	50
Cotton Textile Industry	70
Jute and Allied Industry	100
Paper, Paper Board and Printing Industries	62
Tanning, Leather & Rubber Industries	81
Chemicals and Pharmaceutical Industries	50
Glass, Ceramics etc. Industries	64
Engineering Industries	80

Source: Ministry of Industries, GOB: An Analysis of the Causes of Industrical Sickness and Suggestions for Remedies, Prepared by House of Consultants, Dhaka, September 1989. Table 2.1, p. 16.

Post RIP Policy Implementation

The government of Bangladesh has attempted to balance the development of import substitution and export oriented industries. A major strategy seems to be to encourage rapid, sustainable, and efficient development of a dynamic industrial sector, in which strongly export-oriented as well as efficient import substitution industries can be integrated. To facilitate the process, the government has further reduced quantitative restrictions and tariff barriers in post 1988 periods, and is committed to a programme of further trade and tariff reforms.

The Commercial Policy Changes

In the early eighties the commercial policies of Bangladesh were characterized by the following:

1. a very restrictive import regime characterised by extensive quota restrictions and bans, a positive list which narrowly defined eligible imports, and

2. a foreign exchange policy which tightly controlled official exchange markets.

In FY 86, the import policy was relaxed by replacing the positive list by negative and restricted list of imports. Besides, the tariff structures were simplified by reducing the numbdr of tariff rates from 24 to 11 with a view to establishing a more uniform structure of protection among import substitution and export-oriented industries. The list of banned items has been progressively reduced from 39% of import categories to 28%.

FFYP Objectives and Strategies

A review of the industrial sector will remain incomplete if is not done with reference to the objectives and strategies stated in the FFYP for the industrial sector. The FFYP presents four broad objectives which are (1) maximization of the contribution of this sector to the growth of GDP; (2) Maximization of employment in this sector; (3) Improvement in the country's balance of payments and (4) Development of research capability which will enable Bangladesh to develop and / or adapt appropriate foreign technology.

To achieve the above objectives, the plan recommends the following strategies:

1. Development of exprot-oriented industries.
2. Improve of productivity and capacity utilization.
3. Privatization, i. e. development of a strong private sector.
4. Reforming Industrial Policy and Incentives.
5. Promotion of Small and Cottage Industries.
6. Promotion of linkage Industrties.
7. Development of Industrial Zones and Estates.
8. Development of Trained Manpower.
9. Development of National Technological Capabilities.

Given the above objectives and strategies, we propose to limit our analysis to four industries, namely, Textiles including Ready-made Garments, Leather & Leather Goods, Frozen Shrimp Processing and Electronics industries. The plan however provides a long list of high potential industries. We select these four because most of the business leaders we have interviewed consider them most attractive given our factor-endowments and international export markets for these industries.

INDUSTRIES WITH GROWTH POTENTIALS

Textile Combined with Ready-Made Garments Industries

Cotton textile is the second largest industry (after jute) in Bangladesh. The industry accounts for about 33% of value-added in the manufacturing sector (its contribution to GDP), employs about 71,000 workers which is almost 50% of the total industrial employment, and produces about 88% of the county's apparent cloth consumption. It occupies an important position and holds an enormous potential for larger export earnings. But the current operating capacity is not enough to meet the increasing local demand. Although it is primarily an import substitution industry, growing and sizable part of it has been turned into export oriented (ready-made garment sub-sector).

This industry is owned and managed partly by the public sector and partly by the private sector. In the modern sector, there are 77 textile mills including 27 composite mills both in public and private sector having 16.20 lakh spindles and 8707 looms. As a combined effect of NIP and RIP, GOB has transferred a numbdr of cotton mills to private sector. Bangladesh Textiles Mills Corporation (BTMC) owns and manages 24 cotton spinning mills and 12 composite mills. There are more than 60 spinning mills in the private sector. In addition, there are several composite mills in the private sector.

The textile sector in Bangladesh is relatively inefficient and it calls for improvement in order to become competitive in domestic as well as in international markets. As of now, it does not produce high quality yarn/fabrics. Historically, high level of protection provided to this sector through import bans and high tariffs has not given the domestic producers an incentive to improve their efficiency. The large and growing demand for higher quality fabrics for garment exports has rarely been supplied by the domestic factories. In the past, some half hearted and unsuccessful efforts were made to produce quality fabrics in Bangladesh for the RMG industry. For example, in the TFYP the new capacity generation for both fabrics and yarn were earmarked for private sector. But response from the private entrepreneurs was not encouraging. In other words, policy instruments were ineffective. This means future policy measurs must be rectified. Future promise of this industry will greatly depent on how the government redesign its strategies to attract private investment in composite mills which integrate into the RMG export system. Assuming that correction of the past mistakes in the policy measures is possible, this sub-sector holds out a high promise.

Ready-made Garments (RMG) Industry

The high potentials of textile industry can be better understood with reference to the recent surge in the garments exports from Bangladesh. It is therefore in order to highlight the recent developments in garments industry.

It was 1977 when Bangladesh exported garments for the first time. By 1983 about 93 factories were in export markets. This number increased to 455 in 1984. The high rate of growth during 1984-85, is partially attributed to the political problems and consequent production disruptions in Sri Lanka in combination with quota restrictions on exporting countries like Hong Kong, South Korea, Taiwan, etc. by major importing countries like U. S. A., EEC. A number of entrepreneurs from these Asian countries set up Joint Venture operations in Bangladesh and exported garments as Bangladeshi products. This attracted the local entrepreneurs and they started thier own manufacturing and export operations. But as the exports from Bangladesh increased sharply, EEC, U.S.A. and Canada began to impose quota restrictions on imports from Bangladesh. After imposition of quotas on some selected items of Bangladesh by U.S.A., Canada and EEC in 1986, the growth rate slumped temporarily. Bangladeshi exporters switched to non-quota items quickly and regained higher growth rates. Currently, there are about 708 units (including 5 units located in Chittagong Export Processing Zone) are in operation.

To take advantage of its full potentials, GOB has provided highest level of incentives to this sub-sector duty-free imports of materials to be used for exports, bonded warehouses facility, concessional rates export financing, duty draw backs, Export Performance Benefit (XPB), etc. The special bonded warehouse system introduced for garments and specialized textiles enabled dramatic expansion of garment exports in FY 84-85, but the inability to monitor exports of garments effectively and lack of preparation for an efficient quota allocation led to disruption in the garments industry, and export increased only by 14% in FY 86. Improvements in internal quota allocation system were made in FY 87. (WB, March 10, 1987, p. 66).

Some of these firms have not gone into operations for various reasons. As of December 1989, the number of actually operating units is estimated to be 708 including 5 units located in Chittagong EPZ.

Export Earnings of RMG

Until recently, jute and jute goods were the leading foreign exchange earners. But recently, RMG exports have surpassed every other export items. In 1989 it earned more than 36% of the export earnings of Bangladesh. In table 4 are provided the annual export earnings of RMG for the years 1980-81 to 1988-89.

Table-4: Export Earnings from Ready-made Garments

Year	Value in Million Taka	RMG Export Earnings as % of total Export Earnings
1980-81	53.23	0.42
1981-82	77.44	1.10
1982-83	255.26	1.61
1983-84	777.45	3.89
1984-85	3000.03	12.28
1985-86	3902.21	16.05
1986-87	9076.64	27.82
1987-88	13421.36	35.24
1988-89	14942.83	36.47

Source: Mr. Anwarul Islam, Joint Secretary, Ministry of Textile, GOB, April 1990

Value Addition of RMG Manufacturing

The RMG industry in Bangladesh almost totally depends on imports, therefore creates hardly 25% value addition because most of the raw materials (fabrics), auxiliary items are imported. It is the labour contents involved in cutting, making, trimming and packing which create value addition.

This is exactly where the potential of textile industry lies. If the fabrics, threads, buttons and packing materials which are now imported can be manufactured locally, the value addition could jump to 70-80%. This is however not very easy. Composite mills integrated with dyeing, printing and finishing facilities with internationally acceptable quality need to be developed. In the past, at least on paper, incentives were provided to establish composite mills in the private sector. Past policies of the government has not been effective. One reason the potential investors frequently mention is the large investment (equity) requirement for a composite mills. In the present form of RMG industry, investment of Bangladeshi entrepreneurs is not that high and risky, given the returns. And because of the nature of the technology involved, it is not very difficult and expensive to adjust to changes in international markets which

Bangladeshis can not control, But in case of a composite mill which is integrated with the RMG industry, if market demand changes suddenly, it will need a huge investment to adjust (for re-tooling the factory) to changes. Therefore, they consider investment in compostie mills as highly risky. One way of getting out of this impasse may be to encourage and attract joint ventures with MNCs which have competitive advantage in worldwide marketing. But in this case Bangladesh has not been able very successful in the past. Because of the prevailing political uncertainty and common practice of misusing of trade unionism through undue political interventions in Bangladesh, foreign investors feel discouraged to form joint venture with Bangladeshi partners, although commercially projects seem to be attractive. Beside, Bangladesh is stereotyped, often wrongly, as most corrupt and inefficient country. She has an "Image" problem which tends to prevent inflows of the necessary freign investment.

A most important strategy for Bangladesh should therfore be to build up a good "image" for foreign investment by demonstrating that things have changed, it is now politically stable and has attainded necessary administrative cabability.

LEATHER INDUSTRY

Tanning Industry in Bangladesh

Leather industry is mostly based on local raw materials, viz., locally available hides and skins. Annual supply of hides and skins is estimated to be about 13.95 million square meters. Only 15-16% of the local supply is necessary to meet the present domestic demand and the rest is available for export in different forms. This industry now exports mostly in wet-blue and crust forms. This implies it has a high potential.

The leather industry is reasonably well established with over 200 tanneries/ plants to process wet-blue, crust and finished leather. The capacity to produce and use finished leather in local factories is limited. There are more than 2000 (mostly small and cottage industry type) footwear and leather goods factories in the country. The leather sector occupies the third position in foreign exchange earnings, contributes about 12% of the total export earnings of the country. In 1988-89 this sector earned Tk. 4345 million. (Table 5). The composition of existing export stands at about 50% wet-blue, 40% crust and 10% finished leather. The GOB policies are geared to increase the value addition. Currently, this industry is transforming from wet-blue to crust and finished leather export. (Table 6).

Table-5: Growth of Leather Export Earnings During 1981-89

Year	Quantity in Million Sft.	Total Value Million Tk.	FOB Price Taka/Sft	Contribution to GDP in %
1981-82	87.28	1264.10	14.36	0.48
1982-83	93.89	1376.10	14.65	0.48
1983-84	102.91	2092.30	20.33	0.60
1984-85	81.75	1804.30	22.07	0.43
1985-86	72.61	1802.40	24.81	0.61
1986-87	137.46	4097.00	29.81	0.78
1987-88	118.21	4552.00	38.51	0.77
1988-89	127.56	4345.00	35.06	0.77

Source: Karam Ali, "Leather Industry", a paper presented in a workshop on Transfer of Technology for Entrepreneurial Development in Bangladesh, March 1990, Dhaka.

Table-6: Sturctural Change in Leather Manufacturing (1981-82)

	Quantity in Million Sft.			% Distribution	
Year	Wet-blue	Crust/Finished	Total	Wet-blue	Crust/Finished
81-82	86.73	0.55	87.28	99.4	0.6
82-83	89.69	4.20	93.89	95.5	4.6
83-84	88.30	14.61	102.91	85.8	14.2
84-85	66.54	15.21	81.75	81.4	18.6
85-86	53.79	18.82	72.61	74.1	25.9
86-87	98.61	38.85	137.46	71.7	28.3
87-88	82.62	35.59	118.21	69.9	30.1
88-89	65.75	61.81	127.56	51.5	48.5

Source: K. Ali, op. cit., P.7

There was a rapid growth in tanning industry during 1970s. By 1970, the number of tanneries was about 170 including 46 units not recognized by th government. Currently, about 240 units are registered, of which only 2% can be called large, 7% medium to large, and the rest cottage to small scale.

Until 1981, exports from leather sector was almost 100% in the form of blue, the chrome tanned semi-processed leather, which is the initial stage of leather manufacturing and needs further chemical processing along with a series of machine operations for conversion into finished leather.

Value addition in case of wet-blue is less than 20%, that of crust and finished leather are 40% and 80% respecively. The leather products have still higher value addition.

The Government Policy

To increase the value addition, GOB has put restrictions on wetblue exports, provided various incentives to the exporters of crust and finished leather and leather goods. A BMRE programme for 25 wet blue producing units is under implementation to create additional capacity for crust and finished leather by 1990. With the ban on wet-blue, the Bangladesh leather industry will enter the second phase of its development.

To promote exports of leather and leather goods, GOB provides the following incentives:

1. Leather

— To discourage export of wet-blue which has the lowest value addition, an export duty 5% is imposed on FOB price of wet-blue. Further, after June 1990, no export of wet-blue will be allowed. Assembly, this will help develop finished leather industry and increase added value.

— The entrepreneurs are being encouraged to expand and increase facilities to process the wet-blue into finished leather and leather goods. Priority financial support is available to wet-blue producing units for implementing BMRE programmes. Initially, 25 tanneries have been taken up for modernization. The Asian Development Bank has granted $10 million for BMRE.

— Reduced rate of customs duty (@ 5%) is allowed on machinery and equipment under BMRE programme or to establish modern tannery to manufacture finished leather and leather goods.

— While no XPB is allowed for wet-blue, it is available @ 70% and 100% on crust and finished leather respectively.

— Export credit has been made dearer for wet-blue (14.5%) while it is available @ 9% for crust and finished leather.

— No Income Tax relief is allowed for wet-blue whereas 30—60% tax rebates are available for crust and finished leather exports.

— Duty Drawbacks are @ TK. 1.32, Tk. 5.45, Tk. 7.13 per sft. for cattle hide wet-blue finished leather respectively.

— Cash incentives @ 10% and 12% on added value of crust and finished leather.

2. Leather Products

— EPB are allowed @100% and 40% for use of local finished leather and imported finished leather respectively.

— Cash subsidy @15% on added value is allowed.

— Credits at consessionary rates are available. They are 8% if products are made of imported leather, and 7% if products are made of locally manufactured leather.

— Higher income tax relief is available for products in which local leather is used.

— Air freight concession for air-lifting.

— Bonded warehouses facility, for import of hides/skins and leather for re-export with added value is available.

Foreign Investment

The first joint-venture tannery, M/S. H. & H. Leather Industries Ltd. was established in 1980 with equity participation form a West German firm. This firm exported more than 0.24 million square meters of finished leather in 1988-89. Bata shoe, the international giant, has established a joint-venture company with an annual capacity of 0.20 million square meters. M/S. Apex Tannery has signed a contract with a German firm to establish a joint-venture Co. Beside, a numbdr of tanneries have technical and marketing collaboration with foreign firms. According to a recent survey, several firms from Italy and Hong Kong are interested in setting up joint-ventures in finished leather and leather goods in Bangladesh.

FOOTWEAR AND LEATHER GOODS INDUSTRIES

Footwear

The leather shoe industry of Bangladesh comprises of eight mechanized modern factories and numerous small cottage industry type units. Of the eight modern units the largest is Bata. These eight units together supply 20% of the local demand for footwear. Their production capacity is estimated to be at 7.7 million pairs of leather shces. The small units are scattered all over the country. The small units manufacture a wide range of footwear, sometimes under sub-contract from large manufacturers. In fact Bata gets a sizable quantity of its output manufactured by these small units. The recognized small units produce about 5.4 million pairs of leather footwear.

Bangladesh with its substantial exportable surplus of quality leather and cheap labour force offers good potential for footwear export. But it has not been able to export shoes in sizable quantity, although it exports other leather goods. Recently, a 100% export oriented unit, M/S. Excelsior Shoes Ltd., a Bangladesh-Taiwanese joint-venture firm has been established in Chittagong Export Processing Zone in 1988. The company has already exported synthetic sports shoes to U.K. worth $4,000. It has also received orders from Poland, France and Japan.

Bata, the largest shoe manufacturers of the country, has undertaken programmes to export leather footwear.

In 1990, the largest 100% export-oriented joint-venture (Bangladesh-German) leather footwear manufacturing unit, Apex Footwear Co. has been established in Dhaka. This company which has a capacity to produce 1000 pairs of high quality leather footwear per day using mostly locally manufactured finished leather will sell 75% of its products to FRG markets through its West German partners.

Bangladesh is likely to enjoy competitive advantage in international footwear market. It has relatively cheaper raw material, hides and skins and chep labour. In Bangladesh, annual availbility of hides and skins has been estimated at about 150 million sft of which contribution of cow/buffalo is about 100 million sft. and that of goat/sheep 50 million sft. Only 15% of this supply is consumed locally, leaving 127.5 million sft. For use by the finished leather manufactures for export.

Because of their high labour cost disadvantage, the developed countries can not tan raw hides and skins into finished leather and produce quality leather footwear (because the process is labour intensive). To take advantage of cheap labour they looked to Asian countries. Taiwan, South Korea, Thailand, Malaysia, Philippines, Indonesia and India became established suppliers of footwear to European and U.S. markets. Recently, these countries have experienced phenomenal economic development which has substantially eroded their cost advantage in terms of cheap labour. Because of rising labour cost in their own countries, the entrepreneurs from the Southeast Asian Countries are now looking for labour cheap countries like Bangladesh. The labour cost in Bangladesh is much lower than that in those countries. Therefore Bangladesh is likely to get competitive edge in world market provided she acquires necessary technical and marketing skills.

Changes in International Markets

In traditional supplier countries like Hong Kong, India, Pakistan, there is a dearth finished leather. Hong Kong is now trying to import the finished leather from China. If Bangladesh can develop its finished leather industry, she can concentrate on this market. FRG imports wet-blue and semi-finished leather from Bangladesh. They import finished leather from India and Pakistan. Due to shortage in India and Pakistan, Bangladesh has a fair chance to be a dependable source country provided she can develop its finished leather and leather goods industries.

A good potential markets is anticipated in Eastern Europe where after the recent political changes, many western MNCs have gone to market their products including small leather articles like money bags, ladies pocket books and upholstery leather.

The success however will depend on how the government can implement the strategies. Bangladesh is proverbially weak in international marketing and market research. Bangladesh will need to acquire and adapt appropriate technology to process the hides and skin into high quality finished leather. In addition elaborate marketing network will be required to expand and sustain its export markets. On both counts collaboration with foreign firms will be necessary. Beside, R & D for technology transfer and market development will be needed. If enough funds are not invested in R & D both in technolgy adoption and market development, the progress will be hampered, and the potentials of this sector will not be fully utilized.

FROZEN SHRIMP PROCESSING INDUSTRY

Bangladesh is endowed with a high potential of inland and marine water fisheries resources of which shrimp holds out the highest promise. The export oriented processing industry of Bangladesh is mainly based on shrimp. Out of the total exports of frozen marine foods, shrimp constituted 82%, frog legs 10% and fish 5% in 1988-89.

Beginning in 1959, this industry has now about 93 plants most of which were established after 1971. In 1971 there were only 9 plants with a total freezing capacity of 58.5 MT daily. The industry got highest momentum during 1986-89 when as many as 39 new plants were commissioned. The current total daily capacity of the industry is 651 MT. But the supply of raw materials is less than the quantity that can be processed in these 93 plant. Because of inefficient planning and implementation excess capacity and

under utilization of capacity in this industry. During 1960s the industry used to run at about 40-50% capacity. With an ill-planned increase in the number of plants without concomitant increase in the supply of raw materials the capacity utilization decreased to 20.08% in 1985 and to 13.11% in 1989. It seems that currently it is a "sick industry." According to an estimate made by Hussain. "the potential of shrimp culture in the existing coastal lands are as high as 150000 MT worth US $1200 million by the 2000. Potential of fresh water shrimps is as high as 12500 MT valued at US $875 million by 2000 at constant price of 1990. This is possible if the production per ha can be increased to a modest rate of 100 kg/ha for semi-intensive and 2000 kg/ha for intensive shrimp culture. It should be noted that this industry has so much of excess capacity that even if the above increase in shrimp supply is achieved, the industry will run only at 40% of its capacity.

To achieve its full potentials, the supply of raw materials must be increased. At present, the total raw material requirement to keep the industry running at full capacity is about 156000 MT, against this only about 22000 MT is available. The industry needs to utilize its capacity in a planned way. For this it is necessary to develop the aquaculture of both coastal and inland waters to increase the supply of shrimps. Our interviews with several industry managers reveal that there are acute shortage of shrimp seeds and shrimp feed. Beside the underdeveloped nature of farming technology, severe fluctuations in international prices, non-availability of adequate working capital, lack of production and marketing experiences on the part of the entrepreneurs which results in poor management and lack of clear cut government policy have been mentioned as major bottlenecks to the increase in capacity utilization.

The Shrimp Fisheries and Production

In Bangladesh shrimp fisheries are concentrated in Khulna, Bagerhat, Cox's Bazar, Jessore, and Bhola. Estimatedly, about 3778 shrimp fisheries farms use a total land area of 100000 ha, through inefficiently, for shrimp fisheries.

With the introduction of coastal shrimp culture and deep sea fishing trawlers, shrimp production has been steadily increasing during the last few years. In 1984 total shrimp production was 61080 MT which increased to 74000 MT in 1987.

Comparative Position of Bangladesh

In Bangladesh per hectare production of cultured shrimp is one of the lowest in Asia. According to 1985 FAO Report, the average yield per ha in

Bangladesh was 108 kg. against the Asian average of 284 kgs/ha. According to Hussain, Bangladesh yield has possibly increased close to 200 kg/ha. Anyhow it is still much less than the yields of India (394 kg/ha), Malaysia (553), Thailand (450), Singapore (1476) and Japan (6145 kg/ha).

The potential of shrimp culture in Bangladesh is very high. The shrimp culture can be increased in terms of land areas/farm size, and production can be increased by increasing yields. There are more than 100000 ha of coastal land which only partly and inefficiently used for shrimp culture. The yield from this land can be increased manyfold through improved aquaculture. The coastal areas have a great potential for sea water black tiger, white and brown shrimps. In addition to coastal land, Bangladesh has at least 120000 ha of fresh water ponds where fresh water shrimp culture can be undertaken.

International Competition and Bangladesh

During the last few years the international prices of shrimps fluctuated violently which put Bangladesh in a disadvantaged position. This was mainly due to large scale marketing of cultuted shrimps in the Japanese and US markets from China, Taiwan, Indonesia, India and Thailand. Their prices were lower than that of Bangladesh. The only way to come out of problem is to increase per hectare yield and processing efficiency. Both call several measures. To increase yield, high yielding technology has to be imported and research for proper adaptation will have to be undertaken. Appropriate financial and fiscal incentives should be made available to the genuine entrepreneurs. The government must come forward to put the potential exporters of Bangladesh in touch with the potential foreign buyers. In addition, managerial capability must be improved.

ELECTRONICS INDUSTRY

Electronics industry in Bangladesh is primarily involved in assembly operations. It is still by and large an import substitution industry, although attempts are being made to make it export-oriented. Because of a very small domestic market, the industry has grown slowly over time. In the fifties, a few small factories were established to assemble a limited range of radios only. This capacity was increased by setting up a few more plants, in sixties to assemble both radios and black and white TV sets including the unit established by the multinational giant Philips of Netherlands. So far about 50 units have been approved by the government for local assembly of radio sets, 4 units of radio cassette recorders, 7 units for audio/video cassette tapes, 3 units for VCR/VCP, and about 17 units for television

receivers. A few newly established companies manufacture electronic items like printed circuit boards, display boards, digital clocks and watches, amplifiers, speakers, TV filters, TV antennas, calling bells, computerized electro-physology equipment, digital PABX and telephone, set etc.

Except relatively two large units all plants/factories are owned and managed by private entrepreneurs. One of the public sector units assembles TV set and the other undertakes some bonding, packaging and testing operations in telecommunications and also produces digital telephone sets and PABX system.

Export Orientation

As mentioned earlier, the industry is mostly geared to domestic markets. Only two units have recently entered into export markets with electronic fencing system and transformers. Like ready-made garments, electronics industry fully depends on imported components/raw materials. Most of its value addition comes from the operations of the local labour to assemble imported components.

The GOB has provided various incentives to attract both local and foreign investors to establish export oriented units in and outside Export Processing Zones. The Bangladesh Export Processing Zone Authority has recently sanctioned 56 industries of which 8 are for production and export of electronic items and basic electronic components such as diodes, capacitors, etc. Of these 8 Units 4 are 199% foreign owned firms from Sweden, Hong Kong, Japan and South Korea, 2 are joint-venture units, and 2 are 100% Bangladesh. Besides, feasibility of assembling micro-computers is being studied.

Many business leaders interviewed are of the opinion that an export-oriented electronics industry should have good future in Bangladesh because relatively cheap technical manpower is available here.

CONCLUSIONS

We have identified four industries which have high potentials for growth provided they are made export-oriented. At the end of our discussions of each industry above, we have indicated major problems which retard their growth. The GOB however claims both financial and fiscal incentives are adequately available. But industrialists and business executives continue to point out that the incentives are more on paper than in reality. For example, even now it takes a long time to get the benefit of "Duty-Draw-Back". In spite of the official claim that adequate incentives have been

provided to increase export oriented investment, the response from investors, local as well as foreign, is slow (except in case of RMG industry). Most entrepreneurs, particularly the new ones, complain that they do not get enough support from the government. Several problems they repeated during our interviews were:

(1) Lack of cash license facility which forces them to procure foreign exchange from secondary market at premium prices; (2) Anomalies in duties and taxes on components and kits in relation to finished goods; (3) The burden of excise duty and the cumbersome procedure followed for assessing and realizing such duties and (4) High rates of electricity and gases.

While discussing problems of developing composite mills for RMG industry, we mentioned of the bad "image" created by our unpredictable trade unions unduly influenced by political interventions. Administrative inefficiency and corruption add to other problems. But we must caution ourselves, we must not blame the government alone. Many unscrupulous "industrialists", in an effort to become rich overnight, resort to malpractices and misuse the financial and fiscal privileges the government provide. The attitudes of the private business sector along with that of the bureaucrats must change. If the government and the business sector want, they can rebuild the "image" of Bangladesh and thereby attract foreign collaborations which are essential for full development of these export-oriented industries.

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GROWTH TRENDS OF COMMERCIAL BANKING WITH SPECIAL REFERENCE TO SECTORAL AND REGIONAL DISPARITY ANALYSIS

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1. INTRODUCTION

Economic growth increases the quantity of goods and services of a nation but economic development gradually changes the structure of an economy. For maintaining a sustained rate of growth and development in an economy like Bangladesh, capital accumulation is a necessary though not a sufficient condition. Scarcity of capital, inadequacy of financial institutions, extreme poverty, food shortage, low land-man ratio, unemployment, backwardness, illiteracy and low level of per capita real income are some of the basic characteristics of today's Bangladesh economy. So capital formation is of paramount importance in Bangladesh.

The basic requirement for capital accumulation is the existence of a wide-spread and efficient financial structure with adequate financial institutions and instruments. Among the financial institutions, the commercial banks constitute the largest part (78 per cent in terms of assets in 1985) of the financial structure of Bangladesh. The structure of the commercial banking system of the country consists of three types of banks viz. public, private and foreign. Among the private banks, two follow Islamic Shariah, which allows only interest free banking and sharing of profit or loss.

Historically, the commercial banks of Bangladesh grew up under private ownership. Until 1970 these were under private ownership. Most of these were brought under public ownership by the Government of the People's Republic of Bangladesh in 1971. With a view to encouraging more private investment, the Government allowed some local commerical banks to operate in the private sector a decade later. For the same purpose two public banks, namely Uttara and Pubali were also denationalized during the 1982-83 financial year. The Government also disinvested 49 per cent of the share of Rupali Bank in December, 1986. It then announced the plan for similar disinvestment of two more public banks, namely Agrani and Janata in near future. The arguments in favour of the Government's action

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are gradual removal of inefficiency from the banking arena and making bank executives accountable to the public. But the denationalization and disinvestment programmes of the Government have recently become nation-wide debateable issues. Major opposition political parties, members of the parliament, except those of the treasury bench, the intelligentsia, students' organizations and the employees of the nationalized commercial banks resent the Government's action and argue that it would impede attainment of development with distributive justice, and in that way it will go against the interest of the general masses. The debate reflects public opnion in general but it is hardly based on deep analysis as to what public or private ownership can actually do for attainment of balanced growth and development which is one of the main objectives of all Five Year Plans of Bangladesh. There were hardly some studies on the issue of banking disparities which might be created or eliminated under private ownership or public ownership of the banks.

1.1 Objectives of the Study

At this backdrop the researcher has undertaken the present study which has a central theme that examines whether the banking facilities grow more evenly under public ownership than under private. The specific objectives of the study are : (1) to analyse the growth trends of commercial banks during the last 140 years (1846-1986); (2) to measure inter-divisional and inter-regional locational imbalances of bank branches, deposits, credits and credit-deposit ratios; (3) to analyse sectoral credit imbalances and to suggest the remedies for removing these.

1.2 Methodology

The research method of documentary analysis has been used in this study. It is a conscious effort to find out what actually happened in the course of time and to correlate the events in meaningful sequences. It evolves from a genuine desire to know rather than from a wish to prove a point of view. All possible care has been taken in recording various information and views from different sources. Conflicting opinions among authors who seemed to be equally reliable, were resolved by weighing and counting the evidence for each point of view and then applying the researcher's judgement. With a view to justifying the authenticity or genuineness of the documents and books (external criticism) and creditability or trustworthiness of the data within the documents and books (internal criticism), efforts have been made to use the original works and documents, to distinguish between a fact and an opinion and to evaluate and compare between old and recent materials.

The data have been collected from both primary and secondary sources. Primary sources include unpublished official documents, interviews and discussions with the bank officers and executives and other experts on banking, news and reports, manuscripts, theses and dissertations. The secondary sources consist of published official statistics, reports, documents, books, articles, laws and ordinances. Some of these are [7, 8, 6, 25, 34, 36, 32, 15, 9, 10, 11, 16], BBS's Statistical Year Book of Bangladesh, BB's Scheduled Banks Statistics, Bulletins and Economic Trends and GOB's Report of the National Commission on Money Banking and Credit.

Different statistical techniques including tabular forms, percentages, rates, ratios, mean, median and standard deviations have been used in this study. The location quotient (L.Q.) technique has also been widely used. The L.Q. is a measure which compares a region's (old district's) share of bank branches or deposits or credits with their total national shares. The algebraic expression of L.Q. is as follows :

$$L.Q. = \frac{\frac{Br}{Pr}}{\frac{B}{P}}$$

Where, Br = bank branches in a region r,
Pr = population of the region r,
B = total bank branches in the country as a whole,
P = total population of the country.

Similar equations have also been constructed for other variables, such as deposit and credit. The L.Q. clearly explains the position of a region in relation to the national situation. When L.Q. of a region is greater than 1, it is above the national average, and if it is less than 1, the region is below the national average.

2. FINDINGS

2.1 Growth trend of commercial banks during the last one and a half centuries

The commercial banking system of Bangladesh grew from a few offices in the mid of the 19th century to a large number of branch net works in June, 1986. Over the last 140 years the banking activities tremendously grew in terms of expansion of branches, deposits and credits. But the banking system experienced encouraging and epoch making growth incitement during 1976-81.

The Bank of Hindustan, the first British styled modern commercial bank of this sub-continent was established at Calcutta in 1770. Then the Bengal Bank possibly survived during 1776-91. The Calcutta Bank started in 1806 and charted as the Bank of Bengal in 1809. It was allowed to open braches in other places of India in 1839. This bank opened its first branch in Dhaka in 1862 (by buying the office of the 'Dacca Bank' which was established in 1806 as the first modern commercial bank of Bangladesh). Its other branches operating in Bangladesh regions were Chittagong (1906), Mymensingh (1922), Rangpur (1923), Chandpur (1924) and Narayanganj (1926). It had pay offices at Dinajpur and Serajganj.

Only one exchange bank, i.e., the National Bank of India, opened a branch at Chittagong during the British period. Since East Bengal (Bangladesh) was a hinterland of Calcutta, other exchange banks of that time settled here and found no reason for opening their branches in this region.

The 'Dacca Bank' was organized by some British officials, local Zamindars, pleaders and merchants, and European Indigo planters. The initiators of the bank were George Lamb, Superintending Surgeon of Dhaka, captain H.M. Nation, Khwaja Alimullah, J.P. Wise and Nundalal Dutt, a wealthy pleader. John Dunbar, the Commissioner of Dhaka, T.A. Wise, the Civil Surgeon of Dhaka and Khwaja Abdul Ghani were the trustees of the bank. Alexander Forbes, a renouned merchant and later the editor of the weekly 'Dacca News' became the Secretary of the bank. It was a partnership company authorised to raise capital upto Rs. 5 lakh divided into 1000 shares of Rs. 500 each. Its paidup capital, however, could be raised by 1856 to Rs. 3 lakh at Rs. 300 per share. This bank was doing good business and earned well reputation. To avoid competition, the Bank of Rengal bought this bank in 1862 and treated it as one of its branch from then onward.

A list of other important banks of the 19th century Bangladesh is given in Appendix Table 2. Among those Faridpur Loan Office (1865), Tripura Loan Office at Comilla (1871), Bogra Bank (1872), Barisal Loan Office (1873), Mymensingh Loan Office (1873), Nasirabad Loan Office (1875), Jessore Loan Office (1876), Munshiganj Loan Office (1876), Dacca Loan Office (1878), Sylhet Loan Office (1881), Pabna Bank (1882), Noakhali Loan Office (1885), Khulna Loan Office (1887), Rangpur Bank (1894), Nilphamari Bank (1892) and Kurigram Bank (1896) were well-known and existed until the mid of the 20th century.

The renouned banks which established during the first half of the 20th century were Mohaluxmi Bank of Chittagong (1910), Dinajpur Bank (1914), Comilla Banking Corporation (1914), New Standard Bank at Comilla (1920), Comilla Banking Corporation (1922), Pioneer Bank of Comilla (1923), Nath Bank (originated at Noakhali (1926) but later shifted its head office to Calcutta), and Tripura Modern Bank of Akhaura (1929). Before the partition of India on the 14th August, 1947, all these banks transferred their head offices from Bangladesh regions to Calcutta. In the year 1946 there were 106 non scheduled banks and 22 scheduled banks (of which 8 were local, 13 were Indian and 1 was foreign) in Bangladesh regions.

Although modern banking began in the regions of Bangladesh as early as in 1846 (when the 'Dacca Bank' was established), its growth had been rather slow throughout the whole of the second half of the 19th century (see Appendix Table 2).

The Shawdeshi Movement which started in 1906 gave a stimulus to the growth of modern banks. Increased expenditures in the two World Wars (1914-18 and 1939-45) imparted further stimuli to the growth of modern banks in Bangladesh regions. As it is observed from Table 1 that the number of bank offices increased from 25 in 1901 to 668 in 1946. Population per bank branch went down from 1157 thousand to 63 thousand during the same period.

Table-1 : Growth Trend of Banks in Bangladesh in the 20th Century.

Period	Year	No. of Bank offices	Population (million)	Per Branch Population in thousand (000)
British	1901	25	28.39	1157
Period	1911	45	31.55	701
	1921	149	33.25	223
	1931	359	35.60	99
	1941	565	42.20	75
	1946	668	42.06	63
Pakistan	1950	148	43.00	291
Period	1960	160	53.80	336
	1965	545	61.20	112
	1970	1025	68.10	65
Bangladesh	1972	1130	72.40	64
Period	1975	1538	78.90	51
	1980	3494	88.70	25
	1985	4066	98.10	24
	1986	4085	102.80	25

Source : [1].

Partition of India in 1947 created a great banking crisis in this region. Non-Muslim owners and employees of the banks migrated and transferred most of the bank resources to India. The number of bank offices declined from 668 in 1946 to 148 in 1950. As a result, a serious vacuum was created in this region. However, the Pakistani banks gradually filled into this gap. By the 1st July, 1948 two Pakistani Banks (Habib Bank Ltd. and Australasia Bank Ltd.) opened two branches in East Pakistan. National Bank of Pakistan began to open its branches since 1949. During the period 1950-58 three other Pakistani banks (The Premier Bank Ltd., Bank of Bahawalpur Ltd. and Muslim Commercial Bank Ltd.) opened their branches in this region. Four Pakistani banks (United Bank Ltd., Union Bank Ltd. Standard Bank Ltd. and Commerce Bank Ltd.) began to operate in East Pakistan during the period 1959-65. Two commercial banks (Eastern Mercantile Bank Ltd. and Eastern Banking Corporation Ltd.) organizaed and managed by East Pakistanis came into being in 1959 and 1965 respectively. These were opened to expand their activities specially in the regions of East Pakistan. All these efforts led to the reasonable growth of bank offices in 1960's decade.

Table 1 shows that the total number of bank offices rose from 148 in 1950 to 1042 in 1970. Population per bank branch also declined from 291 thousand to 65 thousand in the same period. The Government of Pakistan deliberately followed a policy of resource concentration for quick industrialization of the country. This led to enhancement of imbalances in the distribution of banking facilities among the regions and the sectors of Bangladesh economy.

After independence in 1971, the Government of the People's Republic of Bangladesh nationalized all banks except the foreign ones. The main objective was to establish public ownership on bank resources so that those could be used for the development of Bangladesh economy. It also aimed at removing inter-sectoral, inter-regional and inter-divisional disparities in the distribution of banking facilities. Nationalization of the banks was necessary because private ownership of banks created considerable sectoral, divisional and regional imbalance in the distribution of their facilities.

At the time of nationalization, small banks were merged with large ones. As a result, the number of local banks declined from 12 to 6 in 1972. But the number of bank branches increased from 1089 in 1971 to 4085 in 1986 (Table 1). Population per bank office decreased from 64 thousand in

1972 to 25 thousand in 1986. However, the major expansion of bank offices in Bangladesh took place during 1976-81. In order to encourage more private investment the Government allowed some local banks to operate in the private sector from the 1982-83 financial year. But in terms of deposits the public banks still retain more than 70 per cent of banking business in Bangladesh. At present 20 commercial banks are operating in Bangladesh. Of those 4 are public banks, 2 are denationalized private banks, 7 are newly created private banks and the remaining 7 are foreign banks. Two private banks operate on the basis of Islamic Shariah which allows only interest free banking and sharing of profit or loss.

2.2. Divisional and Regional imbalances in bank branch expansion programme (1970-86)

The divisional and regional banking imbalances had been greater under private ownership upto 1970 than under public ownership later on. The mean value of the L.Qs. increased from 0.94 in 1970 to 0.99 in 1986 while the standard deviation of the L.Qs. decreased from 0.57 in 1970 to 0.33 in 1986 (Table 2). These results undoubtedly indicate that imbalances in the distribution of bank branches declined in the post-nationalization period. Again, except Sylhet, all the regions with the L.Qs. above the national average of 1970 recorded a declining trend upto 1986; while except Comilla, all the regions with L.Qs below the national average of 1970 registered an increasing trend upto 1986.

It indicates that the magnitude of imbalances in the distribution of bank branches generally declined in 1986 in comparison with 1970. But still banking imbalances among the regions was higher than the same among the Divisions.

2.3 Divisional and Regional imbalances in deposit mobilization (1970-86)

Appendix Table 3 shows that wide disparities in the mobilization of bank deposits existed among the Divisions and among the Regions of Bangladesh in 1970. The decrease in the standard deviation of the L.Qs. from 1.2 in 1970 to 1.0 in 1986 and the rise of the median value of the L.Qs. from 0.31 in 1970 to 0.41 in 1986 indicated that regional imbalances in the distribution of bank deposits diminished in 1986 compared with 1970. All the regions with the L.Qs above the national average of 1970 showed a decreasing trend over the period 1970-86. Except Mymensingh and Dinajpur, all the regions with the L.Qs. below the national average of 1970 exhibited an increasing trend over the same period.

Table-2 : Divisional and Regional Locational Imbalances in Bank Branch Expansion Programme (1970-1986)

Region and Division	No. of Bank branches		Population in million		No. of bank branch per million of popn.		L.Q.		Rank		% variation in the L.Q. of 1986 from that of 1970
	1970 (Br)	1986 (Br)	1970 (Pr)	1986 (Pr)	1970 (Br/Pr)	1986 (Br/Pr)	1970 $(\frac{Br/Pr}{B/P})$	1986 $(\frac{Br/Pr}{B/P})$	1970	1986	
1	2	3	4	5	6	7	8	9	10	11	12
1. Chittagong	135	384	4.1	6.5	32.93	59.08	2.19	1.49	2*	3*	—31.96
2. Chittagong Hill Tracts	12	57	0.5	0.9	24.00	63.33	1.59	1.59	3*	2*	0.00
3. Comilla	70	260	5.6	8.1	12.50	32.10	0.83	0.81	9	13	—2.41
4. Noakhali	30	175	3.1	4.5	9.68	38.89	0.64	0.98	13	9	+53.12
5. Sylhet	72	316	4.5	6.7	16.00	47.16	1.06	1.19	6*	5*	+12.26
i) Chittagong Division	319	1192	17.8	26.7	17.92	44.64	1.19	1.12	A*	A*	—5.88
6. Dhaka	272	790	7.3	11.8	37.26	66.95	2.48	1.68	1*	1*	—32.26
7. Faridpur	21	144	3.9	5.6	5.38	25.71	0.36	0.65	17	18	+80.55
8. Mymensingh	59	242	7.3	10.7	8.08	22.62	0.54	0.57	16	19	+5.56
9. Tangail	9	94	2.0	2.9	4.50	32.41	0.30	0.82	19	12	+173.33
ii. Dhaka Division	361	1270	20.5	31.0	17.61	40.97	1.17	1.03	B*	B*	—11.97
10. Barisal	34	161	3.8	5.5	8.95	29.27	0.59	0.74	14	15	+25.42
11. Jessore	35	179	3.1	4.7	11.29	30.08	0.75	0.76	10	14	+1.33
12. Khulna	59	229	3.4	5.1	17.35	44.90	1.15	1.13	4*	6*	—1.74
13. Kushtia	29	119	1.7	2.7	17.06	44.07	1.13	1.11	5*	7*	—1.77
14. Patuakhali	8	60	1.5	2.2	5.33	27.27	0.35	0.69	18	16	+97.14
iii) Khulna Division	165	748	13.5	20.2	12.22	37.03	0.81	0.93	C	C	+14.81

(Table - 2 : Contd)

1	2	3	4	5	6	7	8	9	10	11	12
15. Bogra	30	153	2.1	3.2	14.29	47.81	0.95	1.20	7	4*	+26.32
16. Dinajpur	26	230	2.4	3.8	10.83	34.21	0.72	0.86	12	11	+19.44
17. Pabna	34	137	2.7	4.0	12.59	34.25	0.84	0.87	8	10	+3.57
18. Rajshahi	45	256	4.0	6.2	11.25	41.29	0.74	1.04	11	8*	+40.54
19. Rangpur	45	199	5.1	7.7	8.82	25.84	0.48	0.66	15	17	+13.79
iv) Rajshahi Division	180	875	16.3	24.9	11.04	35.14	0.73	0.88	D	D	+20.55
Bangladesh	1025	4085	68.1	102.8	15.05	39.74	—	—	—	—	—

Note :
1. The Divisions are ranked by capital letters while the regions are ranked by Arabic numbers.
2. The sign * indicates the Regions and the Divisions above national average and the rest of the Regions and the Divisions fall below national average.
3. B = bank branch; P = population; r = region; 'B' and 'P' without r denote national figures.
4. The number of bank branches of 1970 was compiled from SEP, Banking Statistics of Pakistan 1969-70, pp. 339-341, while the same of 1986 was tabulated from BB, Scheduled Banks Statistics (April-June, 1986), pp. XXIII-XXIV and 182-268.
5. Population figures of 1970 were obtained from BBS, 1981 Statistical Year Book of Bangladesh, p. 39, while those of 1986 were taken from BBS, 1984-85 Statistical Year Book of Bangladesh, p. 125.
6. 1970 : Mean of L. Qs. = 0.94; S.D. of L.Qs. = 0.57.
   1986 : Mean of L.Qs. = 0.99; S.D. of L.Qs. = 0.33.

However, regional disparity in the distribution of bank deposits was greater than the divisional disparity during 1970-86. Both divisional and regional disparities in deposit mobilization went down in 1986 compared with 1970.

2.4 Divisional and Regional credit imbalances (1970-86)

In general regional and divisional credit imbalances were greater in 1970 that in 1986. Appendix Table 4 displays that the mean of the L.Qs. rose from 0.63 in 1970 to 0.74 in 1986 and the standard deviation of the L.Qs. fell from 1.53 in 1970 to 0.96 in 1986. Except Chittagong, all the regions having the L.Qs. above the national average of 1970 registered a declining trend during the period 1970-86; while all the regions having the L.Qs. below the national average of 1970 recorded a rising trend over the same period. It is also observed from the table that the extent of regional disparity was higher than the divisional disparity in respect of deployment of bank advances during the period 1970-86.

2.5 Divisional and Regional imbalances in credit-deposit ratios (1970-86)

Imbalances in the distribution of divisional and regional credit-deposit ratios (CDR) were wide in 1970. Dhaka Division had the highest CDR of 1.21 and Rajshahi Division had the lowest CDR of only 0.38 in that year (Table 3). In the post-nationalization period the positions of the Divisions changed. In June, 1986 Rajshahi Division had the highest CDR of 1.16 while Chittagong Division had the lowest CDR of 0.53.

Among the regions Khulna had the highest CDR of 1.30 while Pabna had the lowest CDR of only 0.25 in 1970. In 1986 Rangpur had the highest CDR of 1.89 and Sylhet had the lowest CDR of only 0.27. The CDRs of the regions above the national average of 1970 declined in 1986 while the CDRs of the regions below the national average of 1970 rose in the same year except those of the regions of Sylhet and Noakhali where the CDRs went down by 13 per cent and by 2 per cent respectively in 1986. The CDRs exhibit whether the bank branches of a region invest their mobilized deposits in the same region or they help its draining out of the region. Wide gap between the lowest and the highest CDRs is a proof of the existence of considerable regional disparities in deployment of bank credit.

But in general imbalances in both divisional and regional CDRs showed a declining trend during the period 1970-1986. The range of divisional CDR in 1970 was between 0.46 and 1.21; and in 1986 it was between 0.53 and 1.16. The gap was reduced in 1986 compared with 1970. The ranges of regional CDRs were between 0.25 and 1.30 in 1970, and between 0.27 and 1.89 in 1986.

Table-3 : Comparison of Divisional and Regional Credit-Deposit Ratios of 1970 and 1986.

(In million Taka)

Region/ Division	Dr in 1970 (Tk.)	Dr in 1986 (Tk.)	Cr in 1970 (Tk.)	Cr in 1986 (Tk.)	C/D Ratio in 1970	C/D Ratio in 1986	Absolute change in C/D Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Chittagong	642	18021	307	10173	0.48	0.56	+0.08
2. Chittagong Hill Tracts	10	512	3	272	0.34	0.53	+0.19
3. Comilla	72	3535	37	2796	0.52	0.79	+0.27
4. Noakhali	34	2060	16	929	0.4	0.45	-0.01
5. Sylhet	118	5941	37	1628	0.31	0.27	-0.04
i) Chittagong Division	876	30069	400	15798	0.46	0.53	+0.07
6. Dhaka	1533	51898	1929	42198	1.26	0.81	-0.45
7. Faridpur	26	1234	15	1357	0.59	1.10	+0.51
8. Mymensingh	64	1998	36	2681	0.56	1.34	+0.78
9. Tangail	18	837	8	888	0.42	1.06	+0.64
ii) Dhaka Division	1641	55967	1988	47124	1.21	0.84	-0.37
10. Barisal	46	1851	14	1110	0.30	0.60	+0.30
11. Jessore	40	1747	22	2097	0.54	1.20	+0.66
12. Khulna	119	4404	155	4096	1.30	0.93	-0.37
13. Kushtia	28	1035	11	1036	0.40	1.00	+0.60
14. Patuakhali	14	460	9	469	0.66	1.02	+0.36
iii) Khulna Division	247	9497	211	8808	0.85	0.93	+0.08
15. Bogra	35	1506	16	1925	0.47	1.28	+0.81
16. Dinajpur	37	1161	15	1497	0.40	1.29	+0.89
17. Pabna	37	1673	9	1571	0.25	0.94	+0.69
18. Rajshahi	74	2992	21	2262	0.28	0.76	+0.48
19. Rangpur	50	1726	28	3257	0.56	1.89	+1.33
iv) Rajshahi Division	233	9058	89	10512	0.38	1.16	+0.78
Bangladesh :	2997	104591	2688	82242	0.90	0.79	-0.11

Note : Dr = Total deposit in the Region in million taka.
Cr = Total credit in the Region in million taka.
C/D = Credit-deposit ratio.

Source : [1].

But the absolute positions of the regions improved in post-nationalization years. However, imbalances in regional CDRs were higher in 1986 than those in divisional CDRs in the same year.

2.6 Sectoral credit imbalances during 1970-1986

The ratios of sectoral credits and sectoral shares in GDP were 0.0132, 0.4452, 0.0253, 0.2273, 0.0464, 0.3482, 0.0130, 0.2145 and 0.1315 respectively for agriculture, industry, construction, utility services, communication and transport, trade, housing, banking and insurance, and miscellaneous services in 1970; while those were 0.0539, 0.5403, 0.0396, 0.3322, 0.0488, 1.0441, 0.0553, 0.0451 and 0.0881 respectively for the same sectors in 1986 (Table 4). The credit-GDP ratio for the economy as a whole rose from 0.0843 in 1970 to 0.1708 in 1986. The overall credit-GDP ratio and the ratios of sectoral credit and sectoral shares in GDP improved in 1986 compared with 1970.

Execpting trade, the L.Qs. of all the sectors above the national average of 1970 declined in 1986; while except construction, transport and communication, those of all the sectors below the national average of 1970 rose in the same year. This was a healthy sign of sectoral credit deployment. But adequate measures have to be taken by the monetary authority and the banks to reduce concentration of advances in the trade sector and divert those to the priority and other productive sectors.

2.7 Causes of banking imbalances and remedial measures taken after nationalization of the banks

During the British and the Pakistan periods the banks followed a demand following financing approach and relied upon the orthodox British principle of real bills doctrine. As a result, the banking facilities were concentrated in urban and industrial areas. Regional disparities in the spread of economic activities ultimately led to the creation of regional imbalances in the distribution of banking facilities. Uneven distribution of natural resources, historical factors, socio-economic and political reasons, and political economy of monetary and banking policies were responsible for the creation of economic and banking disparities. As a consequence, by the mid of 1970 most of the banking resources were locked up in the hands of a few industrial groups and families of Pakistan.

With a view to removing banking disparities some corrective measures were taken by the authority in the post-nationalization period. Among these branch expansion, annual credit and monetary programme, special agricultural credit programmes (SACP), lead bank scheme, Grameen Bank and other projects are important measures. These were implemented during the last one and a half decades with more or less progressive success. This led to the partial operation of a supply leading financing approach at least in rural Bangladesh in the post-nationalization period.

Table - 4 : Sectoral Credit Imbalances in the Commercial Banks' Expansion Programme (1970-1986).

(in million Taka)

Year / Sector	1970 (June)					1986 (June)					% variation in
	Cs (Tk.)	GDPs (Tk.)	Cs GDPs	L.Q.= Cs/GDPs C/GDP	Rank	Cs (Tk.)	GDPs (Tk.)	Cs GDPs	L.Q.= Cs/GDPs C/GDP	Rank	the L.Q. o1986f from that of 1970
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Agriculture	258	19593	0.0132	0.16	8	13391	248556	0.0539	0.31	6	+94
	(9.60)	(61.42)				(16.28)	(51.61)				
2. Industry	1173	2635	0.4452	5.28	1*	20178	37345	0.5403	3.16	2*	(—)40
	(43.64)	(8.26)				(24.54)	(7.75)				
3. Construction	37	1464	0.0253	0.30	7	1047	26456	0.0396	0.23	9	(—)23
	(1.38)	(4.59)				(1.27)	(5.49)				
4. Power, Gas, water and sanitary services	17	77	0.2273	2.70	3*	855	2574	0.33222	1.94	3*	(—)28
	(0.63)	(0.24)				(1.04)	(0.53)				
5. Transport, storage and communication	69	1477	0.0464	0.55	6	1399	28674	0.04888	0.29	7	(—)47
	(2.57)	(4.63)				(1.70)	(5.96)				
6. Trade and Commerce	828	2377	0.3482	4.13	2*	39773	38092	1.04411	6.11	1*	+48
	(30.80)	(7.45)				(48.36)	(7.91)				
7. Housing Services	18	1410	0.0130	0.15	9	1716	31047	0.05533	0.32	5	+113
	(0.67)	(4.42)				(2.09)	(6.45)				
8. Banking and Insurance	34	159	0.2145	2.54	4*	363	8057	0.04511	0.26	8	(—)90
	(1.26)	(0.50)				(0.44)	(1.67)				

(Table - 4: Contd)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
9. Public adminis-	0	778	0.0000	0.00	10	0	20864	0.0000	0.00	10	
tration and defence		(2.44)				(4.33)					
10. Miscellanceous	254	1930	0.1315	1.56	5*	3520	29957	0.0881	0.52	4	(—)67
services	(9.45)	(6.05)				(4.28)	(8.30)				
Total :	2688	31900	0.0843	—	—	82242	481622	0.1708			
	(100.00)	(100.00)				(100.00)	(100.00)				

Note : 1. Advances to industry include advances for working capital and for mining and quarrying.
2. Housing sector's credit data are separated from construction sector for adjusting with the sectors of GDP.
3. Miscellaneous servcies include professionals and activities not adequately described.
4. Sector-wise data of advances for the year 1986 were tabulated from BB, Scheduled Banks Statistics (April-June, 1986), pp. 82-87 and 94-103; while those of the year 1970 were compilled from BB, Bangladesh Bank Bulletin, Vol. 1, (July 1973), p. 19 and SBP, Banking Statistics of Pakistan 1969-70, pp. 84-85.
5. Figures of sectoral GDP of 1986 (provisional) were obtained from, BB, Economic Trends, Vol. XII, No. 2, (February, 1987), pp. 32-33; while those for 1970 were compiled from Mohiuddin Alamgir and Lodewijk J.J.B. Berlage, Bangladesh National Income and Expenditure 1949/50-1969/70, (Dhaka : BIDS, 1974), p. 159 (for total GDP at current prices) and GOB, Bangladesh Economic Survey 1981-82, (Dhaka, 1982), p. 4 (for sectoral shares).
6. Cs = Credit to the Sector in million taka; GDPs = Gross domestic product of the sector in million taka; Cs/GDPs = Advances to the sector in million taka per million taka of sectoral GDP; C/GDP = Advances in million taka per million taka of GDP. The sign * indicates the sectors above the national average.
7. Figures in the parentheses show percentages.

3. SUMMARY OF THE FINDINGS

3.1 Although modern banking began in the regions of Bangladesh as early as in 1846, its growth had been rather slow throughout the whole of the second half of the 19th century. The Showdeshi Movement of 1906 and the increased expenditure in the two World Wars gave a stimulus to the growth of modern private commercial banks in Bangladesh regions during the first half of the 20th century. The number of bank offices rose from 25 in 1901 to 668 on 1946. But prior to partition in 1947 non-Muslim owners and employees of these banks migrated to India and that led to a vacuum in the banking field. Pakistani banks gradually filled into this gap. As a result bank offices rose to 1042 in 1970.

Banks under private ownership created considerable sectoral, divisional and regional imbalances in the distribution of their facilities. So, immediately after independence in 1971, all the commercial banks, except the foreign ones, were nationalized by the Government of Bangladesh. In order to encourage private investment the Government allowed some local banks to operate in the private sector from 1982-83 financial year. But in terms of deposits the public banks still retain more than 70 per cent of banking business in Bangladesh (in June, 1986).

3.2 Divisional and regional imbalances in the distribution of bank branches had been greater under private ownership of banks upto 1970 than mostly under public ownership later on.

3.3 Wide disparities in the distribution of bank deposits existed among the divisions and regions of Bangladesh in 1970. Except Mymensingh and Dinajpur all the regions registered a declining trend in their deposit disparities during 1970-86.

3.4 Divisional and Regional credit imbalances were greater in 1970 than in 1986. Credit imbalances generally showed a declining trend during 1970-86.

3.5 Except Sylhet and Noakhali, the disparities in credit deposit ratios generally went down in 1986 in all the ragions of Bangladesh compared with the positions of the regions in 1970.

3.6 In general sectoral credit imbalances recorded a declining trend during 1970-86.

3.7 Uneven distribution of national resources, historical factors, social, economic and political reasons, political economy of monetary and banking

policies were responsible for the creation of economic and banking disparities.

3.8 Some corrective measures were taken in the post-nationalization period to mitigate banking disparities. Among these branch expansion, annual credit and monetary programme, special agricultural credit programme (SACP), lead bank scheme, Greem Bank and other projects are important measures.

4. RECOMMENDATIONS AND CONCLUSIONS

It was already mentioned that banking disparities registered a diminishing trend in the post-nationalization years. But these did not decline at a desired rate. As the national Commission on Money, Banking and Credit (1986) observes, "In spite of rapid expansion, bank branches have tended to concentrate at the Upazila headquarters. The joint GOB/IDA Agricultural Credit Review indicated that while the majority of unions (4355) remained without a bank, there were others with more than one branch [16; 157][1]. Rural deposits and rural credits as percentages of agricultural GDP were 8 per cent and 9 per cent respectively in 1986.[2] The total deposits (104.6 billion taka) and the total credits (82.2 billion taka) of all the commercial banks as percentages of total GDP (provisionally 481.6 billion taka) stood at 22 per cent and 17 per cent respectively in the same year. These statistics reveal the inadequacy of the financial system of Bangladesh in reaching the majority people of rural areas, mobilizing domestic savings and in supplying necessary finance for productive activites. It was mentioned earlier that the commercial banks operated under public ownership for the last one and a half decades. They expanded their activities in various remote areas. But from the view of the gigantic needs of the country, their success was not much encouraging. Why was it so? Possibly because the nationalization programme could not bring any structural change in the banking organization and operational procedures which could suit the needs of rural Bangladesh. In this regard V.V. Bhatt states that the financial structure of the developing countries is

1. The total number of Rural Unions in 1986 was 4401 and that of urban wards was 453 in the same year. So out of a total number of 4854 unions/wards, 4355 unions (90 per cent of the total and 99 per cent of the rural unions) remained un-banked even in 1986. Also see BBS, statistical Pocket Book of Bangladesh 1987, p. 43.
2. In 1986 rural deposits and rural credits were Tk. 19.9 billion and Tk. 22.2 billion respectively, while agricultural GDP was Tk. 248.6 billion (at current prices but provisional). See BB, Economic Trends; Vol. VII, No. 2 (February 1987), pp. 32.33. This however, excludes the deposits and credits of BKB. But the results will not improve much if those of BKB are included.

fragmented largely due to (i) inadequate geographical and functional spread of the banking system, (ii) the limitation of rational lending, (iii) setting up of specialized institutions with hazy links with the banking system, and (iv) the structure of insterest rate — which fails to reflect the relative scarcity of resources [5; 8]. These are also applicable in the case of Bangladesh. In view of these problems the following recommendations are made for taking policy decisions and action programmes. It is expected that implementation of these recommendations will quickly mitigate divisional, regional and sectoral banking imbalances.

The findings clearly indicate that the question of ownership of the banks, and their special programmes are important factors for mitigating banking disparities. So, the major public banks of today are required to be kept under public control in future also.

Drawing on Indian experiences a regional rural bank (RRB) in each old district of Bangladesh may be established as a subsidiary to any of the 4 nationalized commercial banks (NCB). Branch expansion programme, increased share of the priority sectors in total bank advances, high credit deposit ratios in poor regions for certain years, adjustiment of rates of interest with the rate of inflation, inculcation of rural oriented organizational culture, strengthening of training, research, inspection and loan recovery actions, playing of proper role by news media and measures for educating bank customers will help mitigating divisional, regional and sectoral imbalances in the distribution of banking facilities. Enforcement of supply leading financing approach and progressive fiscal measues may help mitigate the economic and banking disparities. Above all, strengthening of administrative infrastructure and democratic norms are essential elements for creating conductive environment necessary for balanced development of banking and industry in Bangladesh.

Appendix Table - 1
Abbreviations

GOBB	=	Government of the province of British Bengal.
RBI	=	Reserve Bank of India
SBP	=	State Bank of Pakistan
GOEP	=	Government of East Pakistan.
BBS	=	Bangladesh Bureau of Statistics.
BB	=	Bangladesh Bank.
GOB	=	Government of Bangladesh.
NIBM	=	National Institute of Bank Management (India).

Appendix Table - 2
Banks of Bangladesh in the 19th century

Name of Bank	Year of establishment
Dacca Bank (Later Bank of Bengal's Branch)	1846
Faridpur L.O.	1985
Tripura L.O.	1871
Bogra L.O.	1872
Barishal L.O.	1873
Mymensingh L.O.	1873
Nasirabad L.O. (Mym.)	1875
Jessore L.O.	1876
Munshigonj L.O.	1876
Dhaka L.O.	1878
Sylhet L.O.	1881
Pabna L.O.	1882
Kishorgonj L.O.	1883
Noakhali L.O.	1885
Ghatail Sammilani Ltd.	1887
Khulna L.O.	1887
Madaripur L.O.	1887
Kurigram Bank	1987
Tangail L.O.	1887
Digpati Milta L.O. (Mym.)	1888
Nilphamari L.O.	1894
Rangpur L.O.	1894
Kurigram Bank	1896
Kumarkhali Bank	1896
Pabna Dhan Bhander Co. Ltd.	1897

Note : The number of bank branches rose to 25 by 1901 A.D.; L.O. = Loan Office.

Source : [1].

Appendix Table - 3 : Divisional and Regional Deposit Imbalances During 1970-80

(In million)

Region/Division	Dr in 1970 (Tk.)	Dr in 1986 (Tm.)	Pr in 1970	Pr in 1986	Dr/Pr in 1970 (Tk.)	Dr/Pr in 1986 (Tk.)	L.Q.		Rank		Percentage variation of L.Q. in 1986 from that of 1970
							1970 Dr/Pr D/P	1986 Dr/Pr D/P	1970	1986	
1	2	3	4	5	6	7	8	9	10	11	12
1. Chittagong	642	18021	4.1	6.5	156.59	2772.46	3.56	2.72	2*	2*	—23.60
2. Chittagong Hill Tracts	10	512	0.5	0.9	20.00	568.89	0.45	0.56	5	5	+24.44
3. Comilla	72	3535	5.6	8.1	12.86	436.42	0.29	0.43	11	9	+48.28
4. Noakhali	34	2060	3.1	4.5	10.97	457.78	0.25	0.45	13	8	+80.00
5. Sylhet	118	5941	4.5	6.7	26.22	886.72	0.60	0.87	4	3	+45.00
i) Chittagong Division	876	30069	17.8	26.7	49.21	1126.18	1.12	1.11	B*	B*	—0.89
6. Dhaka	1533	51898	7.3	11.8	210.00	4398.14	4.77	4.32	1*	1*	—9.43
7. Faridpur	26	1234	3.9	5.6	6.67	220.36	0.15	0.22	17	16	+46.67
8. Mymensingh	64	1998	7.3	10.7	8.77	186.73	0.20	0.18	16	18	—10.00
9. Tangail	18	837	2.0	2.9	9.00	288.62	0.20	0.28	16	15	+33.33
ii) Dhaka Division	1641	55967	20.5	31.0	80.05	1805.39	2.00	1.77	A*	A*	—11.50
10. Barisal	46	1851	3.8	5.5	12.11	336.55	0.28	0.33	12	13	+17.86
11. Jessore	40	1747	3.1	4.7	12.90	371.70	0.29	0.37	11	12	+27.59
12. Khulna	119	4404	3.4	5.1	35.00	863.53	0.80	0.85	3	4	+6.25
13. Kushtia	28	1035	1.7	2.7	16.47	383.33	0.37	0.38	8	11	+2.70
14. Patuakhali	14	460	.5	2.2	9.33	209.09	0.21	0.21	15	17	0.00
iii) Khulna Division	247	9497	13.5	20.2	18.30	470.15	0.42	0.46	C	C	+9.52

(Appendix Table - 3 : Contd)

1	2	3	4	5	6	7	8	9	10	11	12
15. Bogra	35	1506	2.1	3.2	16.67	470.63	0.38	0.46	7	7	+21.05
16. Dinajpur	37	1161	2.4	3.8	15.42	305.53	0.35	0.30	9	14	—14.29
17. Pabna	37	1673	2.7	4.0	13.70	418.25	0.31	0.41	10	10	+32.25
18. Rajshahi	74	2992	.0	6.2	18.50	482.58	0.42	0.47	6	6	+11.90
19. Rangpur	50	1726	5.1	7.7	9.80	224.16	0.22	0.22	14	16	0.00
iv) Rajshahi Division	233	9058	16.3	24.9	14.29	363.78	0.32	0.36	D	D	+12.50
Bangladesh	2997	104591	68.1	102.8	4401	1017.42	—	—	—	—	—

Note : 1. Dr = Deposit of the Region in million taka; Pr = Population of the Region in million; Dr/Pr = Deposit of the Region per million of population in million taka.

L.Q = Location quotient = $\frac{Dr/Pr}{D/P}$.

2. The Divisions are ranked by capital letters and the Regions are ranked by Arabic numbers.
3. The sign * indicates the Regions and Divisions above the national average.
4. 1970 : Mean of L.Qs. = 0.74; Median = 0.31; S.D. = 1.2.
   1986 : Mean of L.Qs. = 0.74; Median = 0.41; S.D. = 1.0.

Source : [1].

Appendix Table - 4: Divisional and Regional Credit Imbalances During 1970-86

(In million)

Division/Region	Cr In 1970 (Tk)	Cr in 1986 (Tk.)	Pr in 1970	Pr in 1986	Cr Pr 1970 (Tk.)	Cr Pr 1986 (Tk.)	L.Q 1970 Cr/Pr C/P	L.Q 1986 Cr/Pr C/P	Rank 1970	Rank 1986	Percentage (%) Variation of L.Q in 1986 from that of 1970
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Chittagong	307.0	10173.0	4.1	6.5	74.90	1565.08	1.90	1.96	2*	2*	+3.16
2. Chittagong Hill Tracts	3.5	272.0	0.5	0.9	7.00	302.22	0.18	0.38	6	11	+111.11
3. Comilla	37.1	2796.0	5.6	8.1	6.60	245.18	0.17	0.43	7	10	+152.94
4. Noakhali	15.6	929.0	3.1	4.5	5.00	206.44	0.13	0.26	11	15	+100.00
5. Sylhet	36.8	1628.0	4.5	6.7	8.20	242.98	0.21	0.30	4	13	+42.86
i) Chittagong Division	400.0	15798.0	17.8	26.7	22.50	591.68	0.57	0.74	B	B	+29.82
6. Dhaka	1929.3	42198.0	7.3	11.8	264.30	3576.10	6.69	4.47	1*	1*	-33.18
7. Faridpur	15.3	1357.0	3.9	4.6	4.10	242.32	0.11	0.30	13	13	+172.73
8. Mymensingh	35.8	2681.0	7.3	10.7	4.90	250.56	0.12	0.31	12	12	+158.33
9. Tangail	7.5	888.0	2.0	2.9	3.70	306.21	0.10	0.38	14	11	+280.00
ii) Dhaka Division	1987.9	47124.0	20.5	31.0	96.90	1520.13	2.45	1.90	A*	A*	-22.45
10. Barisal	13.7	1110.0	3.8	5.5	3.60	201.82	0.09	0.25	15	16	+177.78
11. Jessore	21.8	2097.0	3.1	4.7	7.00	446.17	0.18	0.56	6	5	+211.11
12. Khulna	155.4	4096.0	3.4	5.1	45.70	803.14	1.16	1.00	3*	3	-13.79
13. Kushtia	11.0	1036.0	1.7	2.7	6.50	383.70	0.16	0.48	8	8	+200.00
14. Patuakhali	9.1	469.0	1.5	2.2	6.10	213.18	0.15	0.27	9	14	+80.00
iii) Khulna Division	211.0	8808.0	13.5	20.2	15.60	436.04	0.39	0.55	C	C	+41.03

(Appendix Table - 4: Contd)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
15. Bogra	16.4	1925.0	2.1	3.2	7.80	601.56	0.20	0.75	5	4	+275.00
16. Dinajpur	14.5	1497.0	2.4	3.8	6.00	393.95	0.15	0.49	9	7	+226.67
17. Pabna	9.2	1971.0	2.7	4.0	3.40	392.75	0.08	0.49	16	7	+512.50
18. Rajshahi	21.0	2262.0	4.0	6.2	5.30	364.84	0.13	0.46	11	9	+253.85
19. Rangpur	28.2	3257.0	5.1	7.7	5.50	422.99	0.14	0.53	10	6	+278.57
iv) Rajshahi Division	89.3	10512.0	16.3	24.9	5.50	422.17	0.14	0.53	D	D	+278.57
Bangladesh	2688.2	82242.0	64.1	68.1	102.8	39.50	800.02	—	—	—	—

Note: 1. $L.Q.=\frac{Cr/Pr}{C/P}$

Cr = Amount of credit in the region in million taka.

Pr = Population of the region in million.

C = Total amount of credit deployed in the country.

P = Total population of the nation as a whole.

Cr/Pr = Amount of credit per million of population in million taka.

2. The Divisions are ranked by capital letters and the Regions are ranked by Arabic Numbers.
3. The sign * indicates the Divisions and the Regions above the national average.
4. 1970: Mean of Qs.=0.63; S.D.=1.53.
   1986: Mean of L.Qs.=0.74; S.D.=0.96

Source: [1]

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THE BANKER-CUSTOMER RELATIONSHIP IN ISLAM

MAHMOOD AHMED

INTRODUCTION

A relationship arises between a banker and a customer with the opening of an account by the latter [10; 10]. From the middle ages 'bank' has been used with the business of money lending. In the middle of the 12th century banks were established at Venice and Genoa and in the 14th century there came up a number of money lenders in Florence who received money on deposit and were lenders of money. Sir John Paget, subscribing to the same view, remarked that the relation of a banker and a customer is primarily that of a debtor and a creditor, the respective positions being determined by the existing state of the account. Instead of the money being set apart in a safe room, it is replaced by a debt due from the banker. The money deposited with him becomes his property and is absolutely at his disposal, and save as regards the following of trust funds into his hands, the receipt of money by a banker from or on account of his customer constitutes him merely the debtor of the customer with the superadded obligation to honour his customer's cheques, drawn upon his balance, in sofar as the same is sufficient and available [12; 1-44]. Hence, the general view is that the banker customer relationship is mainly that of a debtor and a creditor, with certain special features. Apart from this, there are some other relationships between them like Trustee, Agent and so on. However, the nature of the relationship depends upon the type of services rendered by the banker, which has two aspects : one is legal and another is behavioural.

The history of banking reveals that this relationship has been arisen on the basis of interest. But interest is prohibited in Islam. It has been explicitly stated in the Holy Quran that trading is permitted but "riba" is forbidden (Baqarah : 275). It should be mentioned here that riba usury and interest mean the same thing. By the elimination of interest from transactions and with the introduction of banking based on Islamic Shariah[1] the relationship took a new dimension. An attempt has been made in this paper to find out the basis of banker-customer relationship in Islam, and to analyse and

1. Islamic Shariah prescribes the rules and regulations of human life derived from Holy Quran and Sunnah : the actions and sayings of the Prophet.

illustrate the deficiencies of such relationship under conventional banking (interest based) system and their remedies under Islamic banking (interest free) system.

The plan of the paper is as follows :

I) Exposition of the basis of banker-customer relationship in Islam.

II) Discussions of some deficiencies of banker-customer relationship under conventional banking system.

III) Devotion to show their remedies under Islamic banking system.

Lastly a conclusion will be drawn on the whole discussion.

I. THE BASIS OF BANKER- CUSTOMER RELATIONSHIP IN ISLAM

Islamic faith acts as a basis of relationship between a banker and a customer. It has been observed that generally a Muslim becomes a customer of Islami Bank by opening an account with it, other than a conventional bank due to such faith. Islamic faith consists of such truths of which we can not know independently and on our ownselves. Hence , the entire structure of Islamic faith is built upon the teachings of the Prophet, sent by Allah in different times for mankind from the very beginning of this world. These teachings are the knowledge and commands for men to guide their life on the earth, revealed to the Prophet by Allah. The Al-Quran contains these knowledge and guidence with their pristine purity till today and will contain up to the "Last Day' of this world. The Muslims believes in the knowledge and guidence of Al-Quran and accepts the teachings of Prophet. Accordingly, they believes in Allah and his oneness, His glorious attributes the Prophets, the Angels, the Heaven and Hell, the resurrection day and the life hereafter. After having reposed faith in all these things, it becomes our burden duty to devote ourselves earnestly to a life of submission and surrender to Allah, in gaining that paradise and those other exquisite favours. He has so graciously promised to His loyal servants [9;1-29]. Hence, the muslims should not make transactions on the basis of interest which Allah forbidded.

After the establishment of Islami Banks in many Muslim and non-Muslim countries of the world including Bangladesh, Muslim people of these countries come froward to establish their relation with such banks out of their Islamic Faith. In this connection some examples have been given here. In 1962 'The Pilgrims Savings Corporation' was established for the first time in Malayasia which started its interest-free operations in 1963.

Within one year of its operations 1281 depositors established their

relation with it, where they deposited $ 46,600. Before the establishment of this Corporation the Muslims who were interested to perform Hajj (Pilgrims) usually kept their savings hoarding. As the interest is prohibited in Islam so they did not like to save with the interest based banks. They wanted to keep their savings free from the touch of interest that were kept for the purpose of Holy Hajj [7;1-15]. In Bangladesh, Islami Bank Bangladesh Limited (IBBL) was incorporated in March 1983. Since then a large number of people established their relation with this bank as evidenced by the report of the Board of Directors in 1983. According to that report, people in large number visited the bank, enquired about the system and became their constituents. The conscious people discovered in their practice a superior banking system which has root in their religious belief. The number of accounts in respect of types of deposits with the deposited amount of Taka in IBBL have been given below (Table-1), which indicates the quantam of relationship of Bangladeshi people with it in 1986.[2] Mainly four types of account includes 62132 number of accounts where Tk. 2230.58 million were deposited.

Table-1: Bangladesh: Break up of Deposits of IBBL in the year 1986

Types of Deposits	Number of Accounts	Amount: Tk in million
PLS[i] Short Notice	63	11.04
PLS Deposits	39607	807.36
PLS Term Deposit:		
12 months	4702	340.85
18 months	54	7.02
24 months	618	39.97
30 months	20	0.48
36 months	2311	167.03
Current and Contingency Accounts	14757	856.83
TOTAL:	62132	2230.58

Source : IBBL, Annual Report, 1986.

2. The deposited figures in four types of account for 1988 has been given in the 'Annual Report' of IBBL 1988, in P. 31 where number of accounts omitted. However those figures are :

Types of Deposits	Deposited Amount Tk. in Million	
	1987	1988
Term Deposit PLS	663.33	709.02
Short Term Deposit PLS	22.61	43.32
Deposit PLS	992.31	1196.14
Current & others	778.40	864.26

i. Profit and Loss.

Following the revolution in 1979, the Iranian authorities took steps to bring the banking system into correspondence with the requirements of Islamic Law. In February, 1981, certain administrative steps were taken by Bank Markazi (the Central Bank) to eliminate interest from banking operations [15; 1-27]. Breakdown of Islami Bank's various mode of transactions with the amount have been given below (Table-2), to show the relationship of Iranian people with Islami Bank in 1985.

Table- 2 : Iran : Brakdown of Islami Bank's Various Mode of Transaction with Amount

Mode of Transactions	Amount: Iranian Rials in billion
Lease purchase	27.9
Installment sale	247.5
Civil partnership	109.1
Mudarabah	134.6
Salef transactions	26.8
Jo'alah	2.4
Legal partnership	37.0
Direct Investment	4.4
Other	1.6
Total transactions affecting the profit of investment deposit	391.3
Debt purchasing	85.0
Qard al-Hasanah Loans	78.4
Total transactions not affecting the profit of investment deposits	163.4
Total of transactions	754.7

Source : A Brief Review of Recent Banking Development in the Islamic Republic of Iran, Tehran : (June, 1985).

In Pakistan the then President Mohammad Ziaul Huq within three months of his coming to power on September 29, 1977 asked the Council of Islamic ideology (CII) to prepare a blueprint of interest-free economic system for the country. The elimination of interest programme took six years (July 1, 1979- July 1, 1985) [6; 27-54]. During this period the people of Pakistan took an opportunity to establish their relationship gradually with the new system of banking. How strong is their rielationship could be seen from the growth of Profit and Loss (PLS) sharing deposits with the bank that has been given below (Table 3) in the year 1981-85.

Table - 3 : Pakistan : Growth of Profit and Loss Sharing Deposits 1981-85

(Rupee in billion)

	End of December							End of June		
	1981	1982	Growth in%	1983	Growth in %	1984	Growth in %	1984	1985	Growth in %
Total deposits	70.0	82.8	18.29	106.9	29.10	111.7	4.49	117.9	138.0	17.04
Return bearing deposits	54.7	66.4	21.39	86.3	29.97	91.0	5.44	98.0	—	—
PLS Deposits	6.5	12.9	98.46	19.9	54.26	29.7	49.25	22.1	38.1	72.40
PLS Deposits/Total deposits (in per cent)	9.2	15.4	67.39	18.6	20.78	26.3	41.40	18.7	27.6	47.59
PLS Deposits/return bearing deposits (in per cent)	11.9	19.4	63.02	23.1	19.07	32.3	39.83	22.6	—	—

Source : State Bank of Pakistan (1985).

However, a person having no faith in Islam (Non-Muslim) can also be a customer of Islami Bank if he agrees with the principles and operations of such banking. Some factors like high level of banking services, less risky advances, reasonably high return on deposits and low risk of returns may attract people having no faith in Islam to establish a relation with Islami Bank [5; 63-71].

II. SOME DEFICIENCIES OF THE BANKER- CUSTOMER RELATIONSHIP UNDER THE CONVENTIONAL BANKING SYSTEM

Interest is considered as a main deficiency factor in the relationship of a banker and a customer, under conventional banking system. The debtor-creditor relationship of a banker and a customer is frenquently threatened by this factor. The customer is obliged to pay a pre-determined rate of interest on the sum borrowed even though he may have incurred a loss. Even when a profit is made, the fixed rate of interest can prove an onerous burden if the rate of profit earned is less them the rate of interest payable.. The fixed interest-based system in a loss situation leads in some cases, even to bankruptcy. The dead weight of interest in times of a depressed economic activity characterised by low profitability makes industries "sick" and makes their "recovery" extremely problematic. [14;6-12].

The Conventional banking system does not ensure distributive justice of invesment financing. Distributive justice means distributive of risk and returns between the financial, depositors and entreprenurs in such a manner that nobody is to receive or bear undue share of benefit or loss. In the case of bearing risks the conventional banks shift it altogether to the

entrepreneur borrower. For the safe return of its principal plus interest it demands sound collaterals with the intention that if the entrepreneur for some reason, is unable to repay the claims of banks, the money can be realised from this security. This is a sheer injustice [11;8-25].

The relation between a conventional banker and a potential entrepreneurial customer is not properly established due to the fact that lending of such banks are security-oriented. It does not allow lending to a large number of potential entrepreneurs who can add to gross domestic product (GDP) by their productive endeavour but do not prossess sufficient security to pledge with banks to satisfy their criteria of credit-worthiness. Conventional banker is commited to pay a pre-determined rate of interest to depositors. The banks in their lending operations are most concerned about the safe return of the principal lent along with the stipulated interest. As a result venture capital' can not be provided to the innovative entrepreneurs. Who have new ideas for creating products or service. Particularly, in agriculture small farmers are deterred from adopting new cultivation practices on acount of this reason [14].

Bank frauds are on increase. The customers' deposited money has fraudulently been drawn from the bank. It is banker's contractual obligation to pay depositor's money from his own sources. This resulted in detroiration of relationship between banker and customer. Similar is the position of advances disbursed by the banks to different types of borrowers. If some borrowers default, the Bank will bear the loss and relationship with the customers will deteriorate. Religion plays a dominant role in buiding up the character of men. Once a person is religious, it is believed he would remain honest and would not commit anything wrong [13; 1-6]. But conventional banking is not established according to the rules of religion.

The interest system dampens investment activities because it adds to the costs of investment. The investment financing of the banks also fail to achieve the objective of productive efficiency, allocative efficiency and distributive efficiency due to their rigid mechamism of interest calculation. (II) As a result relationship of conventional bankers curbs with his customers.

The resources of a conventional bank are not used for the purposes and activities having high social priority but for commercially viable Projects only. This bank has no operation in charity based projects [8; 20-31]. So the conventional bankers have limited relationship with their customers.

III. REMEDIES UNDER ISLAMIC BANKING SYSTEM

Bank-customer relationship in Islam is established on profit/loss sharing arrangement instead of interest. The Islamic Shariah prescirbes how a society is to be organised and what will be the relationships of its members i.e. how the affairs of its members to be conducted [15; 1-27]. Accordingly, the relationship between a banker and a customer established under Islamic Banking system.

While any return on capital in the form of interest is completely prohibited in Islam. There is no objection in getting a return on capital if the provider of capital enters into a partnership with a worker or entrepreneur and is prepared to share in the risks of business. The basis of cooperation between capital and enterprise in Islam is the sharing of risks and gains between them [8]. The depositors of the bank may not be guaranteed a predetermined return on their savings, but they would be entitled to a share in the actual profits earned by the bank. Similarly, the bank would be entitled to claim pre-determined return on the capital provided by it to the borrower but can enter into a profit/loss sharing arrangement with them. There is a package of profit/loss bearing lending policy of Islami Bank of which the names of Musharaka and Mudaraba may be mentioned here. In Musharaka principle the profits are shared in pre-agreed proportions, but the loss, if any, is born strictly in proportion to the capital contributed by the banker and the customer. In Mudaraba principle profits are shared in pre-agreed ratio but loss, if any is borne by the banker entirely. In this case no financial loss involved on the part of the borrower, except his labour and time.

Security-Oriented lending means the circulation of wealth among the wealthy persons of the society which sharpens the difference between the rich and the poor. Islam does not allow it. The Quran says," In order that wealth may not make a circuit among the wealthy of you" (Hashar:7). Islam brought a golden opportunity to the potential entrepreneural customer to establish relation with banker without security under Mudaraba, Musharaka and other lending principles of Islami Bank. Islami Bank encourages the entrepreneurs by providing funds to them and by agreeing to share both profit and loss. Thus entrepreneural activities, if pursued within the framework of Shariah can easily contribute to the GDP. It should be mentioned here that in the Uslamic system profit can be shared by the supplier and user of funds in any ratio as mutually agreed but loss has to born by the respective parties strictly according to their capital participation

ratio. Shariah does not permit any variation even by mutual consent. Of course due allowances have been provided against loss resulting from negligence or violation of contract. The rigid Shariah provisions in respect of loss is a permanent mechanism to protect the rights of the entrepreneurs [8]. Thus we find Islamic banks have built-in institutional arrangement for establishing a fair relationship with the entrepreneur borrower by satisfying the need of venture capital for them.

Islam has been approved as a way of life by Allah. The Quran says, "Today I have perfected your religion for you and completed. My blessing on you and approved Islam as the way of life for you (Al-Maidah: 16). An Islamic bank behind which the Islamic faith acts is based on Islamic Shariah, so it enjoys the opportunity to employ the devoted Muslims in the banking. It may also increase the religious values among the customers by providing training to them so that they prossess a mind free of fraud. It recognises that a religious man always keeps himsef away from fraud.

The Islamic Investment finance has productive, allocative and distributive efficiency due to its mechanism (Musharaka & Mudaraba) used directly for investment financing. In this connection Akkas shows through graphical representation how the absence of interest factor in Islamic investment finance ensures efficiency which helps to widen and strengthen the banker customer relationship [11].

The distingushing feature of an Islamic Bank to build up Zakat pooltout of its own resources calculated on capital and reserves. Customers aslo can deposit their Zakat funds to the Islamic Bank Pool. This arrangment of Zakat ties the religious relationship of banker and customer. Purposes and activities having high social priority but economically not viable enough to repay the principal are financed by the Islamic Bank from Zakat Pool on the basis of their eligibility from Shariah view point. The Zakat Fund does have a target oriented programme. The target group consists mostly of the poorest and the weakest in the society [8]. It may be noted that Zakat is a charge on the economic assests of the rich. Hence, the Zakat-based programme of Islamic Bank is a mechanism for the redistribution of the economy's assets from the rich to the poor. As such, it widens the relationship of the banker and the customer.

Better customer services can ensure the better relationship between a banker and a customer. Logically customers can claim some services as debtors, creditors, buyers and some as fellow Muslim brothers and still some more as fellow men in general. Islam as is well known, a complete

code of life based essentially on the many verses of the Holy Quran and many sayings of the Prophet (Sm.), so it is the duty of Islamic Bank to satisfy the needs of the above parties [1].

To give the legal share to the banker-customer relationsip some existing conventional banking laws and related laws need to be changed according to Islamic Shariah. In Pakistan 13 (Thirteen) existing laws have been changed to Islamise its banking system [8].

CONCLUSIONS

The relationship that exists between a banker and his customer is mostly that of a debtor and a creditor based on the payment of interest from the very beginning of banking. Then, many other relationships like Trustee, Agent etc. arise between them over the changes of time. In fact, the nature of relationship depends upon the type of services rendered by the banker to the customer.

However, this conventional relationship took a new dimension with the elimination of interest from Islamic Banking system, where Islamic faith is considered as a basis of the banker-customer relationship. Such faith consists of belief in Allah and His Oneness, His glorius attributes the Prophets, the Angels the Heaven and Hell and the life Hereafter. After having reposed faith in Islam, Muslims come forward to establish their relationship with Islamic Banker. Non-Muslims also established relationship with Islamic Banker due to the some favourable factor, which do not affect their religious belief. Interest is considered as a main deficiency factor in the banker-customer relationship of conventional banking. The charging of interest is considered as an injustice. Islami Bank is based on Islamic Shariah, but conventional banking has no such religious bias. Islamic Shariah provides blueprint of how a society is to be organised and the affairs of its member conducted. Hence, the Islami Bank enjoys an opportunity to prevent banking frauds by growing consciousness among the customers, and to participate effectively in the economic activities of the society. Islami Bank's Zakat Pool ties the religious relationship of the banker and the customer. As Islam is the Allah's gifted complete code of life, the banker-customer relationship in Islam is ideological and improved one, that ensures justice and welfare (adle and ihsan).

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TEACHING-LEARNING UNITS IN UNIVERSITIES

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INTRODUCTION

Teaching-Learning units are designed to develop teaching staff and like all theories in social and management sciences educational staff development theories are not free from controversies. Such controversies relate to its need, its functions and its approaches. We shall attempt to analyse them in the context of the experience of Bangladesh Universities; however, it need be mentioned that none of the universities have a educational staff development unit. Teacher training is limited to primary and secondary schools and recently it has been extended to colleges through the efforts of NIEAER and selected refresher cources organised by the University departments.

There is no unanimity amongst the theorists on the basic concept of staff development. They can be classifed into two basic categories e.g. organization-centered theories and person-centered theories. The first group see staff development in terms of inculcation of organisational culture, internationalisation of values and goals of organisation, acceptance of the structure and rules and finally promotion of necessary skills for organisational efficiency. The second group views staff development as a continuous process to build competence and confidence in the individual which it is argued would automatically promote commitment to the objectives of the system and induce innovation in his work. The emphasis is on how to be his own best self in the latter while the first emphasises how to perform in the context of the organisation. The batter is a voyage to discover oneself while the first is a voyage to discover the organisation and its role. However, the proper approach is to fuse the organisation and person centered approaches so that the organisations can build on the strengths of the individual and the individuals can see his opportunities and constraints within the framework of the organisation and its needs.

ARE THERE NEED FOR EDUCATION (TEACHING) STAFF DEVELOPMENT ?

It is indeed unique that university teachers do not go through any formal training before they embark on their job. The interaction with the superiors/

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seniors in the university departments of Bangladesh directs our attention to the following factors :-

(1) the new recruits know the 'content' of work from their years as students,

(2) they also know how to communicate the contents from their years as students - from observing more effective and less effective teachers or as teaching assistants,

(3) they also learn the sequencing of contents from their interaction with teachers as a student and later as a collegues, and

(4) they also know about growth in their respective disciplines if the library is rich and ready.

Further, many of the new recruits in the universities in the developing countries go through a further enrichment programme when they go abroad for higher studies. Many seniors were of the opinion that observing a potential recruit properly and grooming him for three/four years, if properly done, do not leave much of a room for further training/development in pedagogy, communication skill and curriculum development.

Those who held such view were of the opinion that failure to judge a student's potential as teacher, recruitment on the basis of examination results only, absence of a period for gaining practical experience through 'apprenticeship', excessive in-breeding, inadequate research and conference/workshop exposure, poor state of library and laboratories and finally absence of a system of evalution of performance in terms of teaching, research, publication viewed in the context of the discipline, needs of the educational institution and needs of the people are the reasons for ineffective performance of the new recruits in the universities.

In this context a reference to a survey of selected departments and institutes of certain Bangladesh Universities can be made. The findings are summarised below. The survey, in a broader frame, was carried out in 1983. The sample size was 500 teachers of whom the 160 were from teachnical universities and 240 from general universities which again were equally divided between science and non-science groups. Of the samples 150 were professors or associate professors, and 350 were assistant professors and lecturers; of the first group 15 had no foreign education or training, of the second group 220 were in that category.

These group of 500 were asked to assess needs in terms of the following:

(a) Development of communication/ability; (b) knowledge of teaching methods; (c) knowledge of curriculum development process; (d) knowledge of modern educational technology; (e) academic programme planning and review process; and (f) techniques of using library for teaching and research. The methodology applied was open-ended discussion. The results are reproduced below :

Table-1 : Selected Attributes of Teachers of Technical and General Universities (% of respondents)

	Professors & Associate Professors				Lecturers & Assistant Professors			
	Technical		General		Technical		General	
	With FE	Without FE	With FE	Without FE	With FE	Without FE	With FE	Without FE
Lack of Ability of communicate effectively	7	20	10	20	7	40	19	25
Lack of knowledge of teaching methodology	5	20	10	20	9	25	35	33
Lack of knowledge of curriculum development process	10	20	20	30	26	38	73	83
Lack of knowledge of modern educational technology	10	20	30	50	41	71	29	66
Lack of knowledge of academic programming, planning and review process	20	30	50	30	49	67	57	77
Lack of use of library for teaching and research	9	20	15	20	31	87	51	93

Another reference could be made of the students evaluation of their teachers of a particular university. 500 students of six faculties in a general university were asked about ability of teachers by rank and foreign training. The students were selected according to availability with a bias for senior students.

OBJECTIVES OF TEACHING-LEARNING UNITS

The basic objective of a TLU should be informed and supported self-development of the teachers so that two-way process of communication between the teacher and the student around a subject within the broader

Table-2 : Students Perception of Selected Ability-Cohorts of Teachers in Various Faculties (% of Respondents)

	Physical Science & Biological Science				Social Sciences				Arts & Humanities				Law			
	Prof. & Assoc Professors		Asst. Prof. & Lecturer		Prof. & Assoc. Professors		Asst. Prof. & Lecturer		Prof. & Assoc Professors		Asst. Prof. & Lecturer		Prof. & Assoc. Professors		Asst. Prof. & Lecturer	
	With FT	Without FT	With FT	Without FT	With FT	Without FT	With FT	Without FT	With FT	Without FT	With FT	Without FT	With FT	Without FT	With FT	Without FT
Ability to communicate effectively	61	56	67	49	73	51	65	36	61	41	75	21	53	47	33	21
Knowledge of the subject	83	53	71	62	79	41	75	51	87	47	67	19	69	49	39	19
Capacity for guidance & counselling	71	57	67	63	83	49	73	31	76	34	57	17	71	39	73	29
Innovation in teaching material	54	24	57	27	78	31	76	19	59	39	67	27	54	13	37	11
Better Methodology of teaching	67	33	65	31	75	29	67	37	57	39	51	31	45	23	31	3
Capacity to create enthusiasm amongst students	73	12	63	29	68	27	57	23	67	23	63	21	49	29	43	19

The conclusion that seem to be apparent are :

1. Foreign training and experience causes significant improvement in dsired attributes of teachers.
2. Even then there are significant gap in desired abilities.
3. Desired attributes are absent in insignificant porportion at the entry point.

These seem to indicate the general desirability for education staff development.

context of education becomes meaningful. There are many facets of this simple statement, some of which are noted below :

(a) Professional development

The teacher has to be assisted in maintaineing the scholarship necessary to teach effectively, in undertaking reflective enquiry vis-a-vis his teaching responsiblity and in contributing towards advancement of knowledge.

(b) Instructional development

The teacher individually and as a member of the 'team' has to be assisted in relating his teaching to other units of teaching and broader context of society and education as well as students need for development which is possible if the teacher is assisted to become responsive to student needs and social environment, to relate effectively to relevant wider educational experience and to make him realise his role as a facilitator through communication and interaction so that courses and curricula are designed and redesigned continuously to accommodate new developments in the discipline, to accommodate institutional priorities and to innovate new approaches.

(c) Organisational development

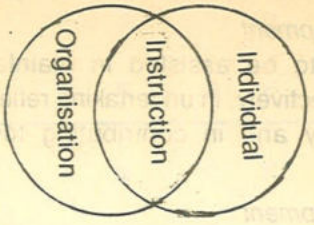
No lasting improvement can take place in a vacuum. The professional and instructional development has to be institutionalised within the organisational system through a process of appreciation of and encouragement for such developments so that a culture of evaluation with manifested recognition for professional and instructional attainments are made basic tents of organisational culture and process. The organisation has to create the ethos for such development process.

The inter-relationship of these three objectives of TLU is shown in the table below :

The inter-relationship of the objectives

	Organisational		Instructional				Professional	
	Academic/ Planning	Management	Teaching	Evaluating	Tutoring	Counselling	Updating knowledge	Research
Knowledege	+	+	++	+	+		++	+++
Attitude	+	+	+	+	+	+	+	+
Skill	++	++	++	++	++	++	+	++

This interaction can also be presented differently in order to indicate the overlap.



The following points need be noted :

1. Instructional effectiveness takes place within organisational and professional interactive framework,
2. Knowledge to be effectively used, enriched and communicated needs a skill and attitudinal base, and
3. Teaching-learning units concern themselves to build these skill attitudinal interaction for effective organisational and individual attainments.

TEACHERS AS LEARNERS VIS-A-VIS TLU

Adults are in general difficult learners; teachers are more so. Unless the learning styles suit their personalities and attitudes, the teaching-learning units would not be effective. Unlike attitudinal studies on managers, there are precious little on teachers and none for Bangladesh. Under the circumstances, we have fallen back on generalities. Teachers may be classified in many different ways, but for teacher-learner, I think the classification give by Honey and Mumform, is quite appropriate.

If a teacher is activist in nature, he learns least from lectures, monologues, statements, explanations and precise instruction etc. He learns more from exciting experiences involving diverse range of activities, solving problems and bouncing ideas.

If a teacher is reflective in nature, he hates being made a leader and put into role-playing, being given cut and dried instruction about how to do things and being put into situations which require action without planning. On the other hand he learns more through observation and analysis without being an active participator.

If a teacher is pragmatist in nature, he hates theories and generalisations, absence of guidelines and unnecessary managerial

obstacles to implementations of programmes. He learns most from trying out techniques related to problems he is familiar with if there is an opportunity to implement what he has learnt.

If a teacher is a theorist, he recoils from lack of context or purpose and he rejects platitudes and gimmickery. On the other hand, he learns most if the learning process streches his intellect through analysis of complex situation through concept building, system analysis, model formulation and test of theoretical framework.

Since these pure types are rare and since groups are likely to be a mix, the organisation of TLU has to be sensitive to the mix and the programme has to be flexible. This can be done through one-to-one relationship even in a group setting, offering self-learning as well as learning from peers, emphasising choices and alternatives, and making room for increasing their control over methods and content of learning. These are difficult task indeed.

ROLE OF PEER COUNSELLOR

In this context the role of teacher counselling assumes great relevance. The new entrant as well as those in the early phase of their career need a caring and supportive environment and peer's work as the developer of talents through seeding and weaving assumes great importance. This work can be formalised in a teacher-learning unit.

Class is specific but non-specified world. The teacher defines his effective and revealed role and responsibilities and in doing this he has to be conscious of students need in terms of better and relevant educational experience vis-a-vis their aspirations and expectations. Teacher is not merely a 'giver' of knowledge but also a facilitator for learning through cultivation of intrinsic motivation for it. A teacher should not only be able to communicate but also to stimulate his student through encouragement, demands as well as constructive help. New teachers continue to develop their own individual styles over several years and he needs to be sensitised about his role and also made aware how effectively he can play his role vis-a-vis his students, his institutions and his academic community, as well as his own growth. The reason for this is that academic community, however, learned they may be, cannot automatically define quality and because of this operational standards for measurement of quality and performance are absent. The basic reason for this is that the interactive learning relationship between teachers and students is complex and changing.

6. INSTITUTIONALISATION OF TLU

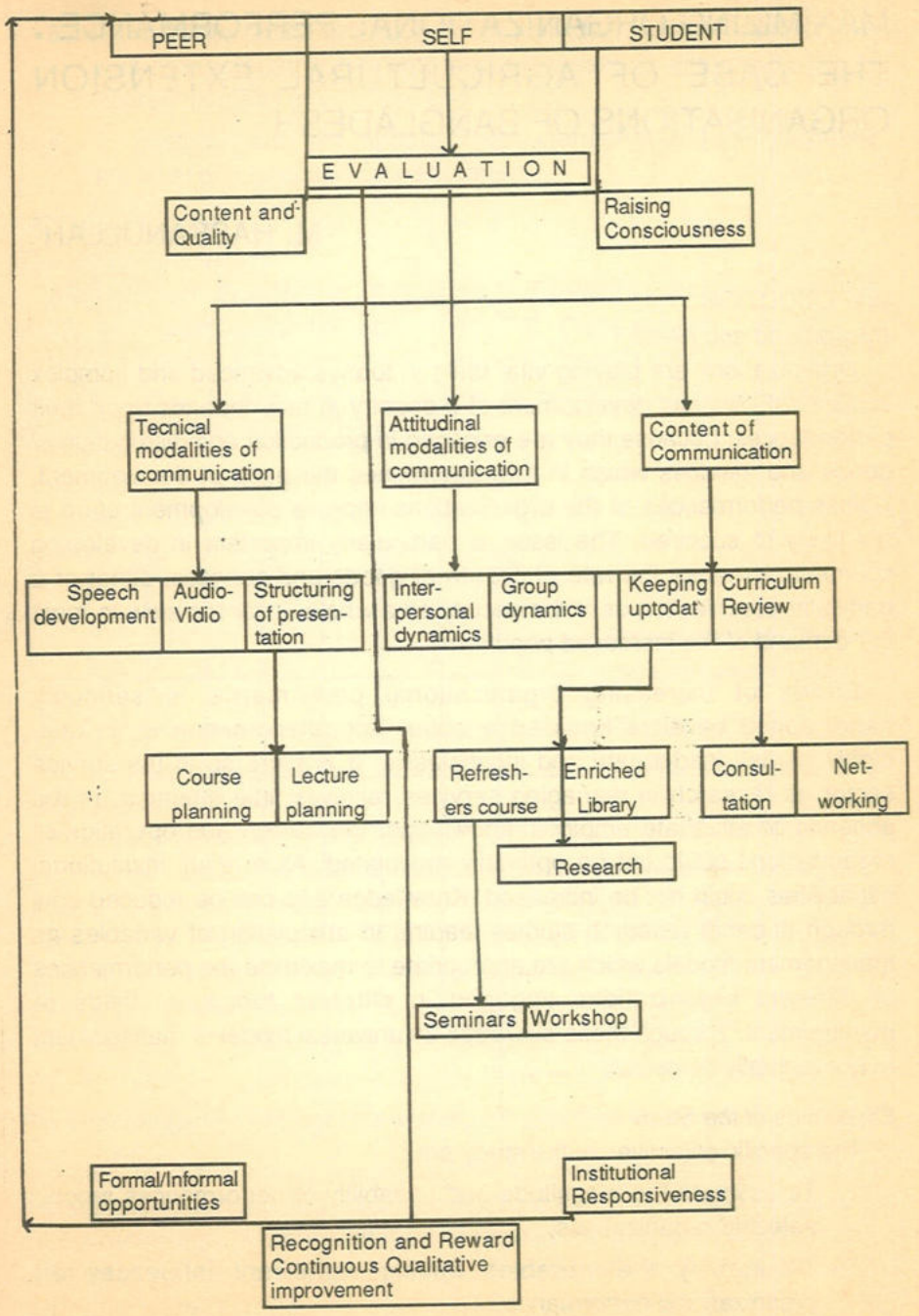
Teaching-Learning Units by themselves are unable to bring any change as changes can only be done by teachers who examine and re-examine the rationale of contents and methods of courses. Training in teaching method or teaching technique can only bring marginal changes; meaningful changes are rooted in behavioral quality which encourages and assists the teachers to analyse his teaching situation, intensify problems vis-a-vis his own class and course and look for solutions for those. This behavioral quality is difficult to develop through training. The training can only create awareness and make a person more sensitive so that his concern for effective teaching is lightened and kept so through peer observation and student (formal or informal) evaluation.

The peer counsellor can through interaction impart the feeling to a teacher that there is a need and indeed it is possible to improve teaching skills. This requires a personal relationship so that guidance in planning, a course, structuring a lesson, focusing on a point, enriching the content, widening the horizon, revising and updating of the course become possible.

The successful peer counsellors in various departments can formally or informally cooperate through net working within the institutions. This networking may take the form of a seminar, workshop on effective teaching-learning experiences. In turn institutions with common interest may cooperate discipline-wise or on a narrower or broader basis to help each other. Too much formalism may be counter productive. However, some institutional catalytic actions an facilities the process expression of concern and interest is needed to make a beginning and to keep it as a going concern. But if and when it is reduced to a formality, its effectiveness is lost.

WHERE TO BEGIN

Creating TLU would solve no problem. It must respond to a felt need. The teachers must desire certain facilities of this kind. The peer evaluation and student evaluation of the teaching on a specified format may provide the initial basis for a TLU and institutional preparedness for reward and recognition for good teaching is another pre-requisite for effective operation of TLU. A diagramatic presentation of the concept, content and process of TLU is given below.


PEER
SELF
STUDENT
EVALUATION
Content and Quality
Raising Consciousness
Tecnical modalities of communication
Attitudinal modalities of communication
Content of Communication
Speech development
Audio-Vidio
Structuring of presen-tation
Inter-personal dynamics
Group dynamics
Keeping uptodat
Curriculum Review
Course planning
Lecture planning
Refresh-ers course
Enriched Library
Consul-tation
Net-working
Research
Seminars
Workshop
Formal/Informal opportunities
Institutional Responsiveness
Recognition and Reward
Continuous Qualitative improvement

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MAXIMIZING ORGANIZATIONAL PERFORMANCE : THE CASE OF AGRICULTURAL EXTENSION ORGANISATIONS OF BANGLADESH

M. HASSANULLAH*

INTRODUCTION

Background and Need

Organizations are playing vital roles in todays advanced and complex societies. Economic development of a country in fact depends upon their performances, because they are engaged in production and distribution of goods and services which in turn determines the pace of development. Unless performances of the organizations improve development effort is not likely to succeed. The issue is particularly important in developing countries, because the rate of growth of goods and services, either of a particular organization or of the society as a whole, is far too slow to meet the demand of the increased population.

Efforts of increasing organizational performance is seriously handicapped because knowledge about this phenomenon is, in fact, highly partial, inadequate and inconclusive. It is more so in the service sector as research in managing services receives little attention. In the absence of adequate empirical knowledge, the design and operation of organizations could not be optimally articulated. As a result institutional capabilities could not be increased. Knowledge gap can be reduced only through in-depth research studies leading to articulation of variables as management models which are appropriate to maximise the performances of different organizations engaged in different functional fields of management. Through these exercises an universal model of management may eventually come out.

Objectives of the Study

The specific objectives of the study are :

1. To estimate the magnitude and variability of performances among selected organizations,
2. To identify the variables having significant influences on organizational performance,

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3. To estimate factor contributions of individual discrete variables as well as aggregative systems and processes at different levels of aggregation and interaction, and
4. To postulate and test models of management that would maximise the level of organizational performance.

METHODOLOGY

Theoretical Framework

Management thoughts in Retrospect : Theoretical framework of this study was postulated through review of management thoughts in retrospect. Analysis of management thoughts reveals that each stream of thought attempt to manipulate particular aspect (s) of the organizations to improve their performances (Fig 1) :

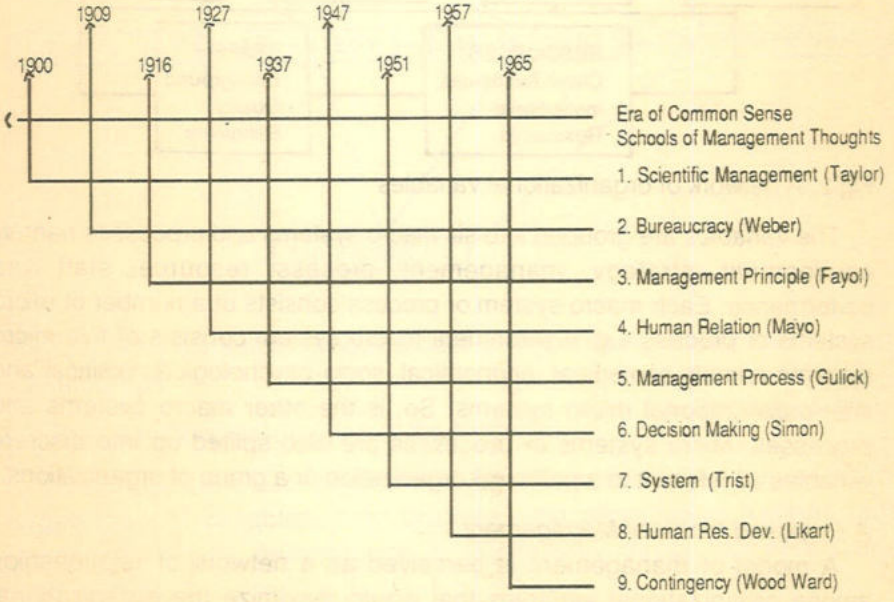


Fig 1 : Management thoughts in retrospect with their founders.

Scientific management introduced the best work methods at shop-floor management, bureaucracy emphasized standard structure and formal rules and procedures, human relation intended to improve interpersonal relationships, so on and so forth. Improvement of organizational performance was not eventually satisfactory and sustaining [5; 431-75]. The analysis of organizational performance therefore needs a multivariate

model which would provide scope of integrating all possible organizational properties as explanatory variables.

Classification of Organizational Variables

In search of such a model the organizational properties were identified and arranged in a logical order as in Fig 2.

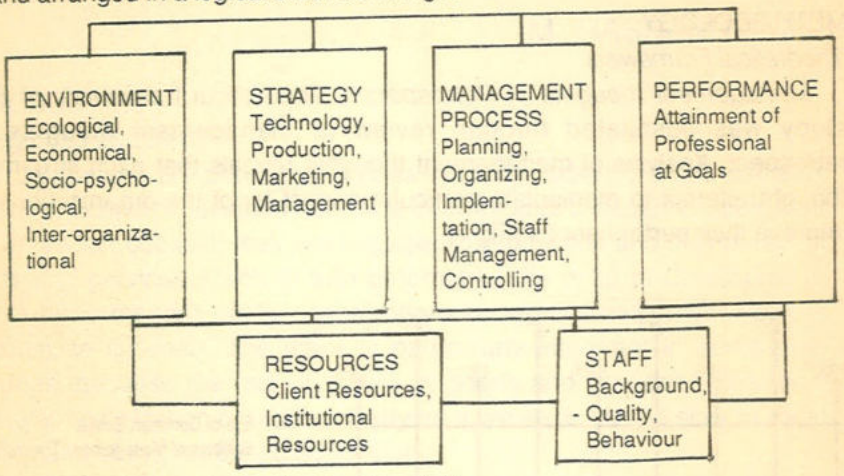


Fig 2. A network of organizational variables

The variables are grouped into six macro systems and processes namely environment, strategy, management, process, resource, staff and performance. Each macro system or process consists of a number of micro systems or process e.g. environment macro system consists of five micro systems namely ecological, economical, socio-psychological, political and inter-organizational micro systems. So, is the other macro systems and processes. Micro systems or processes are also splited up into discrete variables as relevant to a particular organization or a group of organizations.

A Proposed Model of Management

A model of management is perceived as a network of relationships among organizational variables that would maximize the organizational performance. A brief review may help arriving at a hypothetical network of relationships.

Performance of an organization is reported to be the outcome of "goodness of fit" between environment and organizations (structural) [7; 1-47, 13]. Earlier Mason reported that effect of environment may not be direct but manifested through the conduct of the organizations [9; 61-74]. Argeries argued that performance of an organization is the outcome of

"goodness of fit" between organizational properties and organizational participants [1; 141-167]. There are also evidences that availability and use of resources is also hinged with technologies and is manifested through strategy, management and staff [10, 4; 164-180]. Technology is also reported to have significant influence upon the design and operation of an organizations and hence upon their performances. Based on those evidences and preliminary tests the network of relationships among macro systems and processes is assumed to be as follows (Fig. 3) :

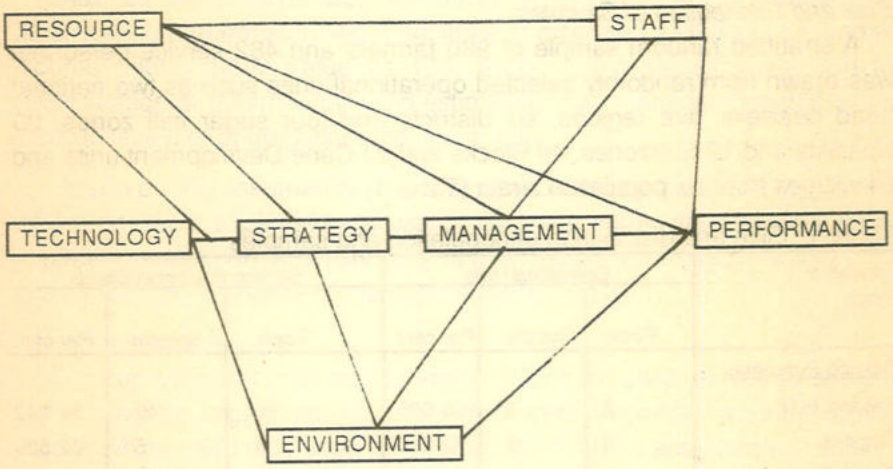


Fig 3 : A Hypothetical Global Model of Maximising Performance of an Organization.

The underlying assumption of the model is,

"Performance of an organization is maximized when influences of organizational variables, both discrete, and aggregative systems and processes, on its performance is significantly direct, consistent and unidirectional."

If these assumptions are fulfilled the organization will generate the greatest amount of synergy leading toward maximizing its performance.

Organizations under Study

Agricultural extension service is selected as embedding ground for testing the model, because it is the largest service sector and is engaged in modernizing agriculture. Among the extension organizations the

Department of Agricultural Extension under the Ministry of Agriculture and the Directorate of Cane Development and Research of the Bangladesh Sugar and Food Industries Corporation under the Ministry of Industry were selected as purposive sample of organizations. The former represents a typical general agricultural extension and the latter represents a typical commodity based integrated production oriented extension organization. Both have comparable organization structure, technological package and staffing pattern. They are expected to provide an average conditions of all agricultural extension organizations of the country.

Size and Distribution of Samples

A stratified random sample of 980 farmers and 482 service personnel was drawn from randomly selected operational units such as two national head quarters, five regions, six districts and four sugar mill zones, 20 Upazilas and 12 Subzones, 40 Blocks and 24 Cane Development units and 64 villages from six population strata (Table 1).

Table-1 : Size and distribution of population and samples

Population Strata	Operational Units			Service Personnel/Clients		
	Popn.	Sample	Per cent	Popn.	Sample	Per cent
Service Personnel						
National H.Q.	2	2	100.000	96	49	51.042
Regions	8	5	62.500	8	5	62.500
Zones/Districts	36	10	27.778	250	61	24.400
Upazilas/Subzones	599	32	5.342	2,065	108	5.230
Units/Blocks	13,454	64	0.479	13,354	259	1.939
Clients						
Villages	116,244	64	0.055	73,63,376	980	0.013
Total	130,243	177	0.136	73,79,149	1,462	0.020

Some of the respondents could not be interviewed or did not return the questionnaires due to death, migration or transfer or refusal for interview. A number of responses were rejected due to inaccurate or incomplete recording or inconsistent responses. The final sample size was 887 farmers and 437 service personnel.

Collection, Tabulation, Filling and Analysis of Data

Questionnaires for different groups of respondents were prepared and pretested. The farmers were interviewed by appointed interviewers and the responses were recorded on the questionnaires. The service personnel themselves filled the questionnaires. Supplemental data were collected

from official records through predesigned schedules. The filled questionnaires were edited and inconsistent and inaccurately recorded responses were excluded. Finally, all valid data were tabulated, punched on diskettes, debugged and transferred to tapes for analytical purpose. SPSS programme was used for computer analysis.

The data from three sources were aggregated or desegregated at the level of primary administrative units, the Upazilas and Subzones, and a 32x100 matrix was derived for regression analysis.

Indexes were developed for different systems and processes by aggregating and transforming magnitude of discrete variables into standard scores taking mean value as 100. Step-wise regression was run for identification of determinants and estimating their marginal contributions at difficult levels of aggregation and interaction.

Based on the assumed net-work of relationships among macro systems and processes, explanatory power of alternate paths were tested through multiple regression analysis and finally critical path was identified for maximizing performance of the organizations (Fig 3).

Methodological Issues

Conceptualization and measurement of performance as well as some of the intangible organizational properties were important methodological issues which need resolution for appropriate analysis and interpretation.

Concept of Organizational Performance

Management literature, irrespective of functional areas, postulates two perspectives of conceptualizing organizational performance namely, system and goal perspectives [3; 218-257, 2]. The former presupposes that organizational performance as the total health of the organization and the latter argues that no organization exists to maintain its own health, rather health of an organization may be perceived as an input for the attainments of its goals. It is in fact a conceptual controversy which is resolved when at successive levels of analysis goal and system variables are used as either dependent or independent variables. For operational convenience the goal model is gaining popularity in recent years. The goal model also faces problems of goal interchangeability and displacement [14]. Controversies also exists about performance on whose view point the owners, the employees or the customers. In this respect persons view of society as the basis of evaluating organizational performance is more appropriate and was adopted in this study [11; 63-85, 224-39].

Performance Evaluating Model for AEOs

Goal attainment seems to be appropriate model of analysing performance of the AEOs. The official goals, generally expressed as targets, are highly variable among organizations and often among their operational units. In order to avoid the problem of goal displacement and interchangeability the attainments of professional goals were chosen as a more stable and universal model of evaluating performance of the AEOs. The professional goals of the AEOs are :

a) Attitude Change
b) Knowledge Transfer
c) Skill Development
d) Technology Diffusion
e) Productivity Increase
f) Income Increase
g) Level of Living Improvement

The attainment of these professional goals are expected to be hierarchical and are termed as component goals. This goal model is designated as AKSTPILL model representing the first letter of each goal (Fig. 4).

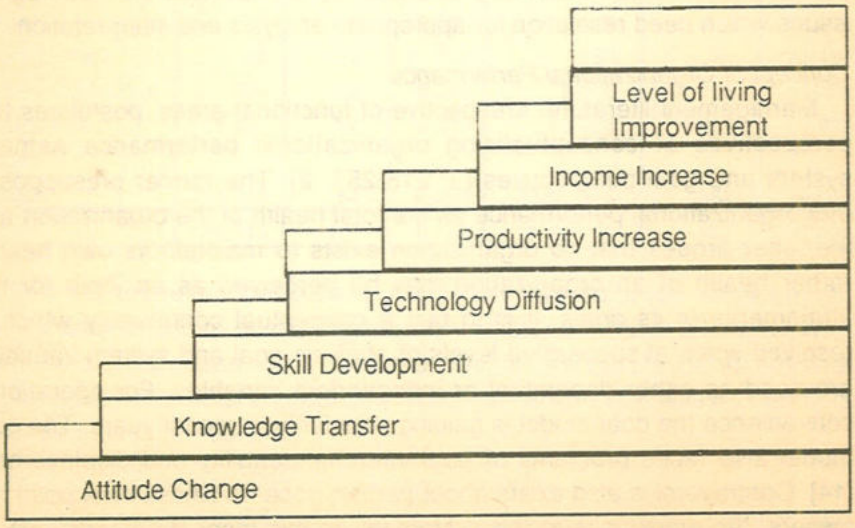


Fig. 4 : Hierarchies of Professional Goals of Extension Work.

Further, the level of attainment of these goals are not unlimited. Each has a potential level which an extension organization may attempt to achieve. The performance of the AEOs is therefore defined as the aggregated level of the attainment as a proportion of the potential levels of all professionals goals.

Validation of Measuring Scales

Twenty eight intangible multivariate discrete variables were measured by developing Likert Scale of summative ratings. Based on the domain sapling procedure a number of major elements of a variable were randomly selected and their prevalence or importance, as the case may be, was measured by the respondents by using a three to seven-point scale depending on the relative easiness or difficulty to differentiate the degree of differences. The scores were summated as magnitude of a variable (Appendix-A). Tests show that all scales used in the study were reproducible, consistent and reliable except role conflict which is not reproducible. This scale may need modification for future use.

FINDINGS OF THE STUDY

Performance : Magnitude and Variability

The mean magnitude of performance of the AEOs is 38.79% of the potential level (Table 2).

Table-2 : Aggregate Attainments of Professional Goals and Performance of the AEOs.

Professionals Goals	Potential Levels	Attained Levels	Attainment (% of Pot. Level)
1. Attitude Change (scores : 27 to 81)	81.00	67.65	83.51
2. Knowledge Transfer (scores : 0 to 90)	90.00	27.13	30.15
3. Skill development (scores : 0 to 80)	90.00	30.30	33.67
4. Technology Diffusion (Acres/Farm) (or all Tech.)	21.91	8.79	42.29
5. Productivity Increase (000 Tk./Acre)	36.94	7.10	19.21
6. Income Increase (000 Tk./Capita)	22.11	4.64	20.99
7. Level of Living Improvement (000 Tk./Capita)	40.09	2.75	6.86
Performance (scores : 0 to 70)	70.00	27.15	38.79

The attainments of professional goals such as attitude change, knowledge transfer, technology diffusion, productivity increase, income increase, and level of living improvement were 83.51%, 30.15%, 33.67%, 42.29%, 19.22%, 20.99% and 6.86% of the potential levels respectively. Since the technologies, currently advocated, were introduced on an average of 17.27 years ago, the rates of attainments of the professional goals were 4.83%, 1.75%, 1.95%, 2.45%, 1.11%, 1.22% and 0.40% of the potential levels respectively. Among the primary administrative units, the Upazilas and Subzones, Bogra Saddar Upazila was the best performer and Jhenidah Sadar Upazila the least performer (Table 3). Similarly among the Subzones Mill gate A of Zeal Bangla Sugar Mill was the best performer and Baliadangi of Thankurgaon Sugar Mill was the least performer.

These findings help to conclude that organizations are performing at about two-fifth of their potential levels of performance with wide variation of the attainments of different professional goals. Behavioural goals are attained more than economic goals and rate of attainment is also very low ranging from 0.40% to 4.83% of the potential level of attainments. Moreover, the aggregate performance as well as attainment of professional goals have significant variation among the organizations and their operational units.

Empirical Test of the Proposed Model

Macro systems and processes including technology were mutually regressed to examine the pattern of their influences on performance. Analysis shows that aggregate influence and factor contributions of environment and staff on performance were significant (Fig 5). But the influence of technology, resource, strategy and management on the performance of the organizations were not significant. Their influences on staff were also not significant. Under the present circumstances it seems that technology, resource, strategy and management processes are mutually re-enforcing having no significant influences on the performance of the organizations or on the staff quality and behaviour.

Table-3 : Attainments of Goals of Agricultural Extension Organization (N-887)

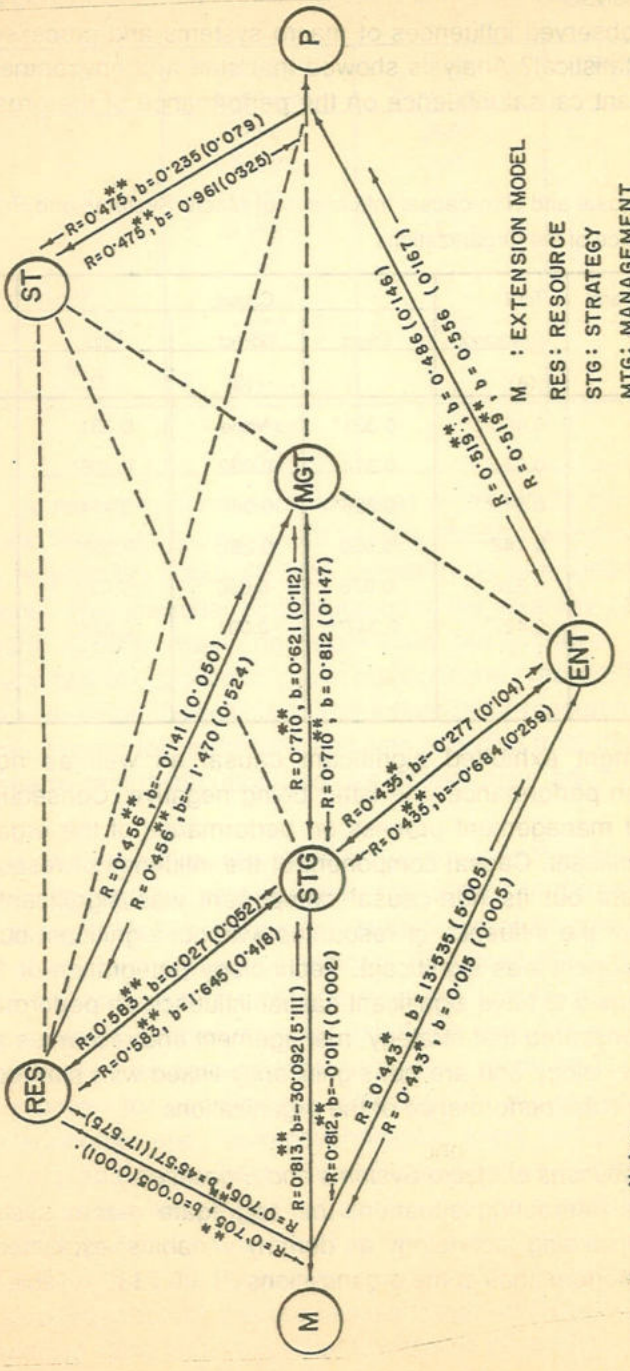
Code No.	Primary Administrative Units	Attainments of Component Goals (Perc ent of Potential evel)							Performance
		Attitude Change	Knowledge Transfer	Skill Development	Technology Difusion	Productivity Increase	Income Increase	Level of Living Improvement	
		X2(FX189)	X3(FX187)	X4(FX188)	x5(FX186)	X6(FX190)	XY(FX203)	X8(FX2605)	X1
PAU: Agriculture: Upazilas									
1.	Panchagarh	79.36	27.76	31.60	30.32	14.16	17.46	9.98	35.14
2.	Atoari	80.25	16.42	30.79	25.04	13.42	15.50	5.68	31.78
3.	Kaharol	79.17	34.75	33.04	21.50	21.38	20.08	7.22	35.77
4.	Bonchaganj	83.88	28.19	35.66	34.78	15.22	17.38	14.40	39.02
5.	Khetlal	79.88	22.29	26.00	36.92	20.46	21.25	6.80	35.30
6.	Bogra Sadar	91.25	61.67	50.12	65.75	19.29	21.96	5.12	50.12
7.	Kahalo	77.00	26.67	29.21	37.21	19.38	22.29	7.09	36.73
8.	Baherpara	89.00	30.03	35.16	52.53	13.31	16.47	5.47	40.09
9.	Keshabpur	77.64	15.11	18.00	27.39	14.29	19.18	4.82	30.20
10.	Kaliganj	85.62	39.09	41.66	40.00	17.16	19.31	7.12	40.62
11.	Jhenidah	77.58	11.50	24.54	23.54	11.08	13.77	5.72	28.85
12.	Gouripur	83.12	14.25	35.82	33.20	19.42	20.42	6.44	35.39
13.	Muktagachha	78.28	28.78	37.65	44.02	29.22	27.88	8.26	41.18
14.	Fulbaria	80.91	16.94	36.22	29.47	31.16	33.81	5.79	38.35
15.	Jamalpur Sadar	84.61	31.49	31.01	49.55	23.39	23.22	5.38	40.55
16.	Jhenaigati	88.64	36.54	42.21	34.75	13.68	18.32	7.72	39.34
17.	Dewanganj	84.27	8.45	21.54	44.73	18.73	22.00	4.81	34.54
18.	Laxmipur	79.08	16.63	29.54	26.60	17.29	19.94	4.45	32.73
19.	Ramganj	87.04	42.75	37.67	42.17	15.08	24.62	5.28	42.20
20.	Feni	84.12	34.71	38.53	35.78	26.61	28.73	3.50	41.34

(Table-3 Contd.)

PAU : Sugarcane : Sub-zones								
21. Khochabari	84.25	54.00	46.25	67.05	13.35	15.25	7.52	45.57
22. Baliadangi	80.33	15.83	23.96	46.25	11.75	12.92	4.35	32.85
23. Pirganj	88.38	24.71	26.38	54.14	20.08	19.62	7.21	39 52
24. Millsgate-B(RJSM)	88.16	44.32	39.76	62.16	17.64	18.12	6.12	44.51
25. Rajshahi-A	84.88	29.56	30.00	36.31	17.94	18.31	7.17	36.70
26. Sarda	83.64	31.68	27.14	50.73	23.05	24.86	4.16	39.93
27. Millsgate-A(KSM)	88.58	46.12	42.33	62.62	22.75	22.21	9.57	46.61
28. Allardarga	87.46	34.73	30.88	56.69	22.77	21.42	12.36	42.80
29. Madhupur	85.65	19.59	20.76	32.65	20.24	20.35	9.42	34.71
30. Millsgate-A(ZBSM)	91.61	56.39	47.04	62.30	20.48	19.83	8.40	48.63
31. Melenda	83.62	26.33	25.67	50.81	20.43	23.76	4.77	38.37
32. Nandina	84.55	41.25	34.95	63.95	20.05	20.20	5.83	43.71
MSS: Between Units	466.32***	4259.88***	1490.76***	4720.66***	744.67**	584.73***	170.08***	672.62***
MSS: Within Units	52.76	236.71	220.68	415.37	79.91	95.53	32.68	53.80
Grand Mean	83.51	30.15	33.67	42.25	19.22	20.98	6.86	38.79
Standard Deviation	6.08	19.43	16.29	23.79	10.16	10.61	6.12	8.69

Note : *, **, *** Mean 0.05, 0.01, 0.001 Levels of Significance Respectively. F Means Farmer Data Base
RSJM = Rajshahi Sugar Mills, KSM = Kushtia Sugar Mills, ZBSM = Zeal-Bangla Sugar Mills

FIG.5 : TESTED MODEL OF MANAGMENT FOR AGRICULTURAL EXTENSION ORGANIZATION OF BANGLADESH



Note :-
R = Coeff. of Determination
b = Regression Coeff.
Figures in Parentheses are Standard Errors.

Causality Analysis

Are the observed influences of macro systems and processes causal or merely statistical? Analysis showed that staff and environment indeed had significant causal influence on the performance of the organizations (Table 4) :

Table - 4 : Causal and Non-causal Influences of Macro Systems and Processes on the Performance of the Organizations

Macro Systems and Processes	Total Covaiance (A)	Causal			Non-causal (A-D)
		Direct	Indirect (C)	Total (D)	
Staff	0.466**	0.331*	None	0.331*	0.134
Management	0.012	0.314*	0.092	0.406*	-0.394*
Environmental	0.519**	0.326*	0.088	0.414*	0.105
Strategy	0.148	0.090	0.252	0.342*	0.194
Resource	0.326*	0.078	-0.050	0.028	0.298*
Extension Technology (D_2)	0.427*	0.347*	-0.001	0.348*	0.081

Management exhibited significant causal as well as non-causal influences on performance, the latter being negative. Consequently, the net effect of management process on performance of the organizations was not significant. Causal component of the influence of resources was not significant but its non-causal component was significant. Causal component of the influence of resources was not significant but its non-causal component was significant. Technology (Integration of Extension Models) seemed to have significant casual influence on performance. It is clearly demonstrated that strategy, management and resources are neatly tied with technology and are not significantly linked with staff quality and behaviour and the performance of the organizations.

Factor Contributions of Macro Systems and Processes

In a total interacting situation, the aggregate macro systems and processes, including technology as dummy variables, explained 53.29% variability in performance of the organizations ($R = 0.733^{**}$) (Table-5).

Table-5 : Marginal Contributions of Macro Systems and Processes to Performance of the Organizations

Macro Systems and Processes	Regressio Coefficient	Per cent Contribution	Stand and Errors
Environment	0.414*	26.97	0.189
Strategy	0.223	3.22	0.189
Management	0.271	3.53	0.166
Staff	0.162*	12.99	0.074
Resources	—	—	—
Extension Technology (pure model D1)	1.037	0.05	6.569
Extension Technology (integrated model D2)	19.770*	6.55	8.624
Constant	— 28.490		
R	0.730		

Among the macro systems and processes environment (26.97%), staff (12.99%) and technology (integrated model) (6.55%) were significant at 0.05 level, explaining about 46.51% variability in performances of the organizations. The marginal contributions of the strategy (3.22%) and management (3.53%) were not significant but positive. Conflicting strategies and pull of opposite forces in management practices are likely to make their influences insignificant. The influence of resource availability and use was beyond tolerance limit and was excluded from the regression model. It seems that distribution and use of resources are not at all goal directed.

Aggregative and Interactive Influences of Systems and Processes

Were their aggregative and interactive influences of discrete variables similar or different? Analysis showed that both aggregative and interactive influences of environment were significant. The interactive influecne was much more higher than that of aggregative one (Table-6). It seems that overall environment is favourable for extension work. Among the micro-environmental systems agro-ecology and politics alone had no significant explanatory power for performance differential of the organizations but aggregate economic and socio-psychological micro systems exhibited significant explanatory power. The influence of inter organizational environment was non-linear. The interactive influence of none of the micro systems was significant. It seems that micro models of manipulating economic and socio-psychological variables may provide some scope for increasing performance of the organizations but control of ecology and political variables alone is not expected to increase their performances.

Table-6 : Explanatory Power of Systems and Processes to the Performance Differential of the AEOs.

Macro and Micro Systems and Processes	No. of Variables	Coefficients of Determination (R)		
		Aggregative		Interactive
		Linear	Quadratic	
A. Extension Technology (D)	2	—	—	—
B. Environment	27	0.519**	0.527**	0.964**
1. Agro—ecological	6	0.117	0.143	0.445
2. Economic	7	0.540**	0.556**	0.492
3. Socio—psychological	9	0.373*	0.374	0.693
4. Political	3	0.119	0.119	0.194
5. Inter organizational	2	0.291	0.538*	0.349
C. Strategy	11	0.111	0.519*	0.734**
1. Client	2	0.203	0.208	0.194
2. Contact	3	0.140	0.237	0.302
3. Technology	2	0.281	0.325	0.589**
4. Management	4	0.205	0.465*	0.494
D. Management Process	27	0.007	0.273	0.966**
1. Planning	3	0.221	0.228	0.251
2. Organizing	7	0.302	0.345	0.607
3. Staff Management	4	0.254	0.376	0.437
4. Implementation	6	0.168	0.184	0.297
5. Educational Process	3	0.457*	0.465	0.620*
6. Controlling	4	0.316	0.316	0.191
E. Staff	20	0.475**	0.476*	0.892**
1. Background	6	0.185	0.245	0.251
2. Quality	8	0.456**	0.482	0.518
3. Behaviour	6	0.165	0.252	0.638*
F. Resources	7	0.327	0.370	0.634**
1. Client	2	0.138	0.173	0.333
2. Institutional	5	0.331	0.371	0.635
Global[1]	67	—	—	0.998**

1 Only 67 variables were included in the regression model. Others were excluded because at their strong collinearity.

The linear influence of macro strategical system was not significant but its non-linear but interactive influence was significant. It seemed that adopted strategies influenced performance to a certain level, beyond which it's influence declined due to conflicting nature of the strategies. Among the micro-systems, influences of client and contact strategies, both

aggregative and interactive, were not significant. Interactive influence was also not significant. Non-linear influence of aggregative management strategies was significant. It seems that the highest conflict exists in clients and contact strategies. As an example it may be mentioned that extension engaged itself exclusively for advisory functions but contacts with clients are kept limited to Contact Farmers only who consists of less than 10% of the target clients.

The aggregative influence of management macro process, both linear and quadratic, was not significant but its interactive influence was significant. None of the micro management processes, except educational micro process, had significant influence on the performance of the organizations. Both aggregative and interactive influences of educational processes such as organizing meetings, demonstrations, etc. was significant. It seems that except educational process management micro processes such as planning, organizing, implementation and control are ineffective to influence the performance of the organisations. Control of discrete variables of those processes alone may not provide scope to maximize performance of the organizations.

Aggregative as well as interactive influences of staff macro system were significant but influences of its micro systems were not significant, except staff quality. However, aggregative linear influence of staff quality and interactive influence of behavioural variables exhibited significant influences on the performance. It seems that in spite of insignificant influence of staff background and behaviour, beyond certain level, the overall staff dimension is still favourable for increasing the performances of the organizations.

The interactive, not aggregative, influence of resource systems was significant. However, client and institutional resources singly had no significant explanatory power for differential performance of the organizations.

It is earlier revealed that both micro and macro organizational systems and processes, often failed to or did not show significant influences on performance. Analysis of discrete variables showed that their failure is because of :

1. Different variables both discrete, and systems and processes exhibited both positive and negative influences on the performance of the organizations, and

2. Some variables, both discrete and systems and processes, often have opposite directions of influences on the attainments of different goals of the organizations.

These will be evidently clear if factor contributing behaviour of the discrete variables towards performances as well as attainment of goals of the AEOs are examined at different levels of interaction.

Factor Contributing Behaviour to Performances

In all 38 variables made significant but variable contributions to performance in one or another level of interaction in case of an AEO (Table-7). At individual level 15 variables had significant explanatory power to performance differential. The variables were productive capacity of land, client literacy, clients mass communication exposure, client-patron relationship with extension personnel, technology adaptability, professionalization, size of clients per extension worker, incentive of staff, clients participation in educational activities, quality of client participation, staff's professional commitment, anxiety-stress, fulfilment of manpower need of the organization, contingent expense and expenses per client family. Among them contributions of professionalization and size of clients per extension agent were negative.

When the variables interacted at micro system or process level the contributions of only seven variables, namely clients mass communication exposure, technology adoptability, professionalization, size of clients per extension agent, quality of client participation, staffs professional commitment, and anxiety-stress remained significant. Again the influences of professionalization and number of clients per Extension Agent remained negative. The influences of other variables were absorbed when interacted with the variables of the same micro system.

When the variables of the same macro system and process interact the influence of client literacy, client's mass communication exposure, technology adoptability, staff incentive, clients participation in educational activities, quality of clients participation became insignificant due to collinearity with other variables. On the other hand the marginal contributions of irrigation coverage, tenurial structure, draft power availability, clients political consciousness and participation, socio-political influence on programme administration, staff salary level, supervisors mobility, supervisory leadership (relation orientation), staffs parents occupation, staff rural background, staff age, staff education, intraorganizational conflict became significant but their contributions at individual and micro level of interaction were not significant. It seemed that their influences were multiplied when interacted with other variables of the same macro systems and processes.

Table-7 : Change of Significant Marginal Contributions of Organizational Variables to Performance at Different Levels of Interaction (Regression Coefficients)

No.	Variables	Single Factor	Level of Interaction		
			Micro	Macro	Global
x12	Productive Capacity of Land	0.170		0.217	0.216
x13	Irrigation Coverage			0.076	0.221
x16	Tenurial Structure (Owner Farming)			0.123	
x18	Draft Power Availability			2.269	1.336
x23	Client Literacy	0.110			0.124
x25	Clients Mass Commn. Exposure	0.084	0.122		
x29	Clients-Patron Relationship	0.068		0.067	
x31	Clients Political Consciousness			0.226	
x32	Clients Political Participation			0.138	
x33	Socio-Political Influence on Prog. Magt.			0.229	
x36	Extension Model Integration				1.703
x37	Technology Adaptability	1.406	1.282		
x46	Professionalization	—0.050	—0.043	—0.078	
x51	Size of Clients/EA	—0.425	—0.396	—0.776	—0.403
x53	Strategic Authority				0.173
x55	Formalization				0.516
x57	Staff Salary Level	0.246		—0.726	— 0.685
x58	Staff Incentive				
x60	Managerial Succession				—0.379
x61	Coordination				—0.377
x63	Suppervisors Mobility			—0.652	—0.223
x65	Supervisory leadership (RO)			— 0.593	
x68	Clients Part. in Ext. Activities	0.048			0.034
x69	Quality of Client Participation	0.275	0.261		
x76	Staffs Family Income				0.634
x77	Staffs Parents Occupation (AG)			0.087	
x78	Staffs Rural Background			0.206	0.040
x80	Staffs Age			—0.802	
x81	Staffs Education			—4.574	
x82	Staffs Personal Quality			—0.133	
x85	Inservice Training of Staff				0.292
x88	Staffs Professional Commitment	0.091	0.106	0.283	0.132
x92	Anxiety-Stress	0.263	0.452	0.557	
x93	Intra-Organizational Conflict			—0.253	
x96	Manpower Need Fulfilment	0.136		0.102	0.100
x98	Logistic Support				—0.022
x99	Contigent Expenses	0.035		0.054	
x100	Expense Per Client Family	0.012		0.012	

In a total interacting situation contributions of some of the variables having significant contributions at individual, micro and macro level of interaction did not remain significant. These variables were tenurial structure, clients mass communication exposure, client-patron relationship with extension workers, clients political consciousness and participation, socio-political influence, technology adoptability, professionalization, staff incentive, supervisory leadership (relation orientation), quality of client participation in educational activities, staffs parents occupation, staff's age, education and personal quality, anxiety-stress, intra-organizational conflict, contingent expenses and expense per client family. The contributions of such variables as extension model integration, strategic authority, formalization, staffs family income, logistic support and inservice training of staff became significant, though their contributions to performance were not significant at individual or at macro levels of interaction. Contribution of logistic support was negative. Further, two variables namely size of clients per extension agent and staffs professional commitment had significant contributions at all levels of interaction. The former made negative and the latter made positive contribution to performance. But both made the highest contributions of all variables had variation due to level of interaction except in case of client-patron relationship and expense per client family. Influence of both of these variables remained similar at all levels of interaction.

Factor Contributing Behaviour to Goal Attainments

In a total interacting situation several patterns of factor contributing behaviour to goal attainments, were observed among the discrete organizational variables of the AEOs (Table-8).

First some variables contributed positively to the attainment of all or some of the goals. Among them clients participation in educational activities had positive contribution to the attainments of all goals, though the contributions to attainments of behaviourial goals were much higher than that of economic goals indicating deficiency of the educational programmes in respect of increasing clients productivity, income and level of living. Besides productive capacity of land, irrigation coverage, clients attitude towards change, staff participation in programming, strategic authority, staff incentive, quality of clients participation in educational activities, rural background of staff, staffs education, fulfilment of manpower need of the organizations and clients input need had positive contributions to the attainments of either behavioural or economic goals.

Table-8 : Factor Contributing Behaviour of Discrete Organizational Variables to Attainments of Goals of the AEOs (Significant Contribution in Per cent)

No.	Discrete Organizational Variables	Goal Attainments						
		Attitude Change	Knowledge Transfer	Skill Development	Technology Diffusion	Productivity Increase	Income Increase	Level of living Improvement
		1	2	3	4	5	6	7
	Environment							
x10.	Rainfall	+2.58	+0.21					
x12.	Productive Capacity of Land			+3.66	+2.35		+1.28	
x13.	Irrigation Coverage			+0.97	+0.11	+3.21	+4.54	+25.07
x15.	Operational Farm Size	+0.44		+1.15	—0.25	—0.30	—22.98	
x16.	Tenurial Structure		—0.04			+1.81		
x17.	Subsistance Pressure(Land/Capita)				—4.32			—12.83
x18.	Draft Power Availability (Land/Pair of Bullock)		+1.12	+4.06				
x20.	Commercialization				—0.08			
x21.	Product Market Difficulty		—0.28				+1.21	
x23.	Client Literacy					—1.42		
x25.	Mass Communication Exposure			—1.01	+0.20	—1.04	1.07	
x29.	Client=Patron Relationship		+1.35			—0.50		
x30.	Attitude Toward Change	+9.30						
x31.	Political Consciousness	—5.31			+1.03	—0.10		
x33.	Socio—Political Influence on Programme Adn.	+1.32	—2.53					+3.52
	Strategies							
x38.	Universality in Contact				+0.16	—1.85		
x39.	Technology Adaptability	—24.49	—0.36		+40.38	—0.72		
x40.	Technology Diversity		+0.38			—10.86		
x45.	Performance Aspiration			—0.74			—11.26	
x46.	Professionalization		—20.99			—3.31	—6.78	
	Management							
x48.	Staff Participation in Plg.			+0.42		—0.51	+7.04	
x49.	Role Conflict						+6.54	
x51.	Size of Clients/EA	—12.21	+0.79		—43.36	+2.45		
x52.	Span of Supervision			—0.90				
x53.	Strategic Authority		+0.22	+0.44				
x55.	Formalization	—1.60	+1.43	+0.70	+7.75			
x57.	Staff Salary					—7.24	—0.92	
x58.	Staff Incentive	+10.16						+1.75
x60.	Managerial Succession	—4.15						

(Table - 8 : Contd.)

No.	Discrete Organizational Variables	Goal Attainments						
		Attitude Change	Knowledge Transfer	Skill Development	Technology Diffusion	Productivity Increase	Income Increase	Level of living Improvement
		1	2	3	4	5	6	7
x61.	Co—ordination		+3.66	+2.75				—6.74
x63.	Supervisor's Mobility	—5.48	—1.87		—2.15	+0.83		
x64.	Horizontal Communication		—0.25	—4.58	—0.50	—7.24		
x65.	Supervisory Leadership (RO)				—2.16			
x66.	Supervisory Leadership (TO)			—1.12	+2.65	—0.23		
x67.	Level of Educational Activities	—1.34		—2.45	—0.48	—8.58		
x68.	Client Participation (Edn. Act)	+10.61	+12.47	+23.31	+15.73	+1.08	+0.23	+1.75
x69.	Quality of Participation		+43.48			+6.78		
x71.	Level of Control		+0.56		—2.34			
x73.	Severity of Punishment	—0.50	—0.15	+0.12			+5.25	
	Staff							
x76.	Staff's Family Income	+0.84	—0.13					
x77.	Staff's Parents Occupation (AS)				—2.27			
x78.	Staff's Rural Background			—4.51	+6.68	+7.32		
x80.	Staff Age					—8.01		—2.90
x81.	Staff Education			+0.26	+0.93			
x82.	Staff Personal Quality	+0.18		—1.93				
x83.	Staff Work Experience			—3.28				+2.76
x85.	Inservice Training of Staff		—0.45		+0.25			+6.84
x87.	Organizational Tenure		+0.21		+2.00			—0.40
x88.	Professional Commitment		—1.33		+0.15	—2.67		
x89.	Level of Motivation		—1.57		—0.36	+1.99	+2.27	
x92.	Anxiety—Stress	+2.63	—0.11	+0.62	+0.02			
x93.	Intra—Organizational Conflict	+0.42		+0.39	—1.92	+14.79	—10.85	
	Resources							
x94.	Clients Input Need Fulfilment				+2.04		+10.74	
x96.	Manpower Need Fulfilment	+2.40	+3.06			+17.52		
x98.	Logistics		—1.01					
x99.	Contingent	+0.33						
x100.	Expense Per Client Family	—2.86	+0.19			+7.16		

Secondly some variables such as subsistence pressure, staffs performance aspiration, professionalization, staff salary level, level of educational activities, staff age had negative contributions to the attainments of some of the goals of extension work of either behavioural or economic changes. Consequently, negative contribution of the level of educational activities failed to meet the needs of clients as technological base was narrow, assigning priority to a few technologies which had negative influence on increasing overall productivity and income of clients and poor quantity and quality of client participation in educational activities.

Thirdly some of the variables like operational farm size, client-patron relationship with extension workers, technology diversity, coordination, level of control, and intra-organizational conflict had positive contributions to the attainments of behavioural goals; but they contributed negatively to the attainments of economic goals.

Fourthly some of the variables like supervisors mobility, rural background of staff, staff work experience, in-service training and level of staff motivation contributed negatively to the attainments of behavioural goals and positively to that of economic goals.

Fifthly factor contributing behaviour of some variables showed inconsistency, for example, clients mass communication exposure, political consciousness, socio-political influence on programme administration, size of clients per extension worker, formalization, severity of staff punishment, staffs family income, staff's personal qualities, anxiety-stress, expense per client family had both positive and negative contributions to the attainments of different behavioural and economic goals.

Maximizing Performance

From the observations of the agricultural extension organizations it may therefore be concluded that factor contributions of macro processes and systems would increase if :

(1) The magnitude of those discrete variables which have been contributing consistently negatively to the attainments of goals as well as performance of the organizations are kept at a very low level.

(2) The magnitude of those discrete variables which have been influencing positively as well as negatively to the attainments of different goals and have non-linear influences on the performance are optimized.

(3) The magnitude of those variables which have been contributing consistently positively are maximized.

The role of management research is to identify those discrete variables and estimate their desirable magnitudes in different functional fields of management as guide to the administrators and managers for maximizing organizational performance.

Rationalizing Organizational Variables

In case of an AEO through initial scanning it was found that 67 discrete organizational variables exhibited associations to the attainments of different goals of the organizations. Regression analysis showed that 54 variables at different levels of interaction had significant power to explain the attainments of different goals and performance of the AEOs. The relationships of the remaining variables were marginal. Among those variables the magnitudes of the nine variables need to be minimized as they exhibited consistently negative influences on the attainments of all goals (Table-9). Magnitudes of fourteen variables need to be maximized as they had consistently positive influences to the attainment of different goals. Magnitudes of the remaining 31 variables need to be optimized as they either exhibited both positive and negative influences on the attainment of different goals or their influences on performance were non-linear. In order to estimate the appropriate levels of those variables both linear and quadratic functions were presented in Appendix-B.

The AEOs may reduce subsistence pressure in the client system by promoting the diffusions of technologies of planned family among smaller farmers. They may maximize productive capacity of land, irrigation coverage and draft power availability through organizing long term programmes to help clients develop those resources.

The AEOs may not have much influence on operational farm size, tenurial structure, clients political consciousness, but can help create an appreciation about those problems and requirements. Extension may promote cultivation of more commercial crops and educate clients about marketing technologies to help reduce marketing difficulties. They can utilize clients socio-political influences on programme administration positively to achieve goals of extension work. Client-patron relationship may be optimized or removed through staff motivation, inservice training programmes and create mass awareness about the terms of extension services. As regard strategic variables there is no necessity of high performance aspiration. Professional staff must be realistic in setting targets. They must optimize direct contact with clients, promote diffusion of appropriate technologies and pursue a package of technologies which is

diversified enough to affect both behavioural and economic changes. Instead of minimizing professionalization of the organizations, the organizations need to reorient the inservice training programmes to reduce the effect of heterophility and increase the sense of empathy among professional staff, as professional knowledge is prerequisite for effective extension work.

Table-9 : Rationalization of Organizational Variables for Maximizing Performance

Variables to be Minimized	Variables to be Optimized	Variables to be Maximized
	A. ENVIRONMENTAL VARIABLES	
1. Subsistence Pressure	1. Operational Farm Size	1. Productive Capacity of Land
	2. Tenurial Structure (Owner Farming)	2. Irrigation Coverage
	3. Commercial Orientation of Ag. Prodn.	3. Draft Paper Availability
	4. Product Market Difficulty	4. Clients Attitude Toward Change
	5. Clients Literacy	
	6. Clients Mass Commun. Exposure	
	7. Client-Patron Relationship between Clients and Ext. Agents	
	8. Clients Political Consciousness	
	9. Socio-Political Influence on Programme Administration	
	B. STRATEGIC VARIABLES	
1. Performance Aspiration	1. Universality in Contact	None
2. Professiona-lization	2. Technology Adoptability	
	3. Technological Diversity	

(Table-9 : Contd.)

Variables to be Minimized	Variables to be Optimized	Variables to be Maximized
	C. MANAGEMENT PROCESS VARIABLES	
1. Span of Supervision	1. Size of Client per Extension Worker	1. Staff participation in programme planning
2. Staff Salary	2. Formalization	2. Role Conflict
3. Supervisory Leadership (Relation Orientation)	3. Managerial Succession	3. Strategic Authority
	4. Coordination	4. Staff Incentive
	5. Supervisors Mobility	5. Client Participation in Educational Activities
4. Level of Educational Activities	6. Horizontal Communication	6. Quality of Client Participation
	7. Supervisory Leadership (Work Organization)	
	8. Level of Control	
	9. Level of Punishment	
	D. STAFF VARIABLES	
1. Staffs Parent Occupation (Agriculture)	1. Staffs Family Income	1. Staff Education
	2. Staffs Rural Background	
	3. Staff Personal Quality	
	4. Staffs Work Experience	
	5. Inservice Training	
	6. Staffs Professional Commitment	
	7. Level of Motivation	
	8. Anxiety-Stress	
	9. Intra-Organizational Conflict	
	E. RESOURCE VARIABLES	
1. Logistic Support	1. Expenses per Client Family	1. Clients Input Need Fulfilment
		2. Organization's Manpower Need Fulfilment
		3. Contingent Expenses (Working Capital)

In order to maximize performance, the AEOs need to maximize staff participation in programme planning, authority to decide upon strategic issues at primary administrative unit level, staff incentive, quantity and quality of clients participation in educational activities. Although role conflict had positive influence on performance it should be carefully handled to turn into a competitive situation, rather than counter balancing each others efforts. Optimization of the number of clients per extension worker, magnitude of formality in management, frequent change of extension managers, level of coordination, supervisors mobility, communication with colleagues, work orientation of supervisory leadership, level of control and staff punishment are expected to maximize the performance of the organizations. Span of supervision should be reduced. Relation orientation of supervisory leadership should be abandoned. Findings suggest to maintain a minimum level of salary of staff with increase of incentive, This would maximize the performance. Regarding educational activities it is observed that a low level of activities with high level of client participation would maximize the performance of the organizations.

As regard staff it was observed that staff having agriculture as parents occupation is not a prerequisite for good performance, but a fairly moderate number of staff having rural background with higher education and moderate level of personal qualities is likely to maximize performance. Organizations may maximize their performance with moderate number of staff having medium level of family income, work experience, professional commitment and motivation. Inservice training, anxiety among staff and intra-organizational conflict need to be optimized for maximizing performance.

The AEOs need to minimize logistic support but maximize the use of contingent expenses with particular reference to expenses on educational activities (working capital). They must also fulfil their manpower requirements. It would therefore optimize the expense per client family. Maximizing the fulfilment of purchased input needs of the clients would also help maximize the performance of the organizations. The changes of those variables need to be taken as a package of measures which would generate the highest magnitude of positive synergy toward the attainments of the goals of the AEOs and hence their performances.

The variables having influences on performance has to be identified and their desired magnitudes have to be estimated separately for different functional fields of managements. However some of the observations in

the field of agricultural extension has strong relevance in maximizing the organizational performance in other fields of development.

Critical Path of Influences

From the network of influences of the macro systems and processes nine alternative paths were identified (Fig. 5). The components of each of those paths were step-wise regressed to estimate their power of explaining the performance differential (Table 10).

Table-10. Explanatory Power of Alternative Paths of Macro Systems and Process to Performance Differential of Agricultural Extension Organizations.

Path No.	Path	R	R	R2
1	Extension Technology-Resource-Staff-Performance	0.526*	(14.394)	0.199
2	Extension Technology-Strategy-Staff-Performance	0.564*	(13.972)	0.245
3	Extension Technology-Resource-Strategy-Staff Performance	0.570*	(14.162)	0.225
4	Extension Technology-Resource-Management-Staff-Performance	0.641**		0.323
5	Extension Technology-Resource-Management-Performance	0.504*	(14.615)	0.174
6	Extension Technology-Strategy-Management-Performance	0.529*	(14.360)	0.203
7	Extension Technology-Strategy-Environment-Management-Performance	0.665*	(12.874)	0.359
8	Extension Technology-Environment Management Performance	0.610*	(13.404)	0.306
9	Extension Technology-Environment Management Performance	0.534*	(14.059)	0.236

Note : Figures in the Parentheses are Standard Errors

It was observed that explanatory power of all paths were significant (0.05 level), explaining about 17.40% to 35.90% of performance variablity. Among them the explanatory power of P (Technology-Resource-Management Process-Staff-Performance) was highly significant (0.001 level). Giving priority attention to this path an organization may increase its performances substantially.

CONCLUSIONS

Based on the findings obtained in the field of agricultural extension following conclusions are made :

1. The organizations are performing about two-fifth of their potential levels of performance. The level of performance had significant variations among the organizations and their administrative units.

2. The attainments of different professional goals were not uniform. Behaviour goals are attained more than economic goals. Attainment of different goals also had significant variation among organizations and their primary administrative units.

3. Except in few cases there was wide variations in the magnitude and intensity of organizational variables.

4. Some of the organizational variables showed positive and others had negative contributions to performance as well as attainments of different professional goals. Because of these inconsistencies the influences of some of the variables are absorbed by others in an interactive situation or when their magnitudes are aggregated.

5. Factor contributions of organizational variables to peroformance as well as goal attainments substantially changed at different levels of interactions.

6. In a total interacting situation a large number variables had significant contributions to either performance or attainment of one or more goals.

7. Except a few, most organizational variables had linear contributions to perofrmance.

8. Influence of aggregate systems and processes also had variable contributions to perofrmance as well as attainments of goals of the organizations.

9. Environment and staff were making significant and direct contributions to performances as well as goal attainments. But aggregate contributions of strategy and management were not significant due to mutually inconsistent influences of discrete variables of these systems and processes to the performance as well as the goal attainments. But their interactive influences were however significant.

10. The organizations have failed to generate adequate positive and synergetic influences as the organizational variables were not mutually and positively reinforcing their influences on performance or goal attainments.

11. Organizations could maximize the influences of these variables by maximizing the magnitude of positive variables, minimizing the magnitude of negative variables and optimizing the magnitude of those variables having variables influences on goal attainments and non-linear influence on the overall performance.

12. The largest increase of performance is possible when the variables in the path of technology-resource-management processes and staff are improved on a priority basis.

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Appendix-A

Reproducibility, Consistency and Reliability of Selected Measuring Scales

No.	Variables	Reproducibility : Odd/Even Mean Diff. (F-Values)	Consistency : Range of between Item and Scale Values	Reliability : (Cronback 2 Alpha Coeff)
X2	Attitude Toward Technology	0.585 NS	0.18* to 0.50***	0.66
X21	Product Market Difficulty	1.897 NS	0.47*** to 0.75***	0.77
X30	Attitude Toward Change	0.001 NS	0.25*** to 0.52***	0.95
X33	Socio-Political Influence	0.130 NS	0.91*** to 0.95 ***	0.97
X34	Inter Organizational Relation	0.188 NS	0.97** to 0.99***	0.98
X35	Inter Organizational Conflict	0.143 NS	0.97*** to 0.98***	0.78
X39	Technology Adaptability	0.000 NS	0.19* to 0.57***	0.94
X40	Technological Diversity	0.171 NS	0.64*** to 0.78***	0.91
X41	Client Orientation	0.321 NS	0.75*** to 0.81***	0.83
X43	Participativeness	0.532 NS	0.67*** to 0.77***	0.83
X44	Coerciveness	0.860 NS	0.55*** to 0.66***	0.55
X45	Performance Aspiration	0.114 NS	0.46*** to 0.71***	0.81
X47	Programme Soundness	1.507 NS	0.62*** to 0.80***	0.91
X48	Staff Participation in Programming	0.459 NS	0.64** to 0.84***	0.92
X49	Role Conflict	4.442*	0.30*** to 0.58***	0.60
X53	Strategic Authority	0.349 NS	0.59*** to 0.77***	0.89
X54	Tactical Authority	0.000 NS	0.42*** to 0.76***	0.87
X55	Formalization	0.032 NS	0.20* to 0.59***	0.58
X56	Flexibility	0.022 NS	0.44*** to 0.67***	0.77
X61	Coordination	3.764 NS	0.65*** to 0.73***	0.77
X54	Horizonal Communication	0.142 NS	0.51*** to 0.71***	0.52
X65	Supervisory Leadership (Relation Orientation)	0.279 NS	0.56*** to 0.80***	0.81
X66	Supervisory Leadership (Task Orientation)	1.730 NS	0.67*** to 0.86***	0.87
X69	Quality of Client Participation (Edn. Activities)	0.018 NS	0.76*** to 0.92***	0.95
X71	Level of Control	0.017 NS	0.41*** to 0.79***	0.88
X90	Job Satisfaction	0.119 NS	0.52*** to 0.76***	0.89
X92	Anxiety-Stress	0.383 NS	0.53*** to 0.82***	0.89
X93	Intra Organizational Conflict	0.104 NS	0.76*** to 0.85***	0.93

Note : 1. *, **, *** mean 0.05, 0.01 and 0.001 levels of Significance respectively.
2. Cronback Alpha Value exceeding 0.50 was considered to be significant

Appendix-B

Linear and Quadratic Performance Functions of Discrete Organizational Variables

No.	Variables	Linear Functions				Quadratic Functions				
		R	R^2	a	b	R	R^2	a	b	c
	ENVIRONMENT									
	AGRO—ECOLOGICAL ENVIRONMENT									
X9	Solar Energy	0.134	—0.015	25.770	0.015	0.146	—0.046	3.644	—0.043	0.0002
		(3.689)			(0.020)	(3.644)			(0.186)	(0.0006)
X10	Rainfall	0.084	—0.026	25.220	0.010	0.108	—0.056	6.717	0.212	—0.0005
		(3.609)			(0.022)	(3.662)			(0.546)	(0.0014)
X11	Environmental Risk	0.200	0.008	26.118	0.183	0.200	—0.026	26.087	0.196	0.0010
		(3.548)			(0.163)	(3.609)			(0.467)	(0.0320)
X12	Productive Capacity of Land	0.363*	—0.103	22.249	0.170	0.365	0.073	24.153	0.027	0.0030
		(3.374)			(0.080)	(3.624)			(0.770)	(0.0130)
X13	Irrigation Coverage	0.097	—0.023	26.735	0.022	0.101	—0.058	26.884	0.002	0.0004
		(3.604)			(0.041)	(3.664)			(0.130)	(0.0020)
X14	Accessibility	0.071	—0.028	27.626	—0.080	0.107	—0.057	28.417	—0.462	0.0320
		(3.612)			(0.299)	(3.662)			(0.891)	(0.0740)
	ECONOMIC ENVIRONMENT									
X15	Operational Farm Size	0.122	—0.018	26.337	0.176	0.182	—0.034	28.236	—0.514	0.0497
		(3.594)			(0.262)	(3.662)			(0.969)	(0.0670)
X16	Tenurial Structure	0.156	—0.008	24.757	0.034	0.156	—0.043	24.586	0.040	—0.0004
		(3.577)			(0.040)	(3.638)			(0.282)	(0.0021)
X17	Subsistence Pressure (Land/Capita)	0.093	—0.024	26.593	0.995	0.094	—0.059	26.806	0.426	0.2800
		(3.606)			(1.951)	(3.607)			(6.618)	(3.1050)
X18	Draft Power Availability (Land/Pair of Bullock)	0.291	0.054	25.052	1.053	0.389	0.093	32.031	—4.286	0.8080
		(3.465)			(0.632)	(3.393)			(3.586)	(0.5350)
X19	Family Labour	0.135	—0.014	28.578	—0.008	0.244	0.005	34.427	—0.082	0.0002
		(3.568)			((0.011)	(3.572)			(0.066)	(0.0010)
X20	Commercialization	0.276	0.045	23.868	0.055	0.426	0.125	36.508	—0.406	0.0038
		(3.481)			(0.035)	(3.333)			(0.241)	(0.0020)
X21	Product Market Difficulty	0.245	0.026	31.261	0.026	0.432*	0.131	8.206	2.945	—0.1060*
		(3.511)			(0.188)	(3.321)			(1.517)	(0.0489)

Appendix-B

Linear and Quadratic Performance Functions of Discrete Organizational Variables

No.	Variables	Linear Functions				Quadratic Functions				
		R	R^2	a	b	R	R^2	a	b	c
	Socio—Psychological ENVIRONMENT									
X22	Farm Family Size	0.028	—0.032	26.538	0.082	0.200	—0.026	55.331	—6.812	0.4032
		(3.620)			(5.528)	(3.609)			(6.348)	(0.3700)
X23	Clients Literacy	0.365*	0.104	23.268	0.110*	0.430	0.129	28.166	—0.197	0.0043
		(3.371)			(0.051)	(3.325)			(0.232)	(0.0032)
X24	Clients Formal Education	0.308	0.065	23.989	0.122	0.374	0.080	27.695	—0.178	0.0054
		(3.445)			(0.069)	(3.416)			(0.254)	(0.0044)
X25	Clients Mass Communication Exposure	0.410*	0.140	24.951	0.084**	0.445*	0.143	26.577	—0.051	0.0019
		(3.304)			(0.034)	(3.298)			(0.132)	(0.0019)
X26	Clients Orginational Participation	0.104	—0.022	26.728	0.024	0.148	—0.046	27.293	—0.052	0.0015
		(3.602)			(0.041)	(3.643)			(0.138)	(0.0026)
X27	Clients Cooperative Membership	0.175	—0.002	26.284	0.031	0.176	—0.036	26.104	0.044	—0.00016
		(3.566)			(0.032)	(3.626)			(0.125)	(0.00150)
X28	Clients Leadership Experience	0.077	—0.027	26.902	0.040	0.100	—0.058	26.636	0.161	—0.0063
		(3.610)			(0.094)	(3.665)			(0.363)	(0.0180)
X29	Client—Patron Relationship	0.483**	0.207	25.072	0.068*	—	—	—		
		(3.172)			(0.225)					
X30	Clients Attitude Towards Change	0.041	—0.032	25.394	0.077	0.114	—0.055	—22.756	4.141	—0.0850
		(3.618)			(0.340)	(3.659)			(7.082)	(0.1480)
	POLITICAL ENVIRONMENT									
X31	Clients Political Consciousness	0.172	—0.003	26.621	0.074	0.174	—0.036	26.512	0.103	—0.0009
		(3.568)			(0.078)	(3.626)			(0.186)	(0.0053)
X32	Clients Political Participation	0.097	0.024	30.282	—0.034	0.099	—0.058	25.083	—0.152	0.0003
		(3.604)				(3.665)			(0.990)	(0.0060)
X33	Socio—Political Influence on Prog. Adn.	0.023	—0.033	26.951	0.014	0.203	—0.025	20.854	0.664	—0.0160
		(3.621)			(0.108)	(3.607)			(0.596)	(0.0140)

Appendix-B

Linear and Quadratic Performance Functions of Discrete Organizational Variables

No.	Variables	Linear Functions				Quadratic Functions				
		R	R^2	a	b	R	R^2	a	b	c
	ORGANIZATIONAL ENVIRONMENT									
X34	Inter Organizational Relation	0.042 (3.618)	—0.032	28.247	0.012 (0.053)	0.225 (3.589)	—0.015	—0.514	0.673 (0.563)	—0.0040 (0.0030)
X35	Inter Organizational Conflict	0.326 (3.423)	0.077	20.834	0.082 (0.043)	0.507* (3.175)	0.206	—30.467	1.427* (0.556)	—0.0085 (0.0035)
	STRATEGY									
	MODEL AND APPROACHES									
X36	Extension Models	0.294 (3.461)	0.056	24.252	1.368 (0.811)	0.354 (3.444)	0.065	29.469	—4.514 (5.236)	1.4310 (1.2580)
X37	Functional Exclusivity	0.264 (3.493)	0.038	29.653	—0.055 (0.037)	0.277 (3.539)	0.013	31.620	—6.165 (0.235)	0.0013 (0.0027)
X38	Universality in Contact	0.256 (3.501) (x.501)	0.034	26.168	0.047 (0.033) (0.033)	0.494* (3.202) (3.202)	0.192	23.330	0.356* (0.121) (0.121)	—0.0050* (0.0020) (0.0020)
	TECHNOLOGICAL STRATEGY									
X39	Technology Adaptability	0.566** (2.986)	0.297	—3.556	1.406** (0.378)	0.589** (2.977)	0.302	102.07	2 —8.333 (8.974)	0.2240 (0.2060)
X40	Technological Diversity	0.322 (3.428)	0.074	21.500	0.312 (0.167)	0.322 (3.487)	0.042	21.738	0.287 (1.295)	0.0006 (0.0320)
	CLIENT STRATEGY									
X41	Client Orientation	0.076 (3.611)	—0.027	25.704	0.099 (0.237)	0.154 (3.639)	—0.044	16.017	1.461 (1.877)	—0.0460 (0.0630)
X42	Client Participation In Dec. Making	0.144 (3.584)	—0.027	25.564	0.025 (0.032)	0334 (3.472)	0.504	33.4787	0.243 (0.159)	—0.0023 (0.0013)
	MANAGEMENT STRATEGY									
X43	Participativeness	0.036 (3.619)	—0.038	26.584	0.025 (0.127)	0.069 (3.674)	—0.065	31.455	—0.360 (1.213)	0.0073 (0.0228)
X44	Coerciveness	0.335 (3.412)	0.083	37.743	—0.502 (0.257)	0.386 (3.398)	0.090	—5.544	3.697 (3.757)	—0.1010 (0.0900)
X45	Performance Aspiration	0.160 (3.575)	—0.007	19.838	0.217 (0.321)	0.182 (3.622)	—0.034	70.121	—2.738 (6.229)	0.0430 (0.0910)
X46	Professionalization	0.443* (3.246)	0.170	29.507	—0.050* (0.018)	0.473 (3.245)	0.171	30.403	—0.128 (0.079)	0.0009 (0.0009)

Appendix-B

Linear and Quadratic Performance Functions of Discrete Organizational Variables

No.	Variables	Linear Functions				Quadratic Functions				
		R	R^2	a	b	R	R^2	a	b	c
	MANAGEMENT PROCESS									
	PLANNING PROCESS									
X47	Programme Soundness	0.077	—0.027	25.341	0.053	0.077	—0.062	24.976	0.075	—0.0003
		(3.611)			(0.124)	(3.672)			(0.169)	(0.1720)
X48	Performance Aspiration	0.002	—0.033	27.239	—0.001	0.164	—0.040	9.176	1.257	—0.0210
		(3.621)			(0.125)	(3.633)			(1.411)	(0.0240)
X49	Role Conflict	0.036	—0.032	26.584	0.025	0.069	—0.064	31.495	—0.360	0.0073
		(3.619)			(0.127)	(3.674)			(1.231)	(0.0228)
	ORGANIZING PROCESS									
X50	Size of Operational Unit	0.168	—0.007	19.219	0.312	0.178	—0.035	64.461	—3.118	0.0646
		(3.575)			(0.351)	(3.625)			(8.119)	(0.1528)
X51	Size of Client/EA	0.471**	0.196	30.071	—0.425**	0.490**	0.188	31.376	—0.917	0.0330
		(3.194)			(0.145)	(3.211)			(0.610)	(0.0400)
X52	Span of Supervision	0.061	—0.029	26.878	0.014	0.163	—0.041	28.671	—0.0145	0.0025
		(3.615)			(0.041)	(3.634)			(0.197)	(0.0030)
X53	Strategic Authority	0.035	—0.032	27.797	—0.024	0.113	—0.055	36.495	—0.756	0.0150
		(3.619)			(0.127)	(3.660)			(1.263)	(0.0250)
X54	Tatical Authority	0.012	—0.033	27.495	—0.010	0.028	—0.068	24.661	0.201	—0.0038
		(3.621)			(0.156)	(3.682)			(1.582)	(0.0286)
X55	Formalization	0.217	0.015	9.468	0.445	0.217	0.015	8.468	0.445	—
		(3.535)			(0.366)	(3.535)			(0.366)	
X56	Flexibility	0.036	—0.032	25.479	0.059	0.288	0.020	—95.316	9.946	—0.02003
		(3.619)			(0.296)	(3.527)			(6.164)	(0.1250)
	STAFF NAGT. PROCESS									
X57	Staff Salary	0.124	—0.018	24.179	0.223	0.174	—0.036	5.607	2.843	—0.0910
		(3.594			(0.327)	(3.527)			(3.920)	(0.1350)
X58	Staff Incentive	0.394	0.218	26.060	0.246*	0.397	0.100	26.187	0.133	0.0070
		(3.328)			(0.105)	(3.380)			(0.439)	(0.0289)
X59	Staff Transfer	0.217	0.015	25.679	0.586	0.217	—0.017	25.764	0.526	0.0080
	Frequency	(3.535)			(0.482)	(3.596)			(2.183)	(0.2980)
X60	Managerial Succession	0.297	0.058	28.880	—0.611	0.299	0.027	28.331	—0.091	—0.0840

Appendix-B

Linear and Quadratic Performance Functions of Discrete Organizational Variables

No.	Variables	Linear Functions				Quadratic Functions				
		R	R^2	a	b	R	R^2	a	b	c
	IMPLENENTATION PROCESS	(3.458)			(0.358)	(3.514)			(2.540)	(0.4060)
X61	Coordination	0.220	0.017	19.337	0.379	0.257	0.002	59.587	—3.561	0.0960
		(3.533)			(0.307)	(3.559)			(5.308)	(0.1280)
X62	Supervision	0.069	—0.028	26.901	0.003	0.087	—0.061	27.271	—	—
		(3.613)			(0.008)	(3.669)				
X63	Supervisors	0.183	0.001	24.835	0.524	0.184	25.959	25.959	0.0045	0.0051
		(3.560)			(0.150)	(3.621)			(0.0443)	(1.4580)
X64	Horizontal Communication	0.059	—0.030	24.974	0.174	0.128	—0.052	—9.704	5.572	—0.2080
		(3.615)			(0.539)	(3.653)			(8.799)	(0.3390)
X65	Supervisory Leadership (Ralation Orient.)	0.017	—0.033	26.682	0.250	0.050	-0.056	32.491	—0.808	0.0298
		(3.621)			(0.270)	(3.679)			(3.327)	(0.1900)
X66	Supervisory Leadership (Work Orient.)	0.097	—0.024	24.504	0.140	0.264	—0.004	66.542	—4.398	0.1200
		(3.604)			(0.261)	(3.570)			(3.621)	(0.0960)
	EDUCATIONAL PROCESS									
X67	Level of Educational Activities	0.214	0.014	25.986	0.026	0.399	0.101	22.785	—	—
		(3.538)			(0.021)	(3.373)				
X68	Client Participation in Edn. Acti.	0.443*	0.169	25.193	0.048*	0.453	0.151	25.792	0.023	0.00016
		(3.247)			(0.018)	(3.283)			(0.047)	(0.00028
X69	Quality of Participation	0.556**	0.286	21.154	0.275**	0.573*	0.282	16.999	0.666	—0.0082
		(3.010)			(0.096)	(3.018)			(0.429)	(0.0089)
	Controlling Process									
X70	Span of Control	0.034	—0.32	26.975	0.007	0.036	—0.068	26.847	0.015	—0.0001
		(3.619)			(0.037)	(3.681)			(0.174)	(0.0021)
X71	Level of Control	0.114	—0.19	29.844	—0.094	0.122	—0.053	35.213	—0.461	0.0061
		(3.452)			(0.149)	(3.656)			(1.582)	(0.0262)
X72	Dispersion of Control	0.147	—0.11	27.251	—0.009	0.194	—0.029	28.737	—0.039	0.0002
		(3.582)			(0.011)	3.613)			(0.043)	(0.0001)
X73	Severity of Punishment	0.086	—0.026	27.607	—0.013	0.148	—0.046	28.496	—0.062	0.0004
		(3.608)			(0.026)	(3.643)			(0.080)	(0.0007)

Appendix-B

Linear and Quadratic Performance Functions of Discrete Organizational Variables

No.	Variables	Linear Functions				Quadratic Functions				
		R	R^2	a	b	R	R^2	a	b	c
	STAFF									
	STAFF BACKGROUND									
X74	Staff Family Type	0.092 (3.606)	—0.025	26.124	0.023 (0.045)	0.120 (3.657)	—0.054	28.801	—0.092 (0.277)	0.0012 (0.0003)
X75	Staff Familly Sizw	0.022 (3.621)	—0.033	27.695	-0.058 (0.482)	0.043 (3.680)	—0.054	38.878	5.338 (6.387)	0.0639 (0.3200)
X76	Staff Family Income	0.008 (3.621)	—0.33	27.071	0.043 (0.931)	0.143 (3.645)	—0.047	18.288	5.724 (7.352)	—0.8730 (1.1200)
X77	Staff Parent Occup.	0.110 (3.599)	—0.021	28.784	—0.28 (0.046)	0.112 (3.660)	—0.055	27.694	0.012 (0.307)	—0.00034 (0.00260)
X78	Staff Rural Backgound	0.203 (3.546)	0.009	31.911	—0.054 (0.047)	0.247 (3.570)	—0.004	20.258	0.262 (0.410)	—0.0020 (0.0020)
X79	Elite Representation	0.102 (3.603)	—0.023	26.769	0.028 (0.050)	0.123 (3.655)	—0.53	27.040	—0.019 (0.136)	0.0012 (0.0031)
	STAFF QUALITY									
X80	Staff Age	0.216 (3.536)	0.015	20.725	0.0200 (0.165)	0.239 (3.756)	—0.008	38.780	—0.061 (1.846)	0.0153 (0.0266)
X81	Staff Education	0.305 (3.449)	0.063	45.259	—1.431 (0.815)	0.305 (3.507)	0.031	64.511	0.127 (0.981)	—4.5640 (24.2320)
X82	Staff Personal Quality	0.304 (3.450)	0.62	35.073	—0.129 (0.327)	0.319 83.4910	0.040	25.575	0.212 (0.623)	—0.0030 (0.0050)
X83	Staff Work Experience	0.168 (3.570)	—0.004	25.875	0.136 (0.145)	0.172 3.629)	—0.37	26.405	0.005 (0.024)	0.0203 (0.6390)
X84	Extension Work	0.014 (3.621)	—0.033	26.972	0.003 (0.036)	0.206 (3.604)	—0.024 41.396	—0.411	0.0028 (0.367)	(0.0024)
X85	Total Inservice Training	0.003 (3.621)	—0.033	27.211	—0.002 (0.013)	0.296 (3.519)	0.024	25.384	0.056 (0.036)	—0.0002 (0.001)
X86	Extension Training	0.186 (3.558)	0.002	26.840	0.032 (0.031)	0.279 (3.537)	0.14	26.421	0.151 (0.106)	—0.00017 (0.0015)
X87	Organizational Tenure	0.241 (3.515)	0.027	25.701	0.173 (0.127)	0.269 (3.547)	0.008	24.338	0.482 (0.477)	—0.0130 (0.0200)

Appendix-B

Linear and Quadratic Performance Functions of Discrete Organizational Variables

No.	Variables	Linear Functions				Quadratic Functions				
		R	R^2	a	b	R	R^2	a	b	c
	STAFF BEHAVIOUR									
X88	Professional Conmit	0.348	0.087	25.004	0.091*	0.344	0.058	24.694	0.128	—0.0008
		(3.403)			(0.046)	(3.458)			(0.160)	(0.0032)
X89	Level of Motivation	0.011	—0.033	27.393	—0.010	—0.015	—0.069	26.948	0.037	—0.0012
		(3.621)			(0.053)	(3.683)			(0.906)	(0.0220)
X90	Job Satisfaction	0.040	—0.032	26.164	0.029	0.058	—0.065	33.426	—0.369	0.0054
		(3.618)			(0.132)	(3.677)			(1.754)	(0.0235)
X91	Absence from Duty	0.056	—0.030	27.597	—0.025	0.075	—0.063	28.371	—0.127	0.0027
		(3.616)			(0.097)	(3.673)			(0.304)	(0.0102)
X92	Anxiety—Stress	0.358	0.099	18.189	0.263	0.402	0.104	41.168	1.208	0.0236
		(3.381)			(0.025)	(3.372)			(0.370)	(0.0219)
X93	Intra—Organizational Conflict	0.231	0.022	31.565	—0.089	0.284	0.017	17.404	0.480	—0.0055
		(3.523)			(0.068)	(3.53)0			(0.618)	(0.0060)
	RESOURCES									
	CLIENTS RESOURCE NEED									
X94	Clients Input Need	0.307	0.064	29.358	—0.056	0.310	0.034	—0.015	—0.005	
		(3.447)			(0.032)	(3.502)			(0.156)	(0.0018)
X95	Clients Credit Need	0.022	—0.033	27.350	—0.008	0.051	—0.066	27.988	0.001	—0.0720
		(3.6.21)			(0.078)	(3.678)			(0.005)	(0.2660)
	Institutional Resource Need									
X96	Manpower Need Ful—filment	0.394	0.127	15.177	0.13*6	0.428*	0.27	66.013	—0.006	0.0070
		(3.329)			(0.058)	(3.328)			(1.198)	(0.0069)
X97	Travel Allowance	0.154	—0.009	26.446	0.026	0.158	-0.042	26.171	—0.0002	0.0333)
		(3.578)			(0.031)	(3.637)			(0.0010)	(0.1036)
X98	Logistic Support	0.244	0.028	26.332	0.024	0.318	0.039	25.238	—0.005	0.0910
		(3.512)			(0.018)	(3.493)			(0.0004)	(0.0600)
X99	Contingent Expense	0.373*	0.111	25.503	0.035*	0.533*	0.235	22.319	0.168**	0.0009
		(3.360)			(0.015)	(3.116)			(0.057)	(0.0004)
X100	Expense Per Client	0.447**	0.173	25.945	0.012**	0.450*	0.147	26.108	0.0001	0.0077
		(3.240)			(0.005)	(3.290)			(0.0000)	(0.0148)

CRISIS OF PROFESSIONAL MANAGEMENT IN BANGLADESH : A STUDY OF ITS CLASSICAL FEATURES AND CONTEMPORARY CHALLENGES

KHONDOKER BAZLUL HOQUE*

1. INTRODUCTION

Why is it that one country has a higher per capita income than another? Why is it that only few countries of the world have per capita income more than 2000 U.S. dollar while the vast majority of countries have per capita income less than 500 U.S. dollar? Why is it that only 20% of the world's population living in North America and Europe are enjoying 70% of the World's Wealth, while 70% of the World's population living in Asia and Africa are enjoying only 20% of the World's Wealth?

Such a phenomenal difference can hardly be accounted for in such terms as natural resources. There are instances that abundant natural resources failed to ensure higher economic development, on the other hand, limited natural resources have transformed an underdeveloped economy to one of the most rich and advanced country of the world. The whole of Arab world which is rich in natural resources, but yet not considered as developed but with minimum natural resources Japan has already emerged as an effective industrial power while Korea, Hong King, Taiwan, and Singapore are emerging.

Now the question is, what is the secret of such a phenomenon? The obvious answer is management. R.N Farmer and B.M Richman, two prominent scholars of comparative management have said, we view management as the single most critical social activity in connection with economic progress. Physical, financial and manpower resources are by themselves but passive agents; they must be effectively combined and co-ordinated through sound, active management, if a country is to experience a substantial level of economic growth and development. A country may have sizeable natural and manpower resources including plentiful skilled labour and substantial capital but still be relatively poor because very few competent manager are available to put these resources efficiently

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together in production and distribution of useful goods and services [1;1]. Thus management is decidedly a key factor in economic development and in fact economic development is no more the function of natural resources, capital and technology available in a society, it is rather the function of natural resources, capital, technology and management competence of that society [2;32-3].

In our context, the role of management is equally and to some more prominently relevant. The underdevelopment of the country is largely due to poor and inefficient management. It is true that Bangladesh is a resources poor country. She is also poor in capital and technology. But in the past we mobilised enough capital, technology and other imputs of development as foreign aid. But our success is very limited. This is because of our inefficient management. To quote Professor M. Habibullah who in his study "Industrial Efficiency and Profitability in Bangladesh" observed that "Managerial incompetance is the single most formidable impediment to high level efficiency and profit performance of our industrial enterprises [3; 108].

Similar view was also expressed by Mohiuddin Alamgir in his article "Resources for Development". He emphasised on competent management cadre for attaining desired development in Bangladesh [4;3]. Indeed the economy of Bangladesh is more undermanaged than it is underdeveloped.

It should be noted that, here, management obviously refers to professional management. It refers to a class of people who are formally assigned with the job of managing the organisation/the economy. A professional manager is an individual enjoying managerial position and has education, knowledge, skill, information and training in the field of management.

It has been alleged that in Bangladesh very little efforts have been put to develop this professional management. It is also said that the role of professional management is often underestimated in Bangladesh. Historically our management system suffers from lot of limitations and weaknesses. The theories being followed, the techniques being applied and the very philosophy being pursued are often questionable. But what is most alarming is that in recent time some obstacles have been created in its way of normal funcitoning and independent decision making. In fact our professional managers are now confronting some challenges which have virtually questioned the very existence of our professional managers in the economy of the country.

The present paper is an attempt to conceptualize professional management and to identify its status in Bangladesh, to assess its role in

the development process of a country particularly in Bangladesh, to identify its classical features and contemporary challenges and finally to suggest some measures in order to strengthen the professional managers so that they can perform the responsibilities with which they are assigned with and can contribute more effectively towards the development of the country.

II. PROFESSIONAL MANAGEMENT DEFINED AND ITS STATUS IN BANGLADESH

Does Management constitute a profession? This is a question on which general consensus has not yet been reached. The debate centres around one's definition of the terms "Profession". Some individuals interpret the word profession' to be virtually synonymous with the term 'occupation' and feel that management is unquestionably a profession. The other interpretation of the term 'profession' requires that any occupation or career must meet certain standards before it rightfully can be labelled as profession. The standards are: 1) the establishment of a body of knowledge; 2) formalized training and educational programmes; 3) the formation of societies and representative professional organizations; 4) creation of an ethical code of conduct; 5) the charging of fees based on service but service remaining in priority ahead of the quest for economic reward; 6) the existence of a central licensing and accreditation body.

Today, almost everybody agrees that in management there is the presence of a specialised body of knowledge, to some extent there exists formalized training and educational programmes for managers. Again there exist many societies and professional organisations in line with management profession. Some of the professional management societies are also beginning to establish ethical codes. Further, managers also charge fees either in-terms of the wages that they require in order to remain with any organization or less commonly, in the form of fees charged directly to an organization by a management consultant for services rendered. But there is no prescribed qualification for entering into this profession and for remaining in practice. There is no examination to act as manager as it is needed for a professional engineer, accountant, doctor or lawyer. No formal centralized licensing body for managers exists. So management is not a profession like engineering, medicine, law or accounting.

In the developed countries, like U.S.A. and U.K. management has been acclaimed as a profession because of the presence of several ingredients of a profession namely widespread expansion and diffusion of systematised and well organised knowlege in the area of management, emergence of expert management consultants, framing of rules and codes of moral conduct to be followed by the managers and establishment of several management association and bodies. But even after all these management is not a profession anywhere in the world in the strict sense of

the term. There is however a tendency towards that end. It should however be noted that although in the strict sense of the term management is not a profession but the manager undoubtedly does some professinal jobs.

In Bangladesh obviously management is not a profession in the above sense. In this essay by professional management we also do not refer to such strict connotation. By professional manager we would only mean that the individual is presently engaged in a managerial position and that he/she has higher education, knowledge, information and training in the field of management.

III. SOME BASIC FACTS ABOUT BANGLADESH AND THEIR RELEVANCE TO MANAGEMENT

Broadly speaking Management has two distinct areas; viz. a) theories and principles and b) approaches and practices. The first is more or less universal in application but the second being environment dependent has lot of local variations. Political conditions, economic system, the state of education and the social conditions constitute this environment. So for a meaningful study of management, we must know the following politico-economic and socio-cultural facts about Bangladesh.

a. Agriculture Dominated Economy

Like most of the developing countries, the economy of Bangladesh is basically agrarian. There are however some deliberate attempts to make a breakthrough. To make the economic self-sustained and to improve the standard of living of its people, some attempts have been made to industrialize the country. But the outcome is not in any way worth mentioning. Thus the economy of the country although theoritically is in transition from agrarian to an industrial stage, but practically has still remained agrarion.

b. No Planned System of Economy

As a system of economy, both capitalism and socialism are quite known to us. As a third alternative a mixed form of economy is sometimes thought of. In Bangladesh in the truest sense of the term no such system exists. There is in fact no deliberate and rigorous attempt to build any particular system of economy in the country. What now exists in Bangladesh is a state of confusion about the system to be followed.

c. No Political Stability

In about only 3 years time, the government of Sheikh Mujib was over-thrown. Again, the government of Ziaur Rahman could not rule the country for more than 6 years. Nothing great in terms of political wishes could be materialised in such a short time. The present government is in power for about 8 years. This may appear to be somewhat stable. But what now exists may be called the stability of the government, and not the stability of

political system, because the present government does not have any clear cut political commitment. Moreover in Bangladesh there is a continuous fight between politicians and army for power. In such circumstances no concerete, comprehensive and fruitful political decision can be made effective.

d. Mass Illiteracy and Ineffective Education System

Bangladesh suffers from very high rate of illiteracy. The present rate of literacy is only around 25%. Further, the education system now exists in the country is also not adequately equipped to turn out the strategic human resources in the quantity and quality that the country needs. The existing education policy is not profession biased and thus management education does not get any priority. Whatever small scope is there for management education, the same is not practical biased. Again training facilities for the working executives is also very limited here. Besides research on any aspects of management is also not encouraged in Bangladesh.

e. Unfavourable Social Attitude Towards Management Profession

Management is a challenging and intellectually demanding activity. So, to be a good manager one needs to be reasonably brilliant. But a brilliant man will be attracted only if the society shows high respect for the profession and gives necessary financial motivation. But unfortunately management does not enjoy a respectable position in our society. A manager's status is much behind bureaucrats, engineers, doctors, university teachers and such other professions.

IV. CLASSICAL FEATURES OF MANAGEMENT IN BANGLADESH

The region now comprises Bangladesh is historically poor in skilled and competent manpower. Centuries of colonical rule did not in its own interest encourage the growth of a significant industrial or commercial base in the country. Most of the commerce and industry was in the hands of foreigners particularly Britishers. The creation of Pakistan in 1947 did not make any significant change in the ownership and management positions of the Bengalee in trade, commerce and industry of the country. Most of the trade, commerce and industry remained in the hands of the West Pakistanies (Non Bengalees) who for reasons very much understandable were not willing to develop indigenous talent. Independence of the country opened a genuine hope for the development of trade, commerce and industry in the country. This however made it essential to develop skilled manpower particularly managers the shortage of which was felt very acute in early days of newly liberated Bangladesh. The problem was further intensified by the massive outflow of the Non-Bengalee managerial personnel immediately after liberation. The overall situation regarding management vacuum in the country has been studied by both local and international experts. The main conclusion of their report is that

Bangladesh suffers from competent managers both in terms of quantity and quality. It may strike surprising but remains a fact that in an unemploymenrt ridden country like Bangladesh where a significant proportion of educated masses do not find job, but appropriate personnel for specific jobs are scarce to find. This is largely because there is absence of any proper manpower planning in the country. But unplanned and uncoordinated export of manpower from the country is no less an important cause and thus it has been observed that, "there is excess of manpower with shortage of it for nation's service" [5]. Again the frequency of cases where people trained in one area but employed entirely in different areas is not less. The 1976-77 BMDC-ILO assisted survey of management training needs estimated that industrial enterprises in the public sector alone employed over 16,000 management personnel of whom 86% have had no post experience training and only 1.5% have degree or professional qualification that is directly relevant of management [6;360]. Further in another study conducted by BMDC in 1978 (A Survey of Training Needs of Public Enterprises Management in Bangladesh) it has been revealed, that there were about 23,226 managerial personnel currently employed in the public sector enterprises who require to be trained [7;1].

Unfortunately in recent past no comprehenseve study has been made in this area. In the absence of such a study , it is difficult to know the exact situation but it can be said safely that in 1990 the situation has not improved, rather it has deteriorated. However, now let us have a look to the following important features of management in Bangladesh.

1. Even after so much of rise and fall of public enterprises in Bangladesh, the study of management in Bangladesh is still a study of public enterprise management. But we must confess that their is either total absence or very poorly defined social and economic goals of our public enterprises. The methods of their performance evaluation are also not well defined.

2. In the public sector their exists 3 tier management viz the Ministry, the Corporation and the Enterprise. It has been observed that there is absence of proper coordination and co-operation amongst these tiers. The most important complaint is the absence of appropriate division and distribution of powers and responsibilities amongst these authoirties. It is oberved that in public sector sometimes executives particularly higher level executives enjoy more powers than responsibilities.

3. In the private sector a separate class of managers does not virtually exist in Bangladesh. Most of the managers are owner managers. Here ownership and management are undifferentiated and overlapping.

4. Management By Results (MBR), Management By Objectives (MBO), Management By Exceptions (MBE) are some of the popular techniques of modern management which may help substantially to increase managerial efficiency. Besides, Operations Research, Linear Programming and the use of computers may also help in improving management efficiency. But in the business houses of Bangladesh the use of above techniques and tools are either totally absent or there is very limited use of these.

5. In Bangladesh, in managing the affairs of the business sometimes informal approach found to be more effective than formal approach. Both as an alternative and also as supplementary to formal system, the effectiveness of informal system is appreciable, but what sometimes goes wrong with it is that in the name of informality manipulation is done.

6. Theory X which assumes the absence of any self-imposed responsibility on the part of subordinates is found to be more operative in the business houses of Bangladesh. Here people normally does not like to work. Pressure and pursuasion are only found to be effective as instruments to get things done.

7. Decentralization of power is a very popular slogan in Bangladesh. Almost every body including the top executives talk about it. But what we observe is that our managers are philosophically against the freedom of subordinates. They like to retain control over the subordinates and thus what is actually done is decentralization of activities or responsibilities and centralization of power. Professor Muzaffer Ahmad observed that "the prevailing traditional pattern of behaviour of our managers manifested a strong tendency to resist delegation (a means of decentralization) and a market, proclivity toward bureaucratic, centralized and might patternalistic managent [8;178]. What might favours this unwanted situation is the unconditional loyalty to chief executive and dependence proneness of our subordinates. Thus it has been rightly observed by Dr. Mawdudur Rahman, there is a marked tendency of delegation upward instead of delegation downward [9;343].

8. In decision making process most of our managers are found to be autocratic. The talk of democratic management is in most cases a mere slogan. To avoid public criticism and to keep subordinates apparently happy they (managers) talk about it. Our managers hold very poor opinion about the ability of their subordinates in taking mangerial decision.

9. Although it is more or less true that democratic management is absent in Bangladesh, but in some cases, superiors make consultations with the subordinates, but the outcome is not always ecouraging. It appears that here people like to be consulted but to reach a consensus is a rarity.

10. Security of job is an important consideration to employees. But unfortunately in most cases it goes against the interest of the employer. It is interesting that as soon as an employee becomes permanent he loses all interests to work sincerly.

11. Here most people works with short term perspectives. To our managers present is more valued than past and future, although in reality it is not always so. Our past achievements and fututе hopes may be sometimes more significant and valuable than present achievements and as such in some situations the present may be sacrificied. But our managers hardly believe this.

12. Managers are in fact the leaders in the field of business and to be successful in their jobs they must possess relevant knowledge and skill, intelligence, integrity, drive, good health and above all a human touch. But all managers do not always possess all these qualities. In our case, most of the managers do not possess these qualities.

13. Managers working in various sectors of the economy are key men for the developmet of a country. They are suppsosed to be talented people. But these talented people will neither be attracted toward this profession, nor they will work hard unless adequate material and non-material incentives are made available to them. Unfortunately we do not have any mechanism to attract and retain the brilliant people in our productive sector by awarding them extra-ordinary incentives in terms of emoluments and advancement opportunities. We hardly make any distinction between people working in the traditional government functionaries and people working in the productive sector.

14. In the developing countries, in general, there is no sound legal framework for management profession. In Bangladesh virtually it is absent. Wherever its presence is felt that again is totally in consistent and in compatible with the development of management as a profession.

15. In our society individual's excellence is in most cases properly valued and rewarded while collective wisdom and team work is hardly recognised. In business enterprises some time the individual's infleunce is felt more than the contribution of system.

V. THE CONTEMPORARY CHALLENGES

The situations narrated below is more or less a common picture of all developing nations of the world. In Bangladesh these are also not altogether new phenomena. What is however, true is that these problems are new in its scope and magnitude. We feel that in recent time these problems have come up really as challenges before professional management.

1. Public Sector Vs Private Sector Debate

The structural arrangement of the economy particularly in terms of public and private sector apportionment is of great relevance for management. Although management is equally important both in public and private sector but the orientation and the very philosophy of management in one sector is somewhat different from the other sector. Thus a clear cut decision about the sectoral priority in the economy of the country is helpful for the growth and functioning of management. But we do not have any such dicision yet.

On 26th of March 1972, the government through the Presidential Order No. 27 Nationalised all units in Jute, Cotton and Sugar industries and thereby brought 381, industrial enterprises under Government control. The Abandon Properties Ordinance of January 2nd 1972, brought 725, industrial enterprises individually with a book value of Tk. 1.5 million or above under public ownership. With Nationalisation and bringing the abandon properties under government control, 89% of all modern industrial fixed assets came to the public sector [10;307]. Thus, the share of private sector came down from 64% in 1969-70 to only about 10% [11;407].

In 1976 some public enterprises in Cigarettee Manufacturing, Tanneries, Matches, and Pharmaceuticals were disinvested to the private sector. Further, with the military take-over of the government in 1982, a new phase was ushered in the country which was marked by some important changes in the policy towards public enterprises. The New Industrial Policy of 1982 decided that public enterprises of commerical nature be managed commercially. The policy further decided to give back the Bangladeshi owned jute and textile mills to their owners and entrusting management of big and sick units to outside agencies and offered upto 49% shares of certain enterprises under some sector corporations. In accordance with the above deisions dismantling of public enterprises started in 1982 and a sizeable number of public enterprises have been transferred to the private sector. The process of privatisation is continuing and a shift of emphasis from pbulic to private sector is thus apparent in our economy. This may however be more clearly seen from the following table.

Table-1: The share of Public and Private Sectors in Total Planned Outlay under Different Plans.

Plan and Period	Planned Outlay				Total
	Public Sector		Private Sector		
	Amount	%	Amount	%	
	(in Million Taka)		(in Million Taka)		(lin Million Taka)
First Five Year Plan (1973-78)	39,520	89	5030	11	44,550
Two Year Plan (1978-80)	32,610	84	6000	16	38,610
Second five Year Plan (1980-85)	111,000	65	61000	35	172,000
Third Five Year Plan (1985-90)	250,000	65	136000	35	386,000
Fourth Five Year Plan (1990-95)	407,300	60	265000	40	672300

Source: Relevant Five Year Plans, Planning Commission, Government of Bangladesh

It is however interesting that although there is a shift of emphasis from public to private sector but this has not improved the productivity and overall profitabiliy in the country. The contribution of industry towards G. D P, has not also changed much. It was 8.2% in 1969-70, 10.4% in 1974-75, and 9.8% in 1985-86 [12;560]. What is however more interesting and significant is that after liberation what we called socialism in the area of industrial ownership was in fact nationalisation and taking over of the industrial asset and properties of the capitalists particularly of the Non-Bengalees, and now in the name of free economy what we have been doing is handing over the public properties to individuals – the so-called businessmen, at a very cheaper prices. Truely speaking we have been developing a government controlled private sector where some capitalists are being patronised to become richer and where there is a private arrangement to distribute commission amongst political and bureaucratic elites of the country.

Where does a professional manager stand in such a condition? What a professional manager can do in this push and pull situation?

2. Excessive Dependence on Foreign-Aid

The economy of Bangladesh is heavily dependent on foreign aid. She has received a total disbursement of U S$18,500 million during the last 18 years beginning form 1971-72 till 1988-89 [13]. Professor Rehman Sobhan a renowned economist of the country in his famous work "The crisis of External Dependence – The political Economy of Foreign Aid to

Bangladesh" gave a comprehensive picture of our dependence particularly in the areas of ADP, investment, development financing and trade. He observed that aid has financed virtually 100% of the ADP between 1983/84-1888/89. The usual range of financing fixed investment was between 65-85%. In some years aid has financed even more than 100% of our fixed investment. A part from the investment gap aid has financed a large part of the development budget. The share of aid in financing development budget has been in the region of 61-65% in early seventies and in the region of 78-79% in late seventies and early eithties. During the same period aid has financed 60%-75 of our current imports [14;10]. In 1990 the picture is of course no better, rather in certain areas the magnitude of dependence has rather increased.

Now a country as dependent on foreign aid as Bangladesh remains highly vulnerable to pressure from aid donors to influence its external alignments and the course of its domestic policy. One of the principal areas where pressure from the donors comes to be exercised relates to the formulation and conduct of economic policy. In case of Bangladesh, donors have in fact tended to freely express their views on the suitability of various policies enacted by the government. Indeed there is no area in the development field where donors do not choose to exercise a say. Professor Rehman Sobhan observed, "the donors have attempted to influence policies on state owndership, the role of the private sector, the monetary and fiscal policies, pricing policy, distribution policy, the use of administrative controls, the structure of development expenditure, the pattern of development administration and a variety of the operational, policy oriented and ideological issues [14;146].

The above truth has aslo been confirmed by politicians (both opposition and ruling) from time to time. Only a few days back, Barrister Moudud Ahmed, the Vice Priesident of the country said in a Seminar that sometimes we have to accept 50 conditions in a $5 million aid deal [15].

When this is the economic scenario of the country, the state of management can easily be inagined. Professional management must suffer in such a situation. Some people may however argue that foreign aid does not always affects the development of local management. Rather, sometime it can help its development there can be occasions when management development programmes particularly education and training programmes may be implemented with the help of foreign aid. Besides, consultancy services which is an important instrument of management of development is rather encouraged by foreign aid. Further, project aid (nontied) and commodity aid sometimes directly help the development of local managers. But we must understand that after all, the donors would not like to see that we have an independent and effective management system, in the same way as they do not like to see our economy

indepedent. Thus the development of management, the normal functioning of professional management compatible with country's political ideologies and economic objectives, is not a reality in such a state of economic dependence.

3. Importation of Management Know-how

Management is a key factor in economic development and today people everywhere in the world believe that economic development is no more the function of only natural resources, capital and technology available in a particular society, it is rather the function of natural resources, capital technology and management competence of that society. But it is unfortunate, that all countries of the world are not equally rich in this resource. The contemporary body of knowdedge of management theories and practices has been developed mainly in a very small group of highly industrialised countries which include USA, Japan and few European countries.

Now, there is a tendency on the part of those less fortunate coutries to import management know-how from these more fortunate coutries. It is however true that transfer of management know-how is desirable, and sometime appears to be only alternative particularly when local management traditions is absent and where there is dearth of sufficient capabilities to quickly develop and apply original management systems reflecting country's needs and conditions. But we must remember that unrestricted importation of management know-how may be dangerous for the economy of the country. Peter Lanter a famous scholar on comparative management conducted a study on the problems and prospects of applying advanced management process in a developing economy and he came up with the conclusion that environmental condition act as impeding constraints and made the application of advanced management process difficult in developing economies [16]. In fact management is largely culture bound and thus any attempt to develop management through importation without reference to culture is bound to be a failure. But it is often alleged that we have been doing it for years together almost without any reservation and restriction. An effective local management with professional flavour cannot grow in such a situation.

It may be relevant to mention here that `Ringi System' of decision making, life long employment and pay and promotion on the basis of length of service in Japan may not be equally effective in Bangladesh rather we apprehend that this may further deteriorate our efficiency of management. Again pay and promotion mainly on the basis of ability without any reference to seniority in America may not always yield good result in Bangladesh rather it may give rise commotions in the organization, taxing a lot on the efficiency of management.

4. Failure of Trade of Union Leaders in the Discharge of Their Responsibilities.

A harmonious industrial relations is a sine qua non for higher production and greater productivity in the industries and better welfare of the working class and to ensure this trade unions particularly their leaders have a significant role to play. Traditionally the underlying objective of any trade union movement is to protect and enhance the welfare of workers and for historical reasons trade unions adopt a confrontational aproach in dealing with employers. This confrontational approach might be one of the means to achieve workers, demand, but this should not be treated always as the most effective and the only instrument. Labour movement by itself does not generate economic growth and create jobs, which are so fundamental and without which unions will not be able to protect and enhance the welfare of the workers in the long run. Thus trade union leaders have a critical role to play in the industrial set up and they are supposed to be very much responsible. They are to match the needs and demands of the workers with the interests of the employers/owners and with the objectives of the organisations.

Unfortunately with a very small exceptions (excepting in Japan, Singapore and South Korea) trade union leaders are found playing irresponsible roles in many cases almost everywhere in the world. In the United States and in Europe unions have been confronted with the threat of job losses as a result of the economic recession, technological advancement and foreign competition. They have often been criticized as being mainly responsible for causing wages to rise beyond productivity. In our country it is often said that our trade union leaders are not playing any responsible role in the discharge of their duties. They are guided by more political motives than by economic considerations. They are more interested about their personal welfare than by the welfare of the workers. In a recent sutdy it has been observed that about 78% trade union leaders have confessed that achievement of political objectives rather than ideological considerations were responsible for the formation of unions [17;86]. Organisation's interest is also secondary to them. They can even do harm to the organisation for their own interest. To our union leaders workers, welfare is thus only a secondary issue. They hardly try to make the workers understand that they (the workers) have a stake in the organisation where they are now engaged. Besides our trade union leaders are also subject to manipulation. Very often government manipulates the union leaders either through bribery or by coercion and make them work against the interests of the general workers.

If the number of industrial disputes is considered as an indicator of industrial relations and the success of trade union leaders is measured by minimization of such disputes, it is obvious that our leaders have failed

miserably in this respect. According to a study conducted in 1985 on four South Asian counties, viz. Bangladesh, India, Pakistan and SriLanka, it has been found that there is a downward trend of industrial unrest in India, Pakistan and Sri Lanka but there is an upward trend in Bangladesh [18;36].

When the union leaders are so selfish and get manipulated so easily how the managers can do their jobs effectively? Since our trade union leaders are selfish and irresponsible so the job of professional managers are bound to suffer in Bangladesh.

5. Smuggling

Smuggling refers to that part of a country's foreign trade sector which is illegal in nature and which is carried out clandestinely to evade both customs rules and tax enforcing authorities. Since these are unofficial and off the books transactions they remain unrecorded in a country's international trade statistics. Thus smuggling by definition defies any precise estimation. What can be there is only some sort of guesstimates.

Some Economists view that smuggling is not always bad for the economy. If certain protected industries are basically against country's comparative advantage and lead to a low or negative value added, smuggling contributes to social welfare by restricting the growth of such activities [19;7]. Similarly smuggling restricts a government's ability to interfere with consumers sovereignty and can lead to increase in social welfare through the substitution of smuggled imports for high cost domestic products [20]. Thus smuggling also generates some useful pressure for qualitative improvements and can crub the tendency to reap excess profit margins.

In our subcontinent smuggling is not a new phenomenon. From the very early days of India's partition smuggling between Pakistan and India bacame a part and parcel of economic life of these two countries. But after the liberation of Bangladesh the volume of smuggling between India and Bangladesh has reached to a level which is really alarming particularly for the small economy of Bangladesh. According to an estimate the current annual average smuggling operations involve about Tk. 2740/-crores (Data Collected from NBR) which is more than one third of the country's total import and almost equal to total exports of the country. It is however extremely significant that in Bangladesh a trader makes more money than a manufacturer and a smuggler makes more than a trader and he does it at lower risk, quick turn over and without labour problem. What is interesting to note here is that smuggling does not involve much risk in Bangladesh. The usual risks of being prosecuted for doing a criminal offence, confiscation of goods and the forced loss owing to dumping to avoid detection are virtually absent. The smugglers manages all these by payments of bribes.

Thus, the absolute figure indicating volume of smuggling, the economics of smuggling (as conceived by our people) and the way smuggling is managed in Bangladesh seriously affect the growth and functioning of professional managment in the country.

6. Corruption

Professional management refers along with other things a fair play in management. But in Bangladesh there is sheer absence of this fair paly. Here people say that we do not practice management we only mainpulte; we only manage things. This may sounds too much but it is beyond doubt that there is corruption in our society and here the role of professional managers is very insignificant. Professor A. Farouk in his book "Changes in the Economy of Bangladesh" has observed that over the last half of centruy one thing has continuously gone down in Bangladesh territory: the ability of the government to manage its business, and corruption in appointment, transfer, training and promotion is belived to be the single most important factor responsible foe such state of affairs [21;49]. He has also observed that here officers prefer to have discretionary power rather than to follow the rules, so that they can do favour rather than justice to their duties [21;51]. Public sentiment is aptly expressed in an editorial comments "today neglect of duty and lack of discipline and accountability is rapidly eating into administrative machinery and has already made its structures weak and brittle. A small minority of sincere, efficient, hardworking employees are not match for the large number of senior bosses in the administration who are totally corrupt" [22]. What is however most alarming is that here people feels that corruption is not always bad rather it sometimes helps in attaining success in management. Here people have a feeling that corruption is inevitable for the success nay for the survival of business enterprieses in Bangladesh.

7. Rise of a New Class of Businessmen Through Some Unfair Patronisation and the Appointments for Non Professionals in Higher Positions

For the rise and success of entrepreneurs and the effective functioning of management, appropriate economic policy, proper political wisdom and strong state support is a must. But there must be fairness in the arrangement of this support. It is alleged that in Bangladesh business as a sector is almost totally left to unfair deals of powerful people of our society. There is no area of business which is beyond the influcnece of political powers, bureaucratic (civil and military) and social linkages. In Bangladesh one cannot conceive of embarking upon a business venture particularly a large scale operation and its successful running without any help from political and bureaucratic source. In recent time in addition to such powers, physical power, (mastani) has also been added. However this power is mobilised in two ways viz. through bribery or through partnership. The

businessmen bribe politicians and bureaucrats to take advantage of the discretionary powers for policy actions and implementation of decisions. There is a hunch that in the case of business, bribery currently amount to about 10% of total profits [23;34]. What is however more interesting is that the politicians and the bureaucrats having connections with the businessmen are not always outsiders, they are in some cases partners of the businesses. The cases of full onwnership of business houses by leading politicians, ex-civil servants and retired military personnel are also quite large in number in the country. In fact a separate class of businessmen is difficult to find out in Bangladesh.

Besides, the appointments of non–professional; particularly of military personnel in high positions in various public enterprises has also vitiated the situation. At present in 3 corporations out of 7, the chief executives are from military services. Organisations like IWTA, Tea Board, WASA etc. are also now headed by non–professionals. It is not only the case of top most positions, but many of the senior positions in various public enterprises are being occupied by non professionals. The situation in the private sector is however no better. It is said that most of our leading businessmen appoint only the near and dear of the powerful elites without enough reference to their suitablity for the position, with a hope to get some favour now or in future to avoid disfavour.

Now under such circumstances would it be fair to expect from our professional managers doing their jobs efficiently and effectively? Our managers are, often found to raise hue and cry and they say that their jobs (taking managerial decisions) have been taken over and their wisdom and skills have been challenged by politicians and bureaucrats (civil and military). The professional managers are possibly right in their observations.

VI CONCLUDING REMARKS

It appears from the above discussion that in the process of economic development of a country management plays a much more important role than natural resources, capital and technology. Here management however refers to professional management which in the strict sense of the term does not prevail anywhere in the world, although in the developed world it is partly professional and in our country, as it stands today is almost totally non–professional although the job being performed by our managers is professional. However, we feel that management should be professional at least in the sense that people enjoying management position should have at least some minimum education and training in the relevant field, they should follow certain norms of the discipline, and above all they should be independent in taking professional decisions.

Unfortunately the career managers in Bangladesh where its politico-

economic conditions and socio-cultural environment is unfavourable for the development of management and which has been suffering from some classical problems of management perfections since long are now facing some new challenges. These challenges include such problems as, a debate on priority fixation for public and private sector, excessive foreign aid dependence, importation of management know-how, failures of trade union leaders, too much smuggling and corruption and the rise of a new class of businessmen through unfair patronisation. These challeges are so formidable that a qualitative change (negative change) has already been brought about in the profession of management in our country. In fact today success in management in Bangladesh depends mostly on the extent of bribes and the ability to mobilise powers. Such powers include political, bureaucratic (civil and military) and muscle power. Today a separate class of businessmen (not backed by any such power) is in fact a rarity in Bangladesh.

Professional management cannot grow in such circumstances. What however concerns us most is our national prosperity. We feel that unless genuine businessmen are encouraged to grow and the professional managers are allowed to function independently our national development will suffer. So, we feel that certain measures should be taken immediately in this context. Such mesures as, a clear cut decision about development priority of the two sectors of the economy, (public and private), non-acceptance of those foreign aid which hampers national interests, restricted import of managenent know-how, electing more responsible people as union leaders, checking smuggling and corruption with strong hand and above all taking rigorous steps if necessary punitive measures to stop all kinds of pressures and partnerships in the area of management, may be helpful. We must remember that in case we fail to do it we may have to face a future much more gloomier, than at present and ever before.

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WOMEN IN DEVELOPMENT PLANNING IN BANGLADESH : A REVIEW OF APPROACHES, POLICIES, AND STRATEGIES IN THE DRAFT FOURTH FIVE YEAR PLAN

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INTRODUCTION

The Third Five Year Plan of Bangladesh came to a close in June 1990 and the Fourth Five Year Plan (1990-95) began on July 1,1990. However, the Plan is yet to be finalised. In line with the major objectives of the perspective plan (1990-2010), of which the new plan is said to be an integral part, (a) growth in national income, (b) alleviation of poverty through generation of employment opportunities, and (c) increased self-reliance have been identified as the main objectives of the Fourth Five Year Plan [6].

The two important strategies identified to achieve these plan objectives are:

(a) development of human resources with emphasis on generation of employment opportunities;
(b) integration of sector-based plans and programmes with those of the Socio-economic groups [6].

It is encouraging to note that, for the first time in the history of development planning in Bangladesh, an attempt has been made to bring women into the mainstream of planned economic activities. It is a major break with the past planning exercises in this country. The Draft Fourth Five Year Plan states, "Experiences have indicated that, in group-based planning, women play a creative role in such areas as generation of employment, income, savings, investment as well as in family planning, literacy, tree plantation, health, and sanitation at the local level"

Therefore, in FFYP, special programmes would be undertaken for women on a priority basis in order to integrate them in the overall planning process. For the first time, integration of women in the overall planning

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The views expressed in this paper are entirely authors own and in on way replect those of the ministry.

process has been boldly mentioned in the plan document as one of the major policy objectives.

But strangely enough, although women's issues and concerns have found a prominent place in the macro framework of the Fourth Plan, specific objectives and special strategies, needed to implement such a policy, are absent in the draft plan.

The purpose of this study is to examine whether the policy of mainstreaming women is based on a sound rationale or not, and what measures have been suggested in the draft plan to operationalize such a policy.

Relavant information has been collected from the Draft Fourth Five Year Plan (1990-95) prepared by the Bangladesh Planning Commission. The outline of the Fourth Five Year Plan (1990-95), prepared by Dr. Sheikh Moksud Ali, Member, Bangladesh Planning Commission, the First, Second and Third Five Year Plans of Bangladesh, relevant chapters from the constitution of Bangladesh and various studies on women of Bangladesh.

This paper has been, divided into 6 Sections. Section 2 discusses the implications of the planning and development from women's stand-point. Section 3 discusses the rationale for mainstreaming women in national plans. Section 4 analyses the objectives and stretegies of FFYP with reference to mainstreaming of women. Section 5 presents a suggested framework for women's integration in the mainstream of planned development activities. Conclusion and recommendations are presented in Section 6.

PLANNING AND DEVELOPMENT : THE WOMEN'S STAND-POINT

Planning implies deliberate and conscious attempt to mainpulate the existing state of things in the desired direction. Planning is a matter of conscious national choice of the several alternative paths of development. To quote Karl Marx in this context, "The Philosophers have only interpreted the world in different ways: The point, however is to change it."

Planning exercises, therefore, are not made to maintain 'Statusquo', but to change the present situation for a more desirable one.

In a situation of wide-spread poverty, scarcity of resources and a desperate need for improving the quality of life of millions of people, planning is a must for development. The meaning of development should, therefore, be very clear to all of us.

Conventionally, economic development has been defined in terms of GNP growth per capita. But it has also been generally recognised that distributive justice as much as the GNP growth per capita is an integral part of such development. But this recognition alone does not make women equal beneficiaries of the development process with men. Nor does it automatically bring women in the mainstream of development activities.

The assumption that an increase in the household income benefits members of both sexes in a household unit is wrong. Several studies have confirmed that, more often than not, men and women have opposing interests in the same household unit.

Given the unequal relationship between the sexes both in the family and society, the development policies and programmes have differential impact upon men and women. None of the policy areas is, therefore, gender neutral.

The issue of women's integration in national development has to be addressed specificaly and appropriate policies and programmes have to be formulated at different levels, keeping in mind the gender specifics, so that women can play their role as both agent and beneficiaries of development.

It is also necessary for the planners to look at women's issues from a national perspective. Women's issues and concerns can not be isolated from national goals and development strategies. There is a great need to treat women's issues as an integral part of national objectives. Failure of our past national development plans to conceptualise women's issues as an integral part of national objectives contributed, to a great extent, to the perpetuation of the 'Statusquo', (i.e. the enequal status of women in every sphere of our lives).

The objectives and stretegies of our past development plans clearly reflect the ideological orientation of the planners and policy makers who focus on women as passive consumers, not as active agents of development. This notion has been proved totally wrong. Women are not only consuming goods and services, they are also contributing substantially to the national output. There is now need for adopting a new approach to Women-in-development (WID) issues, breaking away from the traditional notion of treating them as social welfare problems.

The draft FFYP, by articulating that women should be brought into the mainstream of economic development so that they can increase their

contributions they are already making in such areas as income, savings, investment etc., has recognised the need for shifting away from the social welfare rationale to economic rationale.

It has been rightly argued that the issue of integration of women in national development can be better addressed by adopting an economic rather than a social welfare approach which has failed to recognise women's actual contribution to national production, hindering efficient resources allocation decisions.

However, bringing women from the periphery to the mainstream should not be evaluated only on the basis of increased household incomes and increased productivity, but also in terms of women's real needs as perceived by them.

THE RATIONALE FOR MAINSTREAMING WOMEN IN DEVELOPMENT PLANS

There are several reasons for lifting women of Bangladesh from the periphery and bringing them in the mainstream development activities. Mainstreaming of women which necessitates the inclusion of women's issues and concerns in the Marco Economic Framework of the national development plans are justified on the following grounds :

i) Existence of a Legal Basis for Establishing Gender Equality

The constitution of Bangladesh provides the legal basis for mainstreaming of women in national development efforts by guaranteeing women's equality in all spheres of public life, prohibiting any discrimination on the basis of sex. Furthermore, the construction enjoins upon the government to make special provisions for women to remove the existing gender inequality [7; Article 26, c : 1-4].

ii) Contributions of Women in the Productive Sectors

The findings of a number of micro and macro economic studies have established that not only are women working in all the vital sectors of the economy, they are making extensive and significant contributions also.

a. Agricultural Sector Review on Women in Agriculture census reveals that 42.6% of women in rural areas reported agriculture as their primary occupation. The study further shows that women constitute about 44.7% of agricultural labour force. 7 Micro studies reveal that excluding threshing, women contribute about 86% of the total labour requirement in the post-harvest activities [10].

b. Rural Women contribute the major share of the supply of poultry and livestock products, as raising of poultry and livestock is traditionally their responsibility.

c. RISP Final Report reveals that women constitute about 36% of the total employment in the rural industries sectors, their proportion being 43% in the handloom sub-sector and 44% in the sericulture sub-sector [11].

d. In the industrial sector 90% of the total lobour force in the export oriented industries, such as garments, tea and frozen fish are women. This category of industries are playing a key role in the national economy as foreign exchange earners.

e. Women's contribution in the national efforts to attain food self-sufficiency is enormous. The term "food" includes both foodgrain and other food items which provide nutrition. SFYP clearly states that food production should be substantially increased and stabilized at a level which ensures adequate and balanced nutrition as well as food security [3]. Food security includes both preservation of seed, food, and food processing. To achieve the stated objectives of food security and food self-sufficiency and to close the gap between nutritional availablity and requirement, adequate investment should be made to support the activities of women in horticulture, poultry and livestock raising. This necessitates inclusion of women in the marco framework of national development plans, so that they can play a central role in providing nutritional food items and food security.

f. Poverty alleviation is the goal of all our development efforts. In order to attain this goal, expansion of productive employment (which, in its turn, is dependent, among others, on education, skill formation, and technological development) is necessary. As women bear the major burden of poverty, their access to education, skill development, new technology, and opportunity for productive employment should be ensured. This necessitates women's inclusion in the macro framework and setting of gender specific sectoral targets.

g. Recent trends in the growth of female labour force (Labour Force Survey, 1984-85) clearly shows that female labour force is increasing at a faster rate than male labour force. The following table clearly shows this new trend in the labour force growth rates in Bangladesh.

Table - 1 : Annual average labour force growth rates by sex and residence

Period	Bangladesh		Urban		Rural	
	Male	Female	Male	Female	Male	Female
1961-74	2.1	0.8	5.7	5.2	1.8	0.4
1961-85	2.2	5.0	5.7	5.8	1.8	4.1
1974-85	2.3	10.5	5.6	13.4	1.8	9.6

Source : BBS, Report on Labour Force Survey, 1984-85, Feb. 1988.

h. It is now generally accepted that a close relationship exists between large investment in human resource development and sustained economic growth. Mainstreaming of women is necessary, so that adequate investment in developing the vast untapped women resources becomes possible. It is likely to increase their employability, productivity, incomes, savings, and investment, as has been amply demonstrated by some government and non-government organisations organing poor, assetless women, at the grassroot level, into groups and providing them with skill training facilities and support services.

i. Achieving Universal Primary Education (UPE) by the year 2000 is only possible if the wider gender gap in enrolment and retention of children in primary age group is closed. This calls for incorporation of issues and concerns relating to female education in the macro policies as well as sectoral policies and strategies relating to this area.

j. The role of female employment can hardly be overemphasised in achieving the targeted reduction of population growth. Therefore, macro policies and sectoral policies on employment can not afford to ignore female employment and related issues.

k. Distributive justice along with growth has been recognized as one of the important dimensions of economic development. Equitable distribution of the benefit of development presupposes equality of assess of men and women to all the factors required in the production process. Mainstreaming of women in the planning process is a precondition for attaining this goal.

l. Incorporation, the macro policies, of women's needs as perceived by them is necessary in order to effect a real improvement in the quality of their lives along with those of men which should be the ultimate objective of our national development efforts.

MAINSTREAMING WOMEN AND THE DRAFT FOURTH FIVE YEAR PLAN

The Fourth Five Year Plan is exceptional in the sense that, for the first time, a national plan has adopted mainstreaming of women as one of its major policies. The draft plan has set growth in national income, alleviation of poverty through generation of employment opportunities and increased self-reliance as major objectives among others.

The general strategies include integration of sector-based planning with socio-economic group-based planning. The draft plan states that the poorer people have been identified as distinct social groups. Therefore, if group-based programmes are integrated with sector based programmes. there is a possibility of poverty alleviation along with rapid economic development. Accordingly, the entire population of Bangladesh has been stratified into ten socio-economic groups.

Let us take a close look at these socio-economic groups to examine how far this approach will help achieve the stated policy objectives of mainstreaming women or alleviation of poverty, so far as women are concerned.

The draft plan says, that the ten socio-economic groups are :

i) landless agricultural labour,
ii) small farmers (0.0-1.5 acres of land),
iii) medium farmers : Owner-cum-tenant (1.5-5.0 acres of land),
iv) medium farmers : Owner-cum-cultivators (1.5-5.0 acres of land),
v) large farmers (5.0-10 acre of land),
vi) very large farmers (more than 10 acres of land),
vii) rural formal (households, mainly rich, engaged in the non-agricultural sector),
viii) rural informal (households, mainly poor, engaged in the agricultural sector),
ix) urban informal (households, maily poor, engaged in the non-agricultural sector),
x) Urban formal (households, mainly rich, engaged in the non-agricultural sector).

For the assessment of the impact of a plan on the poor and the disadvantaged group, the use of the Social Accounting Martix (SAM) in the general Equilibrium model is a step in the right direction. But in the above framework, the population of the country has been stratified on the basis of ownership of resources/assets. Since, the poor, neglected and deprived groups, such as women do not own any land/assets in our society, this

method of stratification is absolutely unsuitable for evaluating the impact of the sectoral policies, programmes and investment allocations in the Fourth Five Year Plan, on women.

In the five socio-economic groups in the agricultural sector such as, small farmers, medium farmers (iii & iv), large farmers and very large farmers, women are excluded by definition. In the agricultural sector women generally have no access to land. Therefore, the five farmer groups stratified on the basis of ownership of land are virtually all-male-groups and the policies, programmes, and investment allocations for them can hardly create any direct positive impact on women. The male-farmer-model used in the plan, for identification of socio-economic groups in the agricultural sector, excludes all the agricultural work performed by rural women in the household. It does not take into account women's role in the horticulture, livestock, and poultry sub-sectors, the development of which is necessary for attaining food self-sufficiency and closing the gap between nutritional requirement and availability. Although women are present in the rural and urban households engaged in non-agricultural activities, they will not come under the main focus of development efforts, because it will be directed at the head of the households who are mostly men. It has been mentioned earlier that it is worng to assume that the interest of men and women in a household unit necessarily converge. Increased household income does not automatically lead to an improvement in the quality of lifle/wellbeing of the women in the household.

It is now generally accepted that women form the poorest and the most disadvantaged and deprived group among all such groups. Several intra-household poverty surveys reveal that women have unequal access to whatever food, clothing, health care, education facilities are available in a household unit, lion's share of which invariably goes to men.

Therefore, it is not understandable how the objective of poverty alleviation can be achieved if the deprived women are not included as a distinct group among the groups to be identified for integration with the sectoral plans to achieve poverty alleviation objective.

Inclusion of such deprived groups as women among other identified groups, are absolutely necessary not only for integration them directly to the sector-based programmes, but also for providing special attention to this most deprived and disadvantaged group in the society through separate group specific projects. Unless this is done, poverty alleviation will remain as illusive a goal as ever.

The Fourth Five Year Plan articulates the need for bringing women in the mainstream of development. But it is silent about the mechanism to operationalise such a policy. The plan does not spell out the specific objectives, strategies or special guidelines needed to important such a policy prerogative. In all the 14 sectoral chapters, the need for involving women in sectoral activities has been articulated. But in the absence of specific sectoral policies, guidelines, programmes and allocation of funds, commensurate with the policy of mainstreaming women, the stated intentions sound hollow and meaningless.

Planning to bring women in the mainstream of development will require a sound database. Age sex-segregated data, on the different sectors of the economy, available for formulating sectoral policies and programmes? In the input-output matrix, aggregated employment data are generally used. But it will not serve the purpose of assessing the impact of sectoral objectives and fund allocations, in the plan, on female employment. Therefore, gender-disaggregated employment data must be used in the input-output matrix.

In the Fourth Five Year Plan, the lion's share of the total outlay will be taken away by the spill over projects from the Third Five Year Plan. All the Projects selected for inclusion in the Fourth Five Year Plan (both spill over and new) should be evaluated to assess how women will be benefited from such projects. Priority of the various projects in the Fourth Five Year Plan should be determined on that basis.

A FRAMEWORK FOR INCORPORATING WOMEN'S ISSUES AT THE MACRO AND MICRO LEVELS

Mainstreaming of women has been adopted as one of the seven major policies in the Fourth Five Year Plan. It will necessitate tackling of women's issues and needs at all levels of Planning, decision-making and implementation. It is very important to identify at the very beginning the grounds on which the policy of mainstreaming women is founded. Women should be brought under the main focus of development on both economic and equity grounds. The shifting away from a 'Social welfare' rationale to economic rationale is justified on the following grounds :

a) Recognition of Women's contribution in national production would ensure more efficient resource allocation.

b) Removal of socio-cultural obstacles to wome's employment would lead to increases in household income.

c) Investment in women will lead to diffuse benefits more widely and broaden the return to investment. Mainstreaming of women by diffusing the benefits of development more widely can help bring more equity in the distribution of income which is recognised as a very important dimension of development today.

Investment on women should also be viewed as a fundamental objective to be achieved as part of ensuring basic human rights which necessitates elimination of gender differentials in access to food, education, health care, employment opportunities, community participation, freedom of mobility, among others.

To be meaningful, development should be defined in terms of addressing women's (as well as men's) real needs as perceived by them. Unless it is done, mainstreaming of women would merely mean increased production and productivity, an increase in household income, and family welfare, to the exclusion of improvements in the quality of women's lives, an increase in their life options, and the removal of gender inequalities.

Therefore, inclusion of 'Women' as a distinct group among the male-dominated socio-economic groups identified in FFYP, is urgently needed, so that development can be focused on this most neglected and discriminated-against group in the entire population.

The next most important question is, how to operationalise the general policy objective of bringing women in the mainstream of development. While more general guidelines may suffice at the policy-making level, more detailed steps should be identified for achieving the stated objective. In order to implement the general policy of mainstreaming women, the following steps may be considered.

a. An analysis of the situation of women both absolute and relative to men in both family and society.

b. Consciousness, commitment, and political will to remove inequalities between men and women, from all spheres of life.

c. Incorporation of women's needs and issues in the macro and sectoral policies.

d. Development of stretegies for women's integration in the mainstream of the planned activities.

a. Analysis of the Situation of Women and Conceptualisation

Formulation of appropriate policies on women in both macro and micro levels will necessitate a correct analysis of the situation of women in family and society both absolute and relative to men. The first step is to conceptualise the differential status and roles of men and women in society. Without such a conceptual framework, an insight into the existing situation is not possible.

A correct analysis of the situation of women will necessitate the following:

i) Setting up of a data bank for storing, retrieval, and dissemination of information regarding women's involvement in the development process.

ii) Inclusion of appropriate socio-economic indicators and realistic benchmark data on women's integration in development process in the data bank.

iii) Inclusion of data on women's contributions in agriculture, non-farm, and household sectors in the data bank.

iv) Development of an appropriate statistical system to measure economic contributions of women in farming and non-farming activities both inside and outside of the household.

v) Development of appropriate socio-economic indicators to monitor and evaluate women's development goals.

b. Consciousness, Commitment and Political Will

i) The national objectives and strategies must ensure that women's concerns are fully incorporated in the country's development efforts.

ii) There must be national political commitments to remove gender inequalities and these should be translated into action. The degree of commitment to major plan objectives should be reflected in the targets and financial allocations.

c. Incorporation of Women's Needs and Issues in the Macro and Micro Policies

i) Women's needs and issues should be corporated not only in the policies at the national level, but also at the regional, and local levels.

ii) Women should be involved, in the national and local Planning Process, for Policy-making and programme formulation, so that women's needs and concerns are incorporated in macro and micro policies.

iii) In commensurate with the national policy of mainstreaming women, substantial financial, material, and human resources should be earmarked to implement the programmes and projects undertaken during the Fourth Five Year Plan.

d. Objectives and Strategies for Integration of Women in the Mainstream of Planned Activities

i) Removal of gender inequality should constitute one of the major objectives in the Fourth Five Year Plan and be accorded high priority.

ii) Women dimension should specifically be added to the goals and strategies set for the plan. In the plan, women's significant role in the major objectives such as poverty alleviation, domestic resource mobilisation, self-reliance etc. has not been clearly spelled out in the FFYP. This is necessary for gender sensitive planning.

iii) Women's presence should be ensured in the Social Accounting Matrix (SAM) Gender disaggregated employment data should be used for the Input-Output Matrix (which generally is not the practice) developed for the Fourth Five Year Plan.

iv) Sectoral programmes must have gender specific targets based on an assessment of the existing gender differentials in each sector. As a precondition to realistic target setting gender differentials in each sector and sub-sector must be adequately documented. The short and long term impact on women, of programmes and projects of all the sectors such as agriculture, industry, health education, human resource development, socio-economic infrastructure, scientific and technological research, physical planning, water supply and housing, energy, transport and communication etc. should be assessed to provide a basis for target setting and investment allocation.

All sectoral allocations should be disaggregated on gender basis so as to ensure that allocations are consistent with gender specific targets and specific plan objectives.

In the Fourth Five Year Plan, the targets and programme-wise financial allocations for the different sectors are not disaggregated by gender, although mainstreaming of women implies that gender equity is a central policy concern of the plan. In the absence of such disaggregation, the

policy objective of mainstreaming women and establishment of gender equity will ever remain an unimplementable dream.

One of the objectives in the education sector should be to ensure enhanced participation of women in every possible sphere of education. But specific mention of this is made in the plan document only with regarded to secondary and religious education on the ground that this is good for family. However, there is no gender wise disaggregation of allocations at any levels, not even the secondary level.

In the health sector, major health indices such as life expectancy, IMR etc. are not forgetted on gender basis, in spite of the fact that there exists significant gender differentials in these areas. Women's special health needs are highlighted only for mothers. It can not be acceptable, because it emphasises the reproductory role of women disregarding the health needs of millions of other women who are not mothers.

v) In the area of the formulation and implementation of sub-sectoral and multi-sectoral development programmes and projects, a total reorientation of formulation and implementation mechanism is necessary, so that gender equity forms the central concern. A set of new guidelines should be provided to define and formulate programmes/projects, target-setting, financial allocation, and monitoring, so that the issue of gender equity can be adequately taken careof.

Non-specific definition such as farm household, head of household etc should be avoided.

All the programmes and projects including the spill-over projects from the TFYP, should be reviewed to assess their impact on women vis-a-vis men.

It will require adequate training in gender oriented planning and implementation for the project planners and implementors at all levels.

In spite of the articulation, in the draft plan, about prioritising and implementing projects which would give greater benefit to women the constraints relating not only to shortages of funds, but also to the social resistance against prioritising and implementing such projects has not been identified. If the intention of formulating and implementing such projects is sincere, then this kind of exercises must be made.

vi) Mainstreaming of women in the Fourth Five Year Plan must have a provision for creating adequate capability to monitor its implementation and impact. The draft plan is silent about the need for new guidelines and

mechanism to monitor project in achieving their mandate to mainstream women.

The Ministry of Women Affairs, created to undertake such a responsibility, does not have the capability, in terms of skilled manpower or resources, to act as a monitoring agency. The functions of the Women's Affairs Ministry do not empower it to oversee the women related activities of various sectors under other line ministries. So the problem of co-ordination and monitoring becomes insurmountable. What is, therefore, needed is a high-powered central monitoring institution with adequate staff and financial support.

CONCLUSION AND RECOMMENDATIONS

a. Conclusion

Women are contributing substantially in all the vital sectors of the economy. But their contributions remain largely unrecognised. Women's concerns and issues are treated as social welfare problems and these are never integrated in the mainstream of planned activities. As a result, women remain in the periphery instead of being in the mainstream of planning process. For the first time in the history of development planning in Bangladesh, mainstreaming of women has been adopted as one of the major policies in the Fourth Five Year Plan. But the draft plan has remained silent about the strategies needed to implement such a policy objective.

Women are the poorest and most disadvantaged group in society. Yet women, as a distinict group, have been excluded from the ten socio-economic groups identified for sector-based development activities and special treatment through separate poverty-focused programmes in the Fourth Five Year Plan.

b. Recommendations

With a view to integrating women in the mainstream of development planning, the following policy measures may be adopted:

i) The major objectives identified for the Fourth Five Year Plan should include removal of gender inequality and high priority should be accorded to it.

ii) Women dimension should specifically be added to the goals and strategies identified for the new plan.

iii) 'Women' as a distinict group should be included among the socio-economic groups identified for integration with the sector-based plans and programmes.

iv) Women's presence should be ensured in the Social Accounting Matrix so that impact of the programmes and projects of the Fourth Five Year Plan, on women can be assessed. Input-Output Matrix developed for the Fourth Five Year Plan should use gender disaggregated employment data.

v) Lion's share of the total development outlay in the Fourth Five Year Plan will go to finance the spillover projects from the TFYP. These projects should also be reviewed to assess their impact on women belonging to different categories.

vi) In addition, specific women-focused programmes should be undertaken in order to close the widening gender gap in all the sectors.

vii) Appropriate Sectoral Policies and Programmes should be formulated and gender disaggregated targets set, so that the policy objective of mainstreaming women in the new plan can be achieved.

viii) A data bank should be set up for storing, retrieval and dissemination of information regarding women's involvement in the development process. Development of appropriate socio-economic indicators and generation of realistic benchmark data on women's integration in the development process is a must to formulate appropriate policies and programmes for women. Development of a statistical system is also necessary to measure economic contributions of women in farming and non-farming activities both inside and outside of the household.

ix) A specific chapter should be devoted to women-in-development (WID) reviewing their status in various economic and social sectors over the past plan periods. It will help delineate women development objectives and strategies as integral to national development goals for the forth-coming plans.

x) A twenty year perspective plan for women should be formulated inconsistent with our long-term development goal and be made an integral part of the twenty year National Perspective Plan (1990-2010).

xi) A National Commission on the status of women should be set up to review the situation of women in all the sectors to facilitate the formulation of the proposed perspective plan.

xii) Women's Affairs Ministry should be strengthened and in addition a high-powered Central Monitoring Institute with adequate staff and financial support be set up to monitor and evaluate the implementation of the programmes and projects.

xiii) A Training Programme should be undertaken to train those who will be responsible for the formulation of gender sensitive programmes and projects.

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GENDER DIFFERENTIALS IN LABOUR FORCE PARTICIPATION IN BANGLADESH

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1. INTRODUCTION

A decade and a half ago, the global community of nations affirmed gender equity as one of the goals of development by declaring 1975 as the International Women's Year and 1975-85 as the Decade of Women and Development. Various strategies and actions were adopted by different governments, international agencies, national and international non-governmental organizations during this decade to enhance women's status and participation and to promote integration of women in all spheres of development. Efforts to improve the general status of women in most countries have focused largely on issues related to economic status viz. Women's access to employment and earnings as the economic status of women depends principally on women's labour force participation and income acquired through economic activitiy.

Although women's status has received attention from Bangladesh government (one of the policies of recent national plans is to integrate women at all levels of the economy and there is a Ministry of Women's Affairs), actions shows that women are still addressed primarily within the context of family and family reproduction i.e. population control, maternal and child health (MCH), nutrition, immunization and sanitation services [1]. The relative low social status of women's economic activity is partly responsible for the lack of focus in women's development strategies.

In spite of existing social and religious mores against women working outside home, increasing landlessness, poverty and economic pressure have forced women into wage labour market. The role of women in Bangladesh economy is changing in the 1980s. This paper tries to analyse the changing pattern of gender differentials in labour force participation and identify the sources of such differentials using government time series data. The prospective trends in the future status of women and policy implications will also be discussed.

2. OFFICIAL STATISTICS

In Bangladesh, the role of women is strongly affected by social and religious mores such as the seclusion of women, the segregation of the two genders and the veiling of women in public. These restrictions constrain women's participation in work outside home. However, female

* Women for women

employment is substantial, especially in rural areas, which is not clearly reflected in the official statistics. Some micro surveys have revealed a vast underestimation of female labour force participation in official statistics [9]. Therefore, estimations using official data may produce unexpected and inconsistent results and projections from these results could be misleading.

The official statistics could become inconsistent due to the following reasons: gross under enumeration, inappropriate definitions and changes in these definitions between census years, second hand sources for questionnaire responses, a failure on the part of the respondent (both male and female) to recognize the productive role a women plays and the higher social status associated with a non-working wife. Measurement of female labour force participation is especially sensitive to changes in definitions and interpretations between censuses and survey. Also, it is hard to assess due to difficulties in distinguishing "domestic" from "productive" work. Many activities carried out within rural households by women, including participation in agricultural production, may be arbitrarily defined or interpreted, as housekeeping rather than as labour force activity. The same activities carried out by men would be more likely to be classified, by both men and women, as work.

3. PATTERNS OF WOMEN'S ECONOMIC ACTIVITY

Tables 4.B. 1 and 4.B.2 show female labour force participation in all and non-agricultural sectors respectively from 1951 to 1985-86. This time series data indicate that women's participation in agricultural activities decreased considerably (88 per cent in 1951 to 11 per cent in 1985-86), while participation in non-agricultural sectors such as service (3.3 per cent in 1951 and 38 per cent in 1985-86) and production (1 per cent in 1951 and 26 per cent 1985-86) have increased during the 1980s. In contrast, the male participation in agriculture declined slightly (88 per cent in 1951 to 63 per cent in 1985-86) whereas the paticipation rates in other non-agricultural sectors remained almost stable. The time series data on labour force participation by industry (Tables 4.C.1 and 4.C.2) show that female participation in manufacturing sector increased from 4 per cent in 1974 to 55 per cent in 1985-86. During the 1980s, many export oriented light assembly-type industries were established such as garments, shrimp processing and electronics which use cheap female labour. Again male participation rate by industries remains almost constant.

Though women are becoming more actively involved in Bangladesh economy, they are still lagging far behind in professional jobs with high remuneration. Table 3.1 compares the activity rates of men and women. Table 3.2 shows the proportion of women in civil service. Of total employment, 7 per cent are female. In Class I job category 7.9 per cent, in

employment, 7 per cent are female. In Class I job category 7.9 per cent, in class II 5.9 per cent, in class III 8 per cent and in calss IV 5 per cent are women. Table 3.3 shows the proportion of women by non-farm activities. Of the total only 5 per cent are working partners, 29 per cent unpaid family workers, 10 per cent full-time and 17 per cent part-time workers. In manufacturing female workers constitute 21 per cent of total work force but only 4 per cent work in financial sector. Data indicate that women are still in low paid jobs which require little or no skill.

Table-3.1: Refined activity rates by gender and residence.

	National		Urban		Rural	
Year	Male	Female	Male	Female	Male	Female
1985-86	81.2	9.8	78.8	14.0	81.9	9.0
1984-85	78.2	8.2	74.3	12.1	78.8	7.7
1983-84	78.5	8.0	74.9	12.5	79.0	7.4
1981	78.2	5.1	73.2	6.8	79.0	5.0
1974	80.3	4.0	73.7	5.8	81.1	3.8

Source: BBS, 1989, Statistical Year Book 1989.

Table-3.2: Proportion of female civil officers and staff in the Secretariat, Directorate and Autonomous Bodies

Category	Secretariat	Directorate	Autonomous	Total
I	7.4	13.4	3.6	7.9
II	8.5	8.3	5.0	5.9
III	7.3	9.1	4.7	8.2
IV	7.3	6.6	2.6	4.9
Total	7.3	8.8	3.9	7.3

Note: Positions as on last January 1988.

Source: Statistical Pocket Book of Bangladesh 1990, BBS.

Table-3.3: Proportion of women by non-farm economic activity and type.

	Tpe				
Activity	Working Proprietors/ partners	Unpaid family workers	Full-time workers	Part-time workers	Total
Manufacturing	12.5	45.1	16.1	27.0	20.8
Wholesale Retail trade	1.7	10.0	2.5	7.9	3.6
Finance	1.8	9.3	4.8	8.2	4.7
Personal	3.1	14.2	8.1	8.5	7.6
Total	5.1	28.8	10.3	17.3	11.8

Source: Statistical Pocket Book of Bangladesh, 1990.

4. GENDER DIFFERENTIAL

A. Wage

Official statistics indicate that about 40 per cent (11.6 million) of all employed persons in 1984-85 were paid wages as employees and as daily labourers, of which 14 per cent (1.6 million) were females. Table 4.A.1 show that female wage rates vary between agricultural and non-agricultural sector but are consistently lower than male wage rate (by about 50-60 per cent). In agriculture sector, female wage rate is 73 per cent of male wage rate, while the corresponding figure for non-agriculture sector is only 44 per cent of male. Again there is substantial seasonal fluctuation in wage rate. In both agriculture and non-agriculture sectors, female wage rate is high during harvest season April-June, while it is low during January-March. The agriculture wage rate for women is higher than non-agriculture wage rate, but men get higher wages in non-agriculture sector.

Despite the fact that wage rates for female workers are much lower than for male, very few women are hired as labourers. According to 1984-85 Labour Force Survey, of the total agricultural labourers hired, only 1.8 per cent was women, they were employed for 1.6 per cent of total hours of worked and earned 1.4 per cent of total wages paid. In non-agricultural sector of the total labourers, only 1.7 per cent was women and they earned 6.2 per cent of the total wages paid.

Several factors depress female wage rates. The major ones are low level of marketable skills of women as a result of their limited access to education and training; low demand for female labour; high unemployment and underemployment in the economy and inter-linkage of labour and credit market [8].

Table-4.A.1: Wage data of labourers

Sector	National			Urban			Rural		
	Male	Female	F/M	Male	Female	F/M	Male	Female	F/M
Average wage rate 1983-84									
Agriculture	14.7	7.1	48.3	15.3	N.A.	—	14.7	7.1	48.3
Non-agriculture	18.6	7.2	38.3	19.6	9.6	48.9	17.6	6.9	39.2
1984-85									
Agriculture	19.8	14.5	73.2	19.0	9.5	50.0	19.8	14.6	73.7
Non-agriculture	27.9	11.7	41.9	27.9	12.4	44.4	27.9	11.5	41.2
Total Labourers (000)									
Agriculture	6288	120	1.9	118	2	1.7	6170	118	1.9
Non-agriculture	1592	236	14.8	749	74	9.8	843	162	19.2
Total Wages (000)									
Agriculture	124360	2244	1.8	2244	19	0.8	122116	1720	1.4
Non-agriculture	44422	2771	6.2	20909	919	4.3	23513	1857	7.9

Source: Reports on Labour Force Survey, 1984-85.

Table-4.A. 2: Seasonal Wage Rate of labourers 1984-85

Season	Male	Female	F/M
Agriculture			
July-September	18.0	16.1	.89
October-December	19.0	13.2	.69
January-march	20.8	12.2	.58
April-June	21.0	18.5	.88
Non-agriculture			
July-September	23.0	12.0	.52
October-December	26.0	10.8	.41
January-March	25.8	9.6	.37
April-June	34.0	15.0	.44

Source: As in Table 4.A.1.

B. Occupation

Tables 4.B.1. abd 4.B.2 compare the labour force participation of men and women in different occupation and industry. An index of dissimilarity (of segregation) is used to measure the extent to which the feamle and male occupational distributions differ from each other [6]. The index is a measure of the percentage of workers in each gender who would have to change occupational group in order for the female and male occupation structures to be the same. The pattern of gender differentials in labour force participation in Bangladesh would be analyzed on the basis of the gender-specific percentage distribution of work-force as viewed from selected factor such as occupation, industry, region and age.

Indices of dissimilarity were estimated for the occupational distribution of work-force during 1951 to 1985-86 in Table 4.B.1. For 1951, the index was small (5 per cent) i.e. occupational distribution of female and male is almost similar in pattern. In 1961 and 1974, the indices increased slowly (7 and 12 per cent respectively) as female participation in agriculture sector deceined. The index of dissimilarity increased considerably in the 1980s,-in 1980 it was 28 per cent and in 1985-86, the index was 60 per cent. Data show that in 1985-86, 64 per cent female labour force is in service and production sector.

Agriculture is the dominanat sector of Bangladesh economy. To eliminate the size effect of the agriculture sector, the indices of dissimilarity without agriculture were recomputed (Table 4.B.2). The indices without agriculture is consistently higher than indices with agriculture during 1951-1974, while the trend is reversed during 1980s. The difference in occupational distribution between genders occurs in sales and in service sectors. In 1985-86 Labour Force Survey, it can be observed that (excluding agriculture sector) 4 and 43 per cent of female as against 32 and 7 per cent male labour force are in sales and service sector respectively. Excluding agriculture, female labour force dominated service sector

(around 40 per cent during 1951-1986) and production sector (16 per cent in 1951 to 39 per cent in 1985-86). In non-agricultural activities male participation remained high over the years in sales (about 30 per cent) and in production sector (about 40 per cent).

Table B.3 compares the indices of other Asian Countries, China has the lowest index-9.1 and the Philippines has the highest 29.3.

Table-4. B.1: Occupational distribution of the female and male work-force and index of dissimlarity

Year	Gender	Occcupations groups								Index of dissimi-larity
		Agri.	Prof.	Admn.	Cleric. (Parcentage)	Sales	Service	Production	Others	
1951	F	88.3	0.5	0.1	—	2.6	3.3	1.2	3.8	5.6
	M	87.9	1.0	1.8	0.3	4.2	0.8	1.4	2.3	
1961	F	91.8	0.3	—	—	0.7	2.3	4.7	0.1	7.5
	M	85.0	1.2	0.2	1.1	3.4	1.6	6.6	0.8	
1974	F	69.8	2.5	0.1	0.3	1.3	10.3	12.2	3.5	11.9
	M	77.5	1.8	0.2	1.0	4.7	1.5	10.9	2.4	
1980	F	47.7	2.4	—	1.5	4.2	19.6	24.6	—	28.2
	M	74.0	2.2	0.3	1.8	5.5	3.7	12.5	—	
1981	F	28.1	3.3	—	2.1	5.7	26.9	33.6	—	37.8
	M	63.0	3.1	0.4	2.5	7.8	5.2	17.8	—	
1983-84	F	8.9	3.3	0.1	1.8	5.3	46.4	31.8	2.4	61.4
	M	63.4	2.4	0.7	2.4	11.3	3.6	14.9	1.3	
1984-85	F	9.3	3.3	0.2	5.5	4.4	45.2	29.9	2.2	61.4
	M	62.2	2.1	0.8	3.1	12.3	3.0	15.6	0.9	
1985-86	F	11.0	3.3	0.1	3.3	4.4	38.4	26.3	13.2	60.6
	M	62.5	3.1	1.1	3.0	12.5	2.6	5.0	10.2	

Source: Compiled from Twenty Five Years of Pakistan in Statistics, 1947-72 Statistical Year Book of Bangladesh 1980, 1987, 1989.

Table-4.B.2: Occupational distribution of the female and male non-agricultureal worke-force and index of dissimilarity

Year	Gender	Occcupations groups							Index of dissimi-larity
		Prof.	Admn.	Cleric.	Sales (Parcentage)	Service	Production	Others	
1951	F	7.1	0.9	—	33.9	41.9	15.8	0.3	34.0
	M	10.5	18.8	3.3	43.2	8.7	15.1	0.2	
1961	F	3.7	—	0.4	8.7	28.4	57.3	1.4	31.2
	M	8.1	1.5	7.5	22.9	10.7	43.8	5.4	
1974	F	9.6	0.2	1.0	4.9	38.5	45.8	—	31.7
	M	8.7	0.8	5.2	23.4	7.5	54.2	—	
1980	F	4.6	—	2.8	8.0	37.5	47.0	—	23.3
	M	8.4	1.1	6.9	21.1	14.2	48.1	—	
1981	F	4.6	—	2.9	8.0	37.5	47.0	—	23.4
	M	8.5	1.2	6.9	21.2	14.2	48.1	—	
1983-84	F	3.6	0.1	1.9	5.8	50.9	34.9	2.6	41.1
	M	6.5	1.9	6.6	30.9	9.8	40.7	3.5	
1984-85	F	3.5	0.2	6.0	4.8	49.8	33.0	2.5	42.2
	M	5.5	2.2	8.1	32.6	7.8	41.3	2.3	
1985-86	F	3.9	0.1	3.5	4.5	43.1	43.7	1.0	40.4
	M	8.2	2.6	7.6	32.2	7.3	39.1	2.7	

Source: Compiled from Twenty Five Years of Pakistan in Statistics, 1947-72 Statistical Year Book of Bangladesh 1980, 1987, 1989

Table-4.B.3: Computed values of index of dissimilarity for non-agricultural work force in Asian Countries

Country	Year	Index
China	1982	9.1
India	1971	26.1
Nepal	1971	15.1
Malaysia	1970	26.0
Philippines	1974-75	29.3
Sri Lanka	1980-81	28.2
Hong Kong	1981	9.8

Source: ESCAP 1987, Women's Economic Participation in Asia and Pacific.

c. Industry

Tables 4.C.1 and 4.C.2 show the computed values of index of gender dissimilarity by industry, one by all industries and one which excludes agricultural labour force. The results indicate that although there is a considerable percentage point difference between male and female agricultural workers, there are also substantial percentage point differentials among other industrial categories.

Considering all industries, the index is 12 per cent in 1974, which increased in the 1980s. (56 per cent in 1985-86). Excluding agriculture sector, the indices become higher-32 per cent in 1974 to 49 per cent in 1985-86. Gender differential arises mainly due to differences in two sectors-agriculture and manufacturing. Sixty per cent male labour force is in agriculture while 55 per female labour force work in manufacturing industries. After the size effect of the agricultural labour force upon the value of the index of dissimilarity is removed, the gender-specific percentage distribution of workers change little. Sixty seven per cent of the female non-agricultural labour force is in the manufacturing industry, while the corresp[onding figure for males is 19 per cent. Excluding the manufacturing industry, the per cent distribution of the labour force is skewed toward men in the remaining industries.

Another important reason for high gender differentials in labour force of Bangladesh is the changes in "work" definition between census and survey years. For example, in the 1983-84 and 1984-85 Labour Force Survey, there is a household sector, which is relatively dominated by females and accordingly the index is very high.

D. Regions:

The majority of the people in Bangladesh live in rural areas (85 per cent), but there are considerable inter-regional differences in the level of urbanization. In the 1981 census, it was found that in Dhaka region (former district) 39 per cent of the population live in urban areas, whereas the corresponding figure for Faridpur is only 7 per cent. In addition, the availability of productive inputs and female labour force participation vary

Table-4.C.1: Sectoral distribution of female and male work-force by industry and index of dissimilarity

Year		Gender Agri.	Industry										
			Mfg.	Elec.,	Water,	Gas	Const.	Trade	Transport hotel rest.	Finance business service	Comm. pers	Others	Index of diss
			(Percentage)										
1974	F	72.6	4.3		—		—	1.1	0.2	0.1	21.6	—	11.8
	M	79.3	4.7				0.1	4.0	1.6	0.3	9.8	—	—
1983—84	F	8.9	28.6		—		0.3	5.5	0.4	0.1	8.9	46.9	65.2
	M	63.4	7.0		0.2		1.9	12.2	4.2	0.5	8.1	2.1	—
1984—85	F	9.3	25.8		0.2		0.7	4.9	0.4	0.4	16.6	43.7	67.1
	M	62.3	7.7		0.3		2.0	13.3	4.4	0.7	8.2	1.1	—
1985—86	F	17.8	55.3		—		2.1	6.8	0.1	3.1	14.6	—	56.5
	M	62.6	7.1		0.1		2.2	13.5	4.8	1.1	8.3	0.1	—

Source: As in Table 4. B.1.

Table-4.C.2: Non-agricultural female and male work-foce distribution by industry and index of dissimilarity

Year	Gender	Industry									
		Mfg.	Elec., Water,	Gas	Const.	Trade	Transport hotel rest.	Finance business service	Comm pers.	Others	Index of diss.
		(Percentage)									
1974	F	15.6	—		—	3.9	0.9	0.4	79.1	—	31.7
	M	22.9	0.1		0.8	19.2	8.0	1.4	47.4	—	—
1983-84	F	31.4	—		0.4	6.1	0.4	0.1	9.7	51.5	58.1
	M	19.1	0.7		5.1	33.4	11.6	0.4	22.3	5.7	
1984-85	F	28.5	0.1		0.7	5.4	0.4	0.4	16.0	48.2	53.4
	M	20.4	0.9		5.3	35.0	11.6	1.9	21.9	2.9	—
1985-86	F	67.2	—		—	8.3	0.2	3.8	17.8	—	48.9
	M	19.1	0.3		5.9	36.3	12.9	2.9	22.2	0.2	—

Source: As in Table 4.B.1.

from region to region. These differences cause different structures of production.

The time series data show that regional index of gender dissimilarity is reducing over time. In 1961, the index was 45.6, it reduced to 16.7 in 1974 and 12.0 in 1984-85. In 1961, female labour force rates were relatively higher than males in Chittagong, Chittagong Hills Tracts, Noakhali, Comilla and Mymensingh. Over the years, relative female labour force participation is higher in Chittagong Hill Tracts. Based on these computed results, it may be observed that gender differentials is not high over regions.

E. Age

Labour force participation varies with age, particularly among women. The computed indices show that gender differential is not high with respect to age. The indices were found to be 9.0 in 1981 and 10.0 in 1984-85. This is comparable with other countries such as China (9.34 in 1981). With respect to age, the highest male and female difference occurs in the youngest age group 10-14, 19 per cent female labour force fall with this age groups, while the corresponding figures for male is 9.8. The lowest gender difference is in 20-24 age group (12.3 per cent male and 12.6 per cent female). Female labour force is relatively higher in age groups 10-24, then the trend is reversed.

F. Residence

The structures of production is very different between urban and rural areas. The agriculture sector dominate the rural areas. The index of dissimilarity for occupation in urban areas is 55.1 whereas the corresponding figure for rural areas is 65.2 (1983-84). For gender differential in industrial sector, the index for urban areas is 53.3 and for rural areas is 69.6 (1984-85). The gender difference is relatively higher in rural areas. This difference is high as in rural areas 72 per cent male work in agriculture, while 43 per cent female work in service sector and 35 per cent in production sector.

Table-4.D.1: Index of dissimilarity

Category	Year	Index
Region	1961	45.6
	1974	16.7
	1981	12.0
	1984-85	12.0
Age	1981	9.0
	1984-85	10.3
Urban (occupation)	1983-84	55.1
	1984-85	57.5
Rural (occupation)	1983-84	65.2
	1984-85	65.4

5. MAJOR FINDINGS

a. The analysis of official data on female labour force participation in Bangladesh reveal serious short-comings in enumeration. Micro-level studies have found much greater female involvement in both rural and urban areas. Official data show only 1 per cent of female labour force is involved in agriculture, while one micro-survey have found 54 per cent involvement [9].

b. A growing number of women are in need of wage employment and other income earning opportunities due to increased poverty. Prevailing socio-religious norms still have power influences but economic necessity has been the dominant force behind acceptance of wage labour by women.

c. Wage discrimination against women is marked and widely prevalent, female wage rate is about one half of male and in urban manufacturing sector, the situation is worse. Labour market is segregated and women tend to be engaged in activities with low productivity and low profit. Female labour is mostly used in service-oriented and light assembly-type industries such as garments, electronics, shrimp processing which require no or few skills and give poor remuneration. Also within the industrial sector, women are often employed within the household and research has shown that household-based occupations give the lowest remuneration [11].

d. This study has found very high gender differentials in Bangladesh economy, not only in wage rates, but also in labour force participation in different occupations and industries. The majority of the male labour force work in agriculture sector (63 per cent in 1985-86) and the corresponding figure for female is 11 per cent. Majority of female work force are engaged in service (36 per cent) and in production sector (47 per cent). The gender differential in occupation was small during 1950-70, while it increased considerably in the 1980s (5 per cent in 1951 to 60 per cent in 1985-86) as more women become involved as wage labourer in non-agricultural sector. Data showed that of the total agricultural labourers hired, 1.8 per cent was women, they worked 1.6 per cent of total hours and earned 1.6 per cent of total wage.

e. Over the years, labour force gender differentials within regions (20 former districts) and within age-groups (11 age groups) remained small. Urban and rural difference is high, rural higher than urban areas.

f. Gender differentials in occupation and industrial category is high as women are working more in non-agriculture sector. Also, changes in official definition of "work" between census and survey years aggravated the already high gender differentials.

6. POLICY IMPLICATIONS

a. Stereotyped notions about women should be discarded and replaced by a recognition of women's essential role in production and their contribution to family income and Bangladesh economy.

b. Discrimination against women at all levels must be reduced by legislation.

c. Efforts to improve women's work participation should be directed at both the demand for and supply of female labour. Economic growth is necessary to create more opportunities for women.

d. Initiatives should be undertaken to involve women in sectors with high profitability and high returns to female labour.

e. In the short run, jobs and opportunities specifically suited to women's skills should be created. But in the long run, greater opportunities for education, vocational training, skill development and other necessary supports should be provided to women so that they could become more competitive in the labour market. The gender differential would be reduced only with greater education and economic development which would secure women's status as equal partners in the mainstream of development.

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WOMEN'S EMPLOYMENT AND TECHNOLOGY

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INTRODUCTION

In Bangladesh women are the most disadvantaged class. They are participating in various kinds of income generating activities. But their activities are never recognised as economic as these are not evaluated in market price. They always work as an assistant to the family heads and are never paid any cash remuneration for their hard labour. They are hardly recognised as the owner of an enterprise. Absence of job opportunities in the rural areas, lack of education and training facilities, poverty and general lack of awareness are some of the factors which prevented women from pariticipating in formal economic activities.

It has been found that in a family production business, women are participating in all the procss of production from processing of raw materials to finishing of final products but they are not getting any cash benefit as marketing is always done by menfolk. They are just supposed to be assisting the family work as they are doing all other normal household chores. So no question of paying any cash does arise here.

But recently a marked change is visible in the socio-economic pattern of the country and also in the attitude of women themselves. They are looking for formal employment opportunities that will give them direct access to cash income.

WOMEN'S EMPLOYMENT SITUATION

According to the 1981 population census women account for only 5.8% of the official labour force. 1984-85 labour force survey final report shows women's participation rate as 8%. Distribution of population by, economic category sex and residence, is shown in table-1. The main reason why such a small number of women are represented in the civilian labour force is, that the vast majority of women who are working in their household are not officially counted as doing productive work as they are not paid.

But, however, micro studies done by different organisations, show a much higher rate. For example, Rural Industries Study Project (RISP) report found the female employment to vary between 8% to 18%. World Bank

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report shows 11% in 1980, 13.5% in 1985 and projected at 17% in 1990 and 25% in the year 2000. World Bank report said women's participation in economic activities will increase from 3.2 million in 1980 to 12.2 million 2000 (shown in Table -2). The rate is supposed to increase due to spread of education among women, increasing economic pressure and also for increased implementation of income generating programme for rural women by government and different donor agencies.

RISP report also found that 58% of female workers are employed in cottage industries and overall participation of female workers in rural industrial is 36%. A list of rural industries where women were participating in large number (over 30%) is given in table-3 (adapted from RISP Report 1981). Women prefer to work in these cottage industries at home because they need not to violate the traditional behaviour pattern of the society. Their participation rate varies from 0.5% to 75% and higher in those industries where they can work at home.

It has also been found that the cottage industries where women are participating are generally characterised by:

i) Low productivity therefore low profitability.

ii) Mainly based on family labour.

iii) Produce for short run, local market and in smaller quantity.

iv) Based on single primary raw materials.

v) Use antiquited technology.

vi) Requireless capital.

Besides rural industries, these days women are working in large numbers in the garment industry accounting for 86% of its total labour force. Women also account for about half the labour force in the tea industry.

Urban women now a days are found to be doing business in ready made garments, textiles, batik, screen prints, embroidery, handicrafts households linen etc. They are also showing themselves as independent entrepreneurs being the owner of export oriented enterprises.

DIFFERENTIAL WAGE RATE

It is generally found women are paid lower wage rate than men, both in rural industries and other productive activities. This is due to the fact that women's labour market is influenced by some noneconomic social factors. For example (1) women prefer to work at their home or near home; (2) they consider their job as a subsidiary occupation and therefore ready to accept lower wage; (3) they are generally at weaker bargaining position as they lack technical skill, proper training and some time due to family reasons cannot

work. It is also found, private employers generally prefer male employees compared to female employees and are not willing to pay equal wage even if the productivity is the same, Table-4 shows sex differential in employment and wages.

HOURS WORKED

Even when women are involved in paid income generating activities. They still have to take care of normal household chores. Therefore, income earning women are found to be working from, 10 to 16 hours a day which is normally more than an income earning male. But official record shows that 50% of women are working less than 40 hours a week. Though women have to spend a considerable time for household activities including child rearing, is not considered as productive work and not officially recorded.

APPLICATION OF TECHNOLOGY

For economic development of a country two key factors are essential natural rescurces and manpower. Integration of these two factors in the most suitable way is a necessary condition of a meaningful utilisation of both. Natural resources can be utilised to the optimum, if manpower using these resources are technically developed. So improvement of indigenous technological capability is a pre-condition of development.

As women constitute half of our population, to develop them as a productive economic force, they must have access to technology. Developing and upgrading the specialised and professional skill is the purpose of technological application in any economic field. But this technology must be appropriate.

APPROPRIATE TECHNOLOGY

Concept of appropriate technology relates to a given situation context objective conditions, so it may be concluded that if situation or environment changes there should be a corresponding changes in technology. So technology is not a static concept.

As we see the general condition of rural Bangladesh where about 86% of our rural women live, it is characterised by density of population, poverty, lack of education, shortage of investible capital, low technical knowledge and lack of technical tranining factlities. Considering all these the appropriate technology in such a centext should be in general, (a) labour intensive, (b) based on indigenous materials, (c) less costly, (d) simple in operation and maintenance, (e) productive in income generation, (f) suitable to the existing demand condition and practicable in use. So appropriate technology in this context should be such as not to create unemployment, help in income earning activities and thereby reduce poverty.

IMPACT OF TECHNOLOGICAL TRANSITION ON WOMEN'S EMPLOYMENT

Technology improvement is a necessary condition for increased productivity and income. Application of improved technology in any field of production raises labour productivity. But it is an established fact that technological advancement has adverse effect on employment generation in many industrios at least in the short run. But for employment in general this may not be necessarily true in the long-run. Application of improved technology in one industry may reduce employment in that industry but increased incomes as a result of increased productivity may create new avenues of production leading to generation of employment in other sectors.

SUGGESTED TECHNOLOGY

But in a country like Bangladesh where unemployment problem and shortage of capital are so acute and pressing that choice of technology must strike a balance between these two crucial problems faced. Improved technology necessitates increased investment. In Bangladesh where supply of capital for investment is limited, the choice must be made on priority basis. So where labour intensive technology can easily be substituted for capital intensive technology, the choice is obvious, Modern capital intensive techonology, however improved it might be, cannot be recommend for Bangladesh if it displaces human labour in large numbers.

Introduction of mechanised rice husking mill in place of dhenlki is a good example of displacement of lakhs of female labour. It is estimated that one custom mill can displace 300 women.

In total, mechanised rice husking displaces women workers to the extent of 35 to 50 lakhs mandays. It has been found that in case of any improvement in technology, it is the women who are being displaced first. In a male dominated society women are the disadvantaged section and get less priority. So in case of any technological advancement, they do not get the opportunity to have an access to that, they also do not get the opportunity of skill training, consequently, they are displaced.

But if too much importance is paid to employment side only, then there will be no advancement in technology. Therefore there will be no modern method of production and productivity rate will be lower-a situation which cannot be continued for long. Economic progress is a must. Hence, we cannot stop technolocial advancement not we can forbid its use in the economic activities. But what can be done is to make a choice among alternative technologies. Considering both productivity and labour displacement, an intermediate type of technology is to be developed which will be labour intensive but at the same time improve the productivity rate.

As we have already mentioned that women's employment is being replaced due to technology transfer, particularly in rice husking Policies can be designed to re-employment displaced women in the same and other activities. For example, women may be given preference in providing loans for rice husking mill in which only women may be employed. Husking by dhenki is too much laborious and also less productive. The poor women who are working with dhenki also do not like it but they have no alternative. They have no skill for doing any other work. They all agree husking paddy by dhenki is a very tedious and labourious job also financially less rewarding. In the areas where there are rice mills nearby, the women who have taken loans for dhenki themselves husk rice from the mills. They only parboil and dry paddy and then have it husked from a nearby mill, clean the rice and sell it in the market. Smaller huller type rice husking mill can be introduced in the rural areas and women can be made proprietors of these mills. This can be done in group/cooperative basis. Both automatic rice mill or big huller should be avoided.

Again, alternative employment opportunities are to be created in rural areas by giving skill training to women and providing small loans so that the women who are being displaced can be employment in some other earning activities.

Specific plans should be formulated to develop technology to reduce the time spent and drudgery of household works of women so that they can spare more time for cash income earning activities. So far technological advancement has been made in different fields. But no specific research has been done to reduce women's drudgery in household works. But technology to be developed here should be practical so that those can be used by rural women. For example, time and labour saving hand operated tools can be developed and made available to rural women at low cost.

TRANSFER OF TECHNOLOGY

Technology advancement may also be attained by transfer of technology from some advanced and developed country. This may look beneficial superfically but this might have some side effects like displacement of labour in large number, bad impact on indigenous culture and social behavioural pattern and attitude. Transfer of technology is generally accompanied by foreign consultants.

Technology transfer should be supported by apporriate infrastructure development. The economic condition of importing country may differ from that of exporting country. So, technology may not be suitable. Before any technology transfer, it is to be ensured, that the new technology can be installed easily, can be mantained and repaired, spare parts are available, These must be less expensive, within the reach of common men and must

not be complicated in application so that these can be easiky used by our rural women. Technology brought from outside must also be suitable to local needs.

Most of of the women entrepreneurs in Bangladesh work in rural areas and engaged in micro-enterprises. These are characterised as having minimum capital and relying on indigenous meterials and use antiquated technology. The productivity of these micro industries can only be increased by transferring technology to the remoted areas and giving women access to some kind of technical knowledge through training.

CONCLUSION

Development of entrepreneurship among women is very much needed for creation of employmant opportunities for women. It has been found out that the organisations where the owners are women, particularly in rural areas, they generally employ women if outside help is needed. Development of entrepreneurship will mean:

1. Establishment of new industrial unit and therefore creation of new employment opprtunities.

2. Improved management in the existing units leading to-

(a) expansion of preducts,

(b) improvement of productivity

(c) product development,

(d) increased profit and therefore
more employment.

Recently a tendency is marked that more young and energetic women, particularly in the urban areas, are coming to the industrial and business field. They are working mostly in cottage and small industries. Women are particularly found enterprising in handicrafts, garments making, textile manufacturing, batique prints, leather goods, electronic equipment. But as women are new in this field proper technical and management training is needed for developing their entrepreneurial skill and fundamental knowledge about business. Human resource development is the most important factor in any kind of economic development.

Training will help to develop the knowledge about production teachnique, and finance management. The positive outcome of the training is to develop the entrepreneurial aptitude, to make person more confident and capable of handling any kind of business. An increasing number of women are now found to be participating in different sorts of management and skill development. But training itself is not enough. It increases the efficiency no doubt, but unless adequate financial assistance

is ensured, it will not be possible for any potential entrepreneur to become a real entrepreneur in the practical field . So a positive attempt may be made to give some preference to women in credit arrangement. This is a matter of policy decision to be taken at the higher level.

In order to develop women as entrepreneurs and create employment opportunities for them, extended financial and other material support including human resource development through giving them access to technical training is essential. Any investment made in this field will go a long way to fill up the vacuum regarding women's participation in the industrial field. Young and energetic women with entrepreneurial quality and professional aptitude will come forward and establish their position.

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Table-1: Population by Economic Category, Sex and Residence.

Million

Economic Category	1981			1983-84 LFS			1984-85 LFS		
	Both Sex	Male	Female	Both sex	Male	Female	Both Sex	Male	Female
NATIONAL:									
Total Population	89.9	46.3	43.6	95.2	48.6	46.6	97.7	49.8	47.9
Population below 10 years	29.9	15.1	14.8	30.3	15.4	14.9	30.4	15.5	14.9
Pop. 10 years and over	60.0	31.2	28.8	65.0	33.2	31.8	67.4	34.3	33.0
Civilian labour force	25.9	24.4	1.5	28.5	26.0	2.5	29.6	26.9	2.7
a) Employed	25.3	23.9	1.4	28.0	25.5	2.4	29.0	26.4	2.6
b) Unemployed	0.6	0.5	0.1	0.5	0.4	0.1	0.6	0.4	0.2
Not in civilian Labour force	64.0	21.9	42.1	36.9	7.2	29.2	68.1	22.9	45.2
a) House Wives/ Household work	22.3	1.0	21.3	24.5	0.2	24.3	24.8	0.1	24.7
b) nactive	11.8	5.8	6.0	11.4	6.8	4.6	43.3	22.8	20.5
URBAN:									
Total population	0.0	6.7	4.3	11.6	6.4	5.3	12.5	6.8	5.7
Population below 10yrs	2.8	1.5	1.3	3.4	1.7	1.7	3.7	1.9	1.8
Pop 10 years and over	7.2	4.2	3.0	8.2	4.7	3.6	8.8	4.9	3.9
Civilian labour force	3.3	3.1	0.2	3.9	3.4	0.4	4.2	3.7	0.5
a) Employed	3.2	3.0	0.2	3.8	3.3	0.5	4.0	3.6	0.4
b) Unemployed	0.1	0.1	—	0.1	0.1	—	0.1	0.1	—
Not in civilian labour force	5.8	2.0	3.8	4.3	1.3	3.1	8.3	3.1	5.2
a) House wives/household work	2.0	0.1	1.9	2.3	—	2.3	2.5	—	2.5
b) Inactive	1.0	0.4	0.6	2.0	1.2	0.8	5.8	3.1	2.7
RURAL:									
Total Population	79.9	40.6	39.3	83.6	42.2	41.4	85.2	43.0	42.2
Population below 10 years	27.1	13.6	13.4	26.8	13.6	13.2	26.8	13.6	13.2
Pop. 10 years and over	52.8	27.0	25.9	56.8	28.6	28.2	58.4	29.4	29.0
Civilian labour force	22.6	21.3	1.3	24.6	22.5	2.1	25.4	23.2	2.2
a) Employed	22.1	20.9	1.2	24.2	22.2	2.0	25.0	22.9	2.1
b) Unemployed	0.5	0.4	0.1	0.4	0.3	0.1	0.4	0.3	0.1
Not in civilian labour	53.3	16.8	36.4	30.2	6.1	26.1	59.8	19.8	40.0
a) House wives/household work	20.3	0.9	19.4	22.2	0.2	22.0	22.2	0.1	22.1
b) Inactive	5.9	2.3	3.6	9.5	5.7	3.7	37.6	19.7	18.9

Source: Final Report of LFS 1984-85, Statistical Pocket Book of Bangladesh 1987, pp 72,73.

Table-2: Female Labour Force Projection in Rural and Urban Areas 1980-2000

(In million)

Year	Rural	Urban	Total	Project Participation rate (%)
1980	2198	312	3230	11.0
1985	4000	506	4506	13.5
1990	5585	849	6434	16.6
1995	7644	1329	8973	20.4
2000	0141	2061	12202	25.00

Source: World Bank, Bangladesh: Selected Issues in Rural Employment op. cit., Table 1.8, P-118.

Table-3: Distribution of Female Workers in Rural Industries 1979

	Product	Famale employment (in per cent)
1.	Ginger preserving	65.6
2.	Fish drying	32.2
3.	Gulap oil	46.4
4.	Mastered oil	38.1
5.	Coconut oil	47.5
6.	Dhenki products	53.3
7.	Juice Gur	38.4
8.	Bidi making	4.8
9.	Shital pati	33.6
10.	Chatai making	40.0
11.	Mat making	52.2
12	Cane furniture	35.8
13.	Kantha making	74.6
14.	Wollen products	44.3
15.	Coir mats	69.8
16.	Jute rope	48.3
17.	Coir rope	59.2
18.	Fishing net	51.9
19.	Dying of yarn	49.6
20.	Lungi, sari	42.1
21.	Mosquito net	34.7
22.	Misc. Handloom	42.8
23.	Than cloth	40.9
24.	Silk weaving	44.4
25.	Jute products	62.7
26.	Embroidery and cap making	50.4
27.	Paper bag and box	47.2
28.	Nylon and plastic products	38.
29.	Pottery	41.4
30.	All industries	36.00

Source: Rural Industry Survey Project , Final Report.

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WOMEN AND DEVELOPMENT IN THE FOURTH FIVE YEAR PLAN

SALMA KHAN*

"....Women's advancement has achieved a certain momentum ....it will also continue to exist as a force to be reckoned with...."
Nairobi Forward Looking Strategies for the Advancement of Women (Paragraph 22)

1. INTRODUCTION

The vast majority of the women in Bangladesh are illiterate, malnourished, poor and deprived. By tradition and cultural norms, women enjoy much lower status compared to men. The discrepency in the treatment of male and female starts at birth and continuous through the different phases of life . In other words, gender inequality is established through socio-economic inequality and distribution of authority and asset between sexes as determined by the family organization and stratification of society. Even within the same socio-economic class, women are worse off than men in nutrition, health, educational and social status and the gap in widening over time. Moreover, being a predominantly Muslim society, purdah or seclusion often keeps her unreached and denies her access to many opportunities.

The female population of Bangladesh has been estimated 53.3 million during 1990-91 representing 48.5 per cent of the total population. Of these 22.0 million women are in the reproductive age group indicating serious implications for future population growth. Acute poverty coupled with highly disadvantaged position of women in the society have resulted in one of the highest infant and child mortality and maternal mortality in Bangladesh which is 125 per 1000 live births and 6 per 100 live births respectively.

The annual growth rate of the labour force has been estimatd at 3.4 per cent during the Fourth Five Year Plan (FFYP) period which is higher than the population growth rate. This would be mostly contributed by the increasing female participation in the labour force which has increased by more than three folds in recent times. The labour force projection has assumed the growth rate of female labour force at around 11 per cent per annumn. and their participation is expected to incerase to 25 per cent by the year 2000.

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The views expressed in this paper are of the author's and not of the Planning Commission.

In a scenario as described above where women are at a most disadvantaged situation resulting in adverse discrimination against them. The resultant consequences fall heavily on the overall rate of economic growth.

2. KEY ISSUES TO INTEGRATE WOMEN IN DEVELOPMENT

The key issues we may look at to integrate women in the development process are the following:

a) Lack of general awarenss regarding the concept of Women In Development (WID).
b) Lack of policy commitment in respect of WID in our development planning.
c) Absence of political will of the government.

In order to overcome these deficiencies and to adjust women to the necessities of a modern economy and society they must be identified as the new target group for all development programmes.

3. RATIONALE OF INTEGRATION OF WOMEN IN THE PLAN

Need for integration of women in the macro-frame work of the Fourth Five Year Paln is based on the following:

1. Women constitute about fifty per cent of the total population. Our economic planning aims at increased growth of GNP necessitating equal participation of all people in the development process.

2. Women's overall disadvantaged situation in the socio-economic, political and legal spheres adversely affecting balanced human resource development.

3. Alleviation of poverty aiming towards self-reliance is one of the major objectives of our entire planning process. In the FFYP for ensuring more equitable distribution of income to the targeted population, a group based approach has been suggested rather than a sector based approach followed in earlier plans. Women constitute the single largest group of poor people in Bangladesh who must be reached directly as an effective strategy of group oriented poverty alleviation programme.

4. High rate of population growth has been identified as the number one problem of Bangladesh and women's development has important bearing on population growth rate.

5. Women's development is a multisectoral issue involving wide range of activities and institutional support at different administrative tiers and NGO level.

6. To operationalize the constitutional provision that "no citizen should ..... on..... grounds of .... sex .... be discriminated against in respect of employment or office in the service of Republic" and to comply with UN convention on the Elimination of All Forms of Discrimination Against Women by the Year 2000 to which Bangladesh is a signatory.

4. MAJOR AREAS OF CONCERN WHICH NEEDS TO BE ADDRESSED IN THE DEVELOPMENT PLAN

a) Employment:[1]

— Female labour force is increasing at a faster rate than that of male. In the active age-group of 15-30 years, female population is 30% higher than male population. The proportion of female labour force in Bangladesh will increase from 11% of the Labour force in 1980 to 25% of the labour force in the year 200 indicating a higher growth rate than male labour. In spite of that women are suffering from continued limited scope in the labour market.

— Women's share in the public sector employment including nationalized industries is less than 6%.

— Non—existence of women in the top decision making level.

— Concentration of women in low—paid works.

— Female wage is about 1/5 of that of male in rural non—agricultural sector.

— In rural industries a female worker receives 57% lower wage compared to a male worker.

— Female wage rate in rural areas is less than 40% of the minimum wage set by the government for agricultural labourers.

— Over 3.4 million women have been displaced as a result of technological development (e.g. due to introduction of rice mills, mechanized irrigation etc).

— Lack of access to asset base (credit, land, other capital) needed for self-employment.

b) Education:[2]

— Female literacy rate is half (16%) of that of male literacy (36%).

— Only 48.50% of the school age girls are enroled compared to 75.25% boys.

1. Data sources: Planning Commission, BIDS Rural Industry Survey Project and The World Bank Country Report.
2. Data Sources: Planning Commission, Statistical Yearbook and the World Bank Country Report.

— There is more than double drop-out rate among female children at the primary stage compared to that of male children (about 80%).

— Of all primary and secondary schools, only 1% and 8% respectively are exclusively meant for girls.

— Primary age group female population (6-10) would increase by 5 million between 1985-90.

— Skill development and technical training opportunities to girls and women are extremely limited as vocational institutes usually do not cater the needs of girl students.

— Of the total education expenses, 44% of primary 32% of secondary and only 13% of university education go to female clients indicating wide gender disparity.

C) Health[3]

— The average mean weight of a Bangladeshi women is about 40.90 kg. which is less than mean weight of women in most third world countries.

— Bangladesh women have a lower life expectancy at birth (52.0) than men (53.2).

— Average food intake by pregnant and lactating mother is 874 gm. Per day compared to average intake of adult male per day (1047 gm.).

— 31% male children are immunized compard to 18% of the female children.

— Incidence of stunting (chronic long term malnutrition) is 54.8 among male children and 57.6 among female children.

5. WID END THE FOURTH FIVE YEAR PLAN

The Fourth Five Year Paln aims at complete integration of women into the development process. Women constitute nearly 50 per cent of total population and almost half of potential labour force of Bangladesh. Any meaningful development planning efforts must incorporate problems, prospects and aspiration of this vast multitude of women-folk especially women work force. Bringing women in the mainstream of development planning has therefore, been taken as one of the major strategies of the Fourth Five Year Plan. Women issues have been made more specified and operational and efforts are being made to ascertain growth and equity more emphatically through productive use of underutilized women power

3. Data Sources: Planning Commission.

resources. Since poverty, mulnutrition, hunger, illiteracy etc. are largely centered around womenfolk it is considered that women can act as most suitable agents for removal of these socio-economic maladies.

The general strategy of the FFYP is to integrate sector based planning with socio-economic group based planning where efforts are made to bring in relatively poor and disadvantaged groups under sharper focus. The plan assumes that in the group based planning it would be possible to identify women as distinct social group and attempts could be made to bring them to the centre of the planning process from the perephery. The Fourth Plan therefore, aims at taking multi-sectoral as well as special programmes on priority basis where women would be visibly identified as a target group.

6. CONSTRAINTS TO WOMEN IN DEVELOPMENT

The following major constraints in bringing women in the mainstream of development have been observed in the FFYP.

1. Due to gender inequality and inferior status, women in and outside the family remain vulnerable, subordinate and dependent. An unequal power relationship is further reinforced by social institutional norms, customs and believs, which uphold male dominatee and deter women from particpating in socio-economic activities.
2. Official statistics have failed to capture women's participation in economic activities. Substantial contribution made by women specially in agriculture, livestock, poultry and fisheries have remained unrecognised and due to such inadequacy women have so far been leftout at the perphery of economic development.
3. It is not only difficult for women to get paid job but also to get equal wage to that of men. Women comprise over 77.0 per cent of unpaid family workers. Majority of the female labour are involved in unskilled and semi-skilled jobs with low return and lowest wage.
4. Female literacy is half to that of male which limits their opportunity for training and skill development.
5. Due to inadequate data base, it is difficult to design multi-sectoral or multi-ministry approach in respect of programmes to mainstream women.
6. There is a lack of general awareness regarding the concept of WID leading towards sectoral and gender differentiated approach in economic activities and employment.

7. DYNAMISM OF THE FOURTH FIVE YEAR PLAN

— The Fourth Five Year Plan has been formulated as part of a twenty year Perspective plan (1990-2010) which is based on the promotion of sustained growth of the economy.

— It is realized that to achieve sustainable progress particularly through alleviation of poverty, women must be integrated into the national development process.

— The notable dynemism of the FFYP is that is identifies women as a major target group in the macro-framework of the Plan for the following reasons:

  a) Women form the signle largest group of the poor people;

  b) Female labour force entrants are increasing at a faster rate than male; and

  c) Women in Banglagdesh are poised to play a more significant role in the development process.

— The Fourth Plan recognizes that in a group-based planning women can play creative role in such areas as:

  a) Employment

  b) Income Generation

  c) Savings

  d) Investment

  e) Family Planning

  f) Environment Preservation and Tree Plantation.

— To make women's participation more effective and to ascertain gender-based growth and equity more emphatically, the FFYP has incorporated a full chapter on WID in the macro frame work of the plan besides the sectoral chapter on WID. The macro chapter firmly expresses the commitment of the government to remove hunger, illiteracy and unemployment among women and children.

— Unlike the previous plans, the Fourth Plan does not consider women as the beneficiary of development, rather as the effective agent.

— Dynamism of the Fourth Plan regarding WID can also be found in the stated objective which envisages "reduction of gender disparity in all socio-ecpnomic spheres".

8. OBJECTIVE OF WOMEN IN DEVEOPMENT IN THE FFYP

The purpose of mainstreaming women in development is to ensure the achievement of the objectives of Fourth Five Year Plan which has been formulated within the broad framework of the Perspective Plan (1990-2010). Attainment of a reasonable growth rate, alleviation of poverty through generation of productive employment opportunities and increased self-reliance are inextricably linked up with the increasing participation of

women into the development. Consequently, the following major objectives of WID have been formulated with the need for full and optimal utilization of the potentials of women:

1. To integrate women in the mainstream economic activities so as to reduce gradually the gender disparity in all socio-economic sphares;
2. To increase women's participation in the public sector decision-making both at national and local level.
3. To raise the productivity and income opportunities of female labour force through skill development and training.
4. To reduce population growth at a faster rate through enhancement of socio-economic status of women.
5. To reduce substantially the male-female literacy gap.
6. To raise female nutrition level and improve provisions of healty services to women.
7. To enhance the participation of women in nutrition based agriculture and maintenance of ecological balance.
8. To reduce substantially infant and maternal mortality rate.
9. To ensure participation of poorer 50 per cent women in the development process more effectively.

9. STRATEGIES AND POLICIES FOR WOMEN IN DEVELOPMENT

The focus of women in development during Fourth Five Year Plan will been the formulation of multinational programmes for women to ensure their participation in productive activities as well as in the decision making process both at macro and micro level. Based upon the targets speltout in the macro framework, each sector would identify integrated programmes for women as well as women-specific investment packages and production programmes.

With a view to achieve the above objectives of women in development during Fourth Five Year Plan major strategies to be followed are:

1. Taking multi-sectoral approach to the problems of women in development to make them exploit within the framework of sector-based planning;
2. Making women more productive by introducing appropriate production technology and skill development training;
3. Diversification of women's employment both in public and private sector through increased quata and better training facilities in non-traditional areas;
4. Taking necessary steps for increased female education through gender based human resource planning, free education for girls

upto class eight, scholarshis and stipends at all levels and types of education and training institutes and reservation of female admission quota in educational institutes;

5. Making provision of increased credit facilities for income generation activities to women at the local level;
6. Increased provisions of health and nutrition to women and children, child care and accommodation facilities for working women;
7. Promotion of appropriate technology with a view to reduce drudgery and increase productivity of women;
8. Consideration of women as a target group in all sectoral programmes and in special concern area programmes such as rehabilitation of destitutes countering violenced legal aid requirements etc. to be taken up by the Ministry of Women's Affairs.
9. Undertaking advocacy, awareness and social mobilization programmes through mass media and local organizations to bring a general awareness about the concept of WID;
10. Establishment of appropriate institutions to develop monitoring mechanism for intra-sectoral co-ordination and to ensure optimal utilization of facilities meant for women in different sectors and to minimize leakage; and

11) Development of mechanism to assess, evaluate and monitor the impact of all development projects on women.

Judging from objectives and strategies of the FFYP it is aparent that the main thrust of the Fourth Plan will be on raising productivity of women who are already in work and incrasing opportunities for new entrants to the female labour force. This will be consistant with the macro objectives of attaining projected 5.0 per cent growth rate of the economy and employment generation where women would form part of the productive agent both as labour and entrepreneur. The Plan rightly indicates that the possibilities of female employment expansion would be in agriculture, specially the crop sub-sector and other rural non-farm sector where women would play critical role. The major source of further employment growth would be in the manufacturing sector specially the small and informal manufacturing activities, non-crop agriculture and other services.

To operationalize universal literacy programme during the plan period, measures are underway to reduce the male-female literacy gap. A comprehensive female education policy has been enunciated to provide free education to all girls upto class eight outside the municipal area. For enhancement of female enrolment and retention, uniform and mid-day tiffin

for girls will be provided in selected areas. Financial support for promoting female education at all levels will be provided by generous provision of scholarship and stipends. In backward areas separate schools will be earmarked for girl students. Non-formal education for girls outside the school system would be provided with the help of NGOs and other community organizations.

The government is committed to health for all by the year 2000- and with the realization that female health status is markedly low; the Fourth Plan attaches priority to female health development programmes. To attack severity of malnutrition and iron deficiency anemia among women, special nutrition and immunization programme will be undertaken at the upazila level. The family planning services will be provided in a package to the family with a view to increase its overall welfare. Adequate number of female health workers will be recruited for dissemination of health information to rural women and school children.

10. POLICY PLANNING, COORDINATION AND MONITORING

To ensure integration of women in the macro framework of development, the Ministry of Women's Affairs (MWA) has been made a permanent member of the Executive Committee of National Economic Council (EC NEC). Besides, all project proposals are routed through the MWA to assess the impact of overall development on women.

Due to multi-sectoral nature of Women's programmes under FFYP, inter-ministerial monitoring and coordination of WID aiming at the promotion of cross sectoral aspect and ensuring participation of different ministries/implementing agencies would be very important. In this, connetion a National Council for Womens's Development' (NCWD) headed by the President is being formed. The proposed councill will have two organs namely "The Standing Committee of the National Council for Women's Development" and "The Excutive Committee of National Council for Women's Development". The standing committee will be located in the Ministry of Women's Affarirs. The main tasks of the Standing Committee will be to monitor and evaluate the women's development projects, to identify the main constraints and potentials of women's development and to take up necessary steps for protection of legal rights of women, etc. The Executive committee of the National Council for Women's Development will be located in the planning commission. The tasks of the Executive committee will be formulation of macro politics, intersectoral coordination of WID programmes, ensuring inclusion of women component in the multisectoral projects, assessing overall development impact of women and to take up necessary steps for policy interventions.

11. THE UPHILL TASK OF INTERGRATING WOMEN IN DEVELOPMENT

Although a number of constraints to integrate women in development have been identified and strategies to counter them have also been suggested in the FFYP, successful implementation of WID programmes will remain one of the biggest challenge of the FFYP. In the Patriachal socio-political scenario of Bangladesh which still governs the economic trends, it will be an uphill task to integrate women in the development process unless immediate changes are triggered in some important areas of management and operation.

a) Generating Awareness and Co-Operation Among Personal Responsible for WID Activities

Since WID activities are going to cut across number of sectors, a large number of ministries, agencies and functionaries are going to be involved in WID activities. If the staff and personnel involved do not have proper orientation to WID issues, they will not be in a position to implement the government policies. In this respect both the policy makers and the administrators need to share a common goal and objective. There are two aspects of the problem; first there has to be a proper understaning of WID issues on the basis of national objectives and individual commitment and second, more women should be included in the existing hierarchy because a balanced number would strengthen the coalition with others across the sexlines. Conditions have to be created in which there will be a sufficient number of women in decision making positions whether in politics or in civil service to make "gender an unremarkable attribute and the solution of women for higher positions inevitable and normal[4]". Such conditions start with a change in attitude and socio-economic structure and an overall social movement which is tied in with elimination of discriminatory practices against women in education and employment. In the given condition such changes can only be initiated with an incraase in the number of women in decision-making level and public life especially into the existing "male system" leading eventually to a gender balance which would help to create a change in the male-female perception and behaviour. Although, the Plan indicates that emphasis would be given on visibility of women and their needs and projects would be formulated in such way that benefits including access to and control of resources are equally derived by men and women, in reality it is only possible through conscientizing and mobilizing public opinion which in turn is dependent on the level of literacy. A sincere political will is also a key factor for enhancing female participation.

b) Expansion and Diversification of Women's Employment.

The FFYP seeks to expand significantly the female employment in both the public and private sector. While increased female quota and

4. Women News, Publised by the United Nations, P. O. Box 500, Vienna, Austria, 1990.

educational opportunities could promote female employment in the public sector, productive employment in the private sector including self-employment would be a challenging task. Between now and the year 2000, about 6 million women will join the labour force majority of whom will still remain un-educated and untrained. Extension services has to be restructured so that extension workers can effectively reach women groups engaged in agricultural production, horticulture, livestock fisheries and forestry. Proper training and retraining curricula of the extension workers and successful introduction of agricultural technologies appropriate to women will play vital role in this regard.

With the understanding that credit is a key factor for self-employment, need for credit expansion to women was stressed in the plan. However, one must be aware of socioeconomic constraints in translating it into practice. Social attitudes and an apathy towards women and their general lack of property would hinder them to undertake independent economic ventures. Despite good records of recovery and repayments of loans by female loanees of Grameen Bank and other NGO's, bankers usually do not show interest in female clients. Women are also reluctent to approach a bank or financial institution firstly because they are unfamiliar with institutional credit facilities and bank policies and secondly because they are apprehensive of complex bank procedures. Therfore, even with adequate credit provisions for women, they may remain unused unless supervised and innovative credit policies are developed.

In recent years proportion of women in manufacturing has increased manyfolds-women now constitute nearly 36 per cent of the employees of this sector. Women are mostly involved in rural industries which include a vast range of cottage and small scale industries and agro-processing industries as well as garments, fish processing and construction industries in urban/semi-urban areas. In rural industries women accounts for two-thirds of unpaid family workers and in urban industries women workers are mostly deprived of legal minimum wages, exposed to unscrupulous middlemen and faced with adverse working conditions.

Due to lack of education, skill training and mobility, women generally are less equiped to strike a burgain with the employees compared to their male counterpart. Another women-specific problem in employment area is the gender based disparity of agricultural and informal sector wages. Still male and female labour markets are markedly segregated. Female wages in agriculture will remain consistently lower (50-60 per cent less than men) unless female labours are in a position to improve their terms of employment. Lack of imlementation of minimum wages in the organized sector are also forcing women to accept a much lower wage.

All these imply that there is a need for strengthening lagislative and law enforcement procedures that would contribute to improving the situation of womem. Moreover for diversifying employment opportunities in both formal and informal sector, all training programmes of women must be co-ordinted by the National Council of Skill Development and Training (NCSDT) to ensure unifrom standards. The NCSDT should also have women members to assess women's training needs. The Ministry of Womens Affairs may liaise with the NCSDT to ensure optimal use made of district based facilities to diversify training opportunities for women.

c) Co-ordination and Monitoring of WID Activities

Success of WID activities in the FFYP will largely depend on macro intervention in planning, implementing and monitoring of WID activities. The two organs viz. the Standing Committee and the Executive Committee of the proposed National Council for Women's Development should function on a continuing basis to set up the institutional machanism to ensure the incorporation of WID in the macro framework. In addition, An Equal Opportunity Commission with representative of important Ministries may be established with in the NCWD with Ombudsman and `Watchdog' functions to ensure that women have the widest possible access to all areas of activities. Regarding the needed legislative reforms andlaw enforcements, the Ministry of women's affairs and the women's NGO's should lobby with the policy makers, administrators and employers.

d) Strengthening Administrative and Management Capacity of Women In Development Functionaries

During the FFYP period WID activities are going to be enlarged manyfolds and virtually all development projects will have some WID component. On the one hand, the Ministry of Women's Affairs (MWA) will be responsible to formulate and implement targetted programmes for women that do not fall within the purview of individual sectoral ministries e.g. to assist destitute women, to counteract violence against women or to provide legal aid-all these would involve special expertize for project design, analysis and a sound follow up system. On the other hand, the Ministry will have to work as one of the two organs of the National Council for Women's Development whose role would also include among other things effective project supervision, co-ordination and monitoring of multi-sectoral projects. Actually the effectiveness of the NCWD which is to act as promoter, sponser, catalyst and watchdog for women issues would largely depend on the efficiency of the MWA and the women's wing of the Planning Commission. The MWA is neither trained non equipped to handle such wide range of activities and the concerned Wing of the Planning Commission also suffers from administrative limitations. In this context,

immediate attention must be paid to develop a broad-based management capability in both the organizations having funcitonal linkages with government agencies and NGOs involved in WID activities.

e) Needed Resource Allocation

To operationalize the WID objectives in the FFYP, adequate financial resources must be made available. In the past plans women specific projects always suffered from resource constraints and inadequate coverage. In recognition of the enormously increased activities relating to women, allocation in relevant sectors must be increased considerably. To ensure women's access in education, health and employment and other related areas, greater investment in women is essential.

12. CONCLUDING REMARKS

In the planning history of Bangladesh this is the first time that WID has been incorporated in the macro framework of development with adequate emphasis on reduction of gender disparity. However, our past experiences indicate that good planning was never a guarantee of impressive achievements. More often than not, so much deviations from the plan took place during annual phasing and implementation that the basic objectives were lost soon.

Dynamism of the FFYP in respect of WID is noteworthy, but the stated objectives can only be achieved if plan policy of meeting strategic gender needs of women emphasising equity and equal opportunity is endorsed by firm political commitment and meeting practical gender needs of women are ensured through proper programme implementation. The FFYP includes policy guidelines addressing both the strategic and practical needs of women. Combination of well-designed integrated projects, effective multi-sectoral co-ordination and monitoring, allocation of needed financial resources and above all a long-term commitment by the government and NGOs can definitely make the miracle work.

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COST EFFICIENCY IN HIGHER EDUCATION

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INTRODUCTION

Cost has been variously defined; for our purpose it may be defined as the money, effort and other resources e.g. material, person, time, space, energy etc. required to spend in order to achieve a pre-determined end. We all know that costs of any product or programme are affected directly by state of the economy, demographic changes, government regulations and assistance policies, input structure and prices, employee needs and demands, demand for general and particular outputs of the process, internal policies of the organization, operation procedures in this regard as well as customs and traditions of the society. Costs of the educational process or even an educational institutions are affected by these factors like any business organization. Since in many countries of the region educational institutions are run with grants and aid and managed by educationists without necessary and appropriate assistance of "professional" expertise in this regard, the matter is hardly recognized in its totality and actions are rarely prompted to take necessary measure that may minimise the adverse impact of some of the factors listed above.

The management of a higher education institution per force has to deal with total demand for money and other resources for its programmes and the managers of educational institutions need to comprehend behaviour in respect of the elements that make up costs and factors that affect their behaviour pattern so as to be conscious of the relationship between factors and costs in identifying policy or action alternatives. Understanding of this relationship is dependent on costing techniques which help in the generation of fixed, variable, semi-variable and marginal costs of the component "departments", "Programmes" and outputs of the system, but no single costing technique used in the business world is adequate, appropriate or comprehensive enough to deal with the effects of volume, policy, environment or programme/course-mix for an educational institution, but the available concepts and approaches are helpful guide for this purpose.

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The basic objective of cost analysis is to ahcieve efficiency in resource allocation. If factor and output markets operate under conditions of perfect competition, then optimal resource allocation condition is met when ratios of prices of outputs are equal to their marginal cost ratios. The price ratios are substitutable by income-ratios of outputs in the education system if they are reflective of social utility-ratios but the input and output markets are far from perfect. Hence, the attention is directed towards to allocative efficiency of inputs and effective use of allocated inputs within the institution and the system. In this respect, cost analysis is a tool of budgetary programming for efficient allocation and use of resources.

The cost analysis approach promoted development of MIS in the higher education institutions and the system which helps allocation, evaluation, monitoring and scientific decision-making. To achieve this it is important to conscientise the top management in the institutions and the system and train the people who will implement this approach. An incentive system for development and use of the integrated cost analysis approach may be built up.

CONCEPTS, DEFINITION AND AN APPROACH TO COST ANALYSIS

The pre-requisites for a cost efficienty analysis is the practice of an integrated cost accounting system and continuous collection of cost data.

Some important general principles of cost analysis for efficiency purposes are stated below:

1. First, objectives for incurring costs are to be specifically identified and used consistently;
2. Second, costs have to be classified into defined categories for consistent use;
3. Third, "centres" to which incurred/to be incurred costs are to be allocated have to be similarly identified and used;
4. Fourth, all costs then have to be allocated to defined cost centres as well as cost objectives simultaneously and presented in a tabular from; and
5. Fifth, defined output measures are to be used for calculating unit cost.

Cost Objectives

Objectives for incurring costs are directly derived from objectives of the Higher Education Institution and the way it is organised. The most obvious objective is teaching (instruction) and research; but in order to perform this

academic objective, institutional support, student service, operation and maintenance of real estate and equipments have to be provided. The institutions through a process of its growth gets involved in auxiliary enterprises and other independent operations. Further, being a part of the community it is required to provide professional service facilities as well as community services related to its broad nature of activities. We shall discuss these in some detail a little later.

Cost Classification

One has to differentiate between directly attributable costs to cost-objectives and cost centres and those which are not directly attributable. The directly attributable costs include (a) salaries, wages and benefits for people directly employed for attaining cost objective in the specific cost centres; (b) supplies, utilities, consumables and contractual and other services used for attainment of the objectives of the centres; (c) non-capitalised equipments used for the same, (d) travel where it is relevant.

Indirect costs are not readily attributable to an objective or a centre because of the indivisible nature. Such costs include (a) support services, (b) academic administration, (c) repair, maintenance and operation of general facilities, (d) general library services, (e) general administration etc. Allocation of such indirect costs require certain defined conventions or rules which should be rational and equitable.

Besides there are such changes as depreciation of equipment and facilities some of which are again directly attributable and some are not. It need be mentioned that we are discussing current costs and not development costs.

Cost Centres

Basic aggregate cost centres are the departments, institutes and the like. Basic disaggregated cost centres are the levels of institution e.g. first year undergraduate, first year graduate, doctoral or post-doctoral programmes etc. Primary flexibility in programmes and course options are available, the course-based cost analysis is helpful because of inter departmental and intertemporal overlap.

GENERAL OBSERVATIONS ON COST OBJECTIVES AND SUPPORT SERVICES

We have earlier enumerated the cost objectives. In this section we shall try to elaborate it further in order to understand principles of inclusions and exclusions.

Instruction

This is related to all activities directly related to programme oriented towards teaching of students. This means all costs related to academic administration and support services should be excluded, while all costs related to instruction (e. g. departmental laboratory, basic instructional library in the department, supplies and cosumables needed for imparting instruction) should be included. Take the case of the Departmental Chairman and his office. This should be included in academic support cost for the department unless he teaches in which case part of his salary should be apportioned in proportion of time spent in teaching and administration; wherever a department offers on-campus instruction to full time day students, off-campus instruction to full/part time day/evening students and vacation-time instruction, the instruction costs need be divided into these sub-classes with appropriate allocation.

Research

"Research" which is part of instruction programme is excluded from here and included under instruction. Here the intended work is research for a broadly intended outcome. These in developed countries are often commissioned by an agency (e. g. government, industry, etc.) which are external to the university and carries separate budget. But there could also be budget funded by the university and done by the faculty individually or collectively as a project in the interest of advancement of knowledge, building of career, image building for the university etc. In the teaching universities of the developing countries both commissioned and university funded research seem to be rare, but needs to be encouraged.

Support to And Promotion of Professional Services

These are non-instructional in nature and provided to people who are not necessarily members of its internal community. The best examples are the facilities extended to the professional associations e. g. a room, use of common facilities (viz. conference hall, cafeteria, library, documentation etc.), publication of journals, proceedings, etc. These have externalities which come out of the system, but can be consciously programmed.

Community Educational Services

These are basically extension education for the community organised through continuing education efforts e.g. instruction through mail, audio/video instruction material, teaching seminars, short-courses etc. These are services needed for an educationally growing community and universities can not only provide them but use them to its advantage.

Academic Support Services

These are related to instruction and research. Such support services include libraries, museums, laboratories, computer facilities, audio-visual arrangements, academic administration, including course and curriculum development costs. These services directly assist the academic functions of the higher educational institutions.

Student Services

These services are directly related to provision of facilities for students and not directly connected with academic programmes. Such services include counselling and guidance, admissions and records, financial aid, student health services, facilities for student activities-physical, social,cultural etc.

Institutional Support Services

These include general administration of the university, logistical services, fiscal operation, public and community relations etc.

Operation and Maintenance Services

These include repair and maintenance of buildings, utilities, plants equipments and maintenance and care of grounds.

Other Support Operations

Any other work done by the university which are not related to any of the cost objectives listed above are included in this category.

Auxiliary Enterprises

These are facilities which are provided primarily to the internal community for a fee which is designed to meet at least its operational cost. Examples are university press and publications, university book stores, cafeteria and food services, hospitals, infirmary, faculty housing and student residence halls. If these are run on subsidy-receipts not meeting the costs of operation, then they cease to be qualified as enterprises. It should be noticed that support service costs need be subdivided against the instruction, research, professional and community objectives.

GENERAL OBSERVATION ON ALLOCATION OF COST TO INSTRUCTION

We have earlier mentioned what direct costs are and also indicated how primary cost-centres can be identified. To allocate costs to these centres we need a matrix indicating work effort provided to these sub-centres.

To simplify our analysis we have divided our instructional levels into under-graduate, graduate and post-graduate levels. One can further classify them as to the sub-levels within these levels. (e. g. Freshman, Sophomore, Junior, Senior in the US system). Data raquired for computing

direct instructional cost for these levels are courses required to be taught in the year for students in each level and the faculty who provide this instruction. A faculty may teach various courses at various levels and may indeed be involved with administrative and other activities of the higher education institution. Analysis of the faculty time-use is needed to allocate costs of his salary and compensations. Assume that Mr. X's Time-use data shows that he spends 25% of time in giving courses for under graduate students, 25% for graduate level courses and 10% is spent in various support service activities, 15% on professional and community education, and 15% in research. Then his salary and compensation has to be so approtioned. This analysis can be carried out for each faculty and instructor. It should be recalled that costs of faculty differ as to their seniroity and attainment and capacity of faculty to contribute to the growth of the department and the institution also differ. These differentials offer an opportunity for cost and benefit optimisation.

Supplies, consumables, equipments and travel costs can also be apportionded by levels and sub-levels.

If students of other departments are allowed to take course in the department, then identification of cost of support to such students by departments need be calculted on the basis of ratio of sutdents by their basic discipline; if other departments provide similar services to the students of this department, it is necessary to be aware of such costs. This is needed to calculate per unit cost.

As to indirect costs provided through support services, two steps are needed. First, is to allocate support cost to the broad category of centres on the basis of use-data or population (faculty and /or student) data. For example, computer centre cost can be allocated on the basis of use, student services cost can be allocated on the basis of student population, and faculty-used space according to faculty population.

What is obvious from the above is that detailed records of faculty time-budget, students'use of academic and support facilities and other related data are needed for preparation of cost matrix. Similar exercises can be and need be done in respect of other cost objectives.

APPROACHES TO BUDGETING AND ALLOCATION OF RESOURCES

Various approaches exist in respect of cost budgeting. We shall discuss a few as examples. The first to be considered is known as (Historical) Incremental Budgeting. Under this approach the data base is past years budget and additions and alterations are made for changes in salaries and

allowances, cost of materials, new recruitments etc. The assumption is that the basis for allocating resources as reflected in the previous budget is optimal and not much flexibility or scope for maneuverability exists. It is easy to work and understand but rarely accommodative of changes in the demand for services.

A variant of incremental budgeting is known as openended-budgeting wherein the cost-centres (e. g. Departments, Institutes, etc.) are asked to make their demands for allocation of resources assuming no constraints. At the second stage, the requests are analysed as to already committed and additional requests. Finally, the additional requests from various cost centres are arbitrated according to certain "agreed" rules. This process increases participation of constituent units but ultimately depends on pressures and negotiations for arbitrations amongst competing demands.

Another variant is known as quota budgeting wherein cost centres are given an indicative allocation and they are then required to prepare the alloctions amongst cost objectives and sub-centres themselves. This process shifts the burden of allocation within cost-centres to the units and the units may not follow the same or similar procedures for allocation of resources.

A third variant is known as alternate level budgeting wherein the cost centres are required to provide various resource demands for various levels of allocation which allows the central coordinating agency some flexibilty in taking account of increments/decrements of resources.

A fourth variant is known as formula-based budgeting wherein the central authority indicates the "multiplier" to be applied to cost elements in the various objectives for determination of increments/changes. This has the appearance of equity and help avoid tedious negotiations and bargaining but generally it is unable to accommodate "special" role of particular subcentres (e. g. experimental work in research, teaching, community services).

A functional approach to budgeting has come to be known as programme budgeting where in the authorities pre-determine the priorities of cost-objectives by cost-centres i. e. programmed outcomes of the institutions are first identified and resources are then allocated accordingly. The program budget establishes not only objectives and their proiorities but also allocates responsibilities through budgetary support which need take account of costs and benefits.

A variant or dynamic version of programme budgeting is performance budgeting wherein a review of objectives, support and achievements are built-in: an, achiever is provided with required continued support and a non-achiever is subjected to scrutiny and allocation made for remedy/removal of the programme.

Another approach to budgeting is known as zero base budgeting wherein historical budgets and programmes are not taken into account. For each unit the basic allocation is taken to be zero and the unit has the responsibility to justify anew each year for each unit of resources in terms of goals, objectives as well as abilities and achievements. Thus each cost-centre has to develop alternate decision packages in terms of functions in relations to objectives with details of cost elements for programmes and sub-centres. There is a minimum below which the unit becomes non-functional and a maximum above which diseconomies set in. The decision-package includes priorities and trade-offs. The exercise forces the decision-makers to examine each time the utility of their functions and resources. This is considered to be a built-in element in targeting efficient resource use.

AN APPROACH TO SCIENTIFIC ALLOCATION OF COSTS AND RESOURCES

It need be recognised immediately that it is well neigh impossible to do away completely with historically committed cost. Thus the allocations in previous years are useful data. However, what is being agrued that even historically committed costs need scrutiny and appropriately determined programme and performance based allocations need be done to increase organisational efficiency vis-a-vis the cost objectives. In this section we shall present such an exercise in respect of costs of instruction. Similar exercises for other objectives can be easily done.

Various mathematical models (e. g. CAMPUS, HELP, RRPM, SEARCH etc.) have been developed in the states for such purposes in order to tackle the problems related to allocation of resources in an orderly manner in a cost-effective way.

It need be emphasised that any such mathematical model should not be viewed as the correct approach as they need adaptations to societal and organisational constraints overtime but such models help identification of controllable variables which promote allocative efficiency of available resources. One more thing need be said; as the higher education objectives very and educatinal processes differ between countries and within the same country, the use of mathematical models should be done with due caution.

Quantitative examination of resources allocation can only be based on complete data in respect of faculty (i.e. composition, recruitment, retirement, promotion, etc.), student (i.e. in-take, drop-outs, failure, graduation requirement, progression within the system etc.), course scheduling (i. e. when, by whom, where, for whom support requirement etc.), facility scheduling (i. e. library, space, laboratory, computer, etc.), utility consumption, administrative support etc.

The best approach to resource allocation through a model would indeed be an optimising model where explicit formulation of output (benefits) function is available and the constraints are properly identified. However, sub-optimising models for particular objective can be used to approximate an optimum allocation model when all information are not available. Alternatively models have been built to answer questions related to sensitivity of certain occurance while stochastic models have been used to solve the allocation problem by assigning probabilities to variables.

First, there is a need to predict the student enrolment and retention pattern; this not only depends on the population of the relevant age group graduating from feeder institutions but also on the cost of higher education, assistance available, employment and income opportunities, educational relevance for professional employment, alternative modes of education available, admission and graduation requirement and government policy. Only some of these are controllable by the higher education institutions, while others are factors to which they need to respond creatively. In the developing countries higher education has been expanding quantitatively and generally in an unplanned manner, causing ab-initio uneconomic use of very scarce resources.

Second, the student enrolment rate and pattern as well as retention rates in various departments/ divisions along with graduation requirements in terms of courses and related work and student progression in terms of those indices provide the inputs for preparation of instructional workload matrix for departments by levels, i.e., it is possible to construct hours of instruction needed for each instructional unit and the number of students in each course/programme.

Third, instruction workload creates a demand for resources i. e. space, technics, consumables, books, supplies, administrative support etc. These factors need to be planned so as to optimise cost of instruction. For example, a decision is needed in terms of class-size. A small class-size needs more teaching-hours, allows for greater interaction resulting in better

outputs. The converse is generally true for a large class-size. Use of educational technology, teaching assistants help to increase the class size but they involve costs. Some types of courses are amenable to larger class size while others are not. This puts forward the dilemma of quality vs quantity. Similarly teaching can be done by a lecturer or by a professor again having implication in terms of quality and cost of teaching. A lecturer costs one-fifth of that for a distinguished professor while a distinguished professor attracts students and scholars, improves community and professional services thereby improving the image of the institution. Here again a conscious decision is needed in terms of faculty-mix by rank and reputation, teaching and non-teaching responsibility, teaching load by rank, recruitment, promotion and retrenchment policies. Faculty cost per course/student varies accordingly.

Administrative support services for instruction also provides for option as to the extent of centralisation/decentralisation, decision-making process, use of equipments for such purposes and identification of responsibility-accountability centres. The basic objective is to improve support for efficieny in terms of cost objectives. Some built-in flexibility is needed to accommodate changing internal and external community needs. Related to this is the question of space management which requires an analysis of existing space, their current utilisation and alternate use possibility i.e. what demands are being made and possibility of flattening the modal demand for space. It has been recommended that depreciation cost of buildings, equipments as well as maintenance and operation costs should be directly apportioned to instruction/ research units using them so as to arrive at a true picture of cost. It has also been urged to apportion administrative cost similarly to the cost centres.

We have not discussed student support services housing, cafeteria, health care, financial aid. It is basically a matter of policy decision as to how much cost of these services should be recovered from the students and who should bear the cost of subsidy, if any. The minimum that need be done is to recover operational costs, if for socio political reasons full cost is not recoverable. In terms of faculty and staff housing and other facilities, it is necessary to follow a policy of full-cost recovery. From the financial administration point of view subsidy through facilities in lieu of better salary package is generally not an efficiency-promoting effort. However, these are policy decisions which need be in tune with service conditions in the country. But what need be recognized is that an increasing burden for such facilities basically diverts resources away from instruction and research.

Community service, auxiliary enterprises do not qualify for any diversion of resources and may indeed be used for generation of revenues as has been demonstrated by the growth of so-called non-traditional courses. The support and promotion of professional services, however, can be and at times need be treated with special consideration as they are part of the vehicle for generation and dissemination of knowledge as well as growth and nurturing of institutional image.

WHAT DO WE LEARN FROM SUCH EXERCISES

Such cost exercises free us from notions of helplessness in a resource constrained situation as it helps us to understand variations in cost per unit-instruction, student, research, services and the like. This understanding of cost behaviour help us to analyse effects of policy, new or old (e.g. administrative decentralisation, faculty hiring, joint programmes, etc.) and of environmental factors (e. g. societal expectations, general economic condition etc.). This further helps us to identify the instructions/services that can generate surplus resources, can just meet the cost or need subsidisation. This takes us out of mingled fantasy and reality of the institutional expenditure pattern and forces us to adopt policies to remedy the dificits and deficiency in a conscious manner. The cost analysis provides us a basis for decision-making and operation by substituting facts for rhetoric. It facilitates inter and intra-unit comparison to achieve desired emphasis within the broad concept of social need and equity. It establishes the factual basis for pricing instruction and services. However, one should be conscious of the fact that primary cost measures are no indicators of quality and thus high unit cost need be taken with caution.

WHAT COST - EFFICIENCY PRINCIPLES CAN BE USED

First, uniform pricing of instruction is generally not cost-efficient. The differentiated disciplines and levels have different cost as well as optimal class size. It is necessary to price instructions differentially unless such cost variations are minimal.

Second, some disciplines are new and need initial investment before it can generate adequate revenue while some discipilines have little demand but are considered essential in terms of traditions and culture. Such disciplines would need conscious subsidisation. Should endowments be established for them?

Third, some disciplines/instructions seem to be much in demand and these can be priced to generate surplus; even community educational services can be so used.

Fourth, student enrolment and progression have implications for cost; instructions need be so designed as to attract at least a minimal number of students and students be so selected so as to maintain an optimal rate of progession and graduation. Not only that, in countries with social and political instability and inequity, academic calender and student assistance programme be so made as to help the maintenance of healthy progression and retention rate.

Fifth, faculty-mix and mix of teaching-non-teaching load also have cost implications. In general, faculty mix or "gorwth" and "revenue generating" departments need be such as to help growth of the university while other departments could afford a different order of faculty-mix.

Sixth, administrative cost need have some meaningful relationship to student-mix and faculty-mix. Treatment of such cost on pro-rata and equal basis is inappropriate.

Seventh, general administration cost need be routinely checked in terms of load, spread, and cost of decision. These costs should be minimized through decentralisation of routine decisions, development of principles to minimise discretion, and use of few efficient people instead of traditional tiered hierarchy as well as use of new office-technology.

Eighth, use of space and facilities need also be planned in a manner in order to make best use of them all-day and year-round so as to minimise cost to the users in the university.

Ninth, all services should at least be costed to recover at least operational cost and at most full cost plus. For social equity reasons, some students may need financial assistance and these should be met from endowments for such purposes.

Tenth, most developing countries would need funds for acquisition of equipments, for upgrading the instruction and management. These obviously, at least initially, have to come from sources outside the instituion. But even when these come from outside, its costs of repair and maintenance as well as depreciation and obsolescence need be costed and wherever possible recovered from users. Endowment funding for such purposes is an oft-used approach in developed countries.

Eleventh, the same is true to a large extent in respect of libraries and this can be similarly approached.

Twelfth, maintenance and repair of buildings and utilities need come generally from depreciation and rental charges but may require supplementation for rehabilitation and renovation through grants and endowments.

Thirteenth, the auxiliary enterprises of the higher educational institutions should be run at full cost plus basis so as to generate revenue for other purposes.

Last, in general the institutions of higher learning will do well to keep many of the costs as variable instead of fixed and cost all services/outputs at full cost while the policy decisions for subsidisation should be taken consciously under defined criteria by appropriate authority while making provisions for sources for such subsidity.

A GRADUAL APPROACH TO ADOPTION OF THE COST-ANALYSIS SYSTEM

It is felt that the institutional and system level cost analysis to develop useful action-orientd cost-norms have pragmatic use for policy makers and administrators; but such cost norms should not be too rigid and need be continuously monitored and an educational cost index need to be developed. Further norms for capital cost outlay are easier to develop than the operating cost. However a beginning could be made wherever possible in selected units within an institution or a selected institution and simplified norm-development approach in small and managable unit may not need computer facilities but would be necessary to follow an approach that lends itself to computerised analysis.

Adoption of such an analysis would contribute to the adoption of programme and performance budgeting in place of incremental budgeting and promote cost-saving devices and adoption of steps that would reduce wastage. These steps would make more resources available to the institutions and higher education system for inter-institutional along with intrainstitutional comparison of per-unit cost and inter institutional cooperation in this respect would indeed be helpful in developing a scientific management approach to promote institutional and systemic efficiency. It is felt that we need not wait till a scientific model is developed, it is possible to undertake initial steps and learn through doing and developing in response to need and management use. Some countries are already using some cost-analysis and cost-norms and this indicates that the process can be accelerated through somewhat more conscious efforts, incentives and rewards.

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DEVELOPMENT ALTERNATIVES FOR BANGLADESH

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1. INTRODUCTION

Massive poverty, malnutrition, illiteracy, growing unemployment, particularly among educated youth, a stagnant economy, increasing criminality and violence (in cities, villages, universities) extensive and deeply rooted corruption (coexisting with, indeed growing pari passu with, strident professions of piety), economic mismanagement, bureaucratic inefficiency, an undemocratic and precarious political situation -- these are some of the problems assailing Bangladesh as we move into the last decade of the twentieth century.

State policy to-date has tried to address only the economic problems, and even there the preoccupation has been mainly with growth. The only notable exceptions are some "poverty-alleviation" programmes under government or NGO auspices, which have no doubt made some modest contributions, but remain pitifully inadequate in comparison with the magnitude of the problem, and at best succeed in making a few of the poor somewhat leser poor, without coming close to offering them the fulfilment of anyone's conception of "basic needs", not to speak of "a full life", whatever that may mean.

Is this the inevitable price one has to pay for economic progress, which will at some point start trickling down? or are there alternative strategies available (leaving aside for the moment questions of political feasibility) that would enable poverty to be confronted head on, and would constitute an element in the process of building a better society?

The problem is compounded by the fact that there is no welfare ranking of social states that would command universal or even broadly consensual assent. In particular, various forms of neo-Gandhianism have staged a remarkable comeback, so that it is no longer possible to identify progress with "modernization" -- with large-scale industry, urbanisation, the transformation of peasants (even starving peasants) into urban proletariat (even employed, well-fed ones). with hydro-electric power projects or national highways. Even education along modern "rationalistic" lines, to the extent that it erodes traditional attitudes, value and beliefs long stigmatised as superstitious and obscurmatist, is no longer perceived by all as an

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unmixed blessing. Any prescriptions for building a "better" society will thus inevitably involve value judgments.

However, the degree of disagreement on the attributes of a good society varies a good deal depending on the particular attributes in question. There will be little disagreement that assuring healthy physiological survival is desirable, for example. Below we enumerate some tasks whose degree of performance may help us rank societies as "better" or "worse" (List-1).

1. The provision of consumption essential for healthy biological survival, e.g. food, clean drinking water, essential health services, housing, clothing (this has to include allowances for some cultural norms with regard to, e.g., clothing).
2. The provision of goods and services not essential to biological survival but yielding utility to the consumer without negative externalities to others.
3. The provision of goods and services which are not, at least initially, of perceived utility to consumers, but whose positive externalities are deemed to be large enough to justify some interference with private choice, e.g. compulsory immunisation, compulsory primary education.

   Note well that this provision carries great risks of abuse.
4. Maintenance of sufficient order for citizens, irrespective of class, creed, ethnicity and gender, to feel secure in life, limb, livelihood and the profession of their beliefs.
5. The promotion of a genuine sense of participation in decision-making on matters that directly affect their lives, based on sufficient, accurate information, and sufficient education to evaluate, assimilate, and analyse the information available.
6. Minimisation of the possible disruptive effects of development on ecology community, and family.

Most people, academic or lay, would probably agree on the importance of (1) and (4). Most people would also feel constrained at least to pay lip serivce to (5). There is more scope for disagreement on (6), not perhaps relating to the ecological proviso (though the "unity and harmony with nature" can become fetishised), but the values of traditional froms of community and family can be questioned. In what follows we shall concentrate on the relatively uncontroversial (1), (4) and (5). However, we shall redefine (1) by incorporating some elements of (3), thus bringing it more into live with the concept of "basic needs".

To summarise, then, the task before us is to identify sustainable development strategies that will offer to citizens, in the shortest possible time, access to the following (List-2):

1. A nutritionally adequate and culturally acceptable diet (recognizing that "cultural acceptibility" is to some extent modifiable).
2. Housing adequate in terms of hygiene and of protection from the weather.
3. Adequate sanitation and water supply arrangements (the latter for both drinking and other domestic purposes).
4. Adequate clothing.
5. Education, up to some minimum level and appropriate balance of areas of study, to be determined keeping in view the goals education is supposed to further.
6. Health care.
7. Security-- against (a) natural hazards, including floods, cyclones, river erosion, drought, as well as epidemics, (b) commodity and labour market failures, (c) old age, and (d) human violence, state or non-state, against life, property, body or freedom, based on class, gender, ethnicity or interpersonal conflict.
8. Participation, at local as well as national level, in the political process.
9. A sustainably healthy, secure and attractive environment.
10. A supportive, cooperative but non-obtrusive community based on voluntary association and combining stability without stagnation and change without traumatic disruption.
11. A family structure based on emotional mutuality rather than economic or physical compulsion, and gender equality rather than patriarchy.

The first six constitute the usual "basic needs" package, and will be collectively referred to as such. In a sense the seventh, security, is already implied in these six, since when we say, e.g., that everyone should have enough to eat, we do necessarily mean that they should have it, and should believe that they will have it, not occasionally but all the time. The last three, (9), (10), and (11), are elaborations of (6) of list 1. (10) is couched in deliberately vague terms, but a warning is implicit that "traditional "communities, based as they freequently are on petty local tyranny and effective interdictions on free flows of ideas and people, should not be uncritically accepted and defended. Similarly (11) warns against idealising the traditional family, almost invariable the site of economic, social and physical domination of women by men (and older women, and (perhaps

less effectively) of the young by the old. What is insisted on throughout is enlarging the room for choice. Ideally, a development strategy should not impose, through economic or extra-economic compulsion, either enforced departure from a community or a family, or enfroced vegetation within it.

II. SOCIAL IMPLICATION OF CURRENT DEVELOPMENT STRATEGY IN BANGLADESH

Since the advent of military rule in 1975, Bangladesh has moved towards a development strategy based on private sector initiative in all sectors of the economy. Agriculture was of course always a private sector activity, so here the trend towards privatisation is reflected in the input delivery system, notably fertiliser and irrigation equipment. In industry we have witnessed extensive divestiture of public sector enterprises (over 600 units divested up to mid 1987), liberal and cheap credit channelled through Developmental Financial Intermediaries (DFIs), tariff protection, export incentives, fiscal concessions etc. Foreign private investment is also being assiduously wooed. Results in terms of growth have been disappearing so far, except for a few sectors like garments and frozen shrimps. This is probably due not so much to any inherent deficiencies of the Bangladeshi capitalist class as to the parasitic and cleintelist nature of state interventions. Industrial loans, for example, are notoriously allocated as patronage distribution to personal cronies or potential allies rather than to potentially efficient investors.

Current policy statements contain frequent references to the problem of poverty. The primary instrument of poverty alleviation--of ensuring the provision of "basic needs"-- is still perceived to be employment generation through industrialisation, as well as agricultural intensification, supplemented by NGO-type intervention for self-employment, as well as some elements of transfer, e.g. Vulnerable Group Development Programme, Rural Rationing. However, agricultural intensification appears to be approaching a ceiling, while such industrial growth use has taken place has been highly concentrated in a few major cities -- as indeed has been most public (and private) labour--demanding expenditures, more notably construction. This has contributed to a high rural-urban migration rate, which in turn has had consequence for both the community of origin (essentially dissolvent of community and family) and the cities of destination of community and family) and the cities of destination (overcrowding, uprootedness, pressure on limited urban facilities, criminality, drug use, prostitution etc.). All of this points clearly to the need to comprehensively rethink our development strategy.

III. BASIC NEEDS THROUGH WELFARE CAPITALISM

It may be reasonably assumed that ensuring "basic needs", particularly those pertaining to healthy biological survival (food, water, medical care

shelter, and physical security) are more important than the preservation of community or family, and even more imortant than preserving the environment except to the extent that such preservation is essential to the sustainability of healthy bioligical survival. For one thing, communities and families are in any case unlikely to survive for long on the basis of persistent deprivation. For another, as we have repeatedly stressed, communities and families can be, and frequently are, the sites of human oppression rather than human liberation. And lastly, whatever we scholars may argue, the people we are supposed to be concerned about have repeatedly demonstrated by "voting with their feet", that this is their own preference ranking. Given a chance, they migrate to where the chances of improving their economic condition look more promising. There is, however, little doubt that most of them, apart from an adventurous minority, would prefer to earn their livelihood without having to uproot themselves. Our choice of strategy should therefore be guided by the principle of attaining some target levels of basic needs fulfilment at the minimum possible disruption of community life. Since the most obvious, and arguably most preferable, way to ensure basic needs provision (at least of the "private goods" components of basic needs) is by providing employment opportunities, one immediate implication of this principle is that employment opportunities must be much more dispersed than they now are. As a concrete example, the excessive protection to a rather inefficient, city-based, capital-intensive textile industry should be reduced, and preferential treatment be given to the handloom sector.

However, it would be premature at this stage to go into detailed concrete recommendations. Let us first identify the broad strategy alternatives. There are really two of these: welfare capitalism and socialism. Let us start with an examination of the first. Welfare capitalism would depend primarily on private sector initiatives for growth and employment generation, but supplement it with some mix of the following policies to ensure basic needs provisioning:

(a) Wage subsidies to bring the cost of labour close to its true opportunity cost, thereby encouraging labour intensive activities and maximising the employment effects of growth.
(b) Targeted food (and perhaps also non-food basic goods) subsidies, e.g. through ration or fair-price shops.
(c) Unemployment benefits at adequate levels.
(d) Free or nominally-priced supply of public goods like education, health care, domestic water supply etc.

A first step in designing a basic-needs oriented growth strategy would be to make on estimate of the probable costs as strategy I-- and also to make some informed guesses about its administrative feasibility. For

Bangladesh the costs are likely to be high, specialy of items (c) and (d), even with optimistic assumptions about employment growth. Since aid is unlikely to be available for such "soft"programmes (unless the donor community undergoes a conversion experience), massive domestic resource mobilisation would be called for, as well as ruthless pruning of unproductive expenditures, notably on the aremed forces. The high tax rates on profits implied by this may dampen incentives and growth. Also, if the high growth is sustained by exports and/or domestic luxury consumption, the demand for wage-goods may outstrip the supply, causing inflationary presures and an erosion of real income for the poor. Thus some supply-management by government may be unavoidable.

This strategy is likely to give good results under the following circumstances:

(i) Current volumes of unemployment (or poverty-income employment) are not staggeringly high, and labour force growth rates are also moderate.

(ii) A reasonably able and experienced class of entrepreneurs exists, with sufficient accumulated funds (though such a class can, under certain circumstances, be created by state patronage).

(iii) A disciplined and efficient labour force exists or can be rapidly mobilised, whose demands for higher wages can be met, or contained without disrupting the production process (from this point of view, sadly, a politically mature and organized working class is a liability).

(iv) Reasonable access to growing markets, internal and external.

Condition (iii) is of course a prerequisite for any development strategy, not just for capitalism.

If the above conditions are met, then, provided the appropriate policy environment can be created and sustained, welfare capitalism will be an efficient vehicle for economic development with basic needs provisioning. Appropriate policies involve critically the allocation of scarce resources according to impersonal economic criteria rather than according to the requirements of rent-seeking and patronage distribution.

In Bangladesh at the moment perhaps only condition (iv) is met, though some people would question even this. In our opinion such "export pessimism" is unjustified. International markets do exist, and our market shares in several areas can be expanded provided the entrepreneurial ability can be mobilised.

On condition (ii) the evidence is mixed. Undoubtedly individual entrepreneurs, or even numbers of them in particular sectors, have displayed skill, dynamism and the willingness to take risks. On the other

hand, the performance of the industrial sector as a whole over the last decade has been pretty dismal, in spite of policies ostensibly geared towards the promotion of private enterprise. Some commentators have interpreted this as evidence that an able entreprenurial class does not exist in Bangladesh, and trying to create such a class is a waste of resources and effort. However, it is also possible to argue that the potentially beneficial effects of the new policies have been aborted precisely because these policies did not go far enough in subjecting investors to the impersonal arbitration of market forces.

Condition (iii) raises disturbing paradoxes. History has known so far three methods of ensuring work discipline. One is outright coercion, as in slavery. The second is the discipline of the labour market. For this to be operative, policy interventions in the labour market must be kept to a minimum.

Employers rights to hire and fire must be protected, which implies definite curbs on union activities. A successful programme of basic needs provisioning would have mixed effects on labour discipline. On the one hand, workers may become more demanding and intransigent if loss of employment does not pose a threat to livelihood. On the other hand, if workers are receiving what they perceive to be an acceptable income (and they will of course need to be paid at least a little more than their unemployment benefits), they may be more content and more motivated. Lastly, if the population at large are minimally provided for, general popular discontent will be lower, hence workers' agitations may die out from lack of wider support, being perceived as being unreasonable and potentially disruptive of the general system of benefits. This is why some left-progressive commentators have seen the basic needs approach as a ploy to buy off potential allies of the proletarian revolution. They are very likely right, but the proletarian revolution is hardly an end in itself, and if basic needs can be fulfilled without it, so much the better.

The third method for ensuring conscientous and disciplined labour effort is ideological mobilisation. The workers have to be persuaded that their labour serves a higher cause. This cause could be national uplift, communism, Islam, the Great Leader, or themselves as a collectivity. These are not, of course, mutually exclusive alternatives. Both communism and Islam, for example, would need to be mediated by a Great Leader, who can instil, or preferably elicit, identification with a collectivity, in one case the toiling masses, in the other the umma. Such mobilisation procsses are not really consistent with welfare capitalism, but truncated versions are sometimes attempted, as when ministers in Bangladesh exhort workers to "work hard to boost production to build Sonar Bangla (Golden Bengal)". Such attempts usually, and deservedly, fail in their objectives.

Condition (i), which states in effect that the problems of poverty and unemployment should not be very large, manifestly does not hold in Bangladesh. This means that a small, even if dynamically growing, capitalist sector will have to provide resources for accumulation as well as basic needs provision. This is likely to prove infeasible until the capitalist sector has grown considerably. In the meantime, people will continue to have to starve. Given the immature stage of development of our capitalist class, the "transition period" is likely to be a long one, and also highly likely to be interrupted by political upheavals that may at best succeed in bringing to power groups better able to initiate a more humane policy, but are equally likely to lead to political and economic retrogression. This could be averted if donors were willing to fund massive social welfare programme, alternatively to make "development aid" contingent on the fulfilment of certain performance criteria in the area of social provisioning.

It would seem on the whole that welfare capitalism, even if it is sincerely and consistently pursued, is likely to promote capitalism first and welfare a long way second. Perhaps it remains, all the same, the only viable strategy, and the human costs have to be borne. After all, as that renowned champion of the poor, Mahbub-ul Huq, said in an earlier incarnation, economic growth is a brutal, sordid business.

But before coming to this conclusion, we should at least look at any possible alternatives that may be an offer. Contemporary history teaches us that another strategy has worked, in the sense of combining reasonable aggregate growth with more or less complete elimination of extreme poverty, while avoiding to a significant extent the uprooting of people, the disruption of community and family, and the growth of violence and normlessness. This is the socialist strategy, in particular as practised in Maoist China. Perhaps element of that strategy can be adapted and applied to Bangladesh conditions (again, we leave aside the questions of the political preconditions for such a strategy to be attempted).

IV. THE MAOIST MODEL

The economics of Maoism can be summarised as follows:

(a) Centrally planned and bureaucratically managed industrialisation across a broad front, including consumption and capital goods, with very little regard to questions of comparative advantage.

(b) Collective (at commune or brigade level) property and collective production in agriculture, with a minimum guaranteed income to all within each commune or brigade, and hence only imperfect match between effort and reward. Commune/ brigade level use of surplus labour for rural capital formation.

(c) Great stress on dispersion of industrial activity, the communes acting as organizers of rural industries, sometimes in defiance of the dictates of efficiency.

(d) All or virtually all distribution of consumer as well as capital goods through state, cooperative, or commune channels.

This model was once seem by many, not all of them dedicated communists, as constituting a uniquely successful development strategy that achieved fairly high growth with rapid elimination of mass poverty, and also promoted active participation in decision-making by the masses. Over-urbanisaiton was avoided, traditional solidarities reconstituted on a new egalitarian basis.

After the death of Mao this model came in for increasingly harsh criticism within China, and starting from 1979 extensive changes were introduced which amounted in effect to a fairly large degree of privatisation of the economy, specially in agriculture and retail trade.

These events, together with similar reassessments and readjustments in Eastern Europe, have been seen by some as a definitive debunking of the "socialist model" of development, and a confirmation of the neoclassical prescriptions of free trade and free enterprise. The lesson was further driven home by the success achieved by some of the newly Industrial countries, or rather by a rather disingenuous interpretation of that success.

The changes under way in most communist countries today are very likely necessary and desirable, undoubtedly so for the Soviet Union, though there is, in my opinion, more room for debate on the Chinese case. However that may be, this should not blind us to the very real accomplishments of China under Mao. Incomes grew, significant structural transformation took place, hunger was eliminated (the recently rediscovered and much publicised 1961 famine notwithstanding), health and education were made available to all. It is in the highest degree unlikely that all this could have been accomplished under a free enterprise regime.

This is not to say that the whole Maoist package can or should be replicated for Bangladesh. For some elements the political conditions are so completely absent that it would be quixotic to keep on harping on them. Some were perhaps unwise even in the Chinese context, e. g. the sporadic experiments in running industries on a "participatory" basis. Still, much can be learned, and selective implementation of elements with relatively wide limits of political feasibility can be attempted.

V. TOWARDS A HYBRID STRATEGY

In biology, hybrids are frequently hardier and more productive than pure strains. Arguments from analogy are notoriously fallible, and what is true in

biology may be completely and disastrously false in the field of economic and social policy. Nevertheless, what I would propose for Bangladesh at the moment would be a hybrid development strategy combining elements from the Maoist and the neoclassical paradigms. The proposed strategy can be most conveniently summarised by comparing it, element by element, with the Maoist strategy as outlined in Section IV.

(a) For industry, the Maoist (and Stalinist) strategy of centrally planned rapid industrialisation should be adopted, with the planning exercise ensuring, at least roughly, proper balance between demands generated and supplies produced. Two major departures are proposed, however; (i) private investment is not to be discouraged. Indeed, areas of investment which are immediately attractive to private investors should be left to them. Government's direct investments should be aimed precisely at breaking the Nurksean impasse--where isolated investment decisions are individually unprofitable and hence not undertaken, but would be profitable if they were undertaken simultaneously, or at least within a reasonable time span so that future profits could be confidently expected to underwirte current losses. What is envisaged here is a close working relation between the public and the private sector, with investment decisions on each side being undertaken with mutual consultation and information sharing. (ii) Comparative advantage, and the potential benefits from trade, should not be completely ignored, though departures from static comparative advantage will frequetly be necessary and desirable.

A number of objections can be raised to this proposal. Here we can only mention them and briefly indicate the lines along which they can be met.

1. Such centrally-planned industrialisation, even with private sector participation, will be inefficient, producing low-quality goods at high costs in the wrong quantities.

This may well be at least partly true. But where the main objective of development is the most rapid expansion of remunerative employment opportunities and the provision of basic goods, speed is more important than efficiency. In any case the concept of "efficiency" would itself need to be redefined. If India produces comparatively high cost, low-quality cars instead of importing Toyotas, undoubtedly consumers are being penalised. But given the positive employment and surplus-generation effects, and the possible multiplier effects of this industry, is it so clear that the choice is an unwise, "inefficient" one?

2. Where are the resources to come from? This may be the most critical problem. The major donors, with their strong ideological commitment to free enterprise, are unlikely to be charmed by an appeal to fund an exercise in planned industrialisation. Perhaps they could be persuaded by pointing out that such a strategy is also in the long-run interest of private enterprise

because it will help rapidly expand the size of the domestic market. Indeed, once the industrial base has been built up, it may well be desirable to go in for significant privatisation to ensure efficient operation.

Domestic resource mobilisation will certainly have to be stepped up, and wasteful expenditures curtailed. It is unlikely, however, that even spectacular success on this front can eliminate the need for large volumes of aid if this kind of "big-push balanced growth" strategy is to be undertaken.

(b)-(c) It is in the rural sector that the greatest deviation from the Maoist model would seem to be called for. Except in the wake of war or revolutionary struggle, the traumata of a land reform are not likely to be worth the rather modest gains in productivity and equity that can be expected of it. And collectivisation of agricultures offers few technical advantages, specially for paddy agriculture, and runs profoundly counter to peasant aspirations. The great accomplishments of the Chinese commune are not in dispute, but it was politics rather than economics that determined that those accomplishments had to be mediated through that particular organizationed form. The household responsibility system as presently practised in China may offer a better model for emulation.

But with or without land reforms and/or collectivisation, the single most important task is to move people out of agriculture and into productive and remunerative employment. Agriculture may not yet have reached its technical limits, but barring some real technological miracles, which are not in sight, it will do so soon. At least, incremental output could be wrested from the soil only at steeply rising marginal cost. Only a prosperous peasantry can sustain a dynamic agriculture. For this we need fewer and bigger farmers. Thus a policy of decentralised industrialization is called for. In this area direct state involvement is unlikely to be practical, what is needed is massive support to private initiative, through credit, training, market information and research for technological upgradation of labour intensive but high-productivity processes.

Dispersed industrialisation, to be cost-effective, will require a high level of infrastructure development, notably transport and power. It is not anticipated, however, that any extraordinary degree of protection from domestic large-scale industry will be needed. It would probably be sufficient to have an incentive regime that is neutral between small and large scale industries.

(d) For the distribution of divisible consumer goods, private markets have the advantage of quicker adjustment to changing demand conditions, and also of course of economising on bureaucratic organization. But those with inadequate incomes cannot, by definition, meet their basic needs on

the market, unless direct or indirect income transfers are affected. Probably it is better to do this in ways that do not disrupt private trade, through direct income transfers in the form of cash, food stamps or more general consumer goods coupons, rather than through direct government distribution at subsidised prices. Cash transfers, while the most attractive theoretically, are probably impractical because of the ease of diversion-selling pilfered wheat has at least some transaction costs. However, there will be areas, mainly in the countryside, where the market is too thin to attract private traders, and here public distribution will have to step in.

VI. PUBLIC GOODS PROVISIONING

It is generally accepted, at least at the level of rhetoric, that every government, specially in low-income countries, has an obligation to ensure some minimally adequate level of education, health care, domestic water supply and sanitation, and housing. In each of these (except water supply and sanitation) the private sector also plays a role, usually serving the upper income market. The vast majority of the population can have access to these only if the government provides them at a nominal or even zero cost to the benificiary. This means that these services have to be funded from government revenues (plus voluntary contributions if any) or aid. The wretched state of these services are usually attributed to resource constraints. Yet resources are not lacking for building up the armed forces, for urban beautification, for building bridges whose returns remain undetermined, or for flood control works of controversial practicability or utility. Donors, one fears, have to bear part of the responsibility for this pattern of resource allocation. A modern bridge, with soaring arches and gleaming steel girders, is after all much more photogenic than a pit latrine, though the latter, in appropriate numbers, may contribute far more to human welfare.

Attempts are sometimes made to "sell" expenditures on health and education on the grounds of their contribution to productivity. The point is certainly well taken: commonsense suggests, and empirical evidence corroborates, that a healthy and educated workforce will be more productive than a sickly and illiterate one. But this should not have to be the only possible justification. Health is also a consumer good yielding utility directly to the consumer, and should be seen as an end of development rather than as just a means. The same can be said of education is so far as it widens the range of objects from which utility can be obtained, e. g. books, and allows one to make more informed choices, but equally important, education is a means to another important, perhaps cardinal, goal of development-an informed electorate with access to information and the ability to assess information, who can hopefully therefore sustain a democratic political process.

An important part of an exercise in social development planning would consist of the design of cost-efficient delivery systems for these services, the estimation of costs, and some indications as to how these costs could be met.

VII. CONCLUSION: THE SPECIFICITIES OF THE HYBRID STRATEGY

It may well be asked in what ways the strategy proposed above differs from the strategy we actually are pursuing at the moment. We have a large public sector which is by and large insulated from international competition and hence immune to the dictates of comparative advantage. We also have policies to encourage the private sector. Agriculture is private and small-scale, with no land reform on the agenda, but with irrigation expansion, research and extension, and price policies expected to promote sustainable growth in agriculture. We even have a variety of government and non-government employment-generation programmes. Basic goods are distributed through private channels, with some elements of targeted food subsidies.

There are, nevertheless, quite fundamental differences, which we indicate briefly here.

1. The public manufacturing sector is not subject to the kind of dynamic strategic planning we have proposed. It is not being expanded in keeping with the requirements of dynamic demand-supply adjustments and linkage maximisation.
2. The private sector, on the other hand, is on the one hand insufficiently serviced by way of infrastructure, information-sharing and techno-economic counselling, and on the other hand impeded by excessive bureaucratic controls and a personalised and politicised resource allocation system.
3. Large-scale, centrally located industries have preferential access to resources and favours, largely because of the personalised and politicised (may be one can simply use the Parsonian term "ascriptive") nature of the resource allocation process.
4. The provision of basic goods, public and private, is totally inadequate, with resources that should have been spent for these purposes being diverted to unproductive activities.

In conclusion, three cautionary notes. First, we do not yet know whether even with optimistic (but not wildly unrealistic) assumptions about internal and external resource mobilisation, the strategy we are proposing will be financially viable. One major purpose of any proposed planning exercise would be precisely to determine this. If it turns out that available resources simply do not permit this kind of approach, then a period of capitalist

development with the perpetuation of poverty for a fairly long time, say twenty-odd years, is probably the best we can hope for.

Secondly, we do not know whether the current regime, or for that matter any regime likely to succeed it, will find it politically expedient to attempt to implement such a strategy. It does pose threats to some entrenched interests, who can only be neutralised if enough aid is available to maintain them in the style to which they have become accustomed.

And thirdly, it is possible that the human material in Bangladesh has become degraded beyond any hope of redemption, that corruption, dereliction of duty, and apathy have spread so widely and gone so deep that no system will work. In that case all we can do, like Candide at the end of his travels, is cultivate our garden and wait, with mingled hope and apprehension, for the deluge.

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APPROACH TO DEVELOPMENT STRATEGY FOR ERADICATING MASS POVERTY

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It is the greatest paradox of our time that even in the latter part of the twentieth century, in the midst of tremendous technological progress, hunger poses a threat to mankind. In the year 1979, alone, about 50 million people literally died of starvation and another 800 million were in the grip of poverty [1;57]. Since the beginning of the 1980`s, many African countries have been through a disastrous famine. Glimpses of the probable future are also cause for even greater gloom. Despite all its devastating effect on the human race, the problem of poverty has been frequently ignored. It is really perplexing to note that while man can afford to spend a million US dollars a munite on the arms race, only a fraction of that could adequately solve the problem of hunger. Indeed, instead of any improvement, the present scale of world armament is pushing marking towards the fear of apocalyptic destruction. If the situation is allowed to continue, human civilization will face a complete social, political and economic night-mare before the end of this century. It should be recognised that in today's increasingly interdependent world, the consequences would not be confined to the poorer countries alone.

When people realise that millions are unfed, malnourished and condemned to death, they may not owing to their altruistic nature sit as passive spectators. In the year 1984, the appalling pictures of famine, particularly from Ethiopia, which were shown on Television made a deep impression on people at large. Although a little late, they came out with a sympathetic gesture, by extending their help, to overcome the crisis. They expected that their effort would help to improve the situation and African countries will never again have to go through the disastrous and humiliating consequences of famine. But experience shows that such an expectation may be doomed to be futile. Not long ago, in the midst of a disastrous famine in Bangladesh and the Sahel region, 'World Food Day' was observed by FAO in Rome, in the year 1974, where an admirable

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pronouncement was made; "no child should go to bed hungry within a decade' "and after a decade in the year 1984 UNICEF, (The United Nations Children Fund) estimated that around 15 million children of the world died of malnutrition and preventable illness in the same year [1; 58].

In fact it is not an easy task to change the situation. There is no facile solution to this serious problem. What we are faced with is a full-scale war against hunger and poverty. The war has just begun. It is the greatest task of our time to learn how to rescue people from the realm of hunger and poverty and lead them on to the arena of liberty and prosperity.

As we know, the problem of hunger and poverty is a problem of development and the solution must be sought within the process of development itself. At this point before looking for a new solution we must learn from the experience of previous efforts in this direction, particularly as to how the problem has been identified and what policies have been followed. Their depth and dimension success and failure, must be analysed with care, so that future endeavour can be better directed to attain their aims and objectives.

THEORETICAL SPECTRUM OF DEVELOPMENT

The history of development concerning mankind is as old as human civilization itself. Its horizon has broadened in consequence of people's search for a better life, by improving their material and social conditions in different historical epochs. Man's collective efforts, acquired capacity to communicate with felow human beings, accumulation of experience, expansion of knowledge and his capacity to innovate have played a decisive role, in creating epoch making history. For many millenia, the process of development has been slow. The European renaissance came as an internal transfinite drive, towards improving conditions, in which new sets of rules became legitimised. Progress in the field of philosophy, natural and social sciences along with engineering and technology made it possible for man to enter into a new horizon of development, through the industrial revolution by marking a break with the feudal agrarian past.

Under a particular time and space dimension, development possibilities are limited by natural laws. Although man cannot change those laws, with proper understanding he can attain the capacity to manipulate his environmet through scientific innovation and technological improvement. The Newtonian paradigm came as a major breakthrough in this regard. The concept of deterministic and time-reversible laws where the world was seen as a vast automation; and man appeared as being outside nature, as a free

agent in a mechanical universe' [2;5], was the obvious outcome of the Newtonian endeavour. The search for objectivity was the philosophical foundation, that really forced economists to introduce scientific method in its application. Classical and neo-classical economists also pretended to follow the Newtonian philosophy by considering a closed autonomous system, ruled by endogenous factors of a highly selective nature, self-regulating and moving to a determinate predictable point of equilibrium [3;335-60].

As we know, human vision does not proceed too far from the social dimension within which man has to live. The early stage of capitalism had been envisioned by Adam-Smith and Ricardo who conceived the idea of a `laissez-faire economy, where a rational idividual would be trying to maximuse his profit in open and free competition. However, their world was dominated by the problem of scarcity and uncertainty and that being so they pursued their theories in the direction of production and supply to reach equilibrium. Karl Marx saw the rising trend of capitalism and identified its unstable and disequiibrium condition that led him to advocate the idea of socialism and communism. With the development of capitalism, the changing structure of age old society became more adaptive to the response of scientific and technological progress, that enormously increased the capacity to use and exploit resources and to induce a powerful explosion in production. As a result, the nature of the economic problem changed from production and supply to consumption and demand. Under such circumstances, the Keynesian idea was motivated by the experience of the great depression that echoed the death rattle of the capitalist system as predicted by Marx. Keynes identified the chronic tendency of the laissez-fare market economy to generate involuntary unemployment and he prescribed governmental intervention for boosting effective demand to avert the tendency.

It is apparent, that the contradiction between absolute individualism and absolute collectivism in the capitalist and socialist structures tended in the direction of a kind of synthesis in both systems, while they have been confronting harsh realities. The systems however are poles apart on such issues as problem identifications and policy suggestions since they pretend to show their differences in fundamental values as well as in thier aims, objectives, means and ends. Unlike the capitalist system, socialist policies have tried to correct labour contributions in terms of "socially necessary labour" through planning mechanisms and through introducing collective ownership of the means of production. What needs to be

examined further is which system would be more efficient for attaining specific objectives and whether there is any possibility of synthesizing them on the basis of the experience of the systems, in particular circumstances.

It is to be kept in mind that the theories we have discussed so far, mainly concern the problem of the advanced world which could complete the industrial revolution. There is no doubt that through successful industrial revolution the developed world could provide a decent standard of living for the majority of its population. As the Scottish poet Hugh Mac Diarmid in his "Lament for great Music" has said:

> "The struggle for material existence is over. It has been won. The need for repressions and disciplines have passed. The struggle for truth and that indescribable necessity.
>
> Beauty begins now, hampered by none of the lower needs. No, one now, needs live less or be less than his utmost."

These words are not merely an expression of an imaginary phenomenon. It is also a fact of life, at least for a small number of the world's populatioon. The tragic fact remains that most people of the world dwelling in the developing nations lack the bare necessities of subsistence. They are being drawn into a web of deception and despair. Indeed, they live far less than their utmost, and remain stuck in a abject poverty–a condition of life characterized by hunger, malnutrition, ill health and lack of other basic nesessities for survival.

The magnificent success of the industrial revolution only spread over Western Europe, North America, Australasia and at a later stage Japan. The obvious question why the industrial revolution had to wait until the 17th century and why it did not more smoothly spread over the other parts of the world is a matter of intense study. Anyway, it is not a subject of our present endeavour. It is evident that the expansion of knowledge through cumulative human experience created tremendous possibilities for man to deal with the development problem. Scientific and technological progress promises enormous production possibilities but social sciences to a large extent are incapable of acting coherently in the real world and failed to coordinate much of this progress into practice. As a result, man has attained capacity as well as incapacity; he is capable of providing food and other basic necessities to the entire population of the world but is incapable of doing so because of the limitations of the socio-economic structure [4;].

DEVELOPMENT ECONOMICS AND CONVENTIONAL STRATEGY IN RETROSPECT

Development did not evolve as an independent field of study until the 2nd world war, when a group of economists who quickly identified themselves as the off-spring of the Keynesian mainstream, created a new branch of economics known as development economics. It deals with the economics of those countries which are firmly anchored to the periphery of the capitalist system without adequate development of capitalism. A group of experts, appointed by the UN Secretary General, prepared a report in the year 1951 entitled "Measures for the Economic Development of Underdeveloped Countries", which prescribed a strategy, termed conventional strategy by us; it was formulated for a wider audience of policy makers and was virtually unchanged down to the end of 1960s.

During the 1950s, quite a number of development models surfaced and identified their intellectual kinship to the basic paradigm that emerged from the above mentioned report. Some of these are (1) Hans Singer (1952) The Mechanisms of Economic Development; (2) Nurske (1953) Balanced Growth; (3) Lewis (1954) Development with Unlimited Supplies of Labour; (4) Nelson (1956) Low-level Equilibrium Trap; (5) Rosenstein Radan (1957) Big push (6) Lebenstein (1957) Critical Minimum Effort; (7) Singer (1958) Bottleneck breaking and (8) Hirschman (1958) Unbalanced growth. Those models were helpful in formulating and applying the conventional strategy in a more coherent and consistent manner.

In this conventional stretegy objectives and processes were viewed solely in economic terms and great reliance was placed on economic factors to achieve results. It emphasised higher economic growth, to be accomplished at any cost through the accumulation of capital and its investment in industrialization, modernization and urbanization throuhg a "top-down" process of central planning and control. Conventional planners recognised increased per-capita GNP as the main objective and yardstick of the performance of development. Agriculture and rural development were neglected till the latter part of the 60's in the hope of great industrial "leap forward", which would lead to the creation of sufficient employment opportunities there, leading to a transformation from rural agriculture to urban industry. It was expected that the question of distributive justice would be take care of automatically, through the "trickle down" process. In principle, the strategy pursued the policy of inequality owing to the conviction that it is efficient for growth and inveritable in the early stage of development.

Conventional strategy, with its concerted effort over a period of more than 35 years clamied spectacular economic growth on a global scale. In the year 1980, gross world product per-capita reached US $ 1220 and it was expected to increase at an annual rate of about 3% [5;154]. On this basis, real goods per capita would double every 23 years or in other words approximately in a single generation, provided of course, that this rate were sustained. Judged also by many of the normal measures of social development, conventional strategy can be labelled a success. Life expectancy at birth in developing nations rose from an average of 42 years in 1950 to 59 years in 1982. Infant mortality was halved and the primary school enrollement rate increased from 50 to 94% [6;1] World Food Production also achieved some success. Measured globally there has been enough food to feed its entire population with more than 3000 calories and 65 grams of protein daily [7;11], which is more than is consumed by the West European average [8;21]. In the year 1987, 475 million tons of foodgrain was estimated as surplus and a considerable protion of that was misused and damaged owing to lack of storage facilities. The statistics quoted above portrays a prosperous future for all mankind and seems to rule out the possibility of any kind of scarcity on a global scale.

In spite of this tremendous success a serious crisis exists in the current world. This is not due to shortages or scarcity on an international scale, but to maldistribution. Global figures have very little meaning because they conceal tremendous inequality". The world population already exceeds 5 billion and more than 75% of them live in the developing nations. Around 50% of the world's population dwell in 36 countries with average per capita income below US $ 380, which is less than one third of the average global income quoted earlier [5;190]. The differences in standard of living are also very large between different countries as can be seen from a number of social indicators like life expectancy, infant mortality, literacy rate and so on.

Although, developing nations can achieve an impressive rate of economic growth, it has not necessarily been helpful in eradicating hunger and mass poverty. It is surprising to note that today after more than 35 years of concerted effort, there is more hunger and poverty in this world than before. According to the estimate of Ahluwalia the number of people in absolute and relative poverty was probably 370 and 580 million in the year 1969 [10;3-37]. The figure rose to 800 million in the year 1973 according to the then president of the World Bank, Robert McNamara [11]. Further confirmatory data concerning the deteriorating rate of poverty came

through the International Labour Organization in 1976, at the World Employment Conference [12]. According to them, there were 706 million "destitute" people and another 500 million were termed "seriously poor" in the developing nations.

Conventional strategy not only failed to reduce the extent of poverty, but even enhanced its intensity. A study was made by Adelman and Morris, which showed that instead of any improvement, the income of the poorest 40% had declined in real times and in the case of extreme dualism even income had declined among the poorest 60% [13]. They concluded that with the exception of high-income developing nations, poor people of the 3rd world countries would have been better off, if there had been no development effort at all. Surely development is not worthy of its name if the benefits accure only to the few, while the great majority of the population remain stuck in abject poverty living on the base margin of subsistence. In fact, it is a travesty of development–"a shameful spectacularity in the face of monumental inhumanity"[14].

None of the assumptions of conventional strategy turned out to be universally applicable. Although, in the developing nations, GNP growth is a necessary means, it may not be considered as an end in itself. Even for some important ends it is not a very efficient means either. For instance, if Sri Lanka tried to pursue higher life expectancy "not through direct public actions but primarily thrugh growth"...."then it would have taken Sri Lanka.....somewhere between 58 years and 152 years to get where it already now happens to be" [15].

Experience shows that there is no automatic tendency for income to become widely spread through "the trickle down process" and thus ameliorate poverty. For example, countries like Brazil, Mexico, Argentina, Malaysia and the Philippines, rapid or moderate growth was not helpful in alleviating poverty [7;32]. It has already been established that, there is no simple trade-off between rate of growth and equality of income distribution or inevitability of inequality in the early stage of development. For example, countries like China, Taiwan, Yugoslavia, South Korea, Rumania, Hong Kong, Cuba and Singapore attained higher growth rates with more equitable distribution [7;5]. It is evident that even a poorer country or region is in fact capable of waging the battle against poverty and attaining many of the social objectives by providing greater distributive justice. For example, what Kerala, one of the poorest states in India achieved in terms of longevity, literacy, infant mortality and as on, with only around 200 US $ per

capita income, countries like Brazile with more than 2000 US$ did not achieve [16;22] China and Sri Lanka, with less than a seventh of GNP per head in Brazil or Mexico have the similar life expectancy figure as the two richer countries and it was possible because they pursued directly that objective through public policy and social change [15].

Conventional strategy offered the same prescription for all and those who accepted it, suffered from many side effects due to the fact that institutions, organizational capacities, administrative talents, liverage, drive and willingness are not identical in all the developing nations. Many of the developing countries accepted foreign aid as an unmixed blessing. As a resuld, they sank deeper and deeper into debt. Still, we cannot draw the conclusion that foreign capital must always be harmful. In fact, countries like Australia and Canada received much higher amounts of foreign capital during their investment boom [6;2] and they could utilize them properly. Internal institutions, quality and quantity of foreign aid and proper planning and control are the key factors to be considered within the social and political rigidities that restrict a country's capacity to adjust.

Conventional planners tried to reconcile the Western concept of "development" with pre-conceived ideas through a 'top-down' process of central planning and control. They failed to grasp the problem of development under specific circumstances and could not combine social, political economical and other variables in the right proportion.

It has become clear that development cannot be a mere transfer of capital and technology without regard to differences in material and human factors.

THE NEW STREAMS OF DEVELOPMENT THOUGHT

Growing disillusionment about conventional strategy has aroused controversy and suspicion among groups the spectrum of development thinking. New streams of ideas have been coming to the fore, to cope with the changing nature of the development problem, particularly during the decade of the 70's. Some of these are: (1) Experience of post revolutionary China; (2) The Arusha Declaration (Tanzania `69); (3) World Employment Programme (ILO '69); (4) Domesday Book (Taylor 1970); (5) A Blueprint for Survival (The Ecologist 72); (6) Redistribution with growth (IBRD & Sussex Institute of Development Studies; (7) New International Economic Order (UNO`74); (8) Mankind at the Turning Point (club of Rome, Mesarovic and Pestel `74); (9) Cocoyoc Declaration (UNO `74)/ (10) What Now–Another Development (Dag Hammarskjold Foundation `75); (11)

Employment Growth and Basic Needs (ILO `76); (12) Catastrophe or New Society (Bariloche Foundation '76); (13) Reshaping the International Order (Club of Rome '76); (14) Basic Services (UNICEF & WHO; (15) Eco-Development (UN Environment Programme '76); (16) Indigenous Development (UNESCO '77) and (17) Self-reliance (Institute of Development Studies, Geneva 1980 etc. Apart from these some of the neo-Marxist theoreticians also tried to analyse the problem of development in their own style. Among them the works of (a) Frank (1969); (b) Rudro (1970); (c) Patnaik (1971); (d) Emanuel (1972); (e) Bhaduri (1973); (f) Amin (1974) and Mandel (1975) are note-worthy.

These approaches contributed to the perception of new values based on the idea that economic growth, pursued regardless of who benefited from it, was making little impact on the problem of the poor masses. There has been little disagreement about the priority of eradicating hunger and poverty in the shortest possible period of time. The only difference discernible among the above declaration is over the precise interputation and the most effective way of achieving these ends. Among international organizations ILO was the first to be disillusioned with the outcome of conventional strategy. As early as 1969 it announced a World Employment Programme to explore the ways of creating more employment opportunities. To this end the employment programme provided a wide range of policy options such as investment for the poor, more equal income distribution, adoption of appropriate technology and above all the policy of full employment.

The World Bank also conceided the harmful effects of traditional strategy as more and more confirmatory data came in, that the benefits of growth did not "Trickle down" or perhaps the `Trickle down' process was so slow that it would be a century or more before the poor people or their descendants benefited. To overcome this, the World Bank, in cooperation with th Sussex Institute of Development Studies published a book entitled "Redistribution with Growth". The book tried to introduce reformist measures, over traditional strategy and explained that "Wealth distribution might be politically difficult, growth was essential, poverty was inconveniently embarrassing" and under those conditions it was prescribed that the redistribution of increments of income would be politically easier.

However, the theory of "Redistribution with Growh" derived from many misconceptions of reality and led to a purely technocratically oriented approach, which, to a great extent failed to be applicable to developing

nations. The approach could be criticised on the ground that it tried to bring equality of outcome' oblivious of the causes of inequality in a society and a solution through equality of opportunity.

Since 1974, most of the development thoughts have been focused on a single issue, the central emphasis of which is meeting the "basic human-needs" of the poor masses within the shortest possible period. The basic-needs" approach identified a list of items considered to be essential for a decent human life such as (1) Food; (2) Clothing; (3) Shelter; (4) Basic range of household equipments; (5) Health; (6) Education; (7) Safe drinking water and (8) Contraception. Each item has its own weight, listed in order of priority to have a hierarchically orderd set of basic-needs. The `basic-needs' approach precisely aims at increasing the income of all households or individuals to the level of BNI [17;72] (Basic-needs level of personal income) and ensures the supply of a stipulated level of goods and services consistent with survival and good physical and mental health with dignity; through income distribution, production policies and through the provision of appropriate administrative and institutional mechanisms. Since many of the above factors are quantifiable, one could easily make plans and pursue policies to achieve them.

Although the basic needs approach has been accepted, at least as a guiding philosophy by most of the UN organization and national governments, owing to the following limitations and shortcoming it has not attained much success.

(1) Although the approach correctly maintaied that everybody must attained BNI, it did not specify in detail how the disadvantaged group would eventually achieve this.

(2) The approach also did not look deeply and identify the causes of the very low income of the poor people.

(3) It did not specify the nature of organizations and institutions which would be necessary to its success.

(4) It considered production planning without going into the details of who is controlling the production mechanism and under what terms and conditions they would act in the desired way. Above all successful implementation of the 'basic-needs' approach requires cultural enlightenment and the promotion of new social, political and moral values in each specific context.

THE WORLD BANK POLICY PACKAGES AND THE DEVELOPING NATIONS

It is evident that the World Bank and IMF experts are also concerned about the problem of poverty and they provided the following policy packages:

1) Increase food production through providing incentives by raising food prices.
2) Reduce all kinds of subsidies to agricultural inputs and food items.
3) Develop local currency to minimise balance of payment deficits and to enhance local employment opportunities.
4) Reduce population growth by taking family planning measures.

It can scarcely be denied that instead of Keynesian or conventional solutions, the policy packages above have followed classical economics and left the problem entirely in the hands of market forces, with the expectation that they would bring about an automatic solution. It is also evident that the World Bank and IMF have been trying to improve their policies as a pre-condition of their aid packages. In the recent past countries like Egypt, Morocco and Tunisia tried to introduce the more policy packages but in all cases they ended in failure in the face of a violent movement and protest by people at large. Very recently the same history was repeated in the case of Zambia when the World Bank attached same string to their condition for financial assistance and the result was a greater measure of fertility. Even in the advanced countries agricultural production could not be kept entirely in the hands of market forces. Indeed, heavy subsidies are provided in the United States of America, EEC countries and other industrialized nations too.

It seems that the policy packages above, considered food shortages and population growth as the main underlying causes of hunger and poverty and wanted to solve the problem from the supply side by increasing the availability of food supply through price incentive. Such an idea is also dominant in the recent "African Priority Programme for Economic Recovery 1986-90. It would be premature for us to make a conclusive comment on the above World Bank policies, for the developing nations, without a comprehensive analysis of the relationship between hunger availability of food supply and population size.

Hunger and availability of food supply

A bird's eye view concerning the problem of hunger at once convinces us that inadequate supply of food could be the only possible factor fuelling the crisis. It was predicted by Karl Marx that the construction of Railway in

the Indian sub-continent would help to reduce scarcity and famine there, bacause better communication would enhance the flow of supply to the areas where there were shortages. But the prediction did not turn out to be true. In fact, after the consturction of Railway, the Indian sub-continent suffered from scarcity and famine more frequently and with a greater intensity than before [18;149]. Experience shows that supply does not necessarily flow to the areas where there is a need, but instead moves to the areas where there is a demand. It flows to those who can pay. For example in the Ethiopian famine of 1973, there was a crop failure in the province of Walls, but no services decline in food availability for Ethiopia as a whole. The famine victims of Nallo lacked the economic ability to command food from elsewhere in Ethiopia and indeed, some food moved out of famine stricken Walls to the more prosperous parts of the country [5;9].

It is evident that during the 70's when so many people had to starve, there was sufficient foodgrain in terms of aggregated average. The extra food that was needed to provide adequate diets for the malnourished population of the deficit areas was also not very great in relative terms. The deficit was calculted as around 37 million tons of grain which could be accounted for only 2 to 3 per cent of the world population at that time and more surprisingly was less than 10 per cent of the quantity of grain fed to the livestock in the rich countries [19; 98]. In the year 1987, around 475 million tons of foodgrain was estimated as surplus and 340 to 730 million people were starivng at the same time [20; 1].

We can see that most of the Third World countries also could keep their food production higher than population growth. Still many millions of their population were starved due to uneven distribution of food within the nations. In the year 1978 India produced a record level of rice and wheat, more grain than it could store. The country exported more than a million tons of wheat and yet 20 to 40 per cent of her population was still unable to get an adequate diet [19; 99].

Our study of famine does not confirm that inadequate food supply was solely responsible for such catastrophic condition. What explanation can we put forward so far the famine of Ethiopia in 1973-74? The total foodgain was only 7 per cent less than the normal years which was hardly devastating in an economy with primarily rainfed agriculture [21;184]. The experience of the 1974 famine in Bangladesh was also disheartening. The total availability of foodgrain within per capita and absolute terms was higher in that year

[21]. Still the country was savaged by a disastrous famine. Ethiopia, one of the countries worst affected, recently by widespread famine, we can see that the per capita food production had been higher in the period 1981-83 in comparison to 1974-76 average [6; 184].

The following policies may be considered as really paradoxical, having a negative effect on food problem.

A) Export policy in the face of widespread hunger: As per example some of the countries where starvation is widespread like the Zambia [7; 120], Mali and other Sahelian countries and Thailand from 1974 to 1980 introduced the policy of export by keeping their own people unfed [22].

B) More foodgrain for livestock and less for human beings: In Brazil, the share of staple food crops used as livestock feed reached as high as 44% of the total production [23;75]. Countries like Mexico, Central America and the Carribbean, where some cases poorest people consume less grain than is fed to the animal producing meat, milk and eggs for the better off [24].

C) Food import and maldistribution: As for example in Egypt [7;121] food subsidies are twice as high for the urban middle class as for the rural population. In Bangladesh nearly 90% of subsidized food is distributed in the urban areas mainly among the middle class population. In Pakistan and Bangladesh, those who are employed in defence forces receive food items almost at a negligible price.

D) The gap between current production and production potentiality: Current annual world grain production could be roughly 1.8 billion tons. The production possibilities with the present level of technology has been calculated as 11.4 billion tons of foodgrain or their equivalent in food energy. Indeed the production possibilities are much higher in the developing nations and the production could feed around 40 billion population with sufficient calories [26; 177].

Hunger and population size

It is commonly believed that over-population is responsible for hunger and poverty. But we do not find a strong correlation between them.

A) Many Latin American countries are very sparcely populated, but still hunger and malnutrition are prominent there. It should be noted here that only 13% arable land there has been taken under cultivation.

B) Most of the African countries are much less densely populated than many Asian countries, but poverty and hunger are endemic there.

C) Density of population is highest in Hong Kong and Singapore, but there is little hunger there.

D) In comparison to the land/man ratio of Bangladesh; Taiwan's condition is much less favourable. However, unlike Bangladesh, hunger and poverty in Taiwan is under control.

E) China's land/man ratio is as unfavourable as for Bangladesh, but China has successfully overcome hunger and poverty to a great extent.

F) During the great Bengal famine in the year 1942 - 43, the population of Bangladesh was around one third of today's population size, still around 3.5 million people were condemned to death.

G) In the year 1969, one third of the total population of India died out of starvation. And yet at that time the population of India was insignificant in comparison to today's population.

It is already proved that both present policy packages of the World Bank and past development strategy has been pursued on a priori' theoretical basis, which is quite unrealistic when considering developing nations for the following reasons:

1) Solution of the food problem exclusively from the supply side would not attain the expected success because the problem is created primarily from the demand side. There has been enough food, but poverty stricken people are unable to purchase them owing to their low income.

2) Population size and the food problem do not show a one to one correlation. Many countries with greater population size have solved the problem of food, whereas some sparcely populated countries have not, even under favourable physical conditions.

3) Higher population growth is the result of poverty. To succeed effective population control measures must include eradication of poverty.

4) It is unlikely that devaluation will boost export because price elasticity of export for traditional items (which is the export of most of the developing nations) are highly inelastic. As a result, devaluation may cause inflation, low real income for the poor and unemployment in the developing countries.

5) Problem of hunger is a complex phenomenon associated with unequal access to food caused by either lower real income or higher food prices.

6) Lower income of the poor people may not necessarily be due to lower productivity, ill health or ignorance associated with illiteracy. It is rather related to:
   (a) Imperfect market conditions associated with unequal exchange relation.
   (b) Unequal access to low cost credit and exploitation by the money-lender at an usurious rate of interest.

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CRISIS OF DEVELOPMENT IN BANGLADESH

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INTRODUCTION

Bangladesh was termed the 'Test Case' of development by Just Faaland and Jack Perkinson with much empathy during early days of reconstruction after liberation. It was disdainfully called the bottomless basket by an internatioally reputed master of conspiratorial plitics, Henry kissinger. Since 1976, particularly since 1982, Bangladesh became increasingly a testing ground of many unbaked ideas as it was an easy prey to donor dialectics because its limited economic sovereignty was surrendered by governments which lacked political legitimacy. A soft state was given the task of taking hard decisions dictated by donors because armed forces was considered to be an organised and dependable ally and a malfuctinoing but over extending administration was required to implement those decisions while a policy of convenience and servitude was allowed to emerge with slogans of 'Politics of Development', 'Decentralisation', 'Justice at doorstep' etc. The donors had offered aid, advice, consultants, projects to back up divergent approaches for development, designed and developed by them to suit their own constituency. To day, after a long-enough time for a Presidency which lasted more than any other in this country and despite record member of changes in the cabinet, the saviors of this Government and initiators of basic economic policies under this Government are voicing their frustration in place of earlier certificates of appreciation. The cirsis is basically rooted in the non emergence of an effective social engineering process that identifies and strengthens the institutional fabric in the society, economy and polity and that inculcates values of self-development, self-esteem and self-reliance which are rooted in the very concept of liberty, freedom and progress. A nation worth its name is nothing but a voluntary and democratic association of individuals who relate to each other separately and collectively on the basis of self-respect and respect for each other which accommodates, rather encourages, differences of opinion, tolerance, freedom of speech and expression, ability to choose from alternatives so that social, political and economic

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servitude do not stand in the way of self-development and self-reliance for all of them. Only under such conditions, development is possible and sustainable, otherwise the imbalance between substructure and super-structure creates the conditions for crisis. I wish to submit emphatically that the cirsis in Bangladesh is fundamental as the super-structure, built by non-legitimate presidency with the help of servile legislature and demoralized executive as well as corrupted body of intellectuals and professionals, has no relevance to the support base rooted in the basic productive capacity of the people which have been misused, misdirected and misled without allowing it the environment to inculcate creativity and commitment which alone transforms a population; that is considered as a problem into a regenerated force in the form of basic organisations of patriotic labour in the broadest sense which become the asset and driving force for development. The donors erroneously took the super structure as the primary driving force for progress and allowed the basic producers to languish and remain in a state of exploitation and neglect being provided palliatives to contain discontent in the tradition of colonial administration. The political parties, even those who claim a base amongst the masses or those who by definition are parties of the masses, could not act to demonstrate for the rights and roles of the basic producers and thus assert the value of the sub-structure.

AN OVERVIEW OF THE STATE OF UNDERDEVELOPMENT IN BANGLADESH

Bangladesh, a country with small land area (144 th sq. km), has a large population (144.4 m in 1990) making it the most densely populated country in the world, which has little known natural resource except natural gas and fertile alluvial land whose availability per capita for agriculture and related activities has been declining sharply overtime resulting in decrease in average farm size and increasing the number of landless population.

GNP, though an imperfect measure of the level of living, is very low (US$ 170 in 1990) which is only better than strife-torn and famine stricken Ethiopia. The average annual rate of Growth of GNP over the last two and a half decades have been about 0.4 per cent which is only one-serventh of civil war ridden Srilanka. One may find solace that many countries (e. g. Uganda, Nicaragua Sudan, Somalia etc.) have recorded negative growth during the same period. The point that need be emphasized is that our GNP is slightly better than half of that for low income countries, one fifth of low middle income countries and one-tenth of upper middle income economies. In terms of average annual rate of growth of GNP, our's is about one-eighth of that for low income economies, one-sixth of lower middle

income economics and one-seventh of upper middle income economies. This two indicators together imply that not only we are behind but we are increasingly falling behind most of the developing economies of the world. The race has been lost in recent years with increasing deceleration.

The structure of production indicates the level of development in a country in general terms. For developed market economies, high-income oil-exporting economies or upper middle income economies, agriculture contributes at most 10% of GDP. The average for lower middle income economies, it is about 20%. For Bangladesh, contribution from traditional and chained agricultural sector is about half (50%), nearly one and a half times that for low-income economies. The dependence on agriculture has been declining overtime but in the absence of a vibrant growth in other productive sectors, the structure of production has remained largely the same. The variation in the contribution of agriculture indicates the net effect of development works and natural calamity. Because of the non-achievement of a break-through in industry, the contribution of the manufacturing sector to GDP has remained largely constant around 7-9% despite various policy experimentations in recent years which has resulted in over capitalization, unplanned expansion and under utilisation of capacity. The contribution of manufacturing sector for other lower income, lower middle income economies and upper middle income ecomomies have been on average one and a half times, two and four and a half time more than that of Bangladesh.

Bangladesh suffers from low domestic savings (less than 2% of GDP and in some years negative) and savings/GDP ratio has declined overtime. When Government expenditure to GDP ratio has remained stable and gross deometic investment to GDP ratio has also remained so, the unavoidable conclusion is that private consumption has increased with the increases in per capita GDP and income elasticity of consumption has been greater than one. Along with this and deteriorating gini coefficient, it appears that our new rich class has not contributed to increase in saving. Alternate hyphotesis to explain the phenomena would be increasing share of lower income group in incremental GDP. This however is not substantiated by any of the poverty studies; even BBS household expenditure study indicate only negligible improvement in gini coefficient. Thus, the group that has benefited most from development programme, have not helped to mobilize domestic resources or add dynamism to the development process through incremental investment. Statistically speaking, against 2% gross domestic savings to GDP for Bangladesh, the

corresponding figures for low income, lower middle income and upper middle income eocnomies are 7, 17 and 26 per cent respectively. Private consumption to GDP ratio for Bangladesh in 1986 was 90 and it is presumably higher now, while corresponding figures for private consumption for those group of countries were 78, 69 and 61 per cent. Gross domestic investment to GDP ratio for Bangladesh is about 12% while corresponding figures for those countries are 15, 19 and 24 per cent respectively. The export to GDP ratio for Bangladesh is about 6 and the corresponding figures for those group of countries are 14, 21 and 22 per cent. As a consequnce Bangladesh suffers from a chronic negative resource balance. It was -9% of GDP in 1986 while it is only -12% for lower middle income countries (largely distorted by conditions in Yemen, Nicaragua, Jordan and Paraguay) and +2% for upper middle income countries (depressed by conditions in Gabon, Greece, and Israel). The corresponding figure for lower income countries is -8% (again distorted by conditions in Lesotho, Somalia, Burkina Faso, Mali and Tanzania).

In terms of social indicators the precarious nature of Bangladesh is pictured clearly. The bottom 40% of household earn roughly 17% of income, while highest 20% gets about 50%, amongst them top 10% gets 30%. This is somewhast similar to many developing countries. In Bangladesh, population growth rate is only marginally lower than that for low income countries and much of the increase in population is taking place amongst the low income groups. Daily percapita calorie availability has gone down continuously and its availability domonstrates greater inequity than income. As a result more than 50% of babies are born with low weight than normal, for poorer section this rate is significantly higher. Per capita average daily calorie availability in Bangladesh (1804 for 1985 and lower in recent years) is much lower than the average for low income countries (2100) and only better than Ethiopia, Mozambique, Sierra Leone, Ghana and Chad.

Infant mortality has in recent years increased from 101.4 (in 80/81) to 116.5 (86/87); the figures for rural areas are 103.5 and 118.0 and for urban areas 80.7 and 100.6. Life expectancy at birth has gone down in recent years. This has happened despite expansion of health services physical net-work. Population per physician and per paramedics including nurses have increased between 1985 and 1986. With respect to physician, the situation in Bangladesh is better than many low income countries but much lower than India, Pakistan, Sri Lanka, Vietnam and China. With respect to nurses and parmadics, situation in Bnaladesh is worse than Ethiopia, Burkina Faso, Malawi, Zaire, Madagascar, Uganda, Togo, Benin, Somalia,

Kenya, Zambia, Sudan, Ghana, Sanegal etc. Amongst the low income countries it is only better than Nepal. In terms of per capita availability of medical supplies, Bangladesh fares no better. It may be recalled that it is a small per cent of GDP, we spend less than 0.1% on health and as a per cent of Govt. expenditure it is about one-twentieth of current and development expenditure.

The other indicator is access to education. At the primary level, enrollment rate (60) is lower than the rate for low income countries (67), not to speak of lower middle income (104) and upper middle income countries (105). The retention rate is even lower. This is reflected in the enrolment rate at the secondary level. For Bangladesd it is 18, much lower than low income countries (22), lower middle income countries (42) and upper middle income countries (57). At the post-secondary level i. e. tertiary education, the rate for Bangladesh is 5 about the same for low income countries but about one-third of that for middle income countries, one-eighth of developed economies and one-fourth of centrally planned economies. This is indicative of low investment in human capital formation which is indeed the basic reason for low productivity of labour and low efficiency of management in public and private sector.

Total government expenditure as a ratio of GDP has increased in recent years; the share of education as a percentage of government expenditure has also increased marginally. In real terms as a share of GDP, the goverment expeniture has decreased from 3.6 to 1.8% in recent years and much of the nominal increases are due to inflationary pressure. The access to education of the poorer section, with increasing private cost and deterioration of the efficiency of the system, has decreased. If the access is adjusted for quality, the inequity between classes is indeed striking. It is more so in technical and medical sector.

Due to slow growth of the economy, unemployment-urban and rural, male or remale-as well as underemployment has increased in recent years. The real wage of unskilled agricultural labour has gone down in recent years, so has been the case for small scale industry particularly in the informal sector. It seem to have increased marginally for construction sector workers; available information shows that nearly 90% of rural wage workers/day labourers earn below poverty level income. Recalling that 75% of our labour force are engaged in agriculture of whom 90% receive below peoverty level inocme and of the rest 25%, about 60% are in a similar state, then the accessibility to market beyond minimum basic necessities for 82%

of household in Bangladesh do not exist at all. This incapacity is likely to intensify as the labour force expands without corresponding expansion in absorptive capacity. The government policy seem to be totally oblivious to this severe demand constraint when they are engaged in creating supply capacity, particularly in non agricultural sectors.

Ability to reproduce means of production is an important indicator of development and self-reliance. In the industrial developed economies, machinery and equipment (i. e. capital goods) account for 25-37% of manufacturing output. The exceptions are Ireland, New Zapealand and Spain. Amongst the upper middle income countries, this capability for take-off has been acquired amongst others by Singapore (49%), Hongkong (34%), Poland (30%), Yugoslavia (25%), Israel (28%), Korea (25%), Brazil (24%), Malaysia (23%), etc. Amongst the lower middle income countries Turkey (15%) and Nigeria (17%) seem to be proceeding in this direction. Amongst the lower income countries China (26%), and India (26%) have already attained it. For Bangladesh the share of capital goods value added in the manufacturing sector value added is only 6% which is lower than Zaire (8%), Tanzania (8%), Kenya (14%), Zambia (9%), and Pakistan (8%) not to mention Indonesia (10%), Philippines (11%), Thailand (13%) and others.

The Index of manufacturing production has recorded an increase in recent years from 145 in 80-81 to 166 in 88-89. This has largely been due to an expansion in value added for beverages (from 194 to 302), paper and paper proudts (from 124 to 163), chemicals (from 166 to 392), and radio-television (from 526 to 1550). There has been a decline in food products (from 141 to 126), textiles (from 114 to 103), iron & steel (from 195 to 128), machinery (from 361 to 241) and transport equipment (from 125 to 107). This indicates that the deceleration caused by pattern of incentives for the manufacturing sector has not been conducive to growth.

The growth of value added in the manufacturing sector has averaged about 2.1 per cent which is lower than average for low income countries (4.8), lower middle income countries (3.0) and upper middle income countries (2.5). This is even lower than our rate of growth of population i. e. the industrial production per capita has gone down, when it is expected to go up if the impact of incentive package for investment in industries are properly utilised.

This has happened when there has been liberal expansion in manufacturing capacity. Judged from the number of sanctioned units or

even registered units this is indicative of low capacity utilization which reportedly averages around 30%; even though public sector capacity utilisation has been higher than 50% and in certain sector close to 90% (Sugar, Fertilizer, Cement). This is again a reflection of the inappropriate and ineffective industrial policy pursued in recent years.

Productivity of labour has indeed been declining. Gross output per employee in the manufacturing sector has gone down from 116 in 1970 to 90 in recent years. This is lower than Pakistan (151), India (145), Yemen (159), Egypt (172), Thailand (163), Syria (169), Korea (139) as well as Ethiopia (113), Burkina Faso (106), Zambia (103), Senagal (102), Nicaragua (104), Mauritius (104) etc. Real earnings per employee has also gone down, despite complaints of private sector about liberal dispensation in favour of labour. This is lower by about 20 points today compared to 1980. Real earnings by labour has been gone up by 25 points in India and by 35 points in Pakistan during the same period. In recent years there has been a great emphasis on training of workers and managers. The private sector, except for multinational, have rerely responded to such opportunities. But incresed management and workers training does not seem to have an impact on productivity. We seem to be in a vicious circle of expansion of capacity, under utilisation of capacity, lower labour productivity, lower earnings by labour, immeserisation of people and intensification of poverty. This vicious cycle need be broken but the policy package has not proceeded to achieve this.

We have been told of recent successes in export. There has been a shift from so-called traditional to non-traditional products. Average annual growth rate of exports at current prices have been around five to six per cent. As our domestic market is constrained by an anti-growth income and wages policy, the take off for sustained growth require a much faster growth in exports as would be seem from the history of Asian NICs which adopted such a policy. They (Korea, Malaysia, Hongkong and Taiwan) had attained double digit rate of growth in real terms. What is concelled in the reporting of growth of export value in current value terms is that export as a % of GDP has been falling [it has decreased from 7.6% in 80-81 to 5.9% in 88-89]. This has so happened because our terms of trade has become increasingly adverse. It has gone down from 140.37 in 84-85 to 107.69 in 88-89. Such deterioration has largely been caused by inability to diversify destination and composition of exports as well as inability to negotiate appropriate terms for exports. This has been compounded by the factor of under invoicing by the private sector traders. With respect to destination, our

heavy dependence on few industrial market economies is caused by need and purchasing capacity of these countries but subjects us to sevre competition and emerging protectionism. Further import dependence on these countries due to aid finance etc. creates condition for such a position. The developing economies have a large unexplored market. China is taking advantage of this, nearly 2/3rd of her exports go to the countries of the south; there is a basic need for transformation in the production structure and building complementarity with countries of the South. However, South-South cooperation in this regard has remained more of a vision than a reality.

What has happened to ourt imports? Our imports have also been increasing. The rate of increase has been slower than exports (3.3) in value terms. This is due to the large difference in the base year value of exports. The import of food accounts for over one-fourth of our total imports. The quantity index of import for rice has fluctuated from year to year while that for wheat has increased over time (nearly doubled in nine years), so has edible oil (nearly trippled in 9 years) and oilseeds (fluctuated widely). The noticeable part is that import of capital goods and production intermediates do not constitute a major portion of our imports indicating failure of our industrialisation and self-reliance policy. Our dependence on non-essential manufactures is quite high-nearly one-third. We are still importing fertilizer, when we claim to have ahiveved self-sufficiency. Our import of cement has increased more than four-times, indicating a boom in construction industry. But our imports of raw cotton or staple fiber either do not indicate a desired increase or shows a fall. While the import of yarn despite underutilisation of capacity in textile mills, have increased overtime. How is our import financed? Only one-eighth is funded by our cash foreign exchange, one-third by aid, more than two-fifth by remittances and the rest through barter and special arrangement. Our ability to finance imports have been sustained by remittances and not by growth of exports. As we have a growing negative balance on current account and faster increase in external finance requirements, the exports and remittance do not leave us with a desirable level of balance. In recent years (barring last pre-January reserve) our gross international reserve has been less than 2 months of import coverage. Our foreign excahnge management policy has been negligent of this factor.

In order to meet this imbalance in export and import as well as savings and investment, government has pursued a policy of encouraging direct foreign private investment. The policy, currently in existence, is very liberal

but the response is not enough to justify such a liberal policy. Such investment has been in the order 1 to 2 million dollar per year which is lower than remittances for royalty, technical assistance, salary and wages, profits etc. Bangladesh without a stable people based democratic government and with deteriorating law and order situation have not been able to attract direct foreign investment in competition with Singapore, Malaysia, Thailand, Indonesia or even India, Pakistan and strife-torn a SriLanka.

Our external debt has increased. It was (on Dec. 31, 1988) more than 13,216 million dollars and its service changes, despite generous soft loan availability is about 17.4 million dollars. In terms of our exports, this is over one-third. The red signal is on. This liability would increase over the years.

Let us turn to our fiscal management. The expenditure on current account since 1985 has been more than that for development purposes, even though government revenue has increased 2.5 times during the last decade. The revenue has not been able to meet the current expenditure since FY 1986. This is a proof of deficit financing and diversion of development fund. This trend has been persistent and increasing. The heavy dependence on customs, excise and sales tax (mostly collected from nationalised sectors) have affected common man more than others. Despite blames of inefficiency nationalised industries and financial institutions have been making positive and increasing contribution to the government budget even in the face of vigorous denationalization policy

On the side of government expenditure, expenditure for administrative services have tripled during the current regime; of this expenditure on defense has increase nearly five times and on law enforcing agency nearly doubled. Against this, expenditure on education is less than that on defense alone and has increased by little more than two times between 82/83 and 88/89; on Health it has increased only by 1.5 times, on Communication by 1.5 times, on transport about 1.5 times, on Agiculture by three times, on industry by five times. The development expenditure has recently decreased in real terms and during this decade it decreased by 1.20 percent per annum. The vulnerabiltiy index for development expenditure has increased to over thirteen times (0.23 in FY 82 to 3.1 in FY88) during this regime. This has been the real picture of politics of development.

In real terms the picture of current account expenditure is more dismal. The expenditure on general admisistration has declined (-0.84) over 82-88, increased by 9.35% for defense, 5.39% for law enforcement, while food

account deficit has increased by 581.28% and subsidies were reduced by 12.6% on average. In recent years (87, 88), disbursement for local government (despite UZ system) has gone down in real terms. The real expenditure on health and population has gone down by 0.97%, and increased somewhat for transport, energy, communication, etc.

In real terms, development expenditure has gone down for economic service by 5.75% (for agriculture by 6.21%, for other services 22.33%, for infrastructure by 0.85%, (for transport by 4.22%) for social services by 4.69% (but for Health & Population it increased by 6.92% and for education by 3.36%), subsidies have gone down by 33.99%.

These two together depicts absence of a sense of national priority. Coupled with deterioration in monetary, fiscal and planning discipline, and increase in rent seeking interest, even these real expenditures are not actual real expenditure. Further, broad sectoral picture covers up many hidden diversions to other sectors like defense.

The planning process which was asserted as a vehicle of transfromation of a feudal pre-capitalist mercantile economy to an egalitarian democratic economy during the early seventies have been allowed to become a ritual rather than a force. A recent evaluation of planning in Bangladesh concludes that the macroplanning and policy implications thereof do not have meaningful impact on the actual development activities in the country due to increasing dominance of extra-planning interventions centered in the presidential office particularly during the current regime and absence of an demonstration of popular will through an institutionalised participative process even though local level planning have been advocated and accepted as a policy. The planning activity today is basically an infructuous budgetary process of a defacto nature devoid of creativity and vision; it is more of a ritual than a rigourous exercise in relevance, priority and social productivity. Even such an exercise has been adversely affected by bureaucratic complexity, lack of appropriately trained personnel and non-presence of functional autonomy of the Planning Commission. Intervention of an 'indentor supplier interest' lobby has not only caused inclusion and carry over of a large number of projects for years but also misallocation of resources through avoidance of appropriate planning analysis.

It would be of interest to note the changes in plan objective and strategy. For example, reduction of poverty has been a major plan objective of all the plans. The first plan however identified fiscal and income-wages

policy along with local level effort to be the primary vehicle for creation of employment opportunity and acceleration of growth with equity. The second plan identified only the expansion of employment through local level effort as the strategey to reduce incidence of poverty. The Third Plan emphasized acceleration of growth at the macro level which was to create employment opportunity automatically as a poverty reduction strategy.

Poverty continue to be the most pervasive problem today. The modest improvement claimed for early eighties have been reversed in the last few years as a consequence of slowdown in production and investment and a `less aggressive investment to address the needs of the poor' resulting in reduction in real income of the poor, increased unemployment, loss of assets by the poor, increasing malnutrition in the face of emergence of a rich and influential rent seeking class and growth of a depenent international metropolis enclave economy in sections of Dhaka city.

The concept of wider diffusion of economic opportunity, restriction on concentration of wealth and increasing technological self-reliance which were defined as primary objective of the first plan have been foregotten as basic elements of development strategy in the late plans as a result of which access to economic opportunity and assets is highly positively correlated with income groups; rise of a millionnaire class from amongst the contractors, indenters and rent seekers (and not from truely producer class) and deepened technological dependence have been made possible. The process has been helped by a worngly administered policy of privatisation and trade liberalization while patronage via control has been made supreme.

Development of Human Resource as a total concept was in the first plan. It is only natural in this population abundant country and converting them into agents of production is the only certain way of augmenting rate of growth, transformation of the structure of the economy and elimination of proverty. The second plan adopted a segmented approach of elimination of illiteracy and third plan pronounced an even further limited goal of UPE for the relevant age-cohort.

A radical transformation in the agricultural sector is a precondition for building meaningfully expansive secondary and tertiary sector. All three plans have advocated expansion of water-seed-fertilizer technology to achieve self-reliance in food through expansion of irrigated cultivation with HYV-which was presumed to expand rural income and rural employment. There has been an expansion in cereal production at the neglect of other

agricultural output but the desired increase in rural income and employment was not achieved due to adverse terms of trade against rural products, caused by governemt credit and procurement policy which in recent years have favoured not only large farmers but also the rural power broker and trading class. The increase in rural employment and income has been sustained by increasing FFW, VGF programme rather than post-harvest activity. The expansion of non-farm activity has faced both supply and demand constraint. R & D and extension service capability and efficiency seem to have been constrained by a lcak of interest, resource and vacillating institutional framework and policy of the goverment.

Industrial sector has not done any better. There has been unplanned and liberal expansion of production capacity at uneconomic cost causing rise of sick industries, disinterested owner who is not an entrepreneur in the proper sense of the term, non-repayment of loan, scarcity of raw material, consumable and spares for those who would like ot make their industry work, and arbitrary bureaucratic intervention. The policy for promotion of large, medium and small industry has been largely credit centered assuming presence of trained worker, appropriate management ability, proper technology operation and absorption capacity and the most essential of all, market. As a result growth of industries in terms of output and employment has been negligible in real and relative terms. The hasty disinvestment policy has also caused `non-growth' phenomena due to their closure, low capacity utilisation, inefficiency, retrenchment and non-repayment of capital even after many concessions acceded to them through executive actions which amount to real subsidy. The myth of efficiency of private sector has been torn asunder. However, privatisation of industry and of financial institutions along with liberal credit policy have resulted in accumulation of wealth in few hands. But the objectives of increasing indigenous technological capacity, effective import substitution, broader regional dispersal of industries, development of basic capital goods industry and promoting quality of productive and managerial manpower have not been achieved. These were primary objectives enunciated in the first plan, but relegated to backgorund in the second and the third plan.

We could repeat similar non-performance and distortion of objectives in transport, power and utilities sectors. Suffice it to say their efficiency and reliability has not improved causing loss of human lives and loss of production in related sectors. The dismal state of non-achievement in Health and Education sector has been mentioned earlier.

Some broad ovservations can be made about the plans. (1) The first plan had developed in greater details and depth the macro and semi-micro-level objectives. They were consistent with reconstruction, growth and equity intentions and broadly reflected the dominant role of the state but failed to emphasize such basic institutional transformations as land reform and rapid development of productive human resources. Further, the policy makers, along with the presence of an influential petty bourgeois class, seem to have allowed consciously the rise of a non-productive rent seeking class for the purpose of political convenience through patronage in trade, distribution and property transactions. The second plan was less ambitious but unfortunately the de-emphasis was heavier on the social sectors without the realisation that it is the social productive infrastructure including human resources that make the directly productive sector efficient and profitable. The third plan, being oriented to the growth of private sector enclave economy has created a divided nation socially, economically, culturally and educationally and the executive actions destroyed institutional capability all around to ensure the dominance of a class supported by the unproductive but high income group which has in turn created a hegemony for international capital and deepened the crisis of the production sector due to impoverishment of people and non-expansion of internal market. (2) The first plan was greatly more concerned with equity and reduction of poverty than others. This is reflected not only in the macro objectives but also in the sectoral objectives and programmes. This concern has been replaced by reassertion of growth before equity and holding operations through FFW, NGO, (GB, BRAC), etc. (3) The first plan recognised right of the people to work, education, health, housing, social security and employment and it also recognised limitations of resources to provide them adequately during the plan period. This recognition of right of the people was softended in the second and generally ignored in the third plan. (4) The first plan knew its limitations with respect to self-reliance but remained sensitive to this basic element of economic sovereignty. The second plan considered foreign aid as a matter of right and third practiced a cultivated dependence on it.

CONCLUDING OBSERVATION

What is the way out of this deepening economic crisis which has eroded our sovereignty, deepened our poverty, divided our people and created a system where productivity, entreprenurship and performance are not rewarded and primitive accumulation through extra legal means are encouraged? All this has happened without any one being held

responsible or claiming responsibility. Thus the decision makers have not been accountable to people who paid yesterday, pay today and is being made to pay tomorrow for their existence and overlordship. This has been possible as any possible strong counterveiling institution has been destroyed and an unproductive dependent rent seeking class has been promoted. Until and unless this process is resisted and rooted out, the root of the economic crisis based in institutionalised authoritarianism would countinue to dominate and dictate. The countervailing people power can only be assertive if there is an alternative credible leadership with a meaningful programme. Thus extra constitutional absolutism and total void in political opposition have created an environment for absence of accountability. Unless these conditions are made to disappear through conscious effort, nothing much is likely to happen. The demonstration of political will for pro-people development is not only the responsibility of the group in power but also of the democratic opposition.

The non-legitimate anti people regime has been perpetuated and bailed out by the benign donors whose interest has been privatisation and liberalisation of economic policies. Constitutionalism, Democracy, Equality of opportunity and Deregulation have tertiary priority. The consequence of such a policy has been counter productive. The donors need be educated on this count. Political democracy can only be sustained by economic democracy (equity of economic opportunity), which in turn need be supported by objective conditions of social democracy (equal access to social services, social security and equitable opportunity for social mobility). Mere privatisation and liberalisation which creates a class of rent-seekers without qualities of entrepreneurship do not create conditions even for capitalist transformation.

Our controllers of power have failed to reward creativity, productivity, honesty, perseverence, patriotism and commitment to justice. The success in society is being measured in terms of material accumulation irrespective of legal or moral norms. This distorted personal and social value matrix which makes theft, corruption, illegitimate usurption, and injustices acceptable, can only lead to decay towards a dismal depth and one can only pray for a morally propelled social protest to arouse the people to organise a counterveiling people power. The process must start with one-self and cannot look to others for such a change; one must make effort to establish accountability and justice in his own conduct and protest where it is absent in the systems that affect him and people around him.

Social engineering is a difficult creative process. It need be based on development oriented value system, development augmenting institutional system and development promoting systems of policy. Such a process would force avoidance of unproductive expenditure, creation of unproductive rent-seeking group and reward for personal cultism. We are already in the midst of these vices. Constitutionally organised political resistance with firm and visible commitment of leaders to these values can hopefully generate a momentum that can re-establish proper constitutional authority through restoration of power to people, re-assert rule of law to ensure quick justice to common man and demand continuous accountability from the people in power for their conduct through an established democratic process of review. These conditions will save the economy from wastage imposed on the people by an authoritarian regime who play a game of pretended democracy with psychophants and donor patrons on the two sides.

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পরিকল্পনার অভিজ্ঞতা ও চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার ভবিষ্যৎ

মোঃ গোলাম আজম আযাদ*

মূল কথা

পরিকল্পনা ভাল না মন্দ তা নির্ভর করে কতটুকু স্বার্থক হল তার উপর। প্রতিটি উন্নয়নশীল দেশই উন্নয়ন পরিকল্পনার সাহায্য নিয়ে থাকে। বাংলাদেশে স্বাধীনতার পর থেকে পরপর চারটি পরিকল্পনা কাল সমাপ্ত করে পঞ্চম পরিকল্পনা গ্রহণ করা হল। এর মধ্যে চারটি পঞ্চবার্ষিকী পরিকল্পনা এবং একটি দ্বি-বার্ষিকী পরিকল্পনা গ্রহন করা হয়। বিগত চারটি পরিকল্পনায় অর্থনীতির ব্যাপক পরিবর্তনের প্রত্যাশা থাকলেও অর্জিত হয়েছে যৎসামান্য। দেশীয় সম্পদের অব্যবহার, বিদেশী মডেলের উন্নয়ন প্রত্যাশা, রাজনৈতিক অস্থিতিশীলতা, বিদেশী সাহায্য ও বুদ্ধির উপর অতি নির্ভরশীলতা, পরিকল্পনাবিদদের অদক্ষতা, অর্থনীতির সর্বস্তরে দূর্নীতি, রাজনীতিবিদ ও দাতাদেশ সমূহের সদিচ্ছার অভাব, সর্পোপরি দেশপ্রেমের কমতির কারনে অর্থনীতি প্রত্যাশিত উন্নয়ন লাভে ব্যর্থ হচ্ছে। সহজ কথায় উন্নয়ন নিয়ে যারা কথা বলেন, উন্নয়ন মডেল তৈরী ও বাস্তবায়নের সাথে যারা জড়িত তাদের সদিচ্ছার অভাবই দেশবাসীর স্বাধীনতার স্বপ্ন বাস্তবায়নে প্রধান অন্তরায়। এই নিবন্ধে আমি অতীত উন্নয়ন পরিকল্পনার অভিজ্ঞতা ও চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার উপর সংক্ষেপে আলোচনা করব।

অতীত পরিকল্পনা সমূহের রাজনৈতিক ভিত্তি

অতীতে চারটি পরিকল্পনার মধ্যে ১৯৭৩-১৯৭৮ সাল পর্যন্ত সময়ের জন্য প্রথম পঞ্চবার্ষিকী পরিকল্পনা গ্রহণ করা হয়। ১৯৭১ সালে স্বাধীনতা ঘোষনা করা হলেও ১৯৭২ সালে দেশ স্বাধীন হয়। দীর্ঘ নয় মাস যুদ্ধের অবলীলা, বিদেশী চক্রের লুটতরাজ, ৩০ লক্ষ্য মূল্যবান জীবন হারিয়ে যুদ্ধের ধ্বংসযজ্ঞতা এবং বৈদেশিক সম্পর্কের ক্ষেত্রে চরম অবনতি নিয়ে দেশ স্বাধীন হল। যখন জাতীয় আয়ের ৬০ ভাগ কৃষি থেকে এবং ৬ ভাগ শিল্প থেকে আসত। বেকারত্ব, নিরক্ষরতা, দারিদ্র্য, অপুষ্টি, ধ্বংসযজ্ঞতা, বৈদেশিক সর্ম্পকের অবনতি ছিল সেদিনের রাজনৈতিক অর্থনীতির মৌলিক সমস্যা।

আওয়ামীলীগ সরকার তার রাজনৈতিক প্রতিশ্রুতি অনুযায়ী সমাজতান্ত্রিক কাঠামোতে দেশ গড়ার জন্য বেশ কিছু পদক্ষেপ গ্রহন করে বৃহদায়তন, মাঝারী শিল্প ও বাণিজ্যিক প্রতিষ্ঠানসমূহ রাষ্ট্রীয়করন করেন। সেদিনের অর্থনীতির মৌলিক চাহিদা ছিল পুনর্বাসন ও পুনর্গঠন। ১৯৭৩ সালের পয়লা জুলাই থেকে প্রথম পঞ্চবার্ষিকী পরিকল্পনা কার্যকরী হয়। ১৯৭৫ সালে রাজনৈতিক পট পরিবর্তনের কারনে এবং প্রথম পঞ্চবার্ষিকী পরিকল্পনার ভয়াবহ পরিনতির দিক লক্ষ্য রেখে একটি Hard Core Programme গ্রহন করা হয়। বাকী দু'বছর

* প্রভাষক, অর্থনীতি বিভাগ, সরকারী শহীদ স্মৃতি কলেজ, মুক্তাগাছা, ময়মনসিংহ।

অস্থিতিশীল রাজনীতির আওতায় পরিকল্পনা সমাপ্ত হয়। সঠিক তথ্যের অপ্রতুলতা এবং একটি প্রেক্ষিত পরিকল্পনা তৈরীর উদ্দেশ্যে সরকার ১৯৭৮–৮০ সাল মেয়াদী একটি দ্বি–বার্ষিকী পরিকল্পনা গ্রহন করেন। ৭০ এর এই দশকটির রাজনৈতিক ও অর্থনৈতিক অভিজ্ঞতা অত্যন্ত হতাশাব্যঞ্জক ছিল। এই হতাশা থেকে মুক্তি দেয়ার জন্য একটি দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনা গ্রহন করা হয় বি. এন. পি সরকারের আমলে। এক বৎসর পার হতেই রাজনৈতিক পরিবর্তন হয়। নতুন সরকারের প্রতি জনগনের পুরো আস্থা না থাকায় পরিকল্পনা বাস্তবায়নে বাধা সৃষ্টি হয় এবং বেশ কিছু সংশোধনী আনা হয়। তৃতীয় পঞ্চবার্ষিকী পরিকল্পনা ও চতুর্থ পঞ্চবার্ষিকী পরিকল্পনা বৃহৎ দলসমূহের আস্থার বাইরে প্রণীত হয়েছে।

প্রথম পঞ্চবার্ষিকী পরিকল্পনার অভিজ্ঞতা

প্রথম পঞ্চবার্ষিকী পরিকল্পনার উদ্দেশ্য সমূহ তিনভাগে বিভক্ত ছিল।

(১) দীর্ঘকালের দারিদ্রতা কমিয়ে আনা, সমাজতন্ত্রে ক্রমোন্নয়ন, বৈদেশিক সহায্যের উপর নির্ভরশীলতা হ্রাস করা, (২) মধ্য মেয়াদে জাতীয় উৎপাদন ১৯৬৯–৭০ সালের পর্যায়ে নিয়ে আসা, GDP ৫.৫ হারে প্রবৃদ্ধি অর্জন করা, নিত্যপ্রয়োজনীয় দ্রব্যের উৎপাদন বৃদ্ধি ও সরবরাহ করা, মূল্যস্তর স্থিতিশীল রাখা, ২.৫ ভাগ হারে মাথাপিছু আয় বৃদ্ধি করা এবং (৩) স্বল্পকারে কৃষির প্রতিষ্ঠানিক ভিত্তি পরিবর্তন দ্বারা খাদ্যে স্বনির্ভরতা অর্জন করা।

প্রথম পঞ্চবার্ষিকীতে ৫.৫ ভাগ উন্নয়ন কর প্রত্যাশা করা হলেও ৪ ভাগ অর্জিত হয়। পরিকল্পনায় প্রত্যাশা করা হয়েছিল ৬০ ভাগ সম্পদ আভ্যন্তরীন ভাবে সংগ্রহ করা হবে। প্রকৃতপক্ষে মাত্র ২৩ ভাগ সম্পদ আভ্যন্তরীনভাবে সংগ্রহ কার হয়। সঞ্চয় হার ইপ্সিত ছিল ১৫.২ ভাগ, বাস্তবে অর্জিত হয় মাত্র ৩.৯ ভাগ। খাদ্য উৎপাদন বৃদ্ধির হার ছিল ১.৯। আয় বন্টনে অসমতা আরো বেড়ে যায় বেকারত্ব, দারিদ্রতা, ভূমিহীনতা, নিরক্ষরতা কোনটিই কমেনি। পরিকল্পনার মাঝামাঝি দেশে ব্যাপক দুর্ভিক্ষ দেখা দেয়। অর্থনীতির সর্বক্ষেত্রে বিপর্যয়ের চিহ্ন পরিলক্ষিত হয়। যে কারনে পরিকল্পনার সংস্কার আবশ্যক হয়ে পড়ে। শেষ দুই বছরের জন্য একটি হার্ড কোর প্রোগ্রাম গ্রহন করা হয়।

প্রথম পঞ্চবার্ষিকী পরিকল্পনার ব্যর্থতার মূল কারন ছিল সাঠিক পরিসংখ্যানের স্বল্পতা, ধ্বংসপ্রাপ্ত অর্থনীতি এবং বিদেশী বিশেষজ্ঞদের উপর সম্পূর্ণ নির্ভরশীলতা, অলিখিত মুজিববাদের রাজনৈতিক দর্শন। পরিকল্পনা প্রনীত হয় সময় অতিবাহিত হওয়ার ছ'মাস পর। বন্যা, প্রাকৃতিক দুর্যোগ, বৈদেশিক বাণিজ্যে পুঁজিবাদী দেশ সমূহের চক্রান্ত, আভ্যন্তরীণ অর্থনীতিতে বিপর্যয় টেনে আনে। বিশ্বব্যাপী মুদ্রাস্ফীতি, মন্দা, জ্বালানী তেলের মূল্য বৃদ্ধি, বৈদেশিক সাহায্যের অপ্রতুলতা, আভ্যন্তরীণ সম্পদ সংগ্রহে চরম ব্যর্থতা, খুচরা যন্ত্রাংশ ও আমদানীকৃত কাঁচামালের ব্যাপক ঘাটতি, অনিয়মিত জ্বালানী সরবরাহ পরিকল্পনা বাস্তবায়নে প্রতিবন্ধকতা সৃষ্টি করে। প্রথম পঞ্চবার্ষিকী পরিকল্পনার রাজনৈতিক দর্শনে অস্পষ্টতা এবং আজগুবী চিন্তা–ভাবনা অথীনৈতিক অগ্রগতির পথে বাঁধা সৃষ্টি করে। দেশের অর্থনীতির চরম ব্যর্থতার মাঝে ১৯৭৫ সালে রাজনৈতিক পট পরিবর্তন হয়।

দ্বি-বার্ষিক পরিকল্পনার অভিজ্ঞতা

১৯৭৮ সালে ২য় পরিকল্পনা প্রণীত হয়। ৫ বৎসর মেয়াদী পরিকল্পনার স্থলে দ্বি-বার্ষিক পরিকল্পনা গ্রহন করা হয়। প্রথম পঞ্চবার্ষিকী পরিকল্পনার ব্যর্থতার মূহুর্তে আরো একটি বড় পরিকল্পনা গ্রহন করা সহজ ছিলনা। এ ছাড়া ২০০০ সাল মেয়াদী একটি প্রেক্ষিত পরিকল্পনা গ্রহনের নিমিত্তে ভাংগা দুটি বছরের জন্য একটি দ্বি-বার্ষিক পরিকল্পনা গ্রহন করা হয়। যেখানে দারিদ্র্যতা হ্রাস করা, আয় বন্টনে সমতা আনা, ৫.৬ ভাগ হারে উন্নয়ন অর্জন করা, খাদ্যে স্বয়ং সম্পূর্ণতা অর্জন করা, দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার ভিত্তি প্রস্তুত করা, জনসংখ্যা বৃদ্ধির হার হ্রাস করা, কৃষিখাতে ৪.১ ভাগ উন্নয়ন হার অর্জন করা হয়। ১৯৬৯-৭০ সালের উৎপাদন স্তরে দেশকে নেয়ার পরিকল্পনা ১৯৭৬-৭৭ সালে অর্জিত হলেও দ্বি-বার্ষিক পরিকল্পনায় তা রক্ষা করা যায়নি। সার্বিক প্রবৃদ্ধির হার ছির ৩.৫ এর কাছাকাছি এবং কৃষিখাতে ৩.১ ভাগ উন্নয়ন হার অর্জিত হয়। খাদ্য ঘাটতি ২৯ লক্ষ টন বিদ্যমান ছিল।

দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার অভিজ্ঞতা

১৯৮০-৮৫ সাল মেয়াদী দ্বিতয়ি পঞ্চবার্ষিকী পরিকল্পনা গৃহীত হয়। যেখানে পর্যাপ্ত তথ্য বিশেষতেও গনতান্ত্রিক সরাকারের উপস্থিতি ছিল। পরিকল্পনাটি শর্ত সাপেক্ষে অতি উচ্চাকাঙ্খী ছিল। পরিকল্পনার প্রাথমিক উদ্দেশ্য ছিল জনগনের জীবন যাত্রার মান উনয়ন করা, Basic needs পূরন করা, অধিকতর কর্মসংস্থান সৃষ্টি করা, নিরক্ষরতা দূর করা, জনসংখ্যার বৃদ্ধির হার হ্রাস করা, স্বনির্ভরতা অর্জন, খাদ্য সংকট নিরসন, ও ৭.২ ভাগ উন্নয়ন হার অর্জন করা। ২৫৫৯৫ কোটি টাকা বরাদ্দ নিয়ে দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনা গৃহীত হয়। প্রতিকূল বাণিজ্য শর্ত, বৈদেশিক সম্পদের ঘাটতি ও রাজনৈতিক ক্ষমতার আকস্মিক পরিবর্তনে পরিকল্পনাটিতে ১৯৮২-৮৩ সালে সংশোধনের প্রয়োজনীয়তা দেখা দেয়। ১৭২০০ কোটি টাকা ব্যয় সম্বলিত সংশোধিত পরিকল্পনায় উন্নয়ন হার ৫.৪ ভাগ প্রত্যাশা করা হয়। বেসরকারী উদ্যোগের উপর বেশী গুরুত্ব দিয়ে সংশোধিত পরিকল্পনা কার্যক্রম শুরু হয়। বি. এন. পি সরকারের উন্নয়ন কৌশল অনেকটা পরিত্যাগ করা হয়।

দ্বিতীয় পঞ্চবার্ষিক পরিকল্পনার বাস্তব ফল

দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনায় প্রকৃতপক্ষে উন্নয়ন হার অর্জিত হয় ৩.৮ ভাগ। সঞ্চয় হার তেমন বাড়েনি, খাদ্য ঘাটতি ছিল ২০ লক্ষ্য টনের বেশী। দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার বাস্তবে উন্নয়ন হার অর্জিত হয় মাত্র ৩.৮ ভাগ। সঞ্চয় বাড়েনি। জনসংখ্যার প্রবৃদ্ধির হার সামান্য প্রভাবিত হয় (২.৪)। খাদ্য ঘাটতি ছিল ২০-২৪ লক্ষ টন। বেকারত্ব তেমন কমেনি। লেনদেন ভারসাম্য প্রতিকূলতা প্রশমিত হয়নি। টাকার অবমূল্যায়ন হয়েছিল ৫৭.৭%। দ্রব্য মূল্য বৃদ্ধি পায় প্রায় দ্বিগুন। অথচ মজুরী বৃদ্ধি ছিল অনেক কম।

দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার ব্যর্থতার কারন

দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার এক বৎসর অতিবাহিত হতে না হতেই সরকার পরিবর্তন হয়। পূর্ববর্তী সরকারের গৃহীত গ্রাম সরাকর ব্যবস্থা বাতিল করা হয় এবং খাল খনন কর্মসূচী

বন্ধ করে দেওয়া হয়। কৃষি, শিল্প ও প্রশাসনিক ক্ষেত্রে ব্যাপক পরিবর্তন করা হয়। নিরক্ষরতা দুরীকরন কর্মসুচী সমূহ অবহেলিত হয়ে পড়ে, পরিকল্পনা বেসরকারী বিনিয়োগ তেমন ঘটেনি। বৈদেশিক মুদ্রার ঘাটতি, বিলম্বে অর্থ সরবরাহ, পর্যাপ্ত অর্থ বরাদ্ধ, আন্তঃমন্ত্রনালয়ের সংযোগের বিলম্বতার কারনে প্রকল্প বাস্তবায়নে ব্যর্থতা বেশী পরিলক্ষিত হয়।

তৃতীয় পঞ্চবার্ষিকী পরিকল্পনার উদ্দেশ্য সমূহ

জনসংখ্যা বৃদ্ধির হার হ্রাস করা, উৎপাদন ও কর্ম সংস্থান বৃদ্ধি করা, বাধ্যতা মূলক প্রাথমিক শিক্ষা ও মানব সম্পদ উন্নয়ন, স্বনির্ভরতা বৃদ্ধি করা ও খাদ্যে স্বয়ংসম্পূর্ণতা অর্জন করা।

এই পরিকল্পনায় জন সংখ্যা প্রবৃদ্ধির হার ২.৪ ভাগ থেকে ১.৮ ভাগে হ্রাস করার সিদ্ধান্ত নেয়া হয়, বাস্তবে কিচুই অর্জিত হয়নি। পরিকল্পনায় ৫.৪ ভাগ উন্নয়ন হার প্রত্যাশা করা হয়েছিল। বাস্তবে অর্জিত হয় ৩.৮ ভাগ মাত্র। পরিকল্পনার ৪৫.৪৫ ভাগ সম্পদ দেশীয় উৎস থেকে সংগ্রহ করা হবে বলা হয় প্রকৃত পক্ষে অর্জিত হয় মাত্র ১০ ভাগ (অর্থমন্ত্রীর বাজেট বক্তৃতা)।

বাধ্যতামূলক প্রাথমিক শিক্ষা ব্যবস্থার বাস্তবায়ন হয়নি। পরিকল্পনায় ২০৭ লক্ষ টন খাদ্য শস্য উৎপাদনের লক্ষ্য থাকলেও বাস্তবে ১৬৫ লক্ষ টনের বেশী উৎপাদন শুধু মাত্র ১৯৮৯–৯০ সনে হয় (১৯০ লক্ষ টন)। কৃষিখাতে প্রবৃদ্ধির হার ছিল সবচেয়ে কম (১৭%)। শিল্পখাতে প্রবৃদ্ধির হার প্রত্যাশা করা হয় ১০.১০ ভাগ অর্জিত হয় মাত্র ৪.০২ ভাগ।

তৃতীয় পঞ্চবার্ষিকী পরিকল্পনার ব্যর্থতার মূল কারন সমূহ ছিল আভ্যন্তরীণ সম্পদ সংগ্রহে ব্যর্থতা। অপর্যাপ্ত বৈদেশিক সাহায্য, শতাব্দীর সবচেযে ভয়াবহ বন্যা, সর্বস্তরে দুর্নীতির ছোঁয়া, অতিমাত্রায় প্রকল্প অন্তর্ভুক্তি।

অতীত পরিকল্পনার অভিজ্ঞতা ও উল্লেখযোগ্য কিছু দিক

(১) অতীত চারটি পরিকল্পনা কালে সবচেয়ে উল্লেখযোগ্য পরিবর্তন হয় জাতীয় আয়ের কাঠামোগত অবস্থার। কৃষির অবদান ১৯৭২–৭৩ অর্থ বছরে যেখানে ৬০ ভাগের কাছাকাছি ছিল সেকানে প্রথম পঞ্চবার্ষিকী পরিকল্পনার শেষ মেয়াদে ৫৬.৭২ ভাগে নেমে আসে। দ্বিবার্ষিকী পরিকল্পনা শেষ বছরে ৫১.৬ ভাগ (১৯৭৯–৮০ মূল্য স্তরে)। দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার শেষ বছরে (১৯৮৪–৮৫ সালে) কৃষির শেয়ার ছিল ৫১ ভাগ (১৯৭৯–৮০ উপাদান মূল্যে)। তৃতীয় পঞ্চবার্ষিকী পরিকল্পনার শেষ বছরে GDP তে কৃষির শেয়ার ছিল ৩৯.২১ (১৯৮৪–৮৫ উৎপাদন মূল্যে) ভাগ। জাতীয় আয়ে কৃষির অবদান কমে যাওয়ায় নতুন করে চিন্তা ভাবনা করা প্রয়োজন। বিগত ১৭ বৎসরের পরিকল্পনা কালে জাতীয় আয় বেড়েছে ৭৫% অন্যদিকে কৃষির উৎপাদন বেড়েছে ৫৫%। অর্থনৈতিক উন্নয়নের সাথে কৃষির অবদানের বিপরীত সম্পর্কে ঐতিহাসিক সত্যতা রয়েছে। এর মানে বাংলাদেশে অর্থনৈতিক উন্নয়নের কারনে কৃষির অবদান কমেছে এটি বলা যুক্তি সংগত কিনা চিন্তা ভাবনার বিষয় রয়েছে।

২. বিগত ১৭ বৎসরে চারটি পরিকল্পনায় সম্পদ সংগ্রহে হতাশা জনকদিক লক্ষ করা গেছে। আভ্যন্তরীন সম্পদ সংগ্রহে সবচেয়ে বেশী ব্যর্থতা ছিল। পরিকল্পনা সমূহে জেনে শুনে বেশী হারে আভ্যন্তরীন সম্পদ প্রত্যাশা করা হয়। পরিকল্পনাবিদদের প্রত্যাশা হয়ত ঠিকই ছিল কিন্তু সম্পদ সংগ্রহকারীদের অদক্ষতা পরিকল্পনা সমূহ ব্যর্থতার জন্য দায়ী।

৩. ১৯৮১–৮২ অর্থ বছরের পর থেকে বার্ষিক উন্নয়ন কর্মসূচীতে প্রকল্প গ্রহনের পরিমান বিরাট ভাবে কমে আসে। ১৯৭৯–৮০ অর্থ বছরে উন্নয়ন প্রকল্প গ্রহন করা হয় ১৪০৬টি। ১৯৮০–৮১ অর্থ বছরে ১৫২০টি. ১৯৮১–৮২ অর্থ বছরে ১৬৭৫টি, ১৯৮২–৮৩ অর্থ বছরে ১১৭৮টি। অন্যদিকে ১৯৮৫–৮৬ অর্থ বছরে প্রকল্প গ্রহন করা হয় মাত্র ৮১৬টি। তৃতীয় পঞ্চবার্ষিকী পরিকল্পনা কালে সর্বোচ্চ প্রকল্প গ্রহন ছিল ৯২৯টি। সহজ কথায় বলা যায় দিন যতই অতিবাহিত হচ্ছে আমাদের উন্নয়ন পরিকল্পনার আওতা ততই সংকীর্ণ হচ্ছে। (সারনী (১)দেখুন)।

৪. প্রকল্প গ্রহনের সংখ্যাই শুধু হ্রাস পায়নি প্রকল্প বাস্তবায়ন ও সমাপ্তিতে দারুন হতাশা বিদ্যমান। বিশেষ করে তৃতীয় পঞ্চবার্ষিকী পরিকল্পনা এ হাতাশা আরো বড়িয়ে দিয়েছে। ১৯৭৯–৮০ অর্থ বছরে মোট প্রকল্পের প্রায় এক চতুর্থাংশ সমাপ্ত করা হয়। ১৯৮৪–৮৫ অর্থ বছরে প্রকল্প কাজ সমাপ্ত হয় প্রায় এক তৃতীয়াংশ। যেখানে তৃতীয় পঞ্চবার্ষিকী পরিকল্পনার প্রথম বছরে সমাপ্ত প্রকল্পের পরিমান ছিল মাত্র এক অষ্টমাংশ এবং ১৯৮৮–৮৯ অর্থ বছরে সমাপ্ত প্রকল্পের পরিমান ছিল মাত্র ৯%। এ দৃষ্টিকোন থেকে বলা যায় পরিকল্পনা সমূহ বাস্তবায়ন ক্রমান্বয়ে কঠিন হয়ে পড়েছে।

৫. পরিকল্পনার প্রাথমিক আয়তন অনেক বড় করে সাজানো হয়। পরবর্তীতে সংশোধন বা পুরো ব্যয় না করতে পারা আমাদের পরিকল্পনা সমূহের একটি দূর্বল দিক নীচের সারনীতে অতীত পরিকল্পনার সার সংক্ষেপে তুলে ধরা হলো।

(কোটি টাকায়)

পরিকল্পনা	পরিকল্পনার আয়তন	প্রকৃত ব্যয়	বৈদেশিক সম্পদ	উন্নয়ন হার প্রত্যাশা	প্রকৃত উন্নয়ন হার
১. প্রথম পরিকল্পনা	৪,৪৫৫	২,০৭৪	১৪৯১ (৭২%)	৫.৫%	৪%
২. দ্বি-বার্ষিক পরিকল্পনা	৩,৮৬১	৩,৩৫৯	২৫৮১ (৭৭%)	৫.৬%	৩.৫%
৩. দ্বিতীয় পরিকল্পনা	২৫,৫৯৮	১৫,২৯৭	৯৭০৮ (৬৪%)	৭.২%	৩.৮%
৪. তৃতীয় পরিকল্পনা	৩৮,৬০০	২১,৯৪২	৯০% প্রায়	৫.৪%	৩.৮%

উপরের আলোচনা থেকে বাংলাদেশের উন্নয়ন পরিকল্পনার হতাশাব্যঞ্জক অবস্থা সমন্ধে একটি সম্যক ধারনা পাওয়া যায়। এর পেক্ষিতে চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার ভবিষ্যৎ নিয়ে মন্তব্য করতে হবে। এ জন্য চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার বিভিন্ন দিক নিয়ে সংক্ষেপে আলোচনা করা দরকার।

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার বিভিন্ন দিক

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনা ১৯৯০ সালের জুলাই মাসে গ্রহন করা হয়। খসড়া পরিকল্পনা থেকে দেখা যায় এটি একটি প্রেক্ষিত পরিকল্পনা তথা দীর্ঘ মেয়াদী পরিকল্পনার (১৯৯০–২০১০) অংশ বিশেষ। এরুপ প্রেক্ষিতে পরিকল্পনায় ভিত্তি বছরে কিছু আর্থসামাজিক দীর্ঘমেয়াদী লক্ষ্য নিয়ে এরূপ পরিকল্পনা তৈরী করা হয় এবং অবস্থার পরিবর্তনের সাথে সাথে মধ্যমেয়াদে (অন্য পরিকল্পনায়) এসব লক্ষ্য মাত্রা বাস্তবায়নে আরো পদক্ষেপ নেয়া হয়। দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনা এরূপ প্রেক্ষিত পরিকল্পনার অংশ বিশেষ বলে বিবেচনা করলেও পরবর্তীতে সার্বিক কৌশলের অভাবে এরুপ চিন্তা ভাবনা বর্জন করা হয়। বর্তমানে অনেক নতুন নতুন কৌশল উদ্ভাবনের মাধ্যমে এবং পরীক্ষা নিরীক্ষার মাধ্যমে সরকার একটি দীর্ঘমেয়াদী প্রেক্ষিত পরিকল্পনা তৈরীর পদক্ষেপ নিয়েছেন।

প্রেক্ষিত পরিকল্পনা (১৯৯০–২০১০) এর লক্ষ্যসমূহ

১. মানব সম্পদ উন্নয়ন কর্মসূচীতে সবচেয়ে বেশী বিনিয়োগ করা।

২. ভবিষ্যৎ উন্নয়ন পরিকল্পনা সমূহে দরিদ্র ও অসুবিধাগ্রস্ত শ্রেনীর আর্থসামাজিক গতিময়তা আনার জন্য আরো সম্প্রসারণ মুখী কর্মসূচী নেয়া হবে।

৩. প্রকৃত খাতের উন্নয়নের সাথে কাঠামোগত কর্মসূচীর মধ্যে সমন্বয় করা হবে যার মাধ্যমে দরিদ্র ও অসুবিধাগ্রস্ত শ্রেণী উন্নয়ন প্রক্রিয়ার কেন্দ্র বিন্দুর সাথে সমন্বিত হবে।

৪. অধিক দক্ষ খাত ও উপখাতসমূহ চিহ্নিত করা এবং নীতি নির্ধারন করা হবে যাতে প্রাতিষ্ঠানিক সহযোগিতার মাধ্যমে এসব দক্ষ খাত ও উপখাত সমূহ উন্নয়ন ত্বরান্বিত করতে সর্বোচ্চ অবদান রাখতে পারে।

৫. সবচেয়ে বেশী দক্ষ আর্থ সামাজিক শ্রেনীকে চিহ্নিত করে তাদের জন্য সঠিক নীতিমালা গ্রহণ করা হবে এবং প্রাতিষ্ঠানিক সমর্থন দিয়ে উন্নয়ন ত্বরান্বিত করা যেতে পারে।

৬. কারিগরী উন্নয়ন ও গ্রহনের উপর জোর দেয়া হবে।

৭. মহিলাদের বিদ্যমান অবদানের স্বীকৃতি দান এবং নীতিনির্ধারন ও প্রাতিষ্ঠানিক সমর্থনের মাধ্যমে দরিদ্র মহিলাদের উন্নয়ন প্রক্রিয়ার সাথে সংযুক্ত করা হবে।

৮. গণ অংশ গ্রহনের মাধ্যমে গ্রামীন এলাকায় সরকারী খাতের কর্মসূচী সমূহ আরো বেশী ভাবে কার্যকরী করা হবে।

৯. বিভিন্ন খাতের ক্ষমতা ব্যবহারের মধ্যে যে বিদ্যমান অভারসাম্যতা আছে তা দূর করে অধিকতর ক্ষমতা ব্যবহারের উপর জোর দেয়া হবে।

প্রেক্ষিত পরিকল্পনার উদ্দেশ্য সমূহ

১. জাতীয় আয়ের প্রবৃদ্ধি আনা।

২. দারিদ্রতা দূর করা এবং মানব সম্পদ উন্নয়নের মাধ্যমে কর্মসংস্থানের সুযোগ সৃষ্টি করা।

৩. স্বনির্ভরতা বৃদ্ধি করা।

প্রেক্ষিত পরিকল্পনার কৌশলসমূহ

১. মানব সম্পদ উন্নয়ন এই প্রেক্ষিত পরিকল্পনার উদ্দেশ্য ও কৌশল হিসেবে বেছে নেয়া হয়েছে।

২. উন্নয়ন কর্মকান্ডের উৎসাহ হিসাবে গ্রামীণ অংশগ্রহনকারী পরিকল্পনার বিকেন্দ্রীকরন, ইউনিয়নকে একক হিসেবে গ্রহন এবং উপজেলা হবে এরুপ পরিকল্পনার সমন্বয়কারী একক।

৩. উন্নয়ন পরিকল্পনার জন্য শ্রেনী ভিত্তিক প্রক্রিয়ার সাথে খাত ভিত্তিক প্রক্রিয়ার সমন্বয় সাধন করতে হবে। সামষ্টিক পরিকল্পনার সাথে বিকেন্দ্রীকৃত অংশ গ্রহনকারী পরিকল্পনার সমন্বয় করা হবে।

চতুর্ত পঞ্চবার্ষিকী পরিকল্পনার কাঠামো (১৯৯০–১৯৯৫)

অর্থনীতির ব্যাপক পরিবর্তনের অঙ্গীকার নিয়ে চতুর্থ পঞ্চবার্ষিক পরিকল্পনা (১৯৯০–১৯৯৫) প্রণীত হয়। এই পরিকল্পনা ১৯৯০ সালের জুলাই মাস থেকে শুরু হয়। এটি একটি প্রেক্ষিত পরিকল্পনার (১৯৯০–২০১০) খন্ড পরিকল্পনা (১৯৯০–১৯৯৫)। এই পরিকল্পনা কারিগরী কাঠামো নতুন উপাদান–উৎপন্ন বিশ্লেষনের মাধ্যমে পরিকল্পনা কমিশন গঠন করা হয়। এই উপাদান উৎপন্ন (Imput-output) বিশ্লেষনের ১৯৮১–৮২ সালের তথ্য সমূহ ব্যবাহর করা হলেও ১৯৮৬–৮৭ সালের মূল্যস্তরে এগুলো নবায়ন করা হয়। এই পরিকল্পনায় দক্ষ, আধাদক্ষ এবং অদক্ষ এই তিনটি শ্রেনীতে শ্রম বিভাগ করা হয় যাতে করে বিভিন্ন ধরনের শ্রমিকদের সম্বন্ধে অতিরিক্ত তথ্য সহজে পাওয়া যায়। এছাড়া সাধারণ ভারসাম্য মডেল (General Equilibrium Model) পরিকল্পনা কমিশন কর্তৃক উন্নয়ন করা হয়। এর মাধ্যমে খাতওয়ারী বিনিয়োগের ক্রিয়া প্রতিক্রিয়া সম্বন্ধে আলোচনা করা যাবে এবং অসুবিধাগ্রস্ত শ্রেনী ও সম্পদ ব্যবহারের দক্ষতার উপর কিরূপ প্রভাব পড়ছে তা সহজেই জানা যাবে।

চতুর্থ পরিকল্পনার উদ্দেশ্য সমূহ

১. অর্থনৈতিক উন্নয়ন ত্বরান্বিত করা। পরিকল্পনা কালে ৫ ভাগ হারে GDP এর প্রবৃদ্ধির হার আশা করা হয়।

২. মানব সম্পদ উন্নয়নের মাধ্যমে দারিদ্রতা দূরীকরণ ও নিয়োগ সৃষ্টি করা।

৩. স্বনির্ভরতা বৃদ্ধি করা।

চতুর্থ পঞ্চবার্ষিক পরিকল্পনা (FFYP ১৯৯০–৯৫) এর কৌশল সমূহ

অর্থনীতির সমস্যা সমূহ দূর করা এবং গতিশীলতা সঞ্চারিত করার লক্ষ্যে (FFYP) তে বেশ কিছু কৌশল নেয়া হয়েছে যার দ্বারা উন্নয়ন হার ৬–৮ ভাগ এর মধ্যে থাকবে বলে আশা করা হয়। এই কৌশল সমূহ দুইভাগে বিভক্ত (১) সাধারণ কৌশল (General strategies) ও (২) সুনির্দিষ্ট কৌশল (Specific Strategies)।

১। সাধারণ কৌশল সমূহ (General strategies)

(১) খাত ভিত্তিক পরিকল্পনার সাথে আর্থ–সামাজিক শ্রেণী ভিত্তিক পরিকল্পনার সমন্বয়

খাত ভিত্তিক পরিকল্পনার সাথে আর্থ–সামাজিক শ্রেনী ভিত্তিক পরিকল্পনার সমন্বয় যদিও কঠিন তবুও *FFYP* তে এদুটির সমন্বয় দ্বারা দারিদ্রতা মোচন ও দ্রুত অর্থনৈতিক প্রবৃদ্ধি অর্জন করা যেতে পারে। এই পরিকল্পনায় দেশের সকল নাগরিককে দশটি আর্থসামাজিক শ্রেণীতে বিভক্ত করা হয়। (১) ভূমিহীন কৃষি শ্রমিক (২) ক্ষুদ্র কৃষক (০.০–১.৫ একর জমি) (৩) মাঝারী কৃষক (চাষী) (১৫.৫০ একর জমির মালিক) (৪) মাঝারী কৃষক (মালিক চাষি) (১·৫–৫·০ একর) (৫) বড় কৃষক (৫–১০ একর) (৬) খুব বড় কৃষক (১০ একরের বেশী (৭) গ্রামীণ সংঘঠিত (ধনী ও কৃষক) (৮) গ্রামীণ অসংঘঠিত (দরিদ্র ও অকৃষি কাজে নিয়োজিত) (৯) শহুরে অসংঘঠিত (দরিদ্র ও অকৃষি কাজে নিয়োজিত) (১০) শহুরে সংঘঠিত (ধনী ও অকৃষি)।

ভূমিহীন, ক্ষুদ্র কৃষক, গ্রামীণ ও শহুরে অসংঘঠিত শ্রেনীর লোকেরা দরিদ্র ও অসুবিধাগ্রস্ত। মোট জনসংখ্যার ৫০% এই শ্রেণীর। খাতওয়ারী কর্মসূচীর সাথে এদের সমন্বয় সাধনের জন্য নতুন নতুন প্রকল্প নিতে হবে। যার মাধ্যমে দারিদ্রতা দুর করা যাবে। বিশেষ বিশেষ গ্রুপের জন্য Micro plan তৈরী করে তা Macro Plan এর সাথে সমন্বয় করা হবে। উপজেলা ব্যবস্থা এ ব্যাপারে সহায়তা করবে। ইউনিয়নকে কেন্দ্র করে গ্রামীণ পরিকল্পনা তৈরী হবে যা উপজেলা কর্তৃপক্ষ দেখাশুনা করবে। উপজেলা পরিকল্পনার সাথে জাতীয় পরিকল্পনা ঘনিষ্ট সূত্রে আবদ্ধ থাকবে।

(২) আন্তঃখাতীয় ভারসাম্য বিধান করা

চতুর্থ পঞ্চবার্ষিক পরিকল্পনা প্রতিটি খাতের সর্বোচ্চ দক্ষতা অর্জনের মাধ্যমে বরাদ্দকৃত তহবিলের মাধ্যমে সর্বোচ্চ উন্নয়ন হার অর্জনের চেষ্টা করা হবে। বিভিন্ন খাতের মধ্যে পারস্পরিক নির্ভরশীলতার দিকে সজাগ দৃষ্টি রেখে পর্যাপ্ত সুযোগ সুবিধা প্রদান করা হবে যাতে উন্নয়ন হার বেশী করা যায়। *FFYP* অনেকটা আন্তঃখাতের সংযোগ ও নির্ভরশীলতার উপর কতটুকু সজাগ দৃষ্টি রাখা হল তার উপর নির্ভর করবে। *FFYP* তে কৃষি ও শিল্পের মধ্যে সমন্বয় সবচেয়ে বেশী গুরুত্ব পাবে। যেজন্য পরিবহন, যোগাযোগ, সেচ, ড্রেইনেজ, বিদ্যুৎ সরবরাহের উপর গুরুত্ব দেয়া হবে।

(৩) অর্থনীতিতে সংসস্কৃতিগত দক্ষতা সৃষ্টি করা

আপেক্ষিকভাবে উন্নত দেশসমূহে শ্রম দক্ষতা বৃদ্ধিতে Residual Factor এর ভূমিকা খুবই বেশী ছিল। এসব Residual Factor গুলো হল কারিগরি উন্নয়ন, যথোপযুক্ত ও আধুনিক কারিগরি, মানব সম্পদ উন্নয়ন, প্রশাসনিক ও ব্যবস্থাপনাগত দক্ষতা, আন্তঃখাতের সংযোগ, অন্তঃস্থ ও বহিঃস্থ অর্থনৈতিক সুবিধা, বাইরের বাজার সম্প্রসারণ। শ্রম ও মূলধনের দক্ষতা বৃদ্ধির দ্বারা অনেক দেশেই ৪০% উৎপাদন বৃদ্ধি পেয়েছে। বাকী ৬০% Residual Factor দ্বারা সম্ভব হয়েছে । *FFYP* তে আমরা মাত্র ২৫% উন্নয়ন আশা করছি যা এ দুধরনের উপকরনের দ্বারা সম্ভব হবে।

(৪) প্রকৃত খাতের উন্নয়নের সাথে কাঠামোগত সমন্বয় সাধন করা

FFYP এর উদ্দেশ্যের সাথে মিল রেখে আর্থিক কাঠামোগত সমন্বয় সাধন করা হবে। দরিদ্রদের ও অসুবিধাগ্রস্তদের অবস্থার পরিবর্তন সাধন এবং অর্থনীতির যে গতিময়তা আসবে তার সাথে সমন্বয় সাধনের জন্য এরূপ কাঠামোগত পরিবর্তন আবশ্যক হবে।

(৫) মহিলাদেরকে উন্নয়ন পরিকল্পনার মূল চালিকা শক্তি হিসাবে আনা

অভিজ্ঞতালব্ধ তথ্য দ্বারা প্রমাণিত হয় যে শ্রেণীভিত্তিক পরিকল্পনায় মহিলারা গঠমূলক ভূমিকা রাখতে পারে। নিয়োগ বৃদ্ধি, আয় সৃষ্টি, সঞ্চয়, বিনিয়োগ, পরিবার পরিকল্পনা, শিক্ষা, বৃক্ষরোপন, স্বাস্থ্য, সেনিটেশনে মহিলাদের ভূমিকা স্থানীয় পর্যায়ে খুবই উল্লেখযোগ্য। *FFYP* (৯০–৯৫) এজন্য মহিলাদের কাজে অংশ গ্রহনের উপর জোর দেয়া হয়েছে। এজন্য বিশেষ কর্মসূচী নেয়া হবে। প্রথমতঃ Gender ভেদাভেদের দিকে বেশী লক্ষ্য রাখা হবে এবং মহিলাও পুরুষদেরকে বিদ্যামন চাকুরীর সুযোগ সুবিধাতে বেশী প্রতিযোগীতা করতে পারে সেদিকে লক্ষ্য রাখতে হবে। দ্বিতীয়তঃ পুরুষ ও মহিলাদের মধ্যে পরিপূরকতা সম্পর্ক আরো যাতে গভীর হয় তার উপর জোর দেয়া হবে।

পরিকল্পনায় মহিলাদের মৌলিক অধিকার সংরক্ষণ, ইসলামী নিয়ম কানুন সমন্ধে সজাগ করা, শিক্ষার উপর জোর দেয়া, বাধ্যতামূলক প্রাথমিক শিক্ষা, গ্রামে অষ্টম শ্রেনী পর্যন্ত বিনা বেতনে অধ্যায়ন, এসব ব্যবস্থা থাকবে। BRDB, গ্রামীণ ব্যাংক, স্বনির্ভর ঋনদান কর্মসূচী, NGO অভিজ্ঞতায় মহিলাদের গুরুত্বপূর্ণ অবদান সম্পর্কে আমাদেরকে ধারনা দেয়। তাই মহিলাদেরকে বিশেষ বিশেষ সুযোগ দেয়া হয়।

(৬) রাজস্ব, আর্থিক ও বাণিজ্যিক নীতির সংস্কার

করকাঠামোর সংস্কার করে আবগারীকর ও আয়করের উপর বেশী গুরুত্ব দেয়া হবে। ব্যাংক ঋণ কৃষি উন্নয়নে ব্যবাহর করা হবে। রপ্তানী প্রবৃদ্ধির জন্য বেসরকারী খাতের সাথে ব্যাংক ব্যবস্থার সমন্বয় সাধন এবং সরকারী উৎসাহের উপর জোর দেয়া হবে। সঞ্চয় বিনিয়োগ বৃদ্ধি করা, সম্পদ দারিদ্রের হাতে বেশী স্থানান্তরীত করে, অতিরিক্ত রাজস্ব আয় সৃষ্টি করা যায়। সঞ্চয় ও বিনিয়োগ বৃদ্ধি করে এমন আর্থিক নীতি নেয়া হবে এবং সম্পদ সবচেয়ে দক্ষ ভাবে ব্যবহার করে এমন শ্রেনী ও খাতকে অগ্রাধিকার দেয়া হবে।

(৭) প্রশাসনিক পদ্ধতির সংস্কার

বর্তমান প্রশাসনিক কাঠামো উন্নয়ন প্রক্রিয়ার জন্য সহায়ক নয়। ইহা অত্যাধিক নিয়মতান্ত্রিক। বরং এটিকে ভবিষ্যতে ব্যবস্থাপনা নীতিতে পরিবর্তিত করতে হবে। তাদেরকে ট্রেনিং এর মাধ্যমে বাজার অর্থনীতি চালাতে পারে এবং এর সুযোগ সুবিধা বৃদ্ধি করতে পারে এজন্য ব্যবস্থা নেয়া হবে। কারিগরী উন্নতি, উদ্ভাবন ও অবলম্বনের সাথে প্রশাসনিক কাঠামো সংশোধন করা হবে। ভবিষ্যতে আরো গবেষণার মাধ্যমে প্রশাসনিক ব্যবস্থার সংস্কার করা হবে।

২। সুনির্দিষ্ট কৌশল সমূহ

(১) সরকারী খাতের বিনিয়োগ কর্মসূচী

বর্তমানে ADP এর আওতাভুক্ত প্রকল্পগুলোতে আন্তঃ মন্ত্রনালয়ের সমন্বয়ের অভাব, অতিশ্রমভারও অতিখরচ শর্তপূর্ণ বৈদেশিক সাহায্য, আভ্যন্তরীন সম্পদের ঘাটতি, খাতওয়ারী সম্পদ বন্টন যা সামাজিক খাতের বিরুদ্ধে যায় এবং cash flow ও উপাদান-উৎপন্ন বিশ্লেষণের দিক থেকে অস্বচ্ছতার (Lack of transparency) কারণে বাস্তবায়ন কঠিন হয়ে পড়ে। এজন্য *FFYP* (৯০-৯৫) এ একটি প্রকল্প অন্য প্রকল্পকে সহায়তা করে এমন প্রকল্প বেছে নেয়া হবে। ADP প্রতিটি প্রকল্প দ্বারা যাতে আন্তঃখাতের ভারসাম্য বিধান করা যায় সেদিকে লক্ষ্য রাখা হবে। দরিদ্র ও অসুবিধাগ্রস্ত শ্রেণী যাতে উপকৃত হয় এজন্য ADP তে Sectoral প্রক্রিয়ার সাথে শ্রেণী ভিত্তিক প্রক্রিয়ার যথোপযুক্তভাবে সমন্বয় সাধন করা হবে। দরিদ্র ৫০% পুরুষ ও মহিলা উপকৃত হয় এ ধরনের প্রকল্প প্রফর্মা (PP) ADP এর বরাদ্দের জন্য দাখিল করতে অগ্রাধিকার দেয়া হবে।

(২) বেসরকারী খাতে কর্মসূচী কৌশল সমূহ

বেসরকারী খাতে সর্বোচ্চ অবদান প্রাপ্তির জন্য সঞ্চয় গঠন ও অতিরিক্ত ক্ষমতা (Capabilites) সৃষ্টির জন্য ব্যবস্থা নেয়া হবে অসুবিধাগ্রস্ত শ্রেনীর লোকদেরকে প্রাতিষ্ঠানিক ঋণের আওতায় আনা হবে। চতুর্থ পরিকল্পনায় প্রবাসীদের প্রেরিত অর্থে সঞ্চয় সৃষ্টি এবং গ্রামীন সঞ্চয় বৃদ্ধির উপর জোর দেয়া হবে। গ্রামীণ সঞ্চয় শহরে পাচার হতে দেয়া হবেনা বরং গ্রামেই বিনিয়োগ করা হবে। শিল্পায়নে ১৯৮২ সালের নতুন শিল্পনীতি (NIP) ১৯৮৬ সালের সংস্কার নীতি সবই কার্যকরী থাকবে। যা বেসরকারী বিনিয়োগ বৃদ্ধিতে অবাদন রেখেছে। এচাড়া খাজনা প্রাপ্তিতে অনউৎসাহ প্রদান করে শিল্পীয় আয়ের উপর গুরুত্ব দেয়া হবে। শুল্ক সহায়তার সাথে রপ্তানী প্রবৃদ্ধি যে দ্বন্দ্ব আছে তা হ্রাস করা হবে। কৃষি ও অকৃষি বিনিয়োগ বৃদ্ধির জন্য ঋণের ব্যবস্থা করা হবে। বিনিয়োগকারীদেরকে লাইসেন্স সুবিধা, বিনিময় হার নীতি, শুল্ক নীতি, বিনিয়োগ ও ঋণ নীতির মাধ্যমে সহায়তা করা হবে। ক্ষুদ্র কৃষক ও ক্ষুদ্র বিনিয়োগকারীদের উৎসাহিত করার জন্য BSCIC, BKB, BRDB এর মত ক্ষুদ্র কৃষক ব্যাংক, New Credit Lines সৃষ্টি করা হবে। কারিগরী উন্নয়ন, উদ্ভাবন ও অবলম্বনের উপর জোর দেয়া হবে। সম্মুখমুখী ও পশ্চাৎমুখী সংযোজন সবচেয়ে বেশী যেখানে সেরুপ খাতে বিনিয়োগ

করার জন্য উৎসাহিত করা হবে। যৌথ বিনিয়োগ ও বিদেশী বেসরকারী বিনিয়োগকে উৎসাহীত করা হবে।

(৩) NGO এর মাধ্যমে গণ অংশগ্রহণ কৌশল

বিগত দুই দশকে বাংলাদেশে Non-Governmental Organizations (NGOs) গুলো গুরুত্বপূর্ণ ভুমিকা পালন করেছে। সরকার আশা করেন পরিকল্পনা কালে NGO গুলো দরিদ্র জনগোষ্ঠীর আর্থ সামাজিক উন্নয়নে গুরুত্বপূর্ণ ভূমিকা রাখবে। বিকেন্দ্রীকৃত এই পরিকল্পনার সাফল্যের কেন্দ্রবিন্দু উপজেলা তাই NGO রা উপজেলার সাথে সমন্বয় করে কাজ করবে। NGO রা দরিদ্রদের আয় একটি নির্দিষ্ট সীমায় পৌঁছে দেয়ার ক্ষমতা রাখে যা দরিদ্রদের স্বনির্ভর করবে। এজন্য সরকার সেচ্ছাসেবী NGO গুলোকে উৎসাহিত করবেন। যারা পরিকল্পনার মূল লক্ষ্য দরিদ্র ও অসুবিধাগ্রস্ত শ্রেণীর কল্যাণে ভূমিকা রাখবে।

(৪) সম্পদ সংগ্রহ ও স্থানীয় পর্যায়ের পরিকল্পনার মাধ্যমে গণ অংশগ্রহন কৌশল

অতীতে তিনটি দশকে বাংলাদেশ উন্নয়নের অনেক পরীক্ষা নিরীক্ষা করেছে। কিন্তু অনেক ভাল ফলাফল পাওয়া সত্বেও তা কাজে লাগানো হয়নি। কোন গ্রামে সংগঠিত ভাবে কাজ করে ৫০% লোককে পরিবার পরিকল্পনা গ্রহন করানো, ৬০% লোককে শিক্ষিত করা কোন সমস্যাই নয়। NGO মডেল, কুমিল্লা মডেল, গ্রামীণ ব্যাংক এসবই অসুবিধাগ্রস্ত শ্রেনীর উন্নয়নে তথা গ্রামীন উন্নয়নে গুরুত্বপূর্ণ ভূমিকা রাখতে পারে। অপরিকল্পিত গ্রাম উন্নয়ন কর্মসূচী কাম্য নয়। তাই চতুর্থ পরিকল্পনায় ইউনিয়ন পরিকল্পনা তৈরীর পদক্ষেপ নেয়া হয়েছে। যেখানে প্রতি গ্রাম ও ওয়ার্ডের লোকেরা তাদের সমস্যা, তথ্য স্পষ্ট প্রকাশ করবে। এর দ্বারাই ইউনিয়ন পরিকল্পনা যথোপযুক্তভাবে গড়ে তোলা সম্ভব হবে। এই ইউনিয়ন পরিকল্পনা উপজেলা পরিকল্পনার সাথে সমন্বয় সাধিত হবে। উপজেলা পরিকল্পনা আবার জেলা পরিকল্পনার সাথে সমন্বিত হবে। এভাবে স্থানীয় পরিকল্পনা ও স্থানীয় সম্পদ ব্যবহার চতুর্থ পরিকল্পনাকে সাফল্যের দ্বার প্রান্তে পৌছে দিবে।

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার আয়তন/বরাদ্দ এবং উন্নয়ন হার

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার মোট আর্থিক বরাদ্দ রাখা হয় ৬৭৩০ কোট টাকা, এর মধ্যে আভ্যন্তরীণ সম্পদ ৩২৪৭০ কোটি টাকা (৪৮%) এবং বৈদেশিক সম্পদ ৩৪৭৬০ কোটি টাকা (৫২%)। সরকারী খাতে বরাদ্ধ ৪০৭৩০ কোটি টাকা এবং বেসরকারী খাতে ২৬৫০০ কোটি টাকা বরাদ্দ করা হয়। পরিকল্পনায় ১৯৯০–৯১ সালে ৮৭৪৩ কোটি টাকা, ১৯৯১–৯২ সালে ১০৬৫৫ কোটি টাকা, ১৯৯২–৯৩ সালে ১৩০৩১ কোটি টাকা, ১৯৯৩–৮৪ সালে ১৫৮৪১ কোটি টাকা, ১৯৯৪–৯৫ সালে ১৮৯৬০ কোটি টাকা বরাদ্দ করা হয়। চতুর্থ পরিকল্পনায় কৃষি, পানি সম্পদ ও পল্লী উন্নয়ন ১৮২৩৩ কোটি টাকা (২৭.১২%), শিল্পে ৮৪০ কোটি টাকা (১২.৭০%), বিদ্যুৎ, তৈল, গ্যাস ও NR এ ৮৩৫০ কোটি টাকা (১২.৪২%), পরিবহন যোগাযোগ ৯৯৯০ কোটি টাকা (১৪.৮৭%), প্রাকৃতিক পরিকল্পনা, বাসস্থান, পানি সরবরাহে ৭৪৫৫ কোটি টাকা (১১.০৯%), শিক্ষা ও ধর্ম বিষয়ক ৩২৮৯

কোটি টাকা (৪.৮৯٪), স্বাস্থ্য ১২৪৮ কোটি টাকা (১.৮৬٪), জনসংখ্যা নিয়ন্ত্রণ ও পরিবার পরিকল্পনা ১৮১৮ কোটি টাকা (২.৭০٪), আর্থ–সামাজিক অবকাঠামোতে ৫৭৫ কোটি টাকা (০.৮৬٪), STR এ ৭৫ কোটি টাকা (০.১১٪), শ্রমশক্তি ও শ্রম ৭৬ কোটি টাকা (০.১১٪), জন প্রশাসন ১৩০ কোটি টাকা (০.১৯), Block Allocation ৩১৫৬ কোটি টাকা (৪.৬৯٪), এবং বাণিজ্য এবং অন্যান্য খাতে ২৪৯৪ কোটি টাকা (৬.৩৯٪) বরাদ্দ করা হয়।

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনায় বার্ষিক উন্নয়ন হার ধরা হয় ৫ ভাগ। নিম্নে বিভিন্ন খাতের উন্নয়ন হার ও মোট জাতীয় উৎপাদনের বিভিন্ন খাতের অবদান দেখান হল।

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার কালে GDP এর প্রবৃদ্ধি ও গঠন (কোটি টাকা)

Sector	১৯৮৯/৯০		১৯৯৪/৯৫		বার্ষিক উন্নয়ন
	GDP	GDP% এর অংশ	GDP	GDP অংশ (٪)	হার ٪
১. কৃষি	২৭৪৭৪	৩৯.৩৯	৩২৭৮৮	৩৬.৮২	৩.৬
২. শিল্প	৫২২৮	৭.৪৯	৮০৮০	৯.০৮	৯.১
৩. শক্তি, গ্যাস, পানি ও পয়ঃনিস্কাশন	৭৫৪	১.০৯	১২৭৭	১.৪৩	১১.০
৪. নির্মাণ	৩৬১৫	৫.১৮	৫৫১৬	৬.২০	৮.৮
৫. পরিবহণ যোগাযোগ	৬৯৭৯	১০.০০	৯০৭৮	১০.০০	৫.৪
৬. বাণিজ্য ও অন্যান্য সেবা	১৫৮৮৫	২২.৭৭	২০৩৭৮	২২.৮৮	৫.১
৭. গ্রহায়ন সেবা	৬৭৮১	৯.৭২	৮০৫৪	৯.০৫	৩.৫
৮. জনকল্যাণ	৩০৪১	৪.৩৬	৩৮৬৩	৪.৩৪	৩.৯
মোটঃ	৬৯৭৬৪	১০০.০০	৮৯০৩৪	১০০.০০	৫.০
GDP এর অংশ হিসেবে					
(a) আভ্যন্তরীণ সঞ্চয়		৩.৮	৭.১		
(b) বিনিয়োগ		১৩.১৫	১৭.৬৪		
(c) কর প্রাপ্তি		৮.২৭	৯.৯৭		

উৎস FFYP, পৃঃ১–২০ Draft]

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার ভবিষ্যৎ সম্পর্কে মন্তব্য ও সমালোচনা

স্বাধীনতার পর প্রায় দুটি দশক পেরিয়ে অর্থনীতি নিজস্ব পরিচিতি যখন খুঁজে পেয়েছে ঠিক এমন সময়ে চতুর্থ পঞ্চবার্ষিকী পরিকল্পনা রচনা করা হয়েছে। ইতিমধ্যে কিছু কিছু দরিদ্র দেশের চেয়ে বাংলাদেশ একটু এগিয়ে গিয়াছে। মাথাপিছু আয় ১৭০ ডলারে উন্নীত হয়েছে। একটি স্থিতিশীল ভিত্তি বছর নিয়ে পরিকল্পনা ১৯৯০–৯৫ রচিত হয়েছে এজন্য প্রচুর গবেষণা অভিজ্ঞতা কাজে লাগানো হয়েছে। দরিদ্র ও অসুবিধাগ্রস্ত জনগোষ্ঠী আজ অর্থনীতির প্রধান

সমস্যা। মহিলাদের উন্নয়ন ও দরিদ্র শ্রেনীর উন্নয়নের উপর সব চেয়ে বেশী গুরুত্ব দিয়ে FFYP রচিত হযেছে। বিগত দুই দশকে আর্থ সামাজিক অবকাঠামোর উন্নয়ন, নতুন নতুন ধ্যান ধারনার ব্যবাহর কিছু নতুন সমস্যা ও কিছু নতুন দিক উম্মোচন করেছে। নিম্নে চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার সম্ভাব্যতা নিয়ে কিছু মন্তব্য করা হল

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার বাস্তবতা

১. চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার সুচনা পর্ব শুভ নয়। বিশ্ব রাজনীতিতে একটি সামান্যতম পরিবর্তনের প্রভাবে বাংলাদেশের অর্থনীতিতে বিরূপ প্রতিক্রিয়া পড়েছে। ইরাক কর্তৃক কুয়েত দখলের মধ্য দিয়ে মুদ্রাস্ফীতি চরমে উঠেছে। প্রায় ৭০,০০০ হাজার বাংলাদেশী কর্মহীন হয়ে ফিরে এসেছে। বছরে ১,০০০ কোটি টাকা বৈদেশিক মুদ্রার সমাগন বন্ধ হবে। আন্তর্জাতিক সংস্থা সমূহর কারো কারো হিসাব মতে বাংলাদেশের ক্ষতি ২৫০ কোটি মার্কিন ডলার। বৈদেশিক সাহায্য প্রাপ্তিতে যে ধরনের উচ্চাশা করা হয়েছে তা ব্যর্থ হবে। পরিকল্পনায় ৫৫% বৈদেশিক সম্পদ সমাগম হবে বলা হয়েছে। পুঁজিবাদী দেশগুলির দৃষ্টি এখন রুমানিয়া, চেকোশ্লাভাকিয়া, জার্মানী, পোলেন্ড, প্রভৃতি দেশের দিকে। বাংলাদেশের উন্নয়ন অর্থনীতি নিয়ে স্বাধীনতার পর বিশ্বের সব দেশের নজর যেরূপ ছিল এখন আর তা নেই। তাই চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার বাস্তবতা নিয়ে প্রথমেই হতাশা পোষণ করছি।

২. চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার আয়তন ৬৮৯৩০ কোটি টাকা। সতের বছরের পরিকল্পনার ইতিহাসে দেখা যায় ইপ্সিত ব্যয়ের ৭০% এর কমই প্রকৃত ব্যয় হয়েছে। তাই এই বিরাট অংকের ব্যয় সংকুলান সম্ভব না হওয়ার কথা।

৩. চতুর্থ পঞ্চবার্ষিকী পরিকল্পনায় প্রত্যাশা করা হয় ব্যয়ের ৪৮% দেশীয় সম্পদ দ্বারা মেটানো হবে। এটি উচ্চাশা ছাড়া আর কিছুই নয়। কারণ অতীত পরিকল্পনা সমূহে সর্বোচ্চ আভ্যন্তরীন সম্পদ সংগ্রহের হার ছিল ৩৬% (SFYP)। সর্বনিম্ন ছিল ১০% TFYP-এ।

৪. এই পরিকল্পনায় উন্নয়ন হার প্রত্যাশা করা হয়েছে ৫ ভাগ। অতীত পরিকল্পনা সমূহে সর্বোচ্চ উন্নয়নের হার পেয়েছি ৪ ভাগ (FFYP)। দ্বিতীয় ও তৃতীয় পঞ্চবার্ষিকী পরিকল্পনার উন্নয়ন হার ছিল ৩.৮ ভাগ। তাই ৫ ভাগ উন্নয়ন হার অর্জন সম্ভব নাও হতে পারে।

৫. পরিকল্পনায় জনগনকে দশটি আর্থ সামাজিক গ্রুপে বিভাগ করা হয়েছে। দরিদ্র জনগোষ্ঠীর উন্নয়নে এ পরিকল্পনায় অনেক বক্তব্য উপস্থাপন করা হয়েছে। প্রবল বেকারত্ব দেশকে বাঁচাতে না পারলে কোন শ্রেণীরই উন্নয়ন হবে না।

প্রকৃতপক্ষে চতুর্থ পরিকল্পনা দেশের বেশী আয়ের ৫০ ভাগ লোকের উন্নয়নে সহায়ক হবে। নিম্ন আয়ের ৫০ ভাগ লোকের অবস্থার তেমন উন্নয়ন হবে না।

৬. কৃষির ক্রমহ্রাসমান ভূমিকা সম্পর্কে পরিকল্পনীয় কোন দিক নির্দেশনা নাই। ধান, পাটের কৃষি ব্যবস্থা এখন পরিহার করতে হবে। শাক, সব্জি, ফলমুল, হাসমুরগীর খমার, গবাদি পশুর খামার, মৎস্য খামার স্থাপনের উপর গুরুত্ব দিলে কৃষির অবদান দ্রুত বেড়ে যাবে।

সাথে সাথে রপ্তানী আয় বৃদ্ধি ও কৃষি শিল্প স্থাপনে,ব্যবসা বাণিজ্য সম্প্রসারণ ঘটবে। যেদিক গুলো পরিকল্পনায় কমগুরুত্ব পেয়েছে। তথা কৃষির উন্নয়ন হার বৃদ্ধির জন্য শক্তিশালী কোন পদক্ষেপ নেয়া হয়নি।

চতুর্থ পঞ্চবার্ষিকী পরিকল্পনায় আভ্যন্তরীন সম্পদ সংগ্রহ দরিদ্র ও অসুবিধাগ্রস্ত শ্রেনীর উন্নয়নের জন্য কিছু অতীত অভিজ্ঞতার উপর গুরুত্ব আরোপ করা হয়েছে। যেমন গ্রামীণ ব্যাংক কুমিল্লা মডেল, স্বনির্ভর কর্মসূচী ও NGO মডেলের কিছু কিছু দিক। প্রশ্ন উঠে উপরোক্ত কর্মসূচী সমূহ সার্থক করতে সরাকরী সাহায্যও ব্যক্তিগত প্রচেষ্টা বিশেষ বিশেষ এলাকায় যেভাবে দেখা হয়েছে তাকি সমস্ত বাংলাদেশে কোন দিন সম্ভব হবে?

৭. NGO দের উপর এ পরিকল্পনা বেশী নির্ভরশীল তা প্রমান করা হয়েছে। বাজারে শাক বিক্রেতারা যেভাবে শাককে পানি দিয়ে ভিজিযে ভিজিয়ে কিছুক্ষণ তরতাজা রাখতে চায় NGO রা ঠিক এরূপ নীতি অবলম্বন করে দেশের দরিদ্র জন গোষ্ঠীকে কতটুকু স্বাবলম্বী করে তুলবে এ নিয়ে আমার সন্দেহ রয়েছে।

৮. দেশে প্রচুর জ্বালানী সম্পদ রয়েছে। এগুলো উত্তোলন ও ব্যবহার করার জন্য কোন শক্তিশালী পদক্ষেপ এই পরিকল্পনায় নেয়া হয়নি। অথচ বছরে হাজার হাজার কোটি টকা জ্বালানি আমদানী করা হচ্ছে।

৯. শিক্ষিত বেকারদের নিয়ে পরিকল্পনার তেমন কোন পদক্ষেপ নেয়া হয়নি।

১০. চতুর্থ পঞ্চ বার্ষিকী পরিকল্পনা Micro ও Macro পরিকল্পনার সমন্বয়ে গঠিত হয়েছে। অর্থাৎ গ্রামীণ পরিকল্পনা ইউনিয়ন পর্যায়ে তৈরী হবে। Micro এই পরিকল্পনা দেখা শুনা করবে উপজেলা। প্রকৃত পক্ষ্যে এ ধরনের পরিকল্পনা তৈরীর জন্য যে ধরনের দক্ষ লোকের দরকার তা উপজেলা গুলোতে নেই বললেই চলে। এছাড়া এ ধরনের ইউনিয়ন পরিকল্পনা কোন ইউনিয়নে তৈরী হয়েছে কিনা সন্দেহ আছে। একই সাথে Micro ও Macro পরিকল্পনার সমন্বয় সাধন যথেষ্ট কষ্টসাধ্য।

১১. এই পরিকল্পনায় মহিলাদেরকে ঘরের বাহিরে বের করে আনতে পারে যা সামাজিক জীবনে বিশৃংখলা ও পারিবারিক পর্যাযে অশান্তি বাড়বে।

১২. চতুর্থ পঞ্চবার্ষিকী পরিকল্পনা একটি প্রেক্ষিত পরিকল্পনার অংশ বলে উল্লেখ করা হয়। অনূরূপভাবে দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার প্রেক্ষিতে পরিকল্পনার অংশ বলে উল্লেখ করা হয়েছিল যা বাস্তবায়নের প্রচেষ্টা নেয়া হয়নি। চতুর্থ পঞ্চবার্ষিকী পরিকল্পনার ভাগ্য দ্বিতীয় পঞ্চবার্ষিকী পরিকল্পনার মতই হয় কিনা সন্দেহ আছে।

১৩. বাধ্যতামূলক প্রাথমিক শিক্ষা ব্যবস্থা চালু করার পরিকল্পনার উল্লেখ করা হয়েছে। এটি একটি মহৎ উদ্দেশ্য। বাধ্যতামূলক শিক্ষা ব্যবস্থা কার্যকরী করতে যে পরিমান স্কুল ও শিক্ষরেক প্রয়োজন তা দেশে নেই। পেটে খাবার নেই, পড়নে বস্ত্র নেই, কাগজ কেনার পয়সা নেই। অথচ স্কুলে পড়তে বাধ্য করা হবো বাস্তবতা কতটুকু সহজেই অনুমেয়।

উপসংহার

১. প্রেক্ষিত পরিকল্পনা বা পঞ্চবার্ষিকী পরিকল্পনা যাই হোক না কেন সৎ ও নিষ্ঠাবান গনতান্ত্রিক সরকার ছাড়া পরিকল্পনা জনগনের ভাগ্য উন্নয়নে সহায়ক হবে না।

২. পরিকল্পনারভাগ্য NGO এর হাতে ছেড়ে না দিয়ে সরকারের হাতে রাখা প্রয়োজন।

৩. কৃষির বহুমুখীকরন তথা শষ্যের উপর নির্ভরশীলতা কমিয়ে আনার জন্য জরুরী পদক্ষেপ নিতে হবে।

৪. অর্থনীতির সর্বস্তরে দুর্নীতি বন্ধের জন্য ব্যবস্থা নিতে হবে।

৫. দেশীয় সম্পদের সংগ্রহের উপর বেশী জোর দিতে হবে।

৬. দেশের প্রাকৃতিক সম্পদ সুষ্ঠু ব্যবহারের জন্য জরুরী ব্যবস্থা নিতে হবে।

৭. ক্ষুদ্র ও কুটির শিল্প স্থাপনের জন্য প্রতিটি উপজেলায় একটি করে শিল্পকেন্দ্র ও শিল্পজাত পন্য বিক্রয় কেন্দ্র স্থাপন করা দরকার।

৮. স্থানীয় পরিকল্পনা প্রণয়ন ও বাস্তবায়নের জন্য উপজেলায় একজন পরিকল্পনাবিদ নিয়োগ করা প্রয়োজন।

৯. বাধ্যতামুলক প্রাথমিক শিক্ষা কার্যকরী করার জন্য সর্বস্তরের জনগণের সহযোগিতা এবং সরকারের সর্ব শক্তি নিয়োগ করা প্রয়োজন।

১০. পরিকল্পনাবিদ ও পরিকল্পনা বাস্তবায়নকারী সংগঠনের সকলকে দেশ গড়ার সদিচ্ছা নিয়ে কাজ করতে হবে।

সারনী (১) (কোটি টাকায়)

বৎসর	ADP বরাদ্দ সংশোধিত	প্রকৃত ব্যয়	প্রকল্পগ্রহনের সংখ্যা	প্রকল্প সমাপ্তির সংখ্যা
1979-80	2,330	2,188	1,406	359
1980-81	2,369	2,466	1,520	160
1981-82	2,715	2,391	1,675	133
1982-83	3,125	2,688	1,178	166
1983-84	3,858	3,006	992	245
1984-85	3,498	3,168	908	323
1985-86	4,096	3,628	816	103
1986-87	4,513	4,439	842	108
1987-88	4,651	4,150	880	99
1988-89	4,595	4,623	929	88
1989-90	4,950	na	903	na

উৎসঃ চতুর্থ পঞ্চবার্ষিকী পরিকল্পনা, পৃষ্ঠা 11-5,

গ্রন্থপঞ্জী

1. Planning Commission: First Five Year Plan (1973-78), Government of Bangladesh, Dhaka, 1973.
2. Planning Commission: Two Year Plan (1978-80), Government of Bangladesh, Dhaka, 1978.
3. Planning Commission: Second Five Year Plan (1980-85), Government of Bangladesh, Dhaka, 1980.
4. Planning Commission: Third Five Year Plan (1985-90), Government of Bangladesh, Dhaka, 1985.
5. Planning Commission: Fourth Five Year Plan (1990-95), Government of Bangladesh, Dhaka, 1990.

৬. অর্থ মন্ত্রণালয়ঃ বাংলাদেশের অর্থনৈতিক জরীপ (১৯৮০-৮১, ১৯৮৯-৯০), বাংলাদেশ সরকার, ঢাকা।

৭. আযাদ মোঃ গোলাম আজমঃ বাংলাদেশের অর্থনীতি উন্নয়ন সমস্যা ও সমাধান, ৩য় সংস্করন, ১৯৯০।

8. Bangladesh Economic Association: Journal of Political Economy, Vol. 7, No-1B.

Bangladesh Journal of Political Economy, Vol 11 No. 2

বাংলাদেশের জাতীয় আয় কাঠামো ও পরিমাপ পদ্ধতি ঃ সমস্যা ও প্রাসংগিক প্রস্তাবনা

জামাল আবদুল জলিল চৌধুরী*

১.০ উপস্থাপনা ও উদ্দেশ্য

জাতীয় আয় পরিমাপ একটি গতিশীল প্রক্রিয়া যা একটি দেশের সার্বিক অর্থনৈতিক কর্মকান্ডের চিত্রকে পারিসাংখিক ভাবে তুলে ধরে। জাতীয় আয় পরিমাপ একটি দেশের ভবিষ্যৎ অর্থনীতি পরিকল্পনা প্রণয়নে সরাসরি সহযোগিতা করে থাকে। বাংলাদশের মত একটি অনুন্নত দেশে জাতীয় আয়ের পরিমাপ অত্যন্ত গুরুত্বপূর্ণ বিষয় নিঃসন্দেহে। জাতীয় আয় নিরুপনের জন্য, এবং পদ্ধতি উন্নয়নের জন্য ১৯৩০ সনের মহামন্দার পর থেকেই সারা বিশ্বে প্রাণজ অর্থনীতিবিদ, অর্থনীতির পন্ডিতবর্গ এবাং গবেষকরা দিনরাত কাজ করে যাচ্ছেন। এটাকে একটি দেশের অর্থনীতির প্রান হিসাবে চিহ্নিত করতেও তাঁরা দ্বিধাবোধ করেননি। রাজনৈতিকভাবে আমরা দু'বার স্বাধীনতা পেয়েছি, একবার বৃটিশ ভারত থেকে ১৯৪৭ সনে, দ্বিতীয় বার ১৯৭১ সনে পাকিস্থান থেকে। ১৯৪৭ থেকে ১৯৮৭, এই চল্লিশ বছরে আমাদের জাতীয় অর্থনীতিতে ঘটে গেছে নানা চড়াই উৎরাই। এই চড়াই এর রাজনৈতিক চরিত্র যদি অনুধাবন করতে হয় তাহলে প্রয়োজন দেশের মোট জনগনের অর্থনৈতিক কল্যাণকর নির্দেশকের সুষ্ঠু পরিমাপ, অর্থাৎ চুড়ান্ত পর্যায়ে জাতীয় আয় নিরুপন। এই জাতীয় আয়, এবং তার বন্টনের উপরই একটি দেশের অর্থনীতির হাল অবস্থা বোঝা যায়। অতীতের অর্থনৈতিক অবস্থা বিশ্লেষণ করে ভবিষ্যৎ এর কর্মপন্থা নির্ধারণ করার প্রয়োজন হয়। সমাজ এবং রাষ্ট্রের প্রতিটি কোনায় যে অর্থনৈতিক পরিবর্তন ঘটছে, তাকে আয়নার মতো দেখা যায় জাতীয় আয় একাউন্টে। তাই সমাজ ও রাষ্ট্রের প্রতিনিয়ত পরিবর্তনশীল এই সব ফ্যাকটরকে সুষ্ঠভাবে নিয়ন্ত্রণ করা এবং সঠিক দিকে পরিচালিত করার জন্য প্রয়োজন জাতীয় আয় নিরুপন। এ থেকে একটি দেশের উৎপাদন ব্যবস্থার অবস্থাটি ধরা পড়ে। এমনকি সমাজের অভ্যন্তরে অতি তুচ্ছ একটা অর্থনৈতিক কর্ম ও জাতীয় আয়ের উপর কি ধরনের ভাব ফেলতে পারে, তা একমাত্র জাতীয় আয় একাউন্ট থেকে দেখা যায়। কিন্তু এই জাতীয় আয় নিরুপনে সুনির্দিষ্ট কিছু পদ্ধতির অনুসরন করে থাকে অর্থনীতিবিদরা যার ফাঁক ফোকরে অনেক অর্থনৈতিক পরিবর্তন ঘটতে পারে। তাই প্রয়োজন জাতীয় আয়ের ব্যাকরন বা পদ্ধতি সম্পর্কে সম্যক ধারনা নেয়া বিদ্যমান প্রবন্ধে, বাংলাদেশের অর্থনৈতিক অবস্থা অনুধাবনে, জাতীয় আয় নিরুপনে যে পদ্ধতির অবলম্বন করা হয়, তার প্রতি দৃষ্টিপাত করার চেষ্টা করা হয়েছে; বিভিন্ন প্রকাশিত, অপ্রকাশিত সরকারী বেসরকারী গবেষনা প্রতিবেদন থেকে সাহায্য নিয়ে এ নিবন্ধটি তৈরী করা হয়েছে।

আয় নিরুপনের বিভিন্ন পদ্ধতির ব্যবহার সীমাবদ্ধতা এবং সমস্যার চিত্র তুলে ধরার সাথে কিছু প্রাসংগিক প্রস্তাবনার উপস্থাপন করা হয়েছে। জাতীয় আয়ের পদ্ধতিগত সমস্যা নিয়ে আরো অনেক বেশী তাত্ত্বিক আলোচনা দেশব্যাপী চালানো প্রয়োজন। কারণ অমাদের দেশের অনেক মৌসুমী গবেষনার ভীড়ে এ ব্যাপারটি একেবারেই হারিয়ে আছে; স্বাধীনতার ২০ বৎসর পরও জাতীয় আয় নিয়ে দু'য়েকটি ছিটো ফোটা কাজ ব্যতীত (প্রবন্ধ, নিবন্ধ) বড় আকারের কোন কাজ এখনো পর্যন্ত হয়নি অথচ দেশের সম্পদের স্বল্পতার কথা চিন্তা করে, সঠিকভাবে জাতীয় আয় নিরুপন করে একটি কার্যকারী অর্থনৈতিক পরিকল্পনা ও বাজেট প্রণয়ন করা যেতে পারে। দেশের আয়বুঝে ব্যায়ের পরিমাপটা বোঝা দরাকর।

২.০ জাতীয় আয় পরিমাপের গবেষনা কর্ম সমূহ

বৃটিশ ভারতে মোট বিশ বার জাতীয় আয় পরিমাপ করা হয়। প্রথম দাদা ভাই নাওরাজী ১৮৭৬ সালে এবং শেস বার মডার্ন ইকোনমিষ্ট ১৯৪৯ সালে। তবে পরিমাপকৃত এসব জাতীয় আয়ের যথেষ্ট রাজনৈতিক বিতর্ক রয়ছে জাতীয আয় হিসাবকারী প্রত্যেক অর্থনীতিবিদ দেখিয়েছেন যে, মানুষের মাথা পিছু আয় একেবারেই কম এবাং তাই সরকারের পক্ষে ব্যাপক জনগনের উন্নতিসাধন করা সম্ভব হচ্ছে না। বৃটিশ ভারতের জাতীয় আয় নিরুপনের ক্ষেত্রে ডঃ ভি, কে, আর, বি রাও এর কাজটি অত্যন্ত ব্যাপক ও বিস্তৃত। সরকারী উপাত্তের অভাবের কারনে রাও নিজের বেশ কিছু সাময়িক জরীপ পরচালনা করেন। এই সময়কার প্রতিটি জাতীয় আয়ের পরিমাপ চলতি মুল্যে নির্ধারণ করা হয়েছিল। ১৯৪৭ সনে দেশভাগের পর পাকিস্তানের উভয় প্রদেশেই জাতীয় আয় পরিমাপ সংক্রান্ত নির্ভরযোগ্য পরিসংখ্যানের অভাব ছিল। বিশেষ করে পাঞ্জাব এবং পূর্ববংগ প্রদেশে বিপুল সংখ্যক লোকের (রিফিউজি) অন্তর্গমন এবং বহির্গমনের ফলে সঠিক এবং পদ্ধতিগত ভাবে কোন পরিসংখ্যান তৈরী করা সম্ভব হয়নি; এছাড়াও রাজনৈতিক–অর্থনৈতিক অসমঞ্জস্যতা ছিলই। অনেক উন্নয়নশীল দেশের মতো, তৎকালীন পূর্ব পাকিস্তানেও সঠিক পরিসংখ্যানের অভাব ছিল ১৯৫০ সনে কেন্দ্রীয় পরিসংখ্যান কার্যালয় স্থাপিত হবার পর, পর্যায় ক্রমে উপাত্ত সংগ্রহের ব্যাপারে পদ্ধতি এবাং কাঠামোগত পরিবর্তন করা হয়, যাতে করে সুষ্ঠভাবে পরিসংখ্যান তৈরী করা যায়। এসময় কেন্দ্রীয় পরিসংখ্যান কার্যালয় স্থাপিত না হলে পাকিস্তানের উন্নয়ন পরিকল্পনা তৈরী করা যেত না। ১৯৪৮/৪৯ অর্থনৈতিক বছরে প্রথম বারের মতো, পাকিস্তান পরিসংখ্যান কার্যালয় (সি, এস, ও) চলতি মূল্যে মোট দেশজ উৎপাদন পরিমাপ করেন।১৯৫৩–৫৪ পর্যন্ত মোট দেশজ উৎপাদনের পরিমাপ চলতি এবাং স্থিরকৃত উভয় ভাবেই পরিমাপ করা হয়েছে। শুধুমাত্র নির্ভরযোগ্য উপাত্তের কারনে ১৯৬৩ সাল পর্যন্ত স্থিরকৃত মূল্যে জাতীয় উৎপাদন বা আয় পরিমাপ করে প্রকাশ করা হয়। ১৯৫১ সনের প্রথম আদম শুমারীর ফলে, জাতীয় আয় পরিমাপের ক্ষেত্রে পদ্ধতির সুষ্ঠ এবং বৈজ্ঞানিকতা পরিমাণ দৃঢ় হয়। এই আদমশুমারীতে জাতীয় আয় পরিমাপের জন্য বেশ কয়েকটি সামষ্টিক অর্থনৈতিক দিক প্রাধান্য পায়। ফলে কেন্দ্রীয় পরিসংখ্যান কার্যালয় ১৯৫২/৫৩ সনের জন্য চলতি মূল্যে নতুন সিরিজের (জাতীয় অর্থনীতির সকল খাত বিবেচনা করে) জাতীয় আয় পরিমাপ করেন। পাকিস্তানের প্রথম পাঁচশালা পরিকল্পনা প্রণয়নের প্রাক্কালে অর্থনৈতিক প্রবৃদ্ধির হার এবং পরিমানের পরিমাপ। প্রয়োজনীয়তা দেখা দেয়। ১৯৫৪ সনে রাষ্ট্রীয়ভাবে প্রথমবারের মতো সিদ্ধান্ত নেয়া হয় যে,

১৯৪৯/৫০ থেকে ১৯৫২/৫৩ এর গড় মূল্য নিয়ে, নতুন সিরিজের স্থিরকৃতমূল্যে জাতীয় আয় পরিমাপ করা হবে। ১৯৬৩ সন পর্যন্ত জাতীয় আয়ের স্থিরকৃত মূল্যের পরিমাপ নিয়মিতভাবে না থাকায় স্থিরকৃত মূল্যে নিরুপনের ক্ষেত্রে ১৯৫৯/৬০ অর্থবছরকে ভিত্তি বছর হিসেবে বিবেচনা করা হয়। ১৯৫০ সালের পূর্ব পর্যন্ত, পাকিস্তানের প্রদেশগুলোর জন্য আলাদাভাবে আয় পরিমাপ করা হতো না। ১৯৬১ সনে তৎকালীন পাকিস্তান সরকার সি, এস, ও কর্তৃক হিসাবকৃত জাতীয় আয়ের দুর্বলতা নিরুপনে এবং উন্নতমানের পদ্ধতি ফর্মূলেশনের নিমিত্তে দেশের প্রথম সারির অর্থনীতিবিদ ও পরিসংখ্যানবিদ নিয়ে একটি কমিটি গঠন করেন। ১৯৬২ সালে মূল্যায়ন কাজ সম্পাদন করে প্রস্তাবনায় এ কমিটি উল্লেখ করেছে যে, সি, এস, ও যেন জাতীয় ভিত্তিক আয় পরিমাপের পাশাপাশি, চলতি এবং স্থিরকৃত উভয় মূল্যে প্রাদেশিক আয়-ব্যায়ের হিসাব ও নিরুপন করে। জাতীয় অর্থনীতির বিভিন্ন দিক লক্ষ্য করে, ১৯৬৩ সনের এপ্রিল মাসে তৎকালীন পাকিস্তান সরকার নিম্নোক্ত উদ্দেশ্য জাতীয় আয় কমিশন গঠন করেন এবং নিম্নোক্ত সুপারিশমালা প্রণয়ন করেনঃ

- জাতীয় আয় নিরুপনের জন্য বিদ্যমান উপাত্তের সংগ্রহ এবং নির্ভরতার পদ্ধতিগত দিক পরখ।
- জাতীয় আয় পরিসংখ্যান প্রস্তুতে নির্ভরযোগ্য উপাত্ত এবং তথ্য সংগ্রহের জন্য কার্যকরী দিক নির্দেশনা দেয়া।
- জাতীয় আয়ের অন্তর্ভূক্ত বিভিন্ন শিল্পখাতের পরিকল্পনায় ব্যাখ্যা প্রদান করে শ্রেনী বিভাজনে একটা সুষ্ঠতা এবং বৈজ্ঞানিকতা ফিরিয়ে আনা, কারন উন্নয়ন পরিকল্পনায় বিভিন্ন পর্যায়ে এর একান্ত প্রয়োজন রয়েছে।
- জাতীয় আয় হিসাব পদ্ধতির প্রক্রিয়াগত দিক উন্নতকরনের জন্য কেন্দ্রীয় পরিসংখ্যান কার্যালয়কে পরামর্শ দান করা।
- জাতীয় আয় পরিসংখ্যান এর ক্ষেত্রে গবেষনা পরিচালনার জন্য প্রয়োজনীয় নীতি নির্ধারণী কাঠামো প্রদান করা।

১৯৭৪ সনে বাংলাদেশ উন্নয়ন গবেষনা প্রতিষ্ঠানের অর্থনীতিবিদ মহিউদ্দিন আলমগীর এবং লোডজিক জে, জে, বারলাজ কৃত বাংলাদেশের জাতীয় আয় ও ব্যয়ঃ ১৯৪৯/৫০-১৯৬৯/৭০ গবেষনা পুস্তিকাটি, উন্নয়ন গবেষনা প্রতিষ্ঠান প্রকাশ করেন [৬] পাকিস্তান আমল (বাংলাদেশসহ) নিয়ে জাতীয় আয় পরিমাপের ক্ষেত্রে বলা যায় এটি একটি উল্লেখ যোগ্য কাজ। বাংলাদেশ আমলের (১৯৭২-৮৫), জাতীয় আয় ও ব্যয় নিয়ে উল্লেখযোগ্য, পুর্নাংগ তেমন কোন কাজ নেই। উক্ত আয় কমিশন, ১৯৬৪ সনে খসরা মূল্যায়ন প্রতিবেদন, এবং ১৯৬৫ সনের নভেম্বর মাসে চুড়ান্ত রিপোর্ট হস্তান্তর করে। ১৯৬৩/৬৪ অর্থনৈতিক বছর থেকে পাকিস্তান কেন্দ্রীয় পরিসংখ্যান কার্যালয় জাতীয় উৎপাদন হিসাবের পাশাপাশি জাতীয় ব্যয় হিসাব ও পরিসংখ্যান রিপোর্ট গুলোতে প্রকাশ করতে থাকে। সি, এস, ও এর পাশাপাশি,

তৎকালীন পাকিস্তান পরিকল্পনা কমিশন ১৯৫৯/৬০সন থেকে ১৯৬৪/৬৫ পর্যন্ত, পরিকল্পনা কার্য সম্পাদন করার জন্য জাতীয় আয় পরিমাপ করেন। উল্লেখ্য যে, পরিসংখ্যান কার্যালয় এবং পরিকল্পনা কমিশনের পদ্ধতিগত ভিন্নতার জন্য একই সময়ের জাতীয় আয়ে হেরফের দেখা যায়। ১৯৫৯/৬০ থেকে ১৯৬৫/৬৬ পর্যন্ত পাকিস্তান পরিকল্পনা কমিশন পাকিস্তানের বিনিয়োগ পরিমান পরিমাপ করে। ১৯৬০/৬১ সনে পাকিস্তান পরিকল্পনা কমিশন মোট জাতীয় পুঁজি গঠনের পরিমাপ করেন। পরবর্তীতে ১৯৬৩/৬৪ থেকে ১৯৬৯/৭০ পর্যন্ত পাকিস্তান পরিসংখ্যান কার্যালয় ধার্যকৃত বিনিয়োগ পরিমান পরিমাপ করেন।

পাকিস্তান এবং বাংলাদেশের প্রথমার্ধে সরকারী সঞ্চয় পরিমাপের কোন প্রচেষ্টা দেখা যায় না। পাকিস্তান আমলে জাতীয় আয় পরিসংখ্যান উপাত্ত থেকে পাকিস্তান পরিকল্পনা কমিশন পরোক্ষ পদ্ধতিতে মোট সঞ্চয়ের পরিমাপ করেছিল। পাকিস্তান আমলে জাতীয় আয় পরিসংখ্যান এর পদ্ধতিগত সমস্যার কারনে হিসাবকৃত সঞ্চয়ের পরিমান সমপর্কে রয়েছে নানা সন্দেহ। জাতীয় সঞ্চয়ের সঠিক হিসেব নিরুপন করতে না পারলে জাতীয় অর্থ নৈতিক পরিকল্পনা প্রণয়ন এবং নীতি নির্ধারনীর ক্ষেত্রে সুষ্ঠু নির্দেশনা পাওয়া যাবে না। পাকিস্তান পরিকল্পনা কমিশনের সঞ্চয় নিরুপনের পর, তৎকালীন সময়ে অর্থনীতিবিদ ল্যুইস ও খান (৭], হক ও বাকী [৮] এবং গফুর [৯] পাকিস্তান আমলের সঞ্চয়ের পরিমাপ করেন।

কিন্তু এই সঞ্চয় পরিমাপ অনেক দিক দিয়ে আংশিকভাবে পরিমাপ করাতো রাষ্ট্রীয় অর্থনীতির নীতিনির্ধারনী ক্ষেত্রে কার্যকর মহলের ক্ষেত্রে সমস্যা দেখা দেয়। ল্যুইস এবং খান ১৯৪৯–৬২ পর্যন্ত পাকিস্তানের নন কর্পোরেট ব্যক্তিগত সঞ্চয়ের পরিমাপ করেছিলেন, যা ছিল অনেকাংশে বিস্তৃত। অন্য দিকে বাংলাদেশের সঞ্চয়ের উপর আরো তিনটি গবেষণা হয়েছে মোহাম্মদ শফিউল্লাহ [১১] ও মোহাম্মদ হাবিবুল্লাহ [১২] এর তত্ত্বাবধানে। মোহাম্মদ শফিউল্লাহ বাংলাদশের ৬৫টি কোম্পানীর কর্পোরেট সঞ্চয় নিরুপন করে ছিলেন, অপর দিকে মোহাম্মদ হাবিবুল্লাহ তাঁর দু'টো গবেষনার একটিতে ঢাকা শহরের ২৮০টি বাসগৃহের উপর জরীপ চালিয়ে নগর সঞ্চয়ের ধরণ নির্নয় করেন, অন্যটিতে বাংলাদেশের পাঁচটি ইউনিয়ন মোট পাঁচশটি বাসগৃহের জরীপ করে গ্রামীন পুঁজি সংগঠনের চরিত্র এবং পরিমান নির্নয় করেন। ১৯৭৪ সনে বাংলাদেশ উন্নয়ন গবেষনা প্রতিষ্ঠানের মহিউদ্দীন আলমগীর ও আতিকুর রহমান [১০]প্রথমবারের মতো বাংলাদেশের সঞ্চয়ঃ ১৯৫৯/৬০–১৯৬৯/৭০" (বিস্তৃত গবেষনা জরীপ ও হিসাব) পরিমাপ করেন। বাংলাদেশের সঞ্চয়ের অবস্থা ১৯৭২/৭৩–১৯৮৬/৮৭ নামক একটি গবেষনা কর্ম প্রবন্ধকারের উদ্যোগে পরিচালিত হচ্ছে।

৩.০ জাতীয় আয় কাঠামো

বাংলাদেশ পরিসংখ্যান ব্যুরো, জাতীয় আয় পরিমাপের ক্ষেত্রে অর্থনৈতিক সেক্টরকে মোট এগারোটি বিভাগে বিভাজন করেছে। ব্যুরো মোট জাতীয় উৎপাদন নির্নয়ে প্রধানতঃ মূল্য সংযোজন (Value-added) পরিমানকেই বিবেচনা করে থাকে। আলাদা আলাদা ভাবে মোট

এগারোটি খাতকে বাংলাদেশ পরিসংখ্যান ব্যুরো যেভাবে কাঠামো দিয়েছে তা হলো নিম্নরুপঃ

খাত	উপখাত
ক) কৃষি	– শস্য
	– পশুপালন
	– বন
	– মৎস্য
খ) খনিজ	– বৃহৎ এবং মাঝারি
গ) ম্যানুফেকচারিং শিল্প	– ক্ষুদ্র এবং কুটির
ঘ) নির্মান	
ঙ) বিদ্যুৎ, গ্যাস, পানি এবং পয়ঃপ্রনালী সার্ভিস	
চ) যোগাযোগ, গুদামজাত এবং পরিবহন	– সংগঠিত সড়ক, বিমান, রেলওয়ে এবং নৌপথে
	– অসংগঠিত রাস্তা এবং পানি পথ
	– যোগাযোগ
	– ষ্টোরেজ এবং গুদাম
ছ) ব্যবসা বাণিজ্য	
জ) গণ প্রশাসন এবং প্রতিরক্ষা	
ঝ) ব্যাংক ও বীমা	– ব্যাংক ও অন্যান্য অর্থনৈতিক প্রতিষ্ঠান
	– জীবন বীমা ও অন্যান্য বীমা প্রতিষ্ঠান।
ঞ) পেশাজীবি ও অন্যান্য সার্ভিস	– শিক্ষা
	– স্বাস্থ্য
	– আইনজীবি
	– ব্যক্তিগত তত্ত্বাবধান
	– ধর্ম
	– চিত্তবিনোদন, মনোরঞ্জন
	– গৃহস্থালী সেবা।

৪.০ জাতীয় আয় পরিমাপে বাংলাদেশ পরিসংখ্যান ব্যুরো কর্তৃক গৃহীত পদ্ধতি

৪.১ মোট জাতীয় উৎপাদন

মোট জাতীয় উৎপাদন নিরুপনে আলাদা ভাবে মোট এগারোটি শিল্প সেক্টর থেকে আসা মোট মুল্য সংযোজন পরিমানকে বিবেচনা করা হয়। স্বাধীনতার পর থেকে বাংলাদেশ পরিসংখ্যান ব্যুরো মোট জাতীয় উৎপাদন নিরুপনের ক্ষেত্রে জাতিসংঘ কর্তৃক ধারণা, সংজ্ঞা, পদ্ধতি, এবং শ্রেনী বিভাজন সম্পর্কিত নির্দেশিকা অনুসরন করে আসছে। মোট জাতীয়

উৎপাদন নিরুপনে, উপাদন পদ্ধতি, আয়পদ্ধতি এবং ব্যয় পদ্ধতি এই তিনটি পদ্ধতিই বাংলাদেশের পরিসংখ্যান ব্যুরো সুবিধামত ভাবে ব্যবহার করে থাকে। প্রাথমিক উপকরণ,উৎপাদিত দ্রব্যের ভৌত পরিমান এর মূল্য নিরুপনে সাধারনতঃ উৎপাদন পদ্ধতি ব্যবহার করা হয়ে থাকে। অন্যান্য ক্ষেত্রে আয় এবং ব্যয় পদ্ধতি দুটোই ব্যবহার করা হয়ে থাকে। কোন একটি পদ্ধতি একক ভাবে ব্যবহার করা হয় না। কৃষি, খনিজ, শিল্প এবং গ্যাস খাতে মূল্য সংযোজন সাধারণতঃ উৎপাদন পদ্ধতিতে পরিমাপ করা হয়ে থাকে; উল্লেখ্য যে, বাংলাদেশের মোট দেশীয় উৎপাদনে শতকরা ৫৬% ভাগ এই কয়েকটি সেক্টর থেকে আসে। এমনকি ব্যবসায়িক লাভ এবং পরিবহন আয় ইত্যাদিও অর্থনৈতিক পরিমাপের ক্ষেত্রে উৎপাদনের সহগ–এর ভিত্তিতে পরিমাপ করা হয়ে থাকে। মোট দেশীয় উৎপাদনের শতকরা ৬৬ ভাগ উৎপাদন পদ্ধতিতে (উৎপাদন সহগ ব্যবহার ফলে) পরিমাপ করা হয়ে থাকে। বাকী ৩৩ ভাগ আয় ও ব্যয় পদ্ধতির সাহায্যে পরিমাপ করা হয়ে থাকে। মোটামুটিভাবে ১৯.৪ ভাগ এবং ১৩.৬ ভাগ যথাক্রমে আয় পদ্ধতি এবং ব্যয় পদ্ধতির সাহায্যে পরিমাপ করা হয়। বাংলাদেশ পরিসংখ্যান ব্যুরো কর্তৃক পরিমাপকৃত মোট দেশীয় উৎপাদনের ক্ষেত্রে কোন প্রকার অঞ্চলভিত্তিক বা আর্থ–সামাজিক গ্রুপের ভিত্তিতে পরিমাপের কোন দিক লক্ষ্য করা যায় না। তবে সম্প্রতি ব্যুরো, বাংরাদেশের মোট দেশীয় উৎপাদনকে মোট চারটি বিভাগীয় অঞ্চলের ভিত্তিতে পরিমাপ করার প্রচেষ্টা হাতে নিয়েছে। এমনকি জেলাভিত্তিক দেশীয় উৎপাদন পরিমাপের উদ্যোগও দেরীতে হলেও বাংলাদেশ পরিসংখ্যান ব্যুরো হাতে নিয়েছে। অঞ্চলভিত্তিক এবং জেলাভিত্তিক মোট দেশীয় উৎপাদনের যে বিভাজন দেখা যায় তাতেও বাংলাদেশ পরিসংখ্যান ব্যুরো জাতীয় আয় পরিমাপের উল্লেখ্য তিনটির সবকটি পদ্ধতি ব্যবহার করে থাকে। মোট জাতীয় উৎপাদনের হিসাব থেকে একটি দেশের বাজার অর্থনীতিতে কতটুকু ভৌত সম্পদ গমন করে থাকে তার একটি চিত্র তুলে পাওয়া যায়। উন্নয়শীল দেশগুলোর মতো বাংলাদেশেও মোট দেশীয় উৎপাদনের পরিমাপের ক্ষেত্রে ধারনাগত শ্রেনীবিভাজন এবং পদ্ধতিগত সীমাবদ্ধতা লক্ষ্য করা যায়। প্রতি বৎসর জাতীয় আয়ের যে চিত্র আমরা পেয়ে থাকি তা অনেকদিক থেকেই ত্রুটিপূর্ণ। এবার দেখা যাক খাত ভিত্তিক আয় পরিমাপের পদ্ধতি প্রয়োগ প্রক্রিয়াটি কেমন।

৪.২ কৃষি আয়ের পরিমাপ

বাংলাদেশ পরিসংখ্যান ব্যুরো কৃষি আয়ের পরিমাপের ক্ষেত্রে দশ থেকে পনের ধরনের মোট একশত নমুনা বিবেচনা করে থাকে। বন, মৎস্য এবং পশুপালনের ক্ষেত্রে ব্যুরোর মৎস্য ও পশুপালন পরিদপ্তর, এবং বন ক্ষেত্রে প্রধান বন সংরক্ষক ও ১৯৭৭ সারের কৃষি শুমারী প্রদত্ত উৎপাদনের উপাত্ত ব্যবহার করে থাকে। এই প্রতিবেদনটি সরেজমিন জরীপের ভিত্তিতে তৈরী করা হয়েছে। কৃষি শস্য উপক্ষেত্রে চলতি উৎপাদনে পরিসংখ্যান ব্যুরো কর্তৃক পরিচালিত ক্লাষ্টার পর্যবেক্ষণ এবং সাবজেকটিভ পদ্ধতির সহযোগে আয়ের পরিমাপ নির্ধারন করা হয়। শস্য মৌসুম মূল্যকে পাইকারী মুল্যে (গ্রামীন বাজার গুলোতে) সাধারণতঃ ঐ মৌসুমের প্রধান তিন বা চারটি সপ্তাহের ভিত্তিতে হিসাব করা হয়ে থাকে। পরিবহন খরচ বাদ দিয়ে (১৯৬৩–৬৪ সাল পরিচালিত এম, এস, এ জরীপ) শস্য উৎপাদনের খরচ খামার থেকে নিকটবর্তী কৃষি বাজারের মূল্যের ভিত্তিতে বিবেচনা করা হয়ে থাকে। এবং জেলাভিত্তিক মৌসুমী মূল্যকে,

গাণিতিক গড় নিয়ে নির্ধারণ করা হয়। প্রধানতঃ এই সব উপাত্ত গুলো কৃষি বাজার পরিদপ্তর থেকে সংগ্রহ করা হয়। উপকরণ উপাত্ত এবং অন্যান্য বিক্রয়মূল্য ও ভর্তুকীর পরিমাণ, বাংলাদেশ কৃষি উন্নয়ন কর্পোরেশনের পরিসংখ্যান থেকে নেয়া হয়। উৎপাদিত দ্রব্য, উপকরন দ্রব্য, এবং নিলাম মূল্য (পরিবহন মূল্য সহ) সাধারনতঃ চায়ের ক্ষেত্রে বাংলাদেশ চা বোর্ড থেকে পেয়ে থাকে। প্রতি বৎসর হিসাবে উৎপাদিত পশপালন এর হিসাব পশু পালণ এবং কৃষি পরিসংখ্যান ১৯৭৭ সার থেকে বাংলাদেশ পরিসংখ্যান ব্যুরো সংগ্রহ করে থাকে। উল্লেখ্য যে ১৯৬০ থেকে ১৯৭৭ এরমধ্যে পশুপালন বৃদ্ধির হারকে একত্র করে ব্যুরো পরিমাপ করেছে। চুড়ান্ত উৎপাদন হিসাব (মৎস্য এবং বনের ক্ষেত্রে) সাধারণতঃ বন ও মৎস্র পরিদপ্তর থেকে সংগ্রহ করা হয়ে থাকে। কিন্তু এইসব উৎপাদিত দ্রব্যের বাজার মূল্যের পরিসংখ্যান কৃষি বাজার জাত করন পরিদপ্তর থেকে সরবরাহ করা হয় থাকে। যা হোক পশপালন, বন, এবং মৎস্য পরিদপ্তর থেকে প্রাপ্ত আয়ের হিসাব, কয়েকিট সাধারন এবং সনাতন পদ্ধতির ভিত্তিতে তৈরী করা হয়। বিশেষ করে পশপালন দ্রব্যের আয়ের ক্ষেত্রে মৎস্যজাত দ্রব্যের আয়ের তূল্য হিসাব করা হয়ে থাকে। অর্থাৎ ধরে নেয়া হয় যে, মোট মৎস্য উৎপাদনের তিনভাগের সমান উৎপাদিত হয় পশুপালন জাত দ্রব্য। জেলাপর্যায়ে পশু পালনের যে হিসাব করা হয়ে থাকে তা সাধারণতঃ ১৯৭৭ সালকে ভিত্তি বৎসর হিসাবে বিবেচনা করে অর্থাৎ তা উক্ত অঞ্চলের মোট পশুপালন সংখ্যার বন্টনের ভিত্তিতে করা হয়। মৎস্য জাত দ্রব্য উৎপাদনের ক্ষেত্রেও পশুপালন দ্রব্যের পরিমাপ পদ্ধতি গ্রহণ করা হয়ে থাকে এবং এই পরিসংখ্যান মূলতঃ মৎস্য জাত দ্রব্যের মোট বন্টন শুমারী ১৯৮১ থেকে সংগ্রহ করা হয়েছে। জেলা ভিত্তিক বনজাত দ্রব্যের উৎপাদন একটি বিশেষ অনুপাতের ভিত্তি করে নির্নয় করা হয়। সরকারী এবং অ-বন এলাকা ভিত্তিতে, অর্থাৎ মোট দেশীয় বনাঞ্চলের সাথে জেলার মোট বনাঞ্চলের তুলনামূলক অনুপাতের ভিত্তিতে করা হয়। ১৯৮৩-৮৪ সালে যে কৃষি শুমরী করা হয়েছিল তাতে এ প্রসংগে বিস্তারিত নির্দেশিকা প্রদান করা হয়েছে।

মোট জাতীয় উৎপাদন শুধুমাত্র অর্থনৈতিক কর্মকান্ডের সংজ্ঞার উপর নির্ভর করে না। উল্লেখ্য যে, বৃহত্তর অর্থনৈতিক পরিমন্ডলে আয় কাঠামোর খাত এবং উপ খাতগুলোর সমন্বিত বা উপ-সমন্বিত ফলাফলের গঠন এবং অর্থনৈতিক ব্যবহারের উপরও মোট জাতীয় উৎপাদনের পরিমান নির্ভর করে থাকে। মোট জাতীয় উৎপাদনের পরিমাপের ক্ষেত্রে দেশের বাজার ভিত্তিক লেনদেনের ব্যাপারটি বিশেষভাবে জড়িত; এই দৃষ্টিকোন থেকে বিবেচনা করলে দেখা যায়, কোন না কোন ভাবে জাতীয় আয় বাজার লেনদেনের সাথে ওতপ্রোতভাবে সম্পর্কিত। কিন্তু মোট কথা এই যে, অনেক দেশেই বাজার ভিত্তিক লেনদেনের ব্যাপরটিকে জাতীয় আয় পরিমাপে বিবেচনায় আনা হয় না। বিশেষ করে অ-বাজার দ্রব্যের বিনিময়ে বা ক্রিয়াকান্ডে সরাসরি বাজার বিনিময়কে বিবেচনা না করে কয়েকিট ধারনাগত পদ্ধতির ভিত্তিতে অ-বাজার দ্রব্যের আয়ের অংশের হিসাব করা হয়ে থাকে। এস, এন, এ ১৯৬৮ সালে এই ধরনের জটিলতা এড়ানোর জন্য নিজস্ব উৎপাদন ব্যয় এবং পুঁজি গঠন প্রক্রিয়া হিসাবের উপর জোর দিয়েছিল। উন্নয়নশীল দেশের অর্থনীতিতে জাতীয় আয় পরিমাপের বিবেচনাধীন কৃষি সেক্টরে অসংগঠিত উৎপাদন কর্মকান্ডে একটা বিশেষ সমস্যার সূত্রপাত করেছে। যা কেবল মাত্র বাজার লেনদেনের পদ্ধতিমূলক হিসাব গ্রহনের মাধ্যমে এড়ানো সম্ভব। কিন্তু তেমন পদ্ধতির

পদ্ধতির ব্যবস্থা আমাদের এখানে অনুপস্থিত। বাংলাদেশ পরিসংখ্যান ব্যুরোর হিসাব থেকে দেখা যায়, প্রকৃত মুল্যে (Real-value) কৃষি সেক্টর মোট দেশীয় উৎপাদনের আটত্রিশ থেকে চল্লিশ ভাগ অবদান রেখে যাচ্ছে। কর্মসংস্থানের দিক থেকেও এই খাতে সবচেয়ে বেশী শ্রমিক নিয়োগ করেছে। দেশের মোট শস্য ফলনশীল এলাকার পরিমান ৩৩ মিলিয়ন একর যার উপর ৮৮ থেকে ১১০ ধরনের শস্যের ফলন হয়ে থাকে। অথ্যাৎ কৃষি এখনো আমাদের দেশে প্রধান অর্থনৈতিক অবলম্বন, অথচ এক্ষেত্রেই পরিমাপ পদ্ধতিগত সমস্যা এবং সীমাবদ্ধতা সবচেয়ে বেশী। ক্রমাগত পারিসাংখ্যিক চর্চার মাধ্যমে কেবলমাত্র পদ্ধতিগত ত্রুটি এড়ানো সম্ভব।

ধান উৎপাদনে গ্রামীন কৃষি শ্রমিকের নিম্নমাত্রায় কর্মসংস্থান সম্পর্কে গবেষণাকর্মে, পূর্ব পাকিস্তান আমলে, ডঃ গোলাম রাব্বানী কৃষি সেক্টরের মাষ্টার সার্ভে (দ্বিতীয় পর্যায়ে) এর ভিত্তিতে, ধান উৎপাদন সম্পর্কিত সহ উৎপাদনের সহগ পরিমাপ করেন। শস্য উপখাতের প্রতিটি সহ উৎপাদনের ক্ষেত্রে, প্রতিটি সহগের উপস্থিতি পাওয়া যাবে ১৯৬৪–৬৫ সালের পরিসংখ্যানে। তৎকালীন কেন্দ্রীয় পরিসংখ্যান কর্তৃপক্ষ কৃষির পাইকারী বাজারদর সূচককে প্রতিটি খাদ্যগ্রুপের সূচকের সাথে সম্পর্ক স্থাপনে ব্যবহার করেছে। সহ–উৎপাদনের পরিমান হিসাবে চাউলের চলতি উৎপাদনের মূল্যকে অনুপাত ১.৫ দিয়ে গুন করে, চাউল ও ধানের ২.৩ অনুপাত বের করা যায়। এইভাবে হিসাবকৃত ধানের পরিমানকে বীজ, অপচয় পরিমান, হাঁস মুরগীর খাদ্য ও পশুপালন খাদ্যের জন্য অপচয় পরিমান এর সাথে মিলিয়ে খামার স্তরের মজুদ পরিমান বের করা হয়। ১৯৬৭–৬৮ সালে পরিচালিত কৃষি সেক্টরের মাষ্টার সার্ভের (ষষ্ঠ পর্যায়) উপাত্ত এবং সহগ ভিত্তিতে এ ধরনের মজুদ পরিমান বের করা হয়।

১৯৬৪ সালের জাতীয় আয় কমিশন রিপোর্ট গম ও গমের কাটির অনুপাত দেখানো হয়েছিল ৬০, যা এখনো ছোট জাতের শস্য বিশেষ করে বার্লি, গম, জব ইত্যাদি জাতীয় খাদ্য শস্যের পরিমাপের ক্ষেত্রে ব্যবহার করা হযে থাকে। এর পরিবর্তনের আশু প্রয়োজন রয়েছে। বাংলাদেশের মোট দেশীয় উৎপাদনে শষ্য ভিন্ন অন্য উপসেক্টর, ৫ ভাগ মুল্য সংযোজন করে থাকে। তবে উপযুক্ত পরিসংখ্যানের অভাবে এর পরিমাপে বেশ কিছুটা হেরফের দেখা যায়। বাংলাদশের অর্থনীতিতে পশুপালন উপ–সেক্টরের মোট মূল্য সংযোজন উল্লেখযোগ্য অবদান রেখে চলেছে। গ্রামীণ বাংলাদেশের, কৃষি ভিত্তিক অর্থনীতিতে এই উপখাতে শস্য উপ–সেক্টরের পাশাপাশি মূল্য সংযোজনের অবদানের দিক দিয়ে এগিয়ে চলছে। এ খাতটিও বাংলাদেশের মোট জাতীয় উৎপাদনের ৫ ভাগ দখল করে আছে এবং উল্লেখযোগ্য সংখ্যক কর্মসংস্থানের আয়োজন করে চলেছে। প্রয়োজনীয় উপাত্তের অভাবে এ উপখাতে কর্তৃক মূল্য সংযোজন পরিমান হিসাবে পরিসংখ্যান ব্যুরোকে পরোক্ষ পদ্ধতি প্রয়োগ করতে হয়। তবে ১৯৪০, ১৯৪৫, ১৯৬০, ১৯৬৫ এর পরিসংখ্যান এবং ১৯৭৭ সনের কৃষি শুমারীতে এই খাতের উল্লেখযোগ্য উপাত্তসূচক রয়েছে। নমুনার ভিত্তিতে ১৯৭৭ সনের কৃষি শুমারী পরিচালনা করা হয়েছিল, তবে ১৯৮৩ এবং ১৯৮৪ সালের শুমারী প্রতিবেদনে এ ভিত্তি বৎসর সম্পর্কে পরিস্কার ধারনাসহ এ উপখাত সম্পর্কে বিস্তারিত তথ্যের সন্নিবেশ রয়েছে। গরু এবং মহিষ থেকে আমরা উল্লেখযোগ্য পরিমান দুধ পেয়ে থাকি। পাশাপাশি খুব অল্প পরিমানে ছাগলের দুধ ও পাওয়া যায়। ডঃ রাব্বানী এবং হোসাইন পরিচালিত গবেষনা থেকে দেখা যায়, সারা বৎসরের মাঝে গরু এবং মহিষ থেকে যথাক্রমে ২১০ এবং ২৪০ দিন, প্রতিদিন ১.০৫ সের

এবং ১.৮১২৫ সের দুধ পাওয়া যায়। গরু মহিষ এবং ভেড়ার মাংস মোট দেশীয় উৎপাদনে কতটুকু মূল্য সংযোজন করে তার হিসেবও ডঃ রাববানী ও হোসাইনের গবেষনা প্রদত্ত সহগ দিয়ে পরিমাপ করা হয়।

জাতীয় আয়ের পরিমাপের দৃষ্টিকোন থেকে বিবেচনা করলে দেখা যায়, আমাদের দেশের বাসস্থান গুলো খামার, মৎস্য চাষ, পশুপালন ইত্যাদি অর্থনৈতিক কর্মকান্ডে সরাসরি অংশগ্রহন করে থাকে। উন্নত দেশগুলোর সাথে অনুন্নত দেশগুলোর এখাতই অধিকমাত্রায় অসংগঠিত। উৎপাদন পদ্ধতির তারতম্য, প্রধানতঃ এ অসংগঠিত অবস্থার জন্য দায়ী।

বাসস্থান কর্তৃক সংগঠিত অর্থনৈতিক কার্যাবলীকে বাংলাদেশ পরিসংখ্যান ব্যুরো প্রধানতঃ কৃষি সেক্টরের অন্তর্ভুক্ত করেছে। বাংলাদেশের অর্থনৈতিক সংগঠনে মোট দেশীয় উৎপাদনের ক্ষেত্রে কৃষিজাত খামার কর্মকান্ড ৫০ ভাগ মূল্য সংযোজন সহ দেশের মোট শ্রমশক্তির ৭২.২ ভাগকে কর্মসংস্থানের সুযোগ দিয়ে চলেছে। সেইদিক বিবেচনা করে বলা যায় অথনীতিবিদ ও পরিকল্পনাবিদদের জন্য খামারকৃত আয় পরিমাপ একান্ত প্রয়োজনীয় একটি দিক যার মাধ্যমে দেশীয় উৎপাদন শক্তির এবং সম্ভাবনার দিকটি ফুটে উঠে। এদিক দিয়ে কৃষি ক্ষেত্রে গবেষণার দাবী অগ্রগন্য। অনেক সহগ নতুন করে পরিমাপ করা প্রয়োজন। কারণ ষাট দশকের তুলনায় বর্তমানে কৃষিতে আধুনিক প্রযুক্তির ব্যবহার অনেক গুনে বেড়ে চলেছে। ফলে বিভিন্ন উপকরনের উপর রয়েছে এদের পারস্পরিক প্রভাব। বর্তমানে বাংলাদেশের খামার আয় পরিমাপের ক্ষেত্রে বন্টনমুলক পদ্ধতি প্রয়োগের প্রচেষ্টা চলছে। বিষয়টি এখনো গবেষনার পর্যায়ে রয়েছে। এ গবেষনা কাজে ১৯৬০ সালে কৃষি মন্ত্রনালয় কর্তৃক পরিচালিত খামার ব্যবস্থাপনা জরীপের ফলাফল কাজে লাগানা হচ্ছে। এই জরীপের কাজে খামার আয় বলতে মালিকের প্রাপ্য আয়, ভাগচাষী এবং খামার শ্রমিকের প্রাপ্ত আয়ের মোট শেয়ারকে বোঝায়। উক্ত জরীপে খামার আয়, উৎপাদিত দব্যের মোট আয়ের ভিত্তিতে পরিমাপ করা হয়েছে। অর্থ্যাৎ জরীপ বছরে উৎপাদিত দ্রব্যের ভৌত পরিমাণকে গ্রামীন বাজার স্তরে উৎপাদক–এর মূল্য দিয়ে গ্রহন করে নির্ধারন করা হয়। এই ক্ষেত্রে মোট খামার আয় "মূল্য সংযোজান" ধারনা থেকে বেশ কিছুটা আলাদা ধরনের যেখানে আয় পরিমাপ "মোট লাভের" মুল্য থেকে নির্ধারিত বছরের খামার পরিচালন খরচ বিয়োগ দিযে বের করা হয়। অদ্যাবধি খামার ব্যবস্থাপনা জরীপ বাংলাদেশের বগুড়া (১৯৬৬–৬৯), কুষ্টিয়া (১৯৬৬–৬৯), ঢাকা (১৯৬৫–৬৮), রাজশাহী (১৯৬৩–৬৬), কুমিল্লা (১৯৬২–৬৪), ময়মনসিংহ, (১৯৬২–৬৫), বরিশাল (১৯৬৩–৬৬), মোট সাতটি জেলায় পরিচালিত হয়েছিল।

এই জরীপ কার্য সমূহে প্রতিটি এলাকা থেকে পঁচাত্তরজন করে কৃষক, নমুনা হিসেব বেছে নেয়া হয়েছে। মোট তিনটি গ্রুপে কৃষকদের বিভাজন করা হয়েছিল। ছোট গ্রুপ (৬ একর পর্যন্ত জমির মালিক), মাঝারী গ্রুপ (৬.০১–১২.০০ একর পর্যন্ত জমির মালিক) এবং বড় গ্রুপ (১২.০০+একর জমির মালিক)। বাংলাদেশের খামার মালিকরা সাধারনতঃ যৌক্তিকভাবেই তাঁদের সম্পদের ব্যবহার করে যাতে করে স্বাভাবিক অবস্থায় খামার আয় বৃদ্ধি পায়। বাংলাদেশের ছোট ছোট খামারগুলো পশুপালন, মৎস্য এবং বনায়নসহ সব ধরনের কৃষি কাজই চালায়। যেসব খাত থেকে কৃষকরা আয় করে তার সহগ হলোঃ– শস্য (সহগ

৮১.৪৩), শস্যজাত উপদ্রব্য (সহগ ৭.৯৫), বনজ দ্রব্য (সহগ ০.২৮), পশু ও পশুপালনজাত দ্রব্য (সহগ ৪.৭৭), দুধ ও দ্রগ্ধজাতদ্রব্য (সহগ ০.৭২), হাঁসমুরগীর খামার, ও খামারজাত দ্রব্য (সহগ ০.৩৮), পশুপালন ও হাঁসমুরগীর মজুদ (সহগ ০.১১), পশুপালন ও হাঁসমুরগীর কেনাবেচা (সহগ ২.৪৪) মৎস্য (সহগ ০.৩৯), অন্যান্য কৃষিজাত ও অকৃষিজাত দ্রব্য (সহগ ১.৩৪) বিভিন্ন ধরনের শ্রেনী হীন আয় (সহগ ০.৩৯)। এই তালিকা কৃষকদের মোট নগদ আয়ের তুলনামুলক গুরুত্ব তুলে ধরে।

এই প্রতিটি সহগ জাতীয় পর্যায়ে, খাতগুলোর মূল্য সংযোজন পরিমাপে ব্যবহৃত হয়। শস্য উৎপাদন পরিসংখ্যান অবজেকটিভ পদ্ধতিতে পরিমাপ করা হয়। অন্য দিকে ছোট জাতের শস্যর মুল্য সংযোজন, সাবজেকটিভ পদ্ধতিতে নিরুপন করা হয়। শস্যের মূল্য নির্ধারণে উৎপাদকের মূল্যকে প্রধান্য দেয়া হয় যা, বাংলাদেশ কৃষি বিপনন পরিদপ্তর সংগ্রহ করে। শস্যর মূল্য এমনভাবে পরিমাপ করা হয় যাতে করে, খামার ব্যবস্থপনা জরীপ ফলাফলের সাথে ধারণা এবং সংজ্ঞত দিক দিয়ে সামঞ্জস্য থাকে। খামার ব্যবস্থাপনা জরীপ ফলাফল থেকে দেখা যায় কৃষকের মোট আয়ের ৮১.৪৩ ভাগ আসে শস্য থেকে। খামারের চলতি আয় কৃষকের মোট ব্যয়ের পনেরটি উপখাতে সংগ্রহ করা হয়। খামারের মোট আয় নিরুপনের ক্ষেত্রে খামার চলতি ব্যয়ের হিসাব একান্ত প্রয়োজন। বাংলাদেশের কৃষি কাজে গত ষাট দশকের তুলনায় যেহেতু আধুনিক উপকরণের ব্যবহার অনেক বেশী, তাই আধুনিক উপকরণ যেমন, সার, কীটনাশক, এবং সেচ প্রনালীর সহস পরিমান করা একান্ত প্রয়োজন। আধুনিক উপকরণ ব্যবহারের ফলে কৃষি কাজের ব্যয়ের গুনগত ও পরিবর্তন হচ্ছে। বাংলাদেশে এসব উপকরণের পরিমান "উৎপাদন পদ্ধতি" তে বের করা সম্ভব।

৪.৩ খনিজ সেক্টর এর আয় পরিমাপ

বাংলাদেশ খনিজ ও পেট্রোলিয়াম উন্নয়ন কর্পোরেশন থেকে "উৎপাদন পদ্ধতিতে" পরিমানকৃত "মূল্য সংযোজন" আয়, মোট জাতীয় আয়ের পরিমানে অন্তর্ভূক্ত করা হয়। সাধারনতঃ চলতি বাজার মূল্যে এ আয়ের পরিমাপ করা হয়। প্রয়োজনানুসারে, শিল্প কাঁচামালের উপকরণ এর পাইকারী মূল্য সূচক দিযে ডিফ্লেট করে এখাতে স্থিরকৃত "মূল্য সংযোজন" এর পরিমাপ করা হয়ে থাকে।

৪.৪ ম্যানুফ্যাকচারিং শিল্প খাত

বৃহৎ শিল্প এবং ক্ষুদ্র শিল্প, দু'টো উপখাত থেকে এ শিল্প খাতের মোট আয়ের হিসাব করা হয়। বাংলাদেশে পরিসংখ্যান ব্যুরো, ম্যানুফ্যাকচারিং শুমারী ইত্যাদি রিপোর্ট থেকে বৃহৎ শিল্প–উপখাতের "মূল্য সংযোজন" উপাত্ত সংগ্রহ করে থাকে। বাংলাদেশে ম্যানুফ্যাকচারিং শিল্পখাতের স্থিরকৃত আয়কে ম্যানুফ্যাকচারিং শিল্প খাতের পাইকারী মুল্য সূচক দিয়ে ইনফ্লেট করে চলতি আয় পরিমান বের করা হয়। ক্ষুদ্র শিল্প প্রতিষ্ঠানের অধীনে প্রধানতঃ কুটির শিল্প অন্তর্ভূক্ত ম্যানুফ্যাকচারিং শিল্প ক্ষেত্রে জাতীয় ও জেলা পর্যায়ে শিল্পের বাৎসরিক শুমারী প্রতিবেদন এবং বাংলাদেশ পরিসংখ্যান ব্যুরো কর্তৃক পরিচালিত ক্ষুদ্র ও বাসস্থান শিল্প প্রতিষ্ঠানের জরিপ (১৯৭৬) পরিমাপের ব্যবহার করা হয়।

৪.৫ নির্মান খাতের আয় পরিমাপ

এখাতের আয় পরিমাপের ক্ষেত্রে সিমেন্ট , ইস্পাত, কাঠ এবং বাঁশ প্রভৃতি উপকরণ সামগ্রীর উপাও স্থানীয় এবং আমদানী সূত্র সংগ্রহ করা হয়ে থাকে। এইসব পরিসংখ্যান উপাত্ত "মোট মূল্য সংযোজন" পরিমাপের ক্ষেত্রে ১৯৭৬/৭৭ সালের প্রাথমিক উপকরণ হিসবে চূড়ান্ত দ্রব্য (ফিনিসড্ গুডস্) সহগের সাথে ব্যবহার করা হয়। উপরোক্ত হিসাবে ওয়ার্কস প্রোগ্রাম ব্যয়, রিপেয়ার চার্জ ও গ্রামের বাসস্থান ব্যবস্থাপনা ব্যয় সবই একত্রে সমন্বিত করা হয় ''মোট মূল্য সংযোজন" নিরুপন করার জন্য। মৌলিক উপকরণ সিমেন্ট, লোহা, ইস্পাত, কাঠ এবং বাঁশের প্রস্তুত দ্রব্য এবং ত্রান ও পূর্নবাসন মন্ত্রনালয় ও জেলা ভিত্তিক ব্যয় তথ্যের উপর ভিত্তি করে ''পরোক্ষ পদ্ধতিতে" নির্মান খাতের ''মূল্য সংযোজন" নির্ধারন করা হয়। নির্মান খাতের প্রতিটি জেলার ক্ষেত্রে রিপেয়ার এবং তত্বাবধায়ন ব্যয় ১৯৭৩ সালের পরিচালিত বাসস্থান শুমারী অনুয়ায়ী বাসস্থান বন্টন অনুপাতের উপর ভিত্তি করা হয়।

৪.৬ বিদ্যুৎ, গ্যাস, পানি, ও পয়ঃ প্রনালী খাতে আয়

আধা সরকারী প্রতিষ্ঠান হিসেবে, বিদ্যুৎ উন্নয়ন বোর্ড, পানি উন্নয়ন বোর্ড, পেট্রোবাংলা এবং তিতাস গ্যাস এর ব্যৎসআয়িক একাউন্ট থেকে এখাতের মূল্য সংযোজন এর পরিমান পাওয়া যায়। অর্থমন্ত্রনালয় এর বাৎসরিক বাজেটে উক্ত প্রতিষ্ঠানগুলোর ব্যয় হিসাব থেকে মূল্য সংজোযন পরিমাপ করা হয়। চলতি মূল্যক স্থির কৃত মূল্যে পরিবর্তিত করার জন্য জীবন যাত্রার মান সুচক ব্যবহার করা হয়।

পেট্রোবাংলা কর্তৃক সংগ্রহীত গ্যাস খাতের মোট মুল্য সংযোজন পরিমানকে ভৌত পর্যায়ে উৎপাদন সংখ্যা, উপাদান ব্যয় দিয়ে পরিমাপ করা হয়। জেলা গ্যাস উৎপাদনের আনুপাতিক হার দিয়ে প্রতিটি জেলায় এর অবস্থানকে নির্ধারন করা হয়। বিদ্যুৎ উৎপাদনের মূল্য সংযোজনকে সর্বমোট উৎপাদন ভিত্তিতে জাতীয় পর্যায়ে হিসাব করা হয, এবং পাশাপাশি সংযোজক লাইনের ভিতিত্তে আনুপাতিক হারে মোট মূল্য সংযোজন কে প্রতিটি জেলার ক্ষেত্রে ভাগ করে নেয়া হয়।

৪.৭ পরিবহন, গুদাম এং যোগাযোগ খাতের আয় পরিমাপ

মালিকানার ভিত্তিতে সংগঠিত এং অসংগঠিত উভয় উপ–খাতের মোট মূল্য সংযোজন কে এই শিল্পখাতে একত্রে আয় হিসাবে নির্ধারন করা হয়। বাংলাদেশ পরিবহন শুমারী ১৯৭৩ থেকে প্রতিটি ইউনিটের আয় ও কর্মক্ষমতার ফলাফলকে ব্যবহার করে জাতীয় ভিত্তিতে, এখাতে আয়ের অবদানকে পরিমাপ করা হয়েছে। পরিবহন, যোগাযোগ এবং গুদামজাত খাতে রেল ও সড়ক যানবাহন, জলপথ, যানবহন ডাকঘর, টেলিফোন এবং টেলিগ্রাফ ইত্যাদি আয় পরিমাপের ক্ষেত্রে সুনির্দিষ্ট রেজিষ্ট্রিকৃত ইউনিটগুলো "মুল্য সংযোজনের" জন্য নির্দিষ্ট সহগ দিয়ে গুনন করা হয। জাতীয় ভিত্তিক পরিমাপের পাশাপাশি, জেলা পর্যায়ের হিসাবও আনুপাতিক হারে বেরিয়ে আসে। রেলওয়ে, জল পরিবহন, বিমান ও টেলিগ্রাফ, টেলিফোন এবং ডাকঘরকৃত আয়ের পরিমান, উক্ত ইউনিট কর্তৃক দেয় পারিশ্রমিক ও বেতন, ভাতা, এবং চলতি ও বাড়তি অংশের সর্বমোট আয়ের অংকের সমান। প্রতিটি যানবাহনের উৎপাদন ও ইউনিট আয় দিয়ে বাস,ট্রাক, রেলওয়ে, টেক্সী, ষ্টেশন ওয়াগন, অটো–রিক্সা, ব্যক্তিগত নৌযান এবং দেশীয় নৌকার মোট মূল্য সংযোজন পরিমাপ করা হয়। চলতি মূল্যের "মূল্য সংযোজন"

কে নির্ধারিত ভাড়ার সূচক দিয়ে ডিফ্লেট করে, মূল্য সংযোজন এর স্থিরকৃত মূল্য সংযোজন করা হয়। পরিবহন এবং গুদামের অর্থনৈতিক কার্যাবলীর ব্যক্তিগত এং সরকারী মালীকানা উভয় ক্ষেত্রেই বিবেচনা করা হয়। তবে ব্যক্তিমালিকানাধীন ইউনিট এর পরিসংখ্যান রেজিষ্টারর্ড সার্ভিসের তুলনায় বেশী এবং যোগাযোগখাত দেশীয় উৎপাদনে পাঁচ লাখ কর্মসংস্থানের মোট ৭ ভাগ অবদান রেখে চলেছে। এ খাতে সরকারী নিয়ন্ত্রনাধীন ইউনিটগুলোর পরিসংখ্যন পদ্ধতিগতভাবে সাজানো। লাভের ভিত্তিতে ব্যক্তিমালিকানাধীন ইউনিটগুলো কাজ করে থাকে এবং অধিকাংশ ক্ষেত্রে ইউনিটগুলো অসংগঠিত। যান্ত্রিক ক্ষমতা, উৎপাদন কোনটারই সঠিক হিসেব পাওয়া যায় না; এ খাতের আয় পরিমাপ এর পরিসংখ্যান ত্রুটিকে সংগঠিত খাতে সাথে অসংগঠিতখাতে লেনদেনের আকার ও আয় দিয়ে সামনঞ্জস্য পূর্ন করা যায়। মূল্য সংযোজন পরিমাপের সুবিধার্থে পরিবহন, গুদাম এবং যোগাযোগ খাতকে কয়েকটি উপখাতে ভাগ করা হয়েছে।

- রেলওয়ে
- সংগঠিত সড়ক পরিবহনঃ সরকারী বাস, ব্যক্তিগতমালীকানাধীন বাস, সরকারী ট্রাক, ব্যক্তিমালিকানাধীন ট্রাক, ট্যাক্সি, ষ্টেশান ওয়াগন, অটোরিক্সা।
- অসংগঠিত সড়ক পরিবহনঃ সাইকেল রিক্সা, ঠেলাগাড়ী, ঘোড়ার গাড়ী, এবং গরুর গাড়ী।
- সংগঠিত জল পরিবহনঃ আভ্যন্তরীন জল পরিবহন সংস্থা, আভ্যন্তরীন জল পরিবহন কর্তৃপক্ষ, বাংলাদেশ শিপিং কর্পোরেশন কর্তৃক রেজিষ্টিকৃত নৌযান এবং পোটসার্ভিস।
- অসংগঠিত জল পরিবহনঃ দেশীয় নৌকা
- বিমান পরিবহনঃ বাংলাদেশ বিমান
- যোগাযোগ ব্যবস্থাঃ ডাকঘর, টি এন্ড টি।

গুদাম ব্যবস্থাঃ বি এ ডি সি গুদাম, খাদ্য গুদাম, সাইলো, পাট গুদাম, কোল্ড ষ্টোরেজ, পোর্ট গুদাম, জাহাজ গুদাম।

রেলওয়ে মূল্য "সংযোজন" পরিমাপের ক্ষেত্রে বাংলাদেশ রেলওয়ের বাৎসরিক বাজেট, এবং রেলওয়ে তথ্য পুস্তিকা থেকে প্রাপ্ত মজুরীও বেতন (ভ্রমন ভাতা ব্যতীত সকল ভাতা সহ) এবং কার্যকর বাড়তি টাকায় মোট পরিমানকে একত্র করে মোট আয় পরিমাপ করা হয়।

১৯৭৩ সালে পরিচালিত বাংলাদেশ পরিবহন জরীপ প্রতিবেদনে দেখা যায়, রিকসা ভাড়া ঢাকা এবং খুলনার জন্য প্রতিদিন দশ টাকা এবং বাংলাদেশের অন্যান্য জায়গার জন্য ৪.২৫ টাকা। প্রতিদিন এর পরিমান গড়ে বাংলাদেশের জন্য ৭.১২ টাকা; একটি রিকসার বাৎসরিক সংরক্ষন খরচ এক হাজার টাকা। মালিকের একটি রিকসা থেকে প্রতিবৎসর আয় ১.৬ হাজার টাকা। এক বেলা করে প্রতিমাসে একজন রিকসা চালক, আনুসাংগিক খরচ বাদ দিয়ে ৪০০ টাকা আয় করে। একটি রিকসা থেকে মোট শ্রম আয় দাঁড়ায় ৯.৬ হাজার টাকা। ১৯৭২-৭৩ অর্থনৈতিক সনে, প্রতিটি রিকসা প্রতিবছর ১১.২ হাজার টাকা "মূল্য সংযোজন" করতো। পরবর্তী বছরগুলোতে প্রতিটি ইউনিটের মূল্য সংযোজন" নিরুপনের জন্য ভাড়া মূল্যে সুচক দিয়ে এক্সট্রাপোলেট করা হয়। প্রতিটি রিকসা ইউনিটের আয়কে দেশের মোট রিকসা সংখ্যা দিয়ে গুন করলে মোট মূল্য সংযোজন পরিমান পাওয়া যায়।

১৯৭৩ সালে পরিচালিত বি, টি, এস প্রতিবেদন এ দেখা যায় একটি ঠেলাগাড়ীর মাসিক আয় ১২০০ টাকা, যার মাঝে সামনের চালকের ৩৮০ টাকা, পেছনের ২ জন চালকের ২০০ টাকা করে ৪০০ টাকা এবং মালিক পায় ৩৮০ টাকা। ১৯৭২–৭৩ সালে একটি ঠেলাগাড়ী থেকে মাসিক আয়ের পরিমান ছিল ১৪.৪ হাজার টাকা। ১৯৭৩ সালের বি টি এস প্রতিবেদন থেকে দেখা যায়, একজন ঘোড়ার গাড়ীর চালকের বাৎসরিক আয় ৩.১ হাজার টাকা। উক্ত প্রতিবেদনে আরো দেখা যায়, একটি গরুর গাড়ী বানিজ্যিকভাবে বৎসরে ১৬০ দিন কাজ করে এবং বাৎসরিক আয় ৪.৮ হাজার টাকা। এর মাঝে শ্রমিক মজুরী ১.৪ হাজার টাকা। লাভ ১.৮ হাজার টাকা। অর্থাৎ বছরে প্রতিটি গরুর গাড়ী ৩.২ হাজার টাকা "মূল্য সংযোজন " করে থাকে। উভয় ক্ষেত্রেই ভাড়ার চার্জকে এক্যাট্রাপোলেট করে আয়ের চলতি হিসাব নির্ণয় করা হয়। এবং প্রতিটি গাড়ী থেকে মোট আয়ের পরিমানকে দেশের মোট গরুর গাড়ীর সংখ্যা দিয়ে পুরন করে। মোট মূল্য সংযোজন নিরুপন করা হয়। সংগঠিত জল পরিবহন খাতের মূল্য সংযোজন এর ক্ষেত্রে মোট মজুরী আয় এবং অপারেটিং উদ্ধৃত ভ্রমন ভাতা ছাড়া অন্যান্য সব ধরনের ভাতা সহ মোট যোগফলের সমান। ১৯৭৩ সালে পরিচালিত বাংলাদেশ পরিবহন জরীপ প্রতিবেদনে দেখা যায়, এ খাতের আয় পরিমাপ এর ক্ষেত্রে ধরন ভিত্তিকভাবে মজুরী ও বেতন অপারেটিং লাভ (সুদ, ডিভিড্যান্ড ও অপচয়ের আগে) এর মোট যোগফল থেকে নিরুপন করা হয়। একই পদ্ধতিতে ডাকঘর, টেলিফোন, টেলিগ্রাফ ও বাংলাদেশ বিমানের ও মোট আয় পরিমাপ করা হয়।

বাংলাদেশের গুদাম খাতের পরিসাংখ্যিক তথ্যের অবস্থা অত্যন্ত দুর্বল। এমনকি রাষ্ট্রায়ত্ব ব্যাংক, শিল্প, রেলওয়ে কতৃক সংগঠিত গুদাম সংক্রান্ত উপায় এবং পাশাপাশি বেসরকারী পর্যায়ের অসংগঠিত গুদাম খাতের পরিসংখ্যান সংগ্রহে রয়েছে প্রচুর দুর্বলতা। বাংলাদেশ পরিসংখ্যান ব্যুরোর হিসাবে দেখা যায়, ১৯৭২–৭৩ সনে অসংগঠিত সড়ক পরিবহন এবং সংগঠিত সড়ক পরিবহন (রেলওয়ে ব্যতীত) এর মূল্য সংযোজনের অনুপাত ছিল ৭৪% ও ২৬% যথাক্রমে বা ১৯৮২–৮৩ সালেও তা যথাক্রমে ৭৪% ও ২৬% এ এসে দাঁড়ায়। পরিবহন, গুদাম এবং যোগাযোগ খাতের মোট আয়ে অসংগঠিত সড়ক পরিবহনের অংশগ্রহন (৪৩%) সবচেয় বেশী। তার পরবর্তীতে রয়েছে অসংগঠিত জল পরিবহন (প্রায় ৩০%) এ থেকে সারা দেশের পরিবহন শিল্পে যে ব্যক্তিমালিকানাধীন অসংগঠিত অংশের প্রভাব রয়েছে তা সুন্দরভাবে প্রতিফলিত হয়। এ থেকে আরো যে দু'টো বিষয় পরিস্কার হয়ে দেখা দেয় তাহলো নিম্নস্তরের মাথাপিছু আয় এবং নিম্নস্তরের প্রযুক্তির ব্যবহারের প্রাধান্য।

৪.৮ গন প্রশাসন ও প্রতিরক্ষা খাতের আয় ঃ

আয় এবং উন্নয়ন বাজেটের সরকারী কর্মচারী ও অপারেশনের ক্ষেত্রে মুজুরী ও বেতন সম্পর্কিত তথ্য নির্ধারিত প্রতিষ্ঠানের বাঃসরিক বাজেট থেকে চলতি মূল্যমানে পাওয়া যায়। বেসামরিক সরকারী কর্মচারীদের মজুরী ও বেতন কাঠামোকে সামরিক কর্মচরীদের বেতন কাঠামের ক্ষেত্রে পুনঃস্থাপন করা হয়। গন প্রশাসন, প্রতিরক্ষা, পেশাজীবি ও অন্যান্য সার্ভিসের ক্ষেত্রে প্রদত্ত "মূল্য সংযোজন" জাতীয় ভিত্তিতে প্রথম পরিমাপ করা হয়। পরে জেলা ভিত্তিতে নির্দিষ্ট অনুপাতে, লোক সংখ্যার ভিত্তিতে ভাগ করা হয়। প্রতিরক্ষা খাতের আয় সম্পর্কে যথেষ্ট সন্দেহ রয়েছে এবং এ প্রসঙ্গে বাংলাদেশ সরকারের প্রকাশিত স্পষ্ট কোন রিপোর্ট নেই। যদিও

বিষয়টি রাজনৈতিকভাবে বিতর্কের তথাপিও এ নিয়ে গবেষণা হতে পারে বিভিন্নভাবে।

৪.৯ ব্যাংকিং ও বীমা খাতের আয়

প্রত্যেকটি প্রতিষ্ঠানের আয় ব্যয়ের হিসাব থেকে, বন্টন শেয়ার পদ্ধতির ভিত্তিতে থেকে এ শিল্প খাতের 'মূল্য সংযোজন" পরিমাপ করা হয়। এখাতের চলতি মূল্যমানের আয়কে, ঢাকা শহরের মধ্যম শ্রেনীর সরকারী কর্মচারীদের ভোগ মূল্য সূচক দিযে ডিফ্লেট করে স্থিরকৃতমূল্যে রূপান্তর করা হয়। জাতীয় পর্যায়ে আয় পরিমাপের হিসাব করার পর, ব্যাংক শাখার বন্টন অবস্থার উপর বিবেচনা করে জেলা পর্যায়ে এখাতে "মূল্য সংযোজন" নিরুপন করা হয়।

৪.১০ পেশাজীবি ও অন্যান্য সার্ভিস খাতে আয়

বাংলাদেশের এখাতে আয়-এর জন্য মোট আট ধরনের পেশাজীবি ও অন্যান্য সার্ভিস শ্রমিকদের অর্ন্তভুক্ত করা হয়েছে। এসব শ্রমিকদের বাৎসরিক আয় বিভিন্ন সরকারী বেসরকারী প্রতিবেদন থেকে সংগ্রহ করা হয়। ভিত্তি বৎসরের বাৎসরিক আয়কে (নির্দিষ্ট ক্যাটাগরীর ক্ষেত্রে) শ্রমিক সংখ্যার গুনিতক দিয়ে স্থিরকৃত বাজার মূল্যে "মূল্য সংযোজন" নির্ধারন করা হয়। মজুরী হার সূচক দিয়ে স্থিরকৃত মোট গড় আয়কে নির্দিষ্ট শ্রমিক সংখ্যার প্রবৃদ্ধির হার দিয়ে গুন করে চলতি বাজার মূল্যে এখাতের আয়কে হিসাব করা হয়। এক্ষেত্রে ডিফ্লেটের হিসেবে কাজ করছে ইমপ্লিসিট সুচক যা বি বি এস তৈরী মুজুরী হারের সূচক থেকে ভিন্ন ধরনের। পেশাজীবি সমিতির প্রতিবেদন এবং নির্দিষ্ট সীমাবদ্ধ জরীপের মাধ্যমে এখাতে নিয়োজিত প্রতিটি কর্মীর আয় নির্ধারন করা হয়। এ খাতের ভিত্তি বছরের আয়ের পরিমানকে, প্রতিটি পেশার গড়পড়তা চলতি আয় নির্ধারনের বেলায় মজুরী হার সূচক দিয়ে ইনফ্লেটেড করা হয়। প্রতিটি পেশার গড়পড়তা আয়কে সুনির্দিষ্ট পেশায় মোট কর্মী সংখ্যা দিয়ে পূরন করে মোট আয় নির্ধারন করা হয়।

৪.১১ ব্যবসা বাণিজ্য খাত

সারা দেশের কৃষি, ম্যানুফ্যাকচারিং এবং বৈদেশিক বাণিজ্যের চুড়ান্ত উৎপাদন সহগ দিয়ে ব্যবসা বাণিজ্য খাতের "মূল্য সংযোজন" হিসাব করা হয়। এবং শিল্প খাতের সাংখ্যিক বন্টন দিয়ে জেলা ভিত্তিক 'মুল্য সংযোজন' বের করা হয়।

৪.১২ বাসস্থান সার্ভিস খাত

১৯৭৩-৭৪ সালে বি বি এস কর্তৃক পরিচালিত পারিবারিক বাজেট জরীপ থেকে গ্রামীণ বাসস্থানের ব্যয়, এবং ১৯৭৩ সালের শুমারী থেকে পূর্ণসংযোজন, সংরক্ষন এবং অন্যান্য প্রাথমিক উপকরণ ব্যয়কে এ খাতের "মূল্য সংযোজন" পরিমাপে ব্যবহার করা হয় এবং পরবর্তী বছরগুলোর "মূল্য সংযোজন" নির্ধারনের জন্য ১৯৭৬-৭৭ সালের জনসংখ্যা কাঠামোর সহগ বা ১৯৭৩-৭৪ থেকে ১৯৭৬-৭৭ সালের মোট প্রবৃদ্ধির হার ব্যবহার করা হয়। এ খাতের স্থিরকৃত মুল্য নির্ধারনের জন্য বাড়ী ভাড়ার সূচক ব্যবহার করা হয়।

৫.০ জাতীয় আয়/পরিমাপের সমস্যাবলী

বাংলাদশে জাতীয় আয় পরিমাপের ক্ষেত্রে উৎপাদন, আয়, এবং ব্যয় পদ্ধতির কোনটিকেই পুরাপুরিভাবে পরিমাপের ক্ষেত্রে ব্যবহার করা যায় না। ফলে আয় নিরূপনের বেলায়, পদ্ধতিগত ভিন্নতার কারণে হেরফের থেকেই যাচ্ছে। স্বাধীনতার পর বাংলাদেশ সরকারের পরিসংখ্যান

ব্যুরো জাতি সংঘ কর্তৃক প্রদত্ত জাতীয় আয় পরিমাপ কাঠামোর অনুকরণের মাধ্যমে, জাতীয় আয়ের পরিমাপ এর ক্ষেত্রে ধরন গত, পদ্ধতিগত, ধারনাগত, সর্বোপরি কাঠামোগত দিক থেকে পরিবর্তন আনার প্রচেষ্টা নিয়েছে। পাকিস্তান আমলে প্রকাশিত পরিসংখ্যান রিপোর্টগুলো থেকে বাংলাদেশ আমলে প্রকাশিত রিপোর্টগুলো অনেক বেশী সুসংগঠিত এবং বৈজ্ঞানিক। বাংলাদেশ পরিসংখ্যান ব্যুরোকে সরাসরিভাবে আদমশুমারী রিপোর্ট, ম্যানুফেকচারিং ইন্ডাষ্ট্রিজ শুমারী রিপোর্ট, কৃষি শুমারী রিপোর্ট, পরিকল্পনা কমিশন কর্তৃক পরিচালিত গবেষনা রিপোর্ট এবং কোন কোন ক্ষেত্রে নিজস্ব সংগঠন থেকে বাংলাদেশ পরিসংখ্যান ব্যুরো উপাত্ত সংগ্রহের মাধ্যমে পরিসংখ্যান পুস্তিকা তৈরী করে থাকে। এখানে উলেখ্য যে, একক ভাবে কোন একটি সংগঠন থেকে উপাত্ত সংগ্রহের কোন ব্যবস্থা নেই অর্থাৎ বাংলাদেশ পরিসংখ্যান ব্যুরো সাংগঠনিকভাবে স্বয়ংসম্পূর্ণ নয়। এই প্রতিষ্ঠানকে কতগুলো স্বায়ত্বশাসিত প্রতিষ্ঠানের উপর উপাত্তের উপর নির্ভর করতে হয়। বিভিন্ন প্রকার সীমাবদ্ধতা লক্ষ্য করে বাংলাদেশ জাতীয় আয় নিরূপনে যে সব সমস্যা দেখা যায় তাকে মূলতঃ আমরা দুভাগে ভাগ করতে পারি। প্রথমতঃ ধারনাগত সমস্যা, দ্বিতীয়ত কারিগরী সমস্যা। ধারনাগত সমস্যাকে আবার তিনভাগে ভাগ করা যায়, পদ্ধতিগত সমস্যা, শ্রেনীবিভাজন সমস্যা, এবং কাঠামোগত সমস্যা। অন্যদিকে কারিগরী সমস্যাকে আমরা তিনভাগে ভাগ করতে পারি সময় ভিত্তিক সমস্যা, এলাকা ভিত্তিক সমস্যা, এবং স্বয়ংসম্পূর্ণ বিশ্বাসযোগ্য উপাত্তর সমস্যা। বলার অপেক্ষা রাখেনা যে, বাংলাদেশে জাতীয় আয় নিরুপনের ক্ষেত্রে সমস্যা অন্তহীন। আমরা এখন প্রত্যেকটি সমস্যাকে আলাদা আলাদা ভাবে আলোচনা করে দেখব।

৫.১ ধারনাগত সমস্যা

৫.১.১ পদ্ধতিগত সমস্যা

জাতীয় আয় নিরুপনের ক্ষেত্রে দার্শনিকগত দিক থেকে দুটো দিক বেছে নেয়ার সুবিধা রয়েছে। এক–পুঁজিবাদী দৃষ্টিভংগী, দুই–সমাজতান্ত্রিক দৃষ্টিভংগী। অবশ্য কোন কোন ক্ষেত্রে একটি মাঝামাঝি বা মিশ্র অর্থনৈতিক দৃষ্টিভংগীও অবলম্বন করা হয়ে থাকে।

একটি দেশের জাতীয় আয় পরিমাপের ক্ষেত্রে সেই দেশের প্রাজ্ঞ অর্থনীতিবিদদের ধারনা সবচেয়ে ক্রিয়াশীল। বর্তমানে আয় নিরুপনের ক্ষেত্রে দুটো ধারনার চর্চা চলছে। সমাজতান্ত্রিক দেশে, কাল মার্কস এর পুনরোৎপাদন তত্ত্বের ভিত্তিতে সার্বিক 'পুনরোৎপাদন ধারনা" জাতীয় আয় নিরুপনের ক্ষেত্রে বিশেষ ভাবে কার্যকর দেখা যায়। সমাজতান্ত্রিক দেশগুলো জাতীয় আয় নিরুপনের তাত্ত্বিক ভিত্তি হিসাবে কাল মার্কসের তত্ত্বকেই বিশেষভাবে প্রাধান্য দেয়া হয়ে থাকে। অবশ্য পুজিবাদী দেশগুলোতে" সার্বিক উৎপাদন প্রথা অর্থাৎ বস্তুগত উৎপাদনের তত্ত্বকে বিশেষভাবে প্রাধান্য দেয়া হয়। বাংলাদেশের ক্ষেত্রে কোনটাই পুরোপুরিভাবে মানা হয় না তবে সার্বিক উৎপাদন তত্ত্বের ব্যবহার উলেখযোগ্য। বাংলাদেশের আর্থ–সামাজিক অবস্থার দিক লক্ষ্য করলে এক কথায় বলা যায়, অনুসরণকৃত তত্ত্বের অনেক সীমাবদ্ধতা রয়েছে। পুজিবাদী অর্থনীতিবিদদের ধারণায় সার্বিক উৎপাদন বিশেষ করে মোট জাতীয় উৎপাদনের বেলায় অর্থনৈতিকভাবে কর্মকান্ডেরে মোট যোগফলের অংককে বুঝায়। এই উৎপাদনের বেলায় অর্থনৈতিকভাবে উৎপাদন উপকরন সমূহ সরাসরি ভাবে বিবেচনায় সাংখ্যিক ভাবে আনা হয়। উল্লেখ্য যে, দ্রব্যজাত উৎপাদন ও অদ্রব্যজাত বা সার্ভিস উৎপাদন দুটোকেই একসাথে বিবেচনা

করা হয়ে থাকে। এই তত্ত্বের প্রধান সীমাবদ্ধতা হলো দ্রব্যজাত উৎপাদন ও অদ্রব্যজাত উৎপাদনের সংজ্ঞা নিরূপনে ব্যর্থতা। আরো সহজ ভাবে বলা যায় অর্থনৈতিক উৎপাদন এবং অ-অর্থনৈতিক উৎপাদনের সীমানা চিহ্নিত করনে এই তত্ত্বের তেমন কোন উল্লেখযোগ্য ভূমিকা দেখা যায় না। এছাড়া বাজারজাতকরন দ্রব্য এবং অবাজারজাতকরন দ্রব্যের বেলায়ও এই তত্ত্বের সরাসরি কোন প্রায়োগিক ব্যবহার নেই। তবে উন্নত দেশগুলোতে বাসস্থান কর্তৃক দ্রব্য উৎপাদন ও সেবা এমনকি অ-অর্থনৈতিক উৎপাদনকে ও জাতীয় আয়ের অন্তর্ভূক্ত করার ব্যাপারে এক ধরনের প্রচেষ্টা লক্ষ্য করা যায়। অর্থাৎ জাতীয় আয় নিরূপনে কি কি অর্থনৈতিক কর্মকান্ড অন্তর্ভূক্ত করা যায় বা কি কি কর্মকান্ড অন্তর্ভূক্ত করা যাবে না এই ধরনের সিদ্ধান্ত গ্রহনই মূল সমস্যা। সার্বিক উৎপাদন ধারনায় জাতীয় আয়ের অর্থনৈতিক উৎপাদন এবং অ-অর্থনৈতিক উৎপাদনের বেলায় একমত। কিন্তু আমরা দেখতে পাই সমাজতান্ত্রিক অর্থনীতির পন্ডিতরা জাতীয় আয়ের অ-অর্থনৈতিক উৎপাদন (সার্ভিস) জাতীয় আয়ে অন্তর্ভূক্তকরণে অনীহা প্রকাশ করে থাকেন। সার্বিক উৎপাদন ধারনার আলোকে আমরা জাতীয় আয় এবং মোট জাতীয় আয় সংজ্ঞা নিরূপন করতে পারি। আরো সহজভাবে বলা যায় একটি হচ্ছে উপযোগিতার তত্ত্ব এবাং অন্যটি হচ্ছে উৎপাদন উপকরনের তত্ত্ব। জাতীয় আয় উৎপাদনের বেলায় প্রতিটি অর্থনৈতিক ও অ-অর্থনৈতিক কর্মকান্ডের বাৎসরিক মূল্য সংযোজনকে সমন্বিত করে থাকে। জাতীয় আয় নিরূপনের ক্ষেত্রে যে সব সামষ্টিক অর্থনৈতিক ফেক্টর বিবেচনা করা হয় তাদেরকে সাধারনতঃ কয়েকটি গ্রুপে বিভাজন করা যায়। যেমন দ্রব্য এবাং সার্ভিস উৎপাদন, উৎপাদিত দ্রব্যের ভোগ্যমাত্রা, বিনিময় ধরন, এবং প্রাতিষ্ঠানিক ধরন। আমরা যখন অর্থনীতির বিভিন্ন শাখায় জাতীয় আয় সংগঠনের অবদান পরিমাপ করি তখন সাধারনতঃ উৎপাদন পদ্ধতিটি ব্যবহার করে থাকি। এটিই হলো একধরনের সরাসরি পরিমাপ পদ্ধতি। অন্যদিকে আমরা যদি উৎপাদিত দ্রব্যের সামাজিক ভোগ বিবেচনা করি তাহলে আয় নিরূপনে ব্যয় পদ্ধতি ব্যবহার করতে পারি। প্রতিটি অর্থনীতিক কর্মকান্ডে ভূমি, শ্রম, পুঁজি, এবং সংগঠনের প্রয়োজনীয়তা রয়েছে। এসব খাতে যে পরিমান অর্থ ব্যয় হয তা মোট উৎপাদিত দব্যের উপাদান ব্যয় হিসাবে চিহ্নিত হয়ে থাকে। এছাড়াও উৎপাদনের বাড়তি কিছু ব্যয় হয়ে থাকে যাকে অর্থনৈতিক পরিভাষায় অ-অর্থনৈতিক ব্যয় বা নন-ফেক্টর ব্যয় হিসাবে চিহ্নিত করা হয়ে থাকে। এই গ্রুপে সাধারনত ভর্তূকি, পুঁজি ভোগ, ট্রান্সফার পেমেন্ট, ইত্যাদি উপভোগ খাতগুলো বিবেচনা করা হয়ে থাকে। উপাদান (ফেক্টর) ব্যয়, জাতীয় আয় মোট উৎপাদন করনের যোগ ফলের সমান। মোট জাতীয় আয় নিরুপনের ক্ষেত্রে (ফেক্টর ব্যয় পদ্ধতি) মোট জাতীয় আয়ের সাথে নন-ফেক্টর ব্যয়গুলো যোগ করা হয়। যাকে অর্থনৈতিক পরিভাষায় আয় পদ্ধতি বা বন্টন পদ্ধতিও বলা হয়ে থাকে। উপযোগীতা তত্ত্ব আমাদেরকে জাতীয় আয়ের দুটো বিশেষ ধারনা প্রদান করে থাকে। যা হলো জি এন পি এবং এনএনপি। জি এন পি পরখ করে দেখলে দেখা যায় জাতীয় অর্থনীতির বিভিন্ন শাখার উৎপাদিত দ্রব্য (টাকায়) এর পরিমান যা বিপরীত দেশের মোট জনসংখ্যার ভোগমাত্রার নিরিখেও বিবেচনা করা যায়। অর্থাৎ উৎপাদন এবং আয় বন্টনের চক্রাকার পদ্ধতি সামষ্টিক অর্থনৈতিক পরিমন্ডলে চলতে থাকে। একটি দেশের জাতীয় অর্থনীতির পরিকল্পনা প্রণয়নে জাতীয় আয় একটি বিশেষ ভূমিকা পালন করে থাকে। তাই জাতীয় আয় নিরুপনের পদ্ধতি ক্ষেত্রে যদি ধারণাগত ও কারিগরী সমস্যা থাকে তাহলে তা চুড়ান্ত পর্যায় পরিকল্পনা এবং রাষ্ট্রীয় অর্থনীতির ভবিষ্যৎ

গতিবিধির উপর প্রভাব ফেলে। যে তিন ধরনের পদ্ধতির মাধ্যমে মোট জাতীয় আয় নিরুপন করা যায় তা কেবল মাত্র সুষ্ঠভাবে প্রয়োগ হতে পারে এমন একটি দেশে যেখানে উপাত্ত সংগ্রহ, উৎপাদন ব্যয় মধ্যবর্ত্তী পর্যায়ের দ্রব্য, বেতন এবং মুজুরী, ইত্যাদির হিসাব ও পরিসংখ্যান সুষ্ঠভাবে সংগৃহতি হয়ে থাকে। বাংলাদেশের ক্ষেত্রে এর কোনটিই নিয়মিত নয়। অর্থাৎ আমাদের যে পরিকল্পনা প্রণয়ন হয়ে থাকে তার মৌলিক পদ্ধতিগত সমস্যা এই জাতীয় আয নিরুপনের প্রেক্ষাপট থেকে প্রতিয়মান হয়। জাতীয় আয় যদি সঠিকভাবে নিরুপিত না হয় তাহলে ভোগ ব্যয় বিনিয়োগ এর কোনটিই সুষ্ঠভাবে পরিমাপ করা যাবে না। উন্নত দেশগুলোতে জাতীয় আয়ের পরিমাপের ক্ষেত্রে অত্যন্ত বৈজ্ঞানিক এবং সুষ্ঠভাবে উপাত্ত সংগ্রহের ব্যবস্থা রয়েছে।

আমাদের রাষ্ট্রীয় জীবনে রাজনৈতিক যে ফাঁক রয়েছে তাকে ধামাচাপা দেওয়ার জন্য রাষ্ট্রীয় অভিভাবকরা জাতীয় আয়ের হেরফেরকে অস্ত্র হিসাবে ব্যবহার করে থাকে। উপাত্ত সংগ্রহের বেলায় আমাদের দেশে এমন একটি বিশৃংখল অবস্থা বিরাজ করছে যারফলে বাধ্য হয়ে তিনটি পদ্ধতিকে জগাখিচুরি পর্যায়ে ব্যবহার করা হচ্ছে। বলার অপেক্ষা রাখে না যে, রাষ্ট্রীয় পর্যায়ে যে সব প্রতিষ্ঠান পরিকল্পনা এবং উপাত্ত সংগ্রহের দায়িত্বে নিয়োজিত তাদের মাঝে আভ্যন্তরীন কোন অর্থবহ সংযোগ সহমর্মীতা নেই।

উদাহরন স্বরুপ বলা যায় বাংলাদেশ পরিকল্পনা কমিশন এবং বাংলাদেশ পরিসংখ্যান ব্যুরোর একই ধরনের প্রতিবেদনে জাতীয় আয় এবং অন্যান্য সামষ্টিক অর্থনীতির দুই তিন ধরনের চিত্র দেখা যায়। জাতীয় আয় নিরূপনে উৎপাদন পদ্ধতি ব্যবহারে মোট তিনটি কার্যকরী পদক্ষেপ নেয়া হয়; যেমনঃ মোট দেশজ অর্থনৈতিক বিভিন্ন খাতে মূল্য সংযোজন পরিমাপ, মোট উৎপাদিত দ্রব্যের (টাকায়) যে পরিমান ফেক্টর ব্যয় এবং অপচয় হয়ে থাকে তার পরিমান নিরুপন, সর্বোপরি চুড়ান্ত পর্যায়ে উৎপাদিত দ্রব্যমুল্য থেকে উৎপাদন উপকরনের মূল্য বিয়োগ করে মোট জাতীয় আয় পরিমাপ করা হয়। মোট জাতীয় উৎপাদন পরিমাপের ক্ষেত্রে মোট জাতীয় মূল্য সংযোজনের সাথে বৈদেশিক বাণিজ্যের ফলে যে লভ্যাংশ পাওয়া যায় তা যোগ করা হয়। মোট জাতীয় উৎপাদনের ক্ষেত্রে (এন এনপি) মোট জিএনপি থেকে জাতীয় অপচয় বিয়োগ করা হয়। সাধারনতঃ জিডিপি, জি এনপি, এনএনপি চলতি বাজার মূল্যে পরিমাপ করা হয়ে থাকে। চলতি বাজার মূল্য থেকে ট্যাক্স এবং ভর্তুকী বিয়োগ করলেই ফেক্টর ব্যয় হিসাবে মোট জাতীয় আয়ের পরিমান পাওয়া যায়। উল্লেখ্য যে, বাংলাদেশ জাতীয় আয় হিসাব (পরিসংখ্যান) বিশ্লেষণ করলে দেখা যায় বাংলাদেশ পরিসংখ্যান ব্যুরো একই ধরনের পদ্ধতি ব্যবহার করার পরেও প্রতিবৎসরই বিভিন্ন ধরনের সাংখ্যিক পরিবর্তন করছে। কৃষি ক্ষেত্রের কয়েকটি উপখাতের বেলায় গড়পরতা আয়ের বা গড়পরতা উৎপাদনের পরিমাপ দিয়ে জাতীয় উৎপাদন হিসাব করা হয়। নির্মান, পরিবহণ, গুদামজাত, যোগাযোগ, বাসস্থান, সরকারী এবং প্রশাসনিক ব্যয় এবং ব্যাংকিং ও বীমার ক্ষেত্রে উৎপাদন পদ্ধতি ব্যবহার না করে ব্যয় পদ্ধতি ব্যবহার করা হয়ে থাকে। তিন ধরনের পদ্ধতি ব্যবহারের ফলে জাতীয় আয়ের বিভিন্ন সেক্টরের হিসাবকৃত আয়ের মাঝে হেরফের দেখা যায়। অর্থাৎ পদ্ধতিগত সমস্যা, জাতীয় আয় নিরুপনের ক্ষেত্রে একটি প্রধান সমস্যা হিসাবে চিহ্নিত হতে পারে।

৫.১.২ শ্রেণী বিভাজন সমস্যা

বাংলাদেশের জাতীয় আয় কাঠামোর খাত শ্রেণী বিভাজন জাতিসংঘ প্রদত্ত নীতি কাঠামোর প্রায় কাছাকাছি কিন্তু বাংলাদেশের শ্রমিকদের অর্থনৈতিক শ্রেণী বিভাজন করা হয়নি বিধায় উন্নতদেশগুলোর জাতীয় আয় কাঠামো এবং ক্রিয়াশীল সম্পর্কের সাথে তুলনা করা যায় না। উদাহরণ স্বরূপ বলা যায় অ-কৃষি কর্ম-তৎপরতা "মূল্য সংযোজন" হিসাবই বাংলাদেশ পরিসংখ্যান ব্যুরো নির্ণয় করতে পারেনি। কৃষিজাত দ্রব্যের যান্ত্রিক প্রক্রিয়াকরনের অনেক পর্যায়কে কৃষিখাতে অন্তর্ভুক্ত না করে করা হয়েছে শিল্পখাতে যেমনঃ মৎস্য প্রক্রিয়াকরন চামড়া ও হাঁড় প্রক্রিয়াজাত করন ইত্যাদি। অন্যদিকে-এ জাতীয় আয়ের মৌলিক ধারনাগত ভিন্নতার কারনে কোন বাসস্থান ব্যক্তিগত বা সংগঠনের মালিকানায় থাকা সত্ত্বেও তা বাসস্থান সার্ভিসের আওতায় পড়ে। অন্যদিকে উৎপাদনে নিয়োজিত ঘরবাড়ীকে পুঁজি হিসাবে বিবেচনা করা হয় যদিও ভৌত দিক দিয়ে উভয়ই সমান। বাংলাদেশের পরিসংখ্যান ব্যুরো ডাক্তার, শিক্ষক, আইনজীবি, অভিনেতা ইত্যাদি ক্যাটাগরীর লোকদের আয়কে প্রশাসনিক আয়ের সাথে একীভূত করেছে। অথচ এ খাতকে বিবেচনা করা উচিৎ পেশাজীবি আয়ের খাতে।

৫.১.৩ কাঠামোগত সমস্যা

বিভিন্ন সরাকরী প্রতিষ্ঠানের সূত্র থেকে জাতীয় আয় পসিংখ্যান উপাত্ত সংগৃহীত হয় বিধায় অভ্যন্তরীণভাবে এদের মাঝে ভিন্নতা থেকে যায়। জাতীয় আয় নিরূপনের জন্য বিশেষ ভাবে আলাদা সেল বা সংগঠন গড়ে তোলা দরকার। উলেখ্য বি বি এস সম্প্রতি জাতীয় আয় সেল গঠন করেছে। আলাদা সেলের প্রয়োজন এ কারণে যে, সরকারী দলিল, রিপোর্ট, পরিসংখ্যান, জরীপ ফলাফল, বিভিন্ন সেক্টরের শুমারী রিপোর্ট, আদম শুমারী কোনটাই এককভাবে জাতীয় আয় পরিমাপের ক্ষেত্রে পূর্ণাংগ কাজে লাগানো যায় না। ফলে অধিক কাজ হলেও উদ্দেশ্য সাধনে এর ব্যবহার পরিধি একেবারেই ছোট। দেশের প্রাথমিক ইউনিট থেকে যদি উপাত্ত পদ্ধতিগতভাবে সংগৃহীত না হয়, তা হলে কেন্দ্রীয় পদ্দতির সাথে উপাত্তগুলো খাপ খাবে না এবং আয় পরিমাপে হেরফের থেকে যাবে। তাছাড়া বিভিন্ন সংগঠন থেকে উপাত্ত সংগ্রহ করা হয় বিধায় স্ব স্ব প্রতিষ্ঠান নিজেদের কর্মতৎপরতার তীব্রতা জাহির করতে গিয়ে কিছুটা পক্ষপাত দোষে ভোগে। তাই প্রয়োজন স্বতন্ত্র এবাং নিরপেক্ষ জাতীয় আয় পরিমাপ পরিসংখ্যান সংগঠন।

৫.২ কারিগরী সমস্যা

৫.২.১ সময় নির্ধারন সমস্যা

জাতীয় আয় হিসাবকরনের জন্য যে সময়টিকে বেছে নিয়ে উপাত্ত সংগ্রহ করা হয়, তা নির্ধারনে সঠিক পন্থা অরলম্বন করা হয় না বিধায় সময় বা কালগত সমস্যা দেখা দেয়। বিশেষ করে কৃষি একটি মৌসুম ভিত্তিক সেক্টর এবাং অত্যন্ত সংবেদনশীল। এর পরিমাপ হওয়া দরকার কৃষি পঞ্জিকা অনুসারে। তাতে করে, জাতীয় আয় পরিমাপের পাশাপাশি অন্যান্য ফ্যক্টরগুলোও উঠে আসবে। কালগতদিক দিয়ে উপাত্ত সংগ্রহের ফলে সমানত্ব বজায় থাকবে যা চুড়ান্ত পর্যায়ে জাতীয় আয় পরিমাপের উপর প্রভাব ফেলে সরাসরি।

৫.২.৩ নির্ভরযোগ্য উপাত্তের সমস্যা

মোট দেশীয় উৎপাদন, মোট জাতীয় উৎপাদন, মোট জাতীয় আয় ইত্যাদি অর্থনৈতিক নির্দেশক পরিমাপের ক্ষেত্রে, পৃথিবীর অন্যান্য উন্নয়নশীল দেশগুলোর মতো বাংলাদেশেও নির্ভরযোগ্য যৌক্তিক এবং স্বয়ংসম্পূর্ণ উপাত্তের অভাব রয়েছে। অনেক সময় বিভিন্ন সংস্থা কতগুলো ধারনার ভিত্তিতে কোন একটি বছরের উপাত্তকে ভিত্তি ধরে একটি অপরিক্ষীত অনুপাত দিয়ে পরবর্তী সময়ের উপাত্ত তৈরী করে থাকে। ফলে সামষ্টিক অর্থনৈতিক পরিবেষ্টনে কোন সামঞ্জস্যতা খুজে পাওয়া যায় না। টাইম সিরিজ এনালাইসিসের ক্ষেত্রে উপাত্তের কোলিনিয়ারিটি, মালটি–কোলিনিয়ারিটি ইত্যাদি ব্যাপকভাবে প্রভাব ফেলে, প্রাথমিক ইউনিটের ক্ষেত্রে পদ্ধতিগতভাবে উপাত্ত সংগৃহীত না হলে সামগ্রিক গানিতিক হিসাবে সমস্যা দেখা দিতে পারে। তা ছাড়া অবস্থাগত বাজার মূল্য এবাং সরকারী মূল্যে হেরফের থাকায় অর্থনৈতিক বিশ্লেষনে সমস্যা দেখা দেয়। কতিপয় পেশাজীবির যেমনঃ ইমাম, বাসস্থানের কাজের লোক, কাজের মেয়ে, নাপিত ইত্যাদির আয়ের কোন পরিসংখ্যান না থাকায়, তাদের আয় কোন খাতেই অন্তর্ভূক্ত করা যাচ্ছে না। জাতীয় আয় নিরূপনের ক্ষেত্রে অন্তর্নিহিত পদ্ধতি এবাং ধারনার পরিস্কার ব্যবহারিক সংঙ্গা না থাকলে অনেক অর্থনৈতিক উৎপাদক ক্যাটাগরীর আয়ই মোট জাতীয় আয়ের অন্তর্ভূক্ত হতে পারবে না।

৬.০ উপসংহার ও প্রাসংগিক প্রস্তাবনা

একথা বলার অপেক্ষা রাখে না যে, দেরীতে হলেও পৃথিবীর অনেক উন্নয়নশীল দেশ পদ্ধতিগতভাবে জাতীয় আয় পরিমাপের বিষয়ে সুদৃষ্টি দিচ্ছে । জাতীয় আয় নিরূপনে, ধারনা, পদ্ধতিগত ও পরিমাপগত ভিন্নতা এবং উপাত্তের সংগ্রহ, নির্ভরযোগ্যতা এবং অপর্যাপ্ততাই মূল সমস্যার কারন। এই সব সমস্যার মাঝে রয়েছে একধরনের আন্তঃসম্পর্ক। তাই জাতীয় আয় সিরিজ গঠনে যে পদ্ধতি ব্যবহার করা হয় তা সরাসরি নির্ভর করছে, উপাত্তের পর্যাপ্ততা, বিভিন্ন অর্থনৈতিকখাতের ক্রিয়াশীলতা, এবং যাদের জন্য এই আয় সিরিজ তৈরী করা হচ্ছে তাদের ব্যবহার পদ্ধতি ও প্রয়োগ কৌশলের উপর।

জাতীয় আয় পরিসংখ্যান একটি দেশের বিভিন্ন অর্থনৈতিক সেক্টরের আয়ের অবস্থানের গুরুত্বের দিক বিবেচনার ভিত্তিতে পারস্পরিক ও তুলনামূলক চিত্র তুলে ধরে। একটি দেশের অর্থনীতির জটিল এই দিকটি, দেশের সার্বিক স্বার্থে সুষ্ঠ বিশ্লেষণ–এর দাবী রাখে। একটি দেশের ব্যবসা চক্র, অর্থনৈতিক গতিশীলতার অর্থনীতি, আন্তর্জাতিক ব্যবসা ও বিনিয়াগ, আর্থ–সামাজিক অবস্থান সর্বোপরি অর্থনীতির নিরপেক্ষ প্রবৃদ্ধির জন্য অর্থায়নে করতে হলে এবং নতুন নতুন পরিকল্পনা সংযোজন করতে হলে, সে দেশের জাতীয় আয়ের বৈজ্ঞানিক বিশ্লেষণের প্রয়োজন রয়েছে। এ বিশ্লেষন প্রক্রিয়ার মাধ্যমে অর্থনীতির শিল্পখাত এবং প্রাতিষ্ঠানিক গঠনের চিত্র পাওয়া যায়। সর্বোপরি, একটি দেশের জাতীয় আয় বিশ্লেষনের মাধ্যমে ঐ দেশের ভবিষ্যৎ অর্থনৈতিক ক্রিয়াকান্ডের একটি আনুমানিক চিত্র পাওয়া যেতে পারে যা অতীত কর্মকান্ডের ব্যবহারিক বিশ্লেষন প্রসূত ভবিষ্যৎ এর অর্থনৈতিক চিত্র মাত্র। বাংলাদেশের জাতীয় আয় পরিমাপ পদ্ধতির মান্নোয়নে আমরা নিম্নোক্ত বিষয়গুলোকে বিবেচনায় আনতে পারি।

৬.১ জাতীয় আয় হিসাব জুন-জুলাই অর্থনৈতিক বছরের পাশাপাশি শস্যখাত ক্ষেত্রে কৃষি পঞ্জিকার ব্যবহার হতে পারে। এতে করে সময়ের ভিত্তিতে কৃষি উৎপাদন পরিমাপ করা সম্ভব।

৬.২ জাতীয় আয় পরিমাপ ক্ষেত্রে বিভাগ এবং জেলা ভিত্তিক আয় ও পাশাপাশি নিরূপন করা দরকার যাতে করে সম্পদ গমানাগমনে দ্রুত সিদ্ধান্ত নেয়া যায়।

৬.৩ চলতি এবং স্থিরকৃত মূল্যের পাশাপাশি প্রতি শিল্পখাতের ক্ষেত্রে নির্দিষ্ট সূচক এবং ডিফ্লেটর দেয়া যেতে পারে যা গানিতিক হিসাবে দ্রুত সহায়তা করবে বা তূলনামূলক অধ্যায়নে সহযোগিতা দেবে।

৬.৪ বাংলাদেশ পরিসংখ্যান ব্যুরো কর্তৃক জাতীয় আয় পরিমাপ হিসাবের পাশাপাশি নিম্নোক্ত বিষয়গুলোর সময় ভিত্তিক হিসাব প্রদান করা একান্ত জরুরী। কারণ এতে করে ক্রিয়াশীল পরিকল্পনা প্রণয়নে কার্যকরী ভূমিকা নিতে সহায়তা করবে।

৬.৪.১ জাতীয় উৎপাদন হিসাব (অর্থাৎ ভোগ ও বিনিয়োগ ব্যয় হিসাব)।

৬.৪.২ জাতীয় ব্যয় হিসাব (ভোগ এবাং বিনিয়োগ ব্যয় হিসাব)।

৬.৪.৩ সংগঠন ভিত্তিক জাতীয় আয় নিরূপন।

৬.৪.৪ আয় গ্রুপ ভিত্তিক জাতীয় আয় নিরূপন।

৬.৪.৫ গৃহস্থালীর আয় ও ব্যয় নিরূপন।

৬.৪.৬ নারী সমাজ কর্তৃক জাতীয় আয়ের মোট অবদান নিরূপন।

৬.৪.৭ বন্টন শেয়ার ভিত্তিক জাতীয় আয় নিরূপন।

৬.৪.৮ গ্রাম ও শহর ভিত্তিক জাতীয় আয়ের আলাদা হিসাব।

৬.৫ জাতীয় আয় সম্পর্কিত জাতিসংঘ কর্তৃক প্রদত্ত ম্যানুয়েল ভিত্তিক উপস্থাপনা।

৬.৬ প্রতিটি হিসাবই (আয়-ব্যয় ভোগ বিনিয়োগ) প্রয়োজনীয় সমর্থাধর্মী উপাত্ত এবং সারণীর মাধ্যমে উপস্থাপনা প্রয়োজন।

৬.৭ একই ধরনের উন্নয়নশীল দেশগুলোর জাতীয় আয়ের সাথে তুলনামুলক হিসাব প্রদান যার মাধ্যমে বিশ্ব প্রেক্ষাপটে অর্থনীতির দিক দিয়ে নিজেদের অবস্থানকে চিহ্নিত করা সম্ভব।

৬.৮ আয় পরিমাপ পদ্ধতি হিসাবে, কার্লমাক্স এর সার্বিক পুনরুৎপাদন পদ্ধতি প্রয়োগ করে ফলাফল বিচার করা যেতে পারে।

৬.৯ ব্যক্তিগত এাবং সরকারী খাতে আলাদা আলাদা ভাবে আয় ও ব্যয় হিসাবের চিত্র তুলে ধরা।

৬.১০ আয় বন্টন, সম্পদের আকার, এবং আর্থ-সামাজিক গ্রুপের শ্রেণী বিভাজনের ভিত্তিতে জাতীয় আয় ও ব্যয়ের উপাত্ত সংগ্রহে তৎপর হওয়ার প্রয়োজনীয়তা রয়েছে।

৬.১১ উপাত্ত সংগ্রহের ব্যাপারে বিভিন্ন সরকারী প্রতিষ্ঠানের মাঝে আভ্যন্তরীন সংযোগ আরো তীব্রতর এবং দ্রুত করার প্রয়োজন রয়েছে।

৬.১২ সরকার কর্তৃক দেশব্যাপী উপাত্ত নেট-ওয়ার্ক গড়ে তোলার ব্যাপারে অগ্রণী ভূমিকা পালন করা দরকার। প্রয়োজনবোধে এলক্ষ্যে একটি সমন্বয় কমিটি গঠন করা যেতে পারে।

৬.১৩ বাংলাদেশের জাতীয় আয় নিরূপনে দেশের প্রাজ্ঞ অর্থনীতিবিদদের নিয়ে একটি শক্তিশালী ও স্থায়ী আয় কমিশন গঠন করা দরাকর।

৬.১৪ আয় পরিমাপ পদ্ধতি "উৎপাদন পদ্ধতির" প্রয়োগ পরিপূর্ণ মাত্রায় করা যায় কিনা, তা বিবেচনা করে দেখা।

৬.১৫ মহিউদ্দিন আলমগীর ও বাংলাদেশ পরিকল্পনা কমিশন জাতীয় আয় পরিমাপের ক্ষেত্রে যেসব তথ্য, সূত্র এবং পদ্ধতি ব্যবহার করেছেন তাকে জাতীয় আয় নিরূপনে ব্যয় পদ্ধতির প্রয়োগ করে আয় ক্ষেত্রে ভিন্নতা পর্যবেক্ষণ করা যেতে পারে। তাতে করে 'ব্যয় পদ্ধতি' ব্যবহারের যৌক্তিকতা কতটুকু তা প্রাথমিকভাবে হলেও বুঝা যাবে।

৬.১৬ দেশের সামষ্টিক অর্থনীতির খাত ভিত্তিক বিস্তারিত শুমারীর প্রয়োজনীতা রয়েছে।

৬.১৭ জাতীয় মোট আয়কে সামরিক-বেসামরিক মোট দু'টো ভাগে ভাগ করে দেখানো যেতে পারে। তাহলে রাষ্ট্রীয় ক্ষমতায় সামরিক বেসামরিক কনসেপ্ট নিয়ে যে বিতর্ক তার একটি অর্থনৈতিক রুপরেখা (সমাধান) পাওয়া যেতে পারে। স্বাভাবিকভাবেই যাদের জাতীয় আয়ে অবদান বেশী তারাই রাষ্ট্রীয় ক্ষমতা চালাবার এখতিয়ার রাখে।

৬.১৮ বি, বি, এস প্রতিটি "অর্থনৈতিক পরিকল্পনার" জাতীয় আয় ব্যয় একাউন্ট নিয়ে রিপোর্ট প্রকাশ করতে পারেন, যা দিয়ে উন্নয়ন পরিকল্পনায় অর্থনৈতিক প্রবৃদ্ধির তীব্রতা দেখা যাবে। এতে করে নির্দিষ্ট রাজনৈতিক দলের রাষ্ট্র ক্ষমতা চালাবার অর্থনৈতিক মানদন্ড বেরিয়ে আসবে।

গ্রন্থপঞ্জী

১. কেন্দ্রীয় পরিসংখ্যান কার্যালয়ঃ পাকিস্তান পরিসংখ্যান বুলেটিন, খন্ড-১, সংখ্যা-৩, মে, ১৯৫২।
২. পাকিস্তান পরিসংখ্যান বর্ষগ্রন্থ, করাচী, ১৯৫৫।
৩. সি, এস, ও ঃ মাসিক পরিসংখ্যান বুলেটিন, করাচী ১৯৫৬।
৪. পাকিস্তানের পঞ্চবার্ষিক পরিকল্পনায় মূল্যায়ন প্রতিবেদন, করাচী, ১৯৬৬।
৫. বাংলাদেশ পরিসংখ্যান ব্যুরোঃ মাসিক পরিসংখ্যান বুলেটিন (বিভিন্ন সংখ্যা), ঢাকা, ১৯৭৬-১৯৮৭।
৬. আলমগীর, মহিউদ্দিন ও বারলাজ, ল্যুডউকঃ বাংলাদেশের জাতীয় আয় ও ব্যয় ঃ (১৯৪৯/৫০-১৯৬৯/৭০) বাংলাদেশ উন্নয়ন গবেষনা প্রতিষ্ঠান, ঢাকা, ১৯৭৪।
৭. ল্যুইস, এম, আর ও খান, এস, আইঃ পাকিস্তানের ননকর্পোরেট ব্যক্তিগত সঞ্চয়ঃ ১৯৪৯-৬২, পাকিস্তান উন্নয়নসমীক্ষা, খন্ড-৪, সংখ্যা-৩, ১৯৬৭।
৮. হক খাদিজা ও বাকী, এমঃ কর্পোরেট সেক্টরে সঞ্চয় ও পুঁজি সঞ্চালন ১৯৫৯-৬৩, পাকিস্তান উন্নয়ন সমীক্ষা, খন্ড-৭, সংখ্যা-৩, ১৯৬৭।
৯. গফুর, আবদুল ঃ পাকিস্তানের নন-কর্পোরেট সেক্টরে পুঁজি আত্মীয়করনঃ ১৯৫৯/৬০-১৯৬৫/৬৬, পাকিস্তান উন্নয়ন সমীক্ষা, খন্ড-৯,সংখ্যা-১,১৯৬৯।
১০. আলমগীর, মহিউদ্দিন ও রহমান আতিকুরঃ বাংলাদেশের সঞ্চয়ঃ ১৯৫৬/৬০-১৯৬৯/৭০, বাংলাদেশ উন্নয়ন গবেষনা প্রতিষ্ঠান, জুন, ঢাকা, ১৯৭৪।
১১. সফিউল্লাহ এমঃ পাকিস্তানের কর্পোরেট সঞ্চয়, অর্থনীতি গবেষণা ব্যুরো, ঢাকা বিশ্ববিদ্যালয়, ১৯৬৭।
১২. হাবিবুল্লাহ, এমঃ ঢাকা নগরের সঞ্চয় ধরণ, অর্থনীতি গবেষনা ব্যুরো, ঢাকা বিশ্ববিদ্যালয়, ১৯৬৪।

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শিক্ষাখাতে অপ্রতুল বিনিয়োগ এবং প্রাসংগিক আলোচনা

সরদার সৈয়দ আহমেদ

জাতীয় জীবনে শিক্ষার গুরুত্ব অপরিসীম। শিক্ষা উন্নয়নের চাবিকাঠি। শিক্ষা ব্যতীত কোন জাতির উন্নতি হতে পারে না। শিক্ষা অর্থনৈতিক উন্নয়নের মৌলিক ও সর্বাপেক্ষা গুরুত্বপূর্ণ উপাদান অথচ বাংলাদেশে শিক্ষা একটি অত্যন্ত অবহেলিত খাত। এ খাতের উন্নয়নের জন্য যতটুকু বিনিয়োগ প্রয়োজন তার কিঞ্চিতই এ দেশে বিনিয়োগ করতে দেখা যায়। শিক্ষার উন্নয়নের জন্য প্রয়োজন যথেষ্ট মেধা সম্পন্ন শিক্ষকের। এ দেশে শিক্ষকদের সামাজিক ও আর্থিক মর্যাদা ক্রমাবনতির পথে ধাবিত হচ্ছে বিধায় মেধাবী ছাত্রদের শিক্ষকতা পেশায় ধরে রাখা যাচ্ছে না। এ ছাড়াও এখানে রয়েছে তীব্র অবকাঠামোগত সমস্যা এবং অন্যান্য সুযোগ সুবিধার অনুপস্থিতি। শিক্ষার সুষ্ঠু পরিবেশ গড়ে তোলার জন্য প্রচুর বিনিয়োগের প্রয়োজন। আমাদের সমাজে শিক্ষা খাতের ব্যয়কে একটা অনুৎপাদনশীল বিনিয়োগ বলে এখনও মনে করার প্রচন্ড ঝোক পরিলক্ষিত হয়। শিক্ষাখাতের রিটার্ন সরাসরি চোখে দেখা না গেলেও এ খাতের রিটার্ন অন্য যে কোন বিনিয়োগের চেয়ে বহুগুন বেশী। শিক্ষাখাতের ব্যয় প্রকৃত পক্ষে সর্বোতকৃষ্ট বিনিয়োগ।

অর্থনৈতিক উন্নয়নে শিক্ষার ভূমিকা

অর্থনীতিবিদগন বহুকাল যাবৎ মনে করে আসছেন যে বস্তুগত পুঁজিই হলো অর্থনৈতিক উন্নয়নের অন্তকরন। তাদের মতে অর্থনৈতিক উন্নয়নের ক্ষেত্রে পুঁজি একটা আলৌকিক শক্তি হিসাবে কাজ করে থাকে। অর্থনৈতিক উন্নয়নে বস্তু পুঁজির চেয়ে মানব পুঁজির ভূমিকা অনেক অনেক গুন বেশী। বস্তুগত পুঁজির মওজুদ বৃদ্ধি প্রধানতঃ নির্ভর করে মানব পুঁজি গঠনের উপরে এবং মানব পূঁজি অর্থনৈতিক উন্নয়নের মূল চালিকা শক্তি। মানবীয় পুঁজি গঠনের সর্বাপেক্ষা গুরুত্বপূর্ণ হাতিয়ার হলো শিক্ষা। শিক্ষা মানুষকে যে জ্ঞান দান করে তা দক্ষতা ও উৎপাদন বৃদ্ধির সহায়ক। শিক্ষা মানুষের মধ্যে উন্নয়নের সহায়ক দৃষ্টিভংগি গড়ে তোলতে সহায়তা করে। শিক্ষা মানুষকে নৈতিক ও আধ্যাতিক জ্ঞান দান করে যা প্রকৃত কল্যাণের পথকে প্রসস্ত করে তোলে।

Schultz এবং Becker নামক অর্থনীতিবিদদ্বয় অর্থনৈতিক উন্নয়নের ক্ষেত্রে মানবীয় পুঁজির গুরুত্বপূর্ণ ভূমিকার কথা প্রচার করেছেন এবং তারা মানবীয় পুঁজি গঠনে শিক্ষা ও প্রশিক্ষণের উপর গুরুত্ব আরোপ করেছেন।

Schultz ও Becker ছাড়াও আরও বহু সংখ্যক অর্থনৈতিবিদগন দেখাতে চেষ্টা করেছেন যে অর্থনৈতিক উন্নয়নে শিক্ষার ভূমিকাই উল্লেখযোগ্য। অর্থাৎ শিক্ষা ক্ষেত্রে বিনিয়োগ বৃদ্ধিই উন্নয়নকে ত্বরান্বিত করে থাকে। প্রফেসর, Galbreth আমেরিকার অর্থনৈতিক উন্নয়ন সম্পর্কে

বলেন, "We now get the larger part of our industrial growth not from more capital investment but from investment in men and improvement brought about by improve men."

এখন অর্থনীতিবিদ্‌গন স্বীকার করতে শুরু করছেন যে মানবীয় পুঁজি গঠনের হার কমই (শিক্ষা ক্ষেত্রে বিনিয়োগ স্বল্পতাই) অর্থনৈতিক অনুন্নয়নের মূল কারণ। অনুন্নত দেশ সমূহে পুঁজির চেয়ে মানবীয় পুঁজির সংকট আরও বেশী প্রকট। দক্ষ জনশক্তি ও প্রযুক্তি বিদ্যার উন্নতি ব্যতীত বর্তমান কালে কোন দেশ উন্নতি লাভ করতে পারে না। বস্তুগত পুঁজি গঠনের সংগে সংগে মানবীয় পুঁজি গঠনের হার বৃদ্ধি করা প্রয়োজন কেননা মানবীয় পুঁজি গঠন বস্তুগত পুঁজির গঠন হারকে বৃদ্ধি করে এবং প্রযুক্তিগত উন্নয়নকে ত্বরান্তিত করে। প্রযুক্তিগত উন্নয়ন আবার পুঁজি এবং অন্যান্য উপাদানের উৎপাদনশীলতাবৃদ্ধি করে থাকে। প্রচলিত পুরাতন উৎপাদন পদ্ধতির পরিবর্তন করে নূতন উৎপাদন পদ্ধতি চালূ করতে না পারলে অর্থনৈতিক উন্নয়ন লাভ করা সম্ভব নয়।

উৎপাদনের পরিবর্তিত কলা কৌশল প্রবর্তন করতে হলে শিক্ষা ও প্রশিক্ষকের প্রয়োজন। নতুন প্রযুক্তি বিদেশ থেকে আমদানী করা যায় কিন্তু এগুলোকে চলমান রাখতে হলে প্রচুর দক্ষতা, জ্ঞান ও বুদ্ধির প্রয়োজন। অর্থনৈতিক উন্নয়নের জন্য প্রাথমিক সম্পদের সদ্ব্যবহার করা প্রয়োজন। প্রাথমিক সম্পদের দক্ষতর ব্যবহার নির্ভর করে বৈজ্ঞানিক ও কারিগরি জ্ঞানের মাত্রার উপরে। বৈজ্ঞানিক ও কারিগরি দক্ষতা সম্পন্ন লোকের অভাব হলে প্রকৃতিকে বশ করা যায় না এবং উন্নয়ন এর সিঁড়িতে ও পা ফেলা যায় না।

Nicolson তাঁর The living capital of the United Kingdom" নামক প্রবন্ধে দেখিয়েছেন যে, শিক্ষাখাতে ব্যয় হলো সর্বাপেক্ষা বড় বিনিয়োগ যা মানুষের উৎপাদন দক্ষতাকে বৃদ্ধি করে। Forward E. Denision তাঁর Education Economic Growth and Gaps in Information নামক প্রবন্ধে দেখান যে ১৯০৯ হতে ১৯৫৭ সাল পর্যন্ত সময়ে শিক্ষা আমেরিকার অর্থনৈতিক উন্নয়নে ২১% ভাগ অবদান রেখেছে।

অর্থনীতি শাস্ত্রের জনক Adam Smith মানবীয় পুঁজির সম্পর্কে সচেতন ছিলেন। তিনি মানব সম্পদের উৎপাদিকা শক্তি বৃদ্ধির ক্ষেত্রে শিক্ষাকে অন্যতম কার্য্যকরী পন্থা হিসাবে বিবেচনা করেছেন। অর্থ শাস্ত্রের অন্যতম দিকপাল Alfred Marshall ও মনে করতেন যে জ্ঞান হলো উৎপাদনের সর্বাপেক্ষা শক্তিশালী ইঞ্জিন।

বাংলাদেশ শিক্ষা ব্যবস্থার বর্তমান অবস্থা

বাংলাদেশে এখন ও ব্রিটিশ আমলের শিক্ষা ব্যবস্থা চালূ আছে। শিক্ষিতের হার মাত্র শতকরা ২৬ শাতাংশ। শিক্ষা উন্নয়নের সর্বাপেক্ষা গুরুত্বপূর্ণ উপাদান হওয়া সত্বেও বাংলাদেশের শিক্ষা ব্যবস্থা নানা সংকট এ নিপতিত। এখানে রয়েছে শিক্ষা প্রতিষ্ঠানের স্বল্পতা, শিক্ষা সামগ্রী ও সুশিক্ষকের অভাব। এ ছাড়া পাঠ্যক্রমে রয়েছে জীবন জীবিকার প্রয়োজনীয় শিক্ষার অনুপস্থিতি। এ পাঠ্যক্রমে অত্যন্ত দুর্বল চরিত্র গঠনের উপযোগী ও নয়। এ দেশের শিক্ষা প্রতিষ্ঠান সমূহকে বৃটিশ আমল থেকেই অত্যন্ত দুর্বল আর্থ–সামাজিক অবকাঠামো হিসাবে গড়ে তোলা হয়েছে পুঁজিবাদী প্রক্রিয়ায়। এ শিক্ষার উদ্দেশ্য হলো একটা সুবিধাভোগী শ্রেণী প্রজনন করে শোষনের

জাল বিস্তার করা। বুর্জুয়া শ্রেণী নিজেদের সুবিধার্থে একটা বৈষম্য মূলক শিক্ষা ব্যবস্থা প্রবর্তন করেছে। সরকারী বেসরকারী কলেজ, বিদ্যালয়, ক্যাডেট কলেজ, আবাসিক কলেজ, বিদ্যালয় এবং কিন্ডার গার্ডেন্ট, ইত্যাদি অনেক নতুন নামধারী শিক্ষা প্রতিষ্ঠান গড়ে তুলছেন। আমাদের বর্তমান শিক্ষা ব্যবস্থা বাস্তবায়িত নয় বলে যথেষ্ট জাতীয় সম্পদের অপচয় হচ্ছে এবং ইহা ব্যক্তি জীবনকে করে তুলছে দুর্বিসহ। সৃষ্টি করছে ব্যপাক বেকারত্ব, সৃষ্টি হচ্ছে অর্থনৈতিক সামাজিক বৈষম্যের, বদলে দিচ্ছে সামাজিক কাঠামো, এবং নষ্ট হচ্ছে সামাজিক ভারসাম্য। পরিবর্তনশীল অবস্থার পরিপ্রেক্ষিতে চাহিদা মোতাবেক বাস্তক সম্মত শিক্ষার অনুপস্থিতির কারণ দেশের অবস্থা আজ সংকটাপন্ন।

শিক্ষাখাতে সরকারী ব্যয় অপ্রতুল

শিক্ষা মানুষের অন্যতম মৌলিক অধিকার। এ অধিকার থেকে কাউকে বঞ্চিত করা উচিৎ নয়। অন্ন, বস্ত্র, বাসস্থান, শিক্ষা ও চিকিৎসা এ সমস্ত মৌলিক চাহিদা পুরুন করা রাষ্ট্র বা সরকারের প্রাথমিক কাজ। লক্ষ লক্ষ শহীদের রক্তের বিনিময়ে স্বাধীন হলো দেশ কিন্তু কোন সরকারই দেশবাসীকে একটা সুস্থ সুন্দর বৈষম্যহীন বাস্তব শিক্ষা ব্যবস্থা উপহার দিতে পারেনি। অর্থাৎ স্বাধীন দেশের প্রয়োজন অনুযায়ী একটা শিক্ষা ব্যবস্থা গড়ে উঠতে পারেনি (এখনও পর্যন্ত) এটা আমাদের দুর্ভাগ্য।

স্বাধীনতাকে অর্থবহ করার জন্য সুন্দর ও সুস্থ শিক্ষা ব্যবস্থা অপরিহার্য। শিক্ষা ব্যবস্থা পরিবর্তনে সরকারের সদিচ্ছার যথেষ্ট অভাব পরিলক্ষিত হচ্ছে। অনেকে বড় বড় কথা ও বক্তৃতা দিয়েছেন বা দিচ্ছেন প্রকৃত পক্ষে শিক্ষার তেমন কোন উন্নতি হয়নি। পৃথিবীর সকল দেশেই শিক্ষা একটি গুরুত্বপূর্ণ বিনিয়োগের খাত। অথচ বাংলাদেশে শিক্ষা বিনিয়োগকে ব্যয়ের দৃষ্টিকোন থেকে দেখা হয় বলে বাজেটে এখাতে প্রয়োজন অনুযায়ী অর্থ বরাদ্দ করা হয় না। শিক্ষাখাতে রাজস্ব ব্যয় বরাদ্দ লক্ষণীয়।

টেবিল–১ঃ শিক্ষা খাতে রাজস্ব ব্যয় বরাদ্দের খতিয়ান

সাল	মোট রাজস্ব বাজেট (কোটি টাকায়)	শিক্ষাখাতেবরাদ্দ (কোটি টাকায়)	শতাংশ
১৯৭২–৭৩	২১৩.১১	৪৫.০৬	২১.১৪%
১৯৭৩–৭৪	৩৪৬.২০	৬৪.৮২	১৮.৭৩%
১৯৭৬–৭৭	৭৬৯.৩১	৯৮.২১	১২.৭৬%
১৯৮১–৮২	১৪৮১.৫৬	২০৬.৫৪	১৩.৯৪%
১৯৮৩–৮৪	২১৪৬.২৯	২৯৪.২৯	১৩.৭০%
১৯৮৮–৮৯	৬১৭০.০০	৯৪৮.৫০	১৪.৩৭%
১৯৮৯–৯০	৬৯০০.০০	৯৭০.০০	১৪.০৬%

উৎসঃ বাংলাদেশ অর্থনৈতিক জরিপ ও বাজেট হতে হিসাবকৃত।

উপরের টেবিল এ দেখা যায় যে ১৯৭২–৭৩ সালের রাজস্ব বাজেট মোট রাজস্ব ব্যয়ের পরিমাণ ছিল ২১৩.১১ কোটি টাকা যা ১৯৮৯–৯০ সালে প্রায় ২৯ গুণ বৃদ্ধি পেয়ে দাড়ায় ৬৯০০/–কোটি টাকায়। অথচ এত বৎসরে শিক্ষাখাতে ব্যয় বৃদ্ধি পেয়েছে ২১ গুণের মত। (১৯৭২–৭৩ সালের ৪৫.০৬ কোটি থেকে ১৯৮৯–৯০ সালে ৯৭০/– কোটি টাকায়)। অর্থাৎ দেশে রাজস্ব আয় বৃদ্ধির তুলনায় শিক্ষাখাতে ব্যয় বাড়েনি। শিক্ষা একটা অত্যন্ত সম্প্রসারণশীল

খাত। প্রতি বৎসর লক্ষ লক্ষ শিক্ষার্থী শিক্ষা ক্ষেত্রে প্রবেশ করে। জনসংখ্যা বাড়লে শিক্ষার্থী বাড়বে এটাই স্বাভাবিক। এ বর্দ্ধিত চাহিদা মিটানোর জন্য বর্দ্ধিত শিক্ষা প্রতিষ্ঠান ও শিক্ষা সামগ্রী এবং অতিরিক্ত শিক্ষকের প্রয়োজন। অথচ আমাদের বাজেটে শিক্ষা খাতের অংশ দিনে দিনে হ্রাস পাচ্ছে। ১৯৭২–৭৩ সালে মোট রাজস্ব বাজেটে শিক্ষার অংশ ছিল ২১.১৪/ শতাংশ যা ১৯৭৬–৭৭ সালে সর্বনিম্ন পর্যায়ে পৌছে এবং বর্তমান বৎসরে সামান্য বৃদ্ধি পেয়ে ১৪.০৬/. শতাংশে দাড়িয়েছে। (টেবিল ১ দ্রষ্টব্য)

শিক্ষাখাতে উন্নয়ন বাজেটের ব্যয় বরাদ্দ মোটেও সন্তোষজনক নয়। জনসংখ্যা বৃদ্ধির তুলনায় উন্নয়ন বাজেটে শিক্ষা খাতের বরাদ্দ নেহায়েতই কম। জনসংখ্যা বৃদ্ধির ফলে সৃষ্ট নতুন শিক্ষা সমস্যার সমাধানকল্পে বিপুল পরিমান অর্থ বরাদ্দ প্রয়োজন। অথচ উন্নয়ন বাজেটের মাত্র ৫/. ভাগের কিছু বেশী শিক্ষাখাতে বরাদ্দ করা হয়। (টেবিল ২ লক্ষণীয়)। অফিস, আদালত ও রাস্তা ঘাট নির্মাণের ক্ষেত্রে বিপুল অংকের টাকা ব্যয় হচ্ছে।

টেবিল–২ঃ উন্নয়ন বাজেটে শিক্ষাখাতের অংশ

সাল	উন্নয়ন বাজেট (কোটি টাকায়)	শিক্ষাখাতে ব্যয় (কোটি টাকায়)	শতাংশ
১৯৮৭–৮৮	৪৬৫০.৬১	২৫১.৪৫	৫.৪১/.
১৯৮৮–৮৯	৫৩১৫.০০	৩০২.০৯	৫.৬৮/.
১৯৮৯–৯০	৫৮০৩.৫২	৩৪৪.৭৯	৫.৯৪/.

উৎসঃ বাজেট

শিক্ষাখাতে বরাদ্দকৃত রাজস্ব ব্যয় ও উন্নয়ন ব্যয় একত্রে ধরলে দেখা যায় মোট ব্যয়ের মাত্র ১০/. ভাগ শিক্ষাখাতে ব্যয় হয়। ১৯৮৯–৯০ সালে শিক্ষা খাতে বরাদ্দকৃত বাজেট, রাজস্ব ৯৭০+উন্নয়ন ৩৪৪–১৩ কোটি যা মোট রাজস্ব ৬৯০০ + উন্নয়ন বাজেট ৫০০৩ = ১২৭০৩ কোটি টাকা এর ১০.৩৫/. শতাংশ মাত্র।

দেশের সামগ্রীক ব্যয়ের অনুপাতে আমাদের শিক্ষাখাতে ব্যয় খুব স্বল্প। নিচের টেবিল ৩ এ দেখা যায় যে, ১৯৮১ সালে থাইল্যান্ডে সামগ্রীক ব্যয় সর্বোচ্চ এবং জাপান ও অষ্ট্রেলিয়া এ হার যথা ক্রমে ১৯.৪/. ও ১৪.৮/. ভাগ। অথচ বাংলাদেশে এ হার ৮.৬/. ভাগ মাত্র।

টেবিল–৩ঃ মোট সরকারী ব্যয়ের অনুপাতে শিক্ষাখাতে মোট ব্যয়ের অনুপাত (শতকরা)

দেশ	১৯৭০	১৯৭৫	১৯৮০	১৯৮১	১৯৮২
বাংলাদেশ	–	১৩.৬	৮.২	৮.৬	–
বার্মা	১৭.৯/.	১৬.৩	–	–	–
ভারত	১০.৭/.	৮.৬	১০.৪	৯.৬	–
ইন্দোনেশিয়া	–	১৩.১	৮.৯	৯.৩	–
মালয়েশিয়া	১৭.৭/.	১৯.৩	১৬.৪	–	–
নেপাল	৬.৭/.	১১.৫	৮.৩	–	–
পাকিস্তান	৪.২/.	৫.২	৫.০	৫.১	–
শ্রীলংকা	১৩.৬/.	১০.১	৮.৮	৮.৭	–
থাইল্যান্ড	১৭.৩/.	২১.০	২০.৬	২০.৩	২০.৩/.
অষ্ট্রেলিয়া	১৩.৩/.	১৪.৮	১৫.০	১৪.৮	১৪.৫/.
জাপান	২০.৪/.	২২.৪	১৯.৬	১৯.৪	–
রাশিয়া	১২.৮/.	১২.৯	১১.৬	১০.৯	১০.৩/.

উৎসঃ Raja Roy Singh : Education in Asia and Pasific Retrospect Prospect, Bangkok, UNESCO 1986.

বাংলাদেশের পঞ্চ বার্ষিক পরিকল্পনাসমূহে দেখা যায় যে, শিক্ষাখাত বরাদ্দ দিনে দিনে কমে আসছে। টেবিল ৪ রক্ষণীয়।

টেবিল–৪ঃ পরিকল্পনা সমূহে শিক্ষাখাতে বরাদ্দ

পরিকল্পনার নাম	মোটবরাদ্দ (কোটি)	শিক্ষাখাতেবরাদ্দ (কোটি)	শতকরা হার
১ম পঞ্চ বার্ষিকী	৪৪৫৫	৩১৬	৭.১%
দ্বি–বার্ষিক	৩৮৬১	১৮০	৫%
২য় পঞ্চ বার্ষিকী	২৫৫৯৫	৯০৫	৩.৫৪%
৩য় পঞ্চ বার্ষিকী	৩৮৬০০	১৩৭০	৩.৫৫%

উৎসঃ পঞ্চ বার্ষিক পরিকল্পনা সমূহ।

টেবিলে দেখা যায় যে প্রথম পঞ্চ বার্ষিক পরিকল্পনার চেয়ে তৃতীয় পঞ্চ বার্ষিক পরিকল্পনায় বরাদ্দ (আয়তন) বেড়েছে প্রায় ৯ গুণ কিন্তু শিক্ষাখাতে বরাদ্দ উক্ত সময়ে দাড়িয়েছে ৪ গুণের কিছু বেশী।

টেবিলে আরও দেখা যায় যে ১ম পঞ্চ বার্ষিকী পরিকল্পনায় শিক্ষাখাতে বরাদ্দ ছিল ৭.১% ভাগ। অথচ এ হার দিনে দিনে হ্রাস পেয়ে ৩য় পঞ্চ বার্ষিকী পরিকল্পনার হার .০১% ভাগ বেশী।

শিক্ষা ক্ষেত্রে সরকারী ব্যয় কি পরিমান বৃদ্ধি করা হচ্ছে সেটাই শিক্ষা সম্প্রসারণ ও শিক্ষা ক্ষেত্রে উন্নয়নের সূচক। মোট অভ্যন্তরীন উৎপাদন বৃদ্ধির সংগে সংগতি রেখে শিক্ষাখাতে ব্যয় বাড়ানো উচিৎ। মোট অভ্যন্তরীন উৎপাদন (G D P) বৃদ্ধির সংগে সংগতি রেখে শিক্ষাখাতে ব্যয় বাড়ানো উচিৎ। মোট অভ্যন্তরীন উৎপাদন বৃদ্ধি বা মাথা পিছু উৎপাদন বৃদ্ধিই অর্থনৈতিক উন্নয়নের সূচক। ইউনেস্ক এর সুপারিশ মতে একটা দেশের জি,ডি,পি, এর শতকরা ৭% ৮% ভাগ শিক্ষাখাতে ব্যয় করা উচিৎ। আমাদের বাংলাদেশে এ ব্যয়ের একটা চিত্র টেবিল ৫ এ দেখানো হলো।

টেবিল – ৫ঃ জি,ডি,পি, (GDP) এর তুলনায় শিক্ষা ব্যয়

সাল	জি,ডি,পি, (কোটি টাকায়)	শিক্ষাখাতে বাজেট (রাজস্ব)	শতাংশ
১৯৮১–৮২	২৩৭৩৯	২০৬.৫৪	০.৯৬%
১৯৮৩–৮৪	৩১৩৬৮	২৯৪.২৯	০.৯৪%
১৯৮৫–৮৬	৩৮৫৩৬	৬০০.৪০	১.৫৬%
১৯৮৬–৮৭	৪৩৯২৬	৬৯৭.১৩	১.৫৯%
১৯৮৭–৮৮	৪৮০৪৭	৭৭৫.৬২	১.৬১%

উৎসঃ ইয়ার বুক ও পকেট বুক বি,বি,এস, রাজস্ব বাজেটের ভিত্তিতে হিসাব করা হয়েছে।

এখানে দেখা যায় যে ১৯৮৫–৮৬ সাল থেকে জি,ডি,পি এর ১.৫৬% শতাংশে শিক্ষাখাতে

ব্যয় হয়েছে ১৯৮৭–৮৮ সালে এ হার কিছুটা বৃদ্ধি পেয়ে ১.৬১٪ শতাংশ দাড়ায়। ১৯৮৫–৮৬ সাল থেকে শিক্ষাখাতে জি,ডি,পি, এর ভিত্তিতে শিক্ষাখাতে ব্যয় মোটামুটি স্থবির।

নিচের টেবিল ৬ লক্ষ্য করলে দেখা যায় যে, উন্নত দেশ সমূহে GDP এর ৬–৭٪ ভাগ শিক্ষাখাতে বরাদ্দ করা হয়। আমাদের পার্শ্ববর্তী ভারত ও শ্রীলংকায় এ হার ৩٪ এবং বাংলাদেশে এ আর সর্ব নিম্ন (১.৭٪) মাত্র।

টেবিল–৬ঃ মোট জাতীয় উৎপাদনের অনুপাতে শিক্ষাখাতে ব্যয় (শতকরা) (আন্তর্জাতিক তুলনা)

দেশ	১৯৭০	১৯৭৫	১৯৭৬	১৯৭৭	১৯৭৮	১৯৭৯	১৯৮০	১৯৮১	১৯৮২
বাংলাদেশ		১.১٪			১.৭٪	১.৫٪	১.৭٪	১.৭٪	
বার্মা	৩.১	১.৭	১.৬	১.৭					
ভারত	২.৮	২.৩	৩.০	৩.১	৩.২	৩.২	২.৯	৩.০	
ইন্দোনেশিয়া	২.৮	৩.০				১.৬	১.৯	২.২	
মালয়েশিয়া	৪.৪	৬.৩				৫.৭	৬.৩	৭.০	৭.৬
নেপাল	০.৬	১.৫	১.৫	১.৬	১.৬	১.৬	১.৮	১.৯	২.৫
পাকিস্তান	১.৭	২.২	২.১	২.১	২.১	২.০	১.৮	১.৯	
শ্রীলংকা	৪.০	২.৮	২.৭	২.৪	২.৫	৩.০	৩.১	৩.০	
থাইল্যান্ড	৩.৫	৩.৬	৩.৯	৩.৮	৩.৫	৩.২	৩.৩	৩.৭	৩.৯
অস্ট্রেলিয়া	৪.২	৬.২	৬.৩	৬.৫	৬.১	৫.৯	৫.৯	৫.৮	
জাপান	৩.৯	৫.৫	৫.৫	৫.৬	৫.৮	৫.৮	৫.৯	৬.০	
রাশিয়া	৬.৮	৭.৬	৭.৫	৭.৪	৭.৩	৭.৩	৭.২	৭.০	৬.৭

উৎসঃ Raja Roy Singh : Education in Asia and Pacific Retrospect Bangkok, UNESCO 1986.

শিক্ষা ক্ষেত্রে সরকারী ব্যয়ের একটি তুলনামূলক চিত্র

'শিক্ষা জাতির মেরুদন্ড' এ কথাটা আজ বাংলাদেশে প্রবাদ বাক্যে পরিণত হয়েছে। শিক্ষা ক্ষেত্রে ব্যয়কে এ দেশে এখনও ভোগ ব্যয়ের সমপর্যায়ে দেখা হচ্ছে যদিও প্রকৃত পক্ষে ইহা একটি উৎকৃষ্ট বিনিয়োগ। এ দেশের সরকার ও আমলাশ্রেণী 'শিক্ষা জাতির মেরুদন্ড' এবং শিক্ষাকতা সর্বাপেক্ষা সম্মানিত পেশা'। 'শিক্ষকদের সর্বোচ্চ মর্যাদার আসনে স্থান দিতে হবে ইত্যাদি বাক্যসমূহ প্রায় উচ্চারণ করে থাকেন। শিক্ষক সমিতিগুলো যখন কোন দাবী দাওয়া সরকারের কাছে পেশ করেন তখন বলা হয় সম্পদ সীমাবদ্ধ এবং দেশের অর্থনৈতিক উন্নতি হলে শিক্ষকদের ও শিক্ষা সমস্যা সমাধান করা হবে ধাপে ধাপে। এ সমস্ত প্রতারণামূলক কথাবার্তা আত্মঘাতি। উন্নয়নের স্বার্থেই সীমাবদ্ধ সম্পদের মধ্যে সর্বোচ্চ অগ্রাধিকার শিক্ষককে দিতে হবে। বাংলাদেশে শিক্ষা ব্যবস্থা রাজনৈতিক শোসণের হাতিয়ার এবং শিক্ষাকগণ হলেন রাজনীতির শিকার। দেশ স্বাধীন হবার পর থেকে এখন পর্যন্ত শিক্ষার মত একটি গুরুত্বপূর্ণ খাতকে অবহেলা করা হচ্ছে এবং প্রশাসনিক ও সামরিক খাতে ও অন্যান্য অনুৎপাদনশীল খাতে বিপুল অর্থ ব্যয় করা হচ্ছে।

টেবিল–৭ঃ প্রশাসন, সামরিক ও শিক্ষা খাতের বাজেট (রাজস্ব) বরাদ্দের তুলনা শতাংশে।

খাত	১৯৭২–৭৩	৭৩–৭৪	৭৬–৭৭	৮১–৮২	৮৭–৮৮	৮৮–৮৯	৮৯–৯০
প্রশাসন	৩৪.৩২%	৩২.০৭%	২৩.১১%	২২.৪০%	১৮.২২%		
প্রতিরক্ষা	৯.৪৬%	১২.১২%	১৯.৬৮%	১৮.৭৯%	১৮.৫৬%	১৬.৪৪%	১৪.৬২%
শিক্ষা	২১.০০%	১৮.৭৩%	১২.৭৬%	১৩.৯৪%	১৮.২৯%	১৫.৩৭%	১৪.০৬%

উৎসঃ বাংলাদেশ অর্থনৈতিক জরিপ ও বাজেট থেকে হিসাবকৃত

টেবিল ৭ এ দেখা যায় যে, ১৯৭২–৭৩ সালে শিক্ষাখাতে বাজেট বরাদ্দ ছিল সর্বাধিক। এর পর থেকে শিক্ষায় রাজস্ব বাজেট এর অংশ হ্রাস পেতে থাকে এবং ৮৭–৮৮ সালে আবার বৃদ্ধি প্রাপ্ত হয়। আবার ৮৮–৮৯ সালে পুনরায় হ্রাস প্রাপ্ত হয়, এবং বর্তমান বৎসরে ও এ হার মাত্র ১৪.০৬% ভাগ। ১৯৭৩–৭৪ সাল পর্যন্ত প্রতিরক্ষা খাতের চেয়ে শিক্ষাখাতে বরাদ্দের হার ছিল বেশী এবং তারপর থেকে সকল বৎসরই প্রতিরক্ষা খাতের বরাদ্দ বেশি। প্রশাসনিক খাতের ব্যয় বরাদ্দ ১৯৮১–৮২ সাল পর্যন্ত শিক্ষা খাতের চেয়ে বেশী। অথচ শিক্ষা খাতের ব্যয় বরাদ্দ হওয়া উচিৎ কয়েকগুণ বেশী। প্রতি বৎসর জুন মাসে বাজেট ঘোষণার সময় রাজস্ব ও উন্নয়ন বাজেটের বরাদ্দ একত্রিত করে শিক্ষা খাতের ব্যয় বেশী দেখাবার একটা কৌশল অবলম্বন করা হয়।

শিক্ষার বিভিন্ন স্তরে বৈষম্য

বাংলাদেশের সাধারণ শিক্ষা ব্যবস্থাকে ৪টি স্তরে ভাগ করা যায় যেমন প্রাথমিক, মাধ্যমিক, কলেজ ও বিশ্ববিদ্যালয় শিক্ষা। আমরা উপরে দেখিয়েছি যে শিক্ষাখাতে প্রয়োজনের তুলনায় খুবই কমই বরাদ্দ করা হয়। যে টুকু ব্যয় শিক্ষাখাতে বরাদ্দ করা হয় তা আবার শিক্ষার বিভিন্ন স্তরের মধ্যে যুক্তিসংগতভাবে বন্টন করা হয়। জাতীয়করনের একটা ভ্রান্ত ধারনার উপর ভিত্তি করে প্রাথমিক শিক্ষা ১৯৭৩ সালে সরকারীকরণ করা হয়েছে এবং এখন ও মাধ্যমিক ও কলেজ সরকারীকরণ করা হচ্ছে। এর ফলে সরকারী ও বেসরকারী প্রতিষ্ঠানের মধ্যে ব্যাপক বৈষম্য সৃষ্টি হচ্ছে। শিক্ষার বিভিন্ন স্তরে বাজেট বরাদ্দ লক্ষ্য করলে দেখা যায় যে রাজস্ব বাজেটের ৪০% প্রাথমিক শিক্ষায় ২২% মাধ্যমিক ও মাদ্রাসায়, কলেজ ১০% এবং বিশ্ববিদ্যালয় ১০% কিছু বেশী বরাদ্দ করা হয়। (টেবিল ৮ লক্ষণীয়)

টেবিল–৮ঃ শিক্ষার বিভিন্ন স্তরে বরাদ্দ (শতকরা)

শিক্ষার স্তর	৭৩–৭৪	৮১–৮২	৮৭–৮৮	৮৮–৮৯
প্রাথমিক	৬০.২৭%	৪৩.২৮%	৪০.৪৬%	৩৮.২১%
মাধ্যমিক (সরকারী)	৩.১০%	২.৯১%	৩.৫০%	৩.২৭%
মাধ্যমিক (বেসরকারী)	১০.৭৫%	১৪.৩৪%	২০.৬১%	১৯.৩৪%
মোট মাধ্যমিক	১৩.৮৫%	১৭.৫৫%	২৪.১১%	২২.৩১%
কলেজ (সরকারী)	৩.৫০%	৫.৬০%	৬.৫৫%	৬.২০%
কলেজ (বেসরকারী)	১.৭০%	৩.৩৩%	৪.৪৬%	৪.১২%
মোট কলেজ	৫.২০%	৮.৯৩%	১০.৯১%	১০.৩১%
মাদ্রাসা	–	–	৯.৭৯%	৯.০৫%
বিশ্ববিদ্যালয়	১০.৩১	১২.১৪%	৯.৭৯%	৯.৫৮%

উৎসঃ পকেট বুক ও ইয়ারবুক, বি,বি,এস হতে হিসাবকৃত।

বাংলাদেশ কলেজ শিক্ষক সমিতির সভাপতি জনাব সহিদুল্লাহ এক প্রতিবেদনে দেখিয়েছেন সরকারী কলেজ, কলেজ প্রতি শিক্ষক সংখ্যা ৫৪ জন এবং বেসরকারী কলেজ, কলেজ প্রতি শিক্ষক সংখ্যা ১৮ জন। এবং তিনি আরও দেখিয়েছেন যে ১৯৮৩–৮৪ সালে একটা সরকারী কলেজে রাজস্ব ব্যয় ১৪.৪৮ লক্ষ্য টাকা অপর পক্ষে একটি বেসরকারী কলেজ এ ব্যয় মাত্র ২.৪৬ লক্ষ্য টাকা। ১৯৮৫–৮৬ সালে এ ব্যয় সরকারী কলেজে দাড়ায় ২২ লক্ষ টাকায় এবং বেসরকারী কলেজে ৩.৯৪ লক্ষ টাকা। উক্ত বৎসরে একটা সরকারী মাধ্যমিক বিদ্যালয় এ রাজস্ব ব্যয় ছিল ৭.৩৫ লক্ষ্য টাকা আর একটি বেসরকারী মাধ্যমিক বিদ্যালয়ে এ ব্যয় ছিল ৯৬ হাজার টাকা মাত্র [৪]।

এখানে উল্লেখ্য যে কলেজ শিক্ষা ৭৫% অর্থাৎ ৭৫% ছাত্র/ছাত্রী বেসরকারী কলেজে লেখা পড়া করে এবং মাধ্যমিক শিক্ষার ৯৫% বেসরকারী বিদ্যালয়ে সম্পন্ন হয়। অথচ বাজেট বরাদ্দের সময় বেসরকারীর তুলনায় সরকারী প্রতিষ্ঠানে ৬/৭ গুণ বেশী করা হয়। ভ্রান্ত সরকারীকরণনীতি পরিহার করলে এবং যুক্তি সঙ্গতভাবে বন্টন বলে এ স্বল্প বাজেটে বরাদ্দ দিয়েও সমস্ত শিক্ষকদের চাকুরী জাতীয়করণ করা সম্ভব ছিল। শিক্ষা বাজেট দেখলে দুঃখ হয় এজন্য যে মাধ্যমিক ও কলেজ শিক্ষা অর্থনৈতিক উন্নয়নে সর্বাপেক্ষা গুরুত্বপূর্ণ ভূমিকা পালন করে থাকে অথচ এ ক্ষেত্রে বাজেটের ৩০% বরাদ্দ করা হয়। অধ্যাপক লুইস সহ আরো অনেক অর্থনীতিবিদ এই মত পোষণ করেন যে অনুন্নত দেশসমূহে অর্থনৈতিক উন্নয়নের প্রাথমিক অবস্থায় অন্যান্য শিক্ষার চেয়ে এমন কি প্রাথমিক শিক্ষার চেয়েও মাধ্যমিক শিক্ষা অনেক বেশী গুরুত্বপূর্ণ কারণ এ স্তরের শিক্ষিত নাগরিক কলে–কারখানায়, অফিসে–আদালতে ও সামরিক বাহিনীতে দক্ষ শ্রমিক ও কর্মচারী হিসাবে নিয়োজিত হয়।

বাংলাদেশের মত অনুন্নত দেশে বিশ্ববিদ্যালয় শিক্ষা বিলাসিতার সামিল। উচ্চ শিক্ষা সবার জন্য নয় এটা রাষ্ট্রীয় প্রয়োজনে চাহিদা মাফিক সীমিত করা প্রয়োজন। নিরক্ষরকে শিক্ষার আলো থেকে বঞ্চিত করে এবং গুরুত্বপূর্ণ মাধ্যমিক ও উচ্চ মাধ্যমিক শিক্ষা অবহেলা করে এ দেশে শিক্ষার দ্বার উন্মুক্ত করা হচ্ছে। উচ্চ শিক্ষা দেওয়ার পর যোগ্যতা অনুযায়ী কাজ না দিতে পারলে সম্পদের অপচয় হয় এবং সমাজে অসন্তোষ সৃষ্টি হয়। তাই অর্থনীতিবিদ এইচ, ডব্লিউ সিংগার গরীব দেশের জন্য এ ধরনের উচ্চ শিক্ষাকে অর্থনৈতিক উন্নয়নের অন্তরায় বলে উল্লেখকরেছেন।

টেবিল–৯ঃ শিক্ষার বিভিন্ন স্তরে সরকারী চলতি ব্যয় (শতকরা)

দেশ	বৎসর	প্রথম (%)	দ্বিতীয় (%)	তৃতীয় (%)	অন্যান্য (%)	অবন্টিত (%)
বাংলাদেশ	১৯৮১	৪৪.২	২৯.৪	২৩.৪	০.১	২.৯
ভূটান	১৯৭৮	২২.৫	৫৬.৬	৯.২	–	১০.৯
ভারত	১৯৮০	৩৬.৯	২৪.২	১৩.৫	৩.০	২২.৪
মালয়েশিয়া	১৯৮২	৩৩.৬	৩৪.১	১৪.১	০.১	১৮.১
পাকিস্তান	১৯৮১	৩৮.৯	৩২.৬	১৯.৭	–	৮.৮
থাইল্যান্ড	১৯৮১	৫৬.১	৩০.৬	১১.০	১.৮	১.৩
জাপান	১৯৮১	৩৭.৯	৩৪.৬	১১.০	২.০	৮.২

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টেবিল ৯ নং লক্ষণীয়। টেবিল প্রদর্শিত ৭টি দেশের অবস্থা বিশ্লেষন করেলে দেখা যায় যে তৃতীয় লেভেল (উচ্চ শিক্ষাখাতে) বাংলাদেশের ব্যয় সর্বোচ্চ অর্থাৎ ২৩.৪/ ভাগ অথচ আমাদের পাশ্ববর্তী দেশ সমূহে এ হার অনেক কম। ২য় লেভেল (মাধ্যমিক স্তরে) ব্যয় উচিৎ সর্বাপেক্ষা বেশী এবং ভারত ব্যতীত অন্য সব কয়টি দেশে এ খাতে ব্যয় বেশী। অথচ বাংলাদেশে এ ব্যয় হওয়া ভারত বাদে সর্ব নিম্ন।

সরকারী ও বেসরকারী কলেজ শিক্ষকদের মধ্যে আর্থিক বৈষম্যের স্বরূপ

শিক্ষা ক্ষেত্রে প্রয়োজনীয় ব্যয় বরাদ্দ না করার ফলে শিক্ষা ক্ষেত্রে চরম নৈরাজ্য বিরাজ করছে। শিক্ষা সম্প্রসারণের বদলে শিক্ষা সংকোচিত হচ্ছে এবং শিক্ষক সমাজ বিশেষ করে বেসরকারী শিক্ষকগন নিদারুন ভাবে ন্যায্য পাওনা বঞ্চিত হচ্ছেন। আমরা উপলব্ধি করছি যে বেসরকারী কথাটা হইল একটা প্রতারনামূলক কথা। এ দেশে শিক্ষক তথা শিক্ষা ব্যবস্থাকে পুঁজিবাদী কায়দায় দমিয়ে রাখা হচ্ছে। শিক্ষা ক্ষেত্রে বেসরকারী কথা শিক্ষার সমান অযৌক্তিক ও অবাস্তব। শিক্ষা সকলের জন্য একটা মৌলিক অধিকার, কাজেই সকল নাগরিকের জন্য শিক্ষার সমান সুযোগ সৃষ্টি করা রাষ্ট্রের অন্যতম প্রাথমিক দায়িত্ব। রাষ্ট্র বা সরকার এ দায়িত্ব থেকে কিছু অব্যাহতি পাবার জন্য শিক্ষার বৃহৎ অংশ বুর্জুয়া রাজনীতিবিদদের ও সমাজের বিত্তশালীদের হাতে ছেড়ে দিয়েছেন। বুর্জুয়া শ্রেণী নিজেদের বৃহৎ অংশ বুর্জুয়া রাজনীতিবিদদের ও সমাজের বিত্তশালীদের হাতে ছেড়ে দিয়েছেন। বুর্জুয়া শ্রেণী নিজেদের ব্যক্তিগত উদ্দেশ্য হাসিলের জন্য এদেশে ব্যক্তিগত প্রচেষ্টায় অসংখ্য অপরিকল্পিত শিক্ষা প্রতিষ্ঠান গড়ে তুলেছেন। ব্রিটিশ আমলে এবং পাকিস্তান আমলে এ সমস্ত শিক্ষা প্রতিষ্ঠান ছাত্র বেতন ও দান সাহায্যে মোটামুটি ভালই চলত। কিন্তু সত্তরের দশকের মুদ্রাস্ফিতি ব্যাপক ভাবে শুরু হওয়াতে দ্রব্যমূল্য বৃদ্ধি পায়, অপর পক্ষে শিক্ষকদের প্রকৃত আয় মারাত্মক ভাবে কমে যায়। এ অবস্থা এখনও পর্যন্ত অব্যাহত আছে। স্বাধীনতার পর এ পর্যন্ত বহুবার নূতন বেতন স্কেল প্রদান করা হয়েছে। কিন্তু বেসরকারী শিক্ষকগন বেতন স্কেলের বেসিক এর ৭০% পান সরকার থেকে এবং ৩০% প্রতিষ্ঠান বহন করে থাকে। বেতন স্কেলের আওতায় অন্যান্য যে ভাতা আছে তার একটা সামান্য অংশ সরকারী খাত থেকে দেয়া হয়। প্রতিষ্ঠান থেকে অনেক ক্ষেইে বাৎসরিক প্রবৃদ্ধি, ভবিষ্যৎ তহবিল, গ্রাচুইটি, পেনশন ইত্যাদি প্রদান করা হয় না।

বেসরকারী কলেজ শিক্ষকদের বেতন ১৯৭০ সাল হতে ১৯৮৯ সাল পর্যন্ত ৫ গুনের কিছু বেশী বৃদ্ধি পেয়েছে অথচ সরকারী কলেজের শিক্ষকদের বেতন বৃদ্ধি পেয়েছে ৯ গুন এর কাছাকাছি। স্বাধীনতার পর সরকারী ও বেসরকারী কলেজ শিক্ষকদের মধ্যে বৈষম্য দিন দিন বৃদ্ধি পেয়েইে চলছে। ছাত্র বেতন দ্রব্যে মূল্যের অনুপাত বাড়েনি বলে বেসরকারী শিক্ষা প্রতিষ্ঠানগুলোর আর্থিক সংকট আরও চরম অবস্থায় পৌছেছে। ১৯৭০–৭১ সালে পল্লী এলাকার একটি কলেজের একাদশ শ্রেণীর বেতন ছিল ১০ টাকা যা বৃদ্ধি পেয়ে দাড়ায় ৩০/৪০ টাকায় অর্থাৎ ছাত্র বেতন বৃদ্ধি পেয়েছে ৩/৪ গুণ অপর দিকে জীবন যাত্রার ব্যয় বেড়ে ১৫ গুন। বাজার মূল্যের সংগে সংগতি রেখে সর্বত্র একই হারে ছাত্র বেতন নিদ্ধারণ করলে আর্থিক সংকট কিছুটা নিবারন হতে পারে।

সরকারী ও বেসরকারী কলেজ শিক্ষকদের মধ্যে যে আমানবিক বৈষম্য বিরাজমান তার একটা চিত্র তুলে ধরা হলো টেবিল–১০ এ।

টেবিল–১০ঃ বেতনখাতে বৈষম্য চিত্র

সাল	স্কেল টাকা	সরকারী অনুদান	প্রতিষ্ঠান দেয়	বেসরকারী প্রভাষক মোট পায়	সরকারী প্রভাষক মোট পায়	বৈষম্য	বৈষম্য শতকরা
১৯৭০	–	৫০	৩০০	৩৫০	৩৭৫	২৫	৭.০১%
১৯৭৩	৪৭৫	১০০	৩০০	৪০০	৬০০(প্রায়)	২০০	৫০%
১৯৭৯	৭৫০	৩৭৫	৩৭৫	৭৫০	১১৫০(প্রায়)	৪০০	৫৪%
১৯৮৬	১৬৫০	১১৯০	৬৬০	১৮৫০	২৫০০(প্রায়)	৬৫০	৩৫%
১৯৮৯	১৬৫০	১৫২০	৪৯৫	২০১৫	২৮২৫(প্রায়)	৮১০	৪০%

স্বাধীনতার পূর্বে একজন বেসরকারী কলেজ শিক্ষক ও সরকারী শিক্ষকের বেতনে তেমন একটা বৈষম্য ছিলনা। ১৮৭৩ সালে সরকারী বেসরকারী শিক্ষকদের মধ্যে বৈষম্যের পরিমাণ দাড়ায় ৫০% শতাংশ অর্থাৎ তখন একজন বেসরকারী কলেজ শিক্ষক বেতন পেতেন ৪০০ টাকা এবং সরকারী কলেজ শিক্ষক বেতন পেতেন ৬০০ টাকা। (টেবিল–১০ লক্ষনীয়) ১৯৭৯ সালে বৈষম্য দাড়ায় ৫৩% শতাংশ। ১৯৮৯ সালে বৈষম্য সামন্য হ্রাস পেয়েছে এবং দাড়িয়েছে ৪৪% শতাংশে। বেসরকারী শিক্ষকদের বেতন ভাতাদি বৃদ্ধি সত্বেও সার্বিক অবস্থার তেমন কোন উন্নতি হয়নি। বর্তমানে একজন সরকারী কলেজ শিক্ষকের তুলনায় একজন বেসরকারী কলেজ শিক্ষক প্রতি মাসে ৮০৭ টাকা কম বেতন পান চাকুরীর শুরুতেই। এর অর্থ হলো একজন সরকারী কলেজের প্রভাষক ১ম বৎসরে মোট প্রায় ৩৪,০০০ টাকা এবং বেসরকারী কলেজের একজন প্রভাষক পায় ২৪,০০০ টাকা পান। বেসরকারী কলেজ সাধারণতঃ বার্ষিক প্রবৃদ্ধি থাকে না। কাজেই ৫ বৎসর পর একজন বেসরকারী কলেজের প্রভাষক কম করে হলেও সরকারী কলেজে প্রভাষকের তুলনায় ৬০,০০০ টাকা কম পাবেন। সরকারী কলেজে পেনশন, গ্রাচুইটি, প্রমোশন ইত্যাদি বিদ্যমান কিন্তু বেসরকারী কলেজে নেই। এ গুলো হিসাবে ধরলে দুইজন প্রভাষকের মধ্যে বৈষম্য দাড়াবে আকাশচুম্বী। চাকুরী জীবন শেষে সরকারী কলেজের একজন শিক্ষক বেসরকারী কলেজ শিক্ষকের তুলনায় ১০/১২ লক্ষ্য টাকা বেশী পাবেন। একই যোগ্যতা একই কাজ অথচ পারিশ্রমিক আলাদা। এ শোষণ, জুলুম ও অত্যচার এর হাত থেকে শিক্ষকদের তথা শিক্ষাকে রক্ষা করা প্রতিটি দেশবাসীর কর্তব্য। শিক্ষকদের ন্যায্য পাওনা থেকে বঞ্চিত করে কোন জাতির প্রকৃত উন্নতি হতে পারে বলে আমরা বিশ্বাস করিনা।

ইউনেস্কো এর সুপারিশ মতে মোট জাতীয় উৎপাদনের ৮% ভাগ শিক্ষাখাতে বিনিয়োগ করা উচিৎ। বর্তমানে বাংলাদেশে এ হার ২% এর নীচে। এ হার আর মাত্র ১% বাড়ালেই সমস্ত শিক্ষা জাতীয়করণ করা সম্ভব। কলেজ শিক্ষা জাতীয়করণ করা একটা ব্যাপারই নয়। ১৯৮৫ সালের মধ্যে সমস্ত কলেজ শিক্ষা জাতীয়করণ করার সরকারী সিদ্ধান্ত ছিল সেটাও এখন পর্যন্ত কার্য্যকরী করার কোন লক্ষণ নেই। কলেজ শিক্ষা অর্থনৈতিক উন্নয়নে সর্বাপেক্ষা গুরুত্বপূর্ণ ভূমিকা পালন করে থাকে। কারণ এ শিক্ষা অর্থনীতিকে দক্ষ শ্রমিক, কর্মচারী ও কর্মকর্তা সরবরাহ করে এবং এ শিক্ষা থেকে অতি তাড়াতাড়ি রিটার্ন পাওয়া যায়। শিক্ষাখাতে বিনিয়োগ (ব্যয় বরাদ্দ) বাড়িয়ে শিক্ষা জাতীয়করণের পদক্ষেপ যত তাড়াতাড়ি নেওয়া যায় ততই মঙ্গল। এ জন্য প্রয়োজন সরকারের রাজনৈতিক সদিচ্ছার এবং জনগনের সক্রিয় সহযোগিতার।

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POPULATION POLICY AND ECONOMIC DEVELOPMENT IN BANGLADESH

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INTRODUCTION

Population, means in other words manpower is an important resource of a country for economic development in any economic system. To a significant extent the success of a country's development effort depends on appropriate mobilization and utilization of its human resources. For achieving the goal of social and economic development. Therefore, human resource development through proper planning occupies a key position in the overall economic development of a country.

Demographers and economists have much interest in the relations of population growth to economic development. They are interested to study the size, distribution, composition and causes of pupulation changes, that is natality, mortality, in and out migration and social mobility etc. Economists are of the view that the population growth may have both positive and negative effects on the process of economic development. Human Resource Development is the pre-requisite for a country's economic progress and unplanned population growth may deter economic prosperity. Both over population and under-population stand as obstacles to economic development. But a reasonable size of population with appropriate skill-mix is essential for smooth economic growth.

In this paper, I shall endeavour to portray the relationship between economic development and population growth in the context of Bangladesh. I shall analyse the present structure of population in Bangladesh along with its immediate impact on the development process i.e. how they hamper or help in our development activities. I shall also suggest some policy measures to improve our human resources so that they can contribute effectively to the development process.

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MEANING OF A POPULATION POLICY

In the 1960's population was accorded a place of paramount importance in the writings of social scientists and in the deliberations of governments. Policy in general is defined as the measures for achieving a set of objectives. What constitutes a population policy has been variously conceived by different writers on the subject and no generally accepted definition has as yet emerged. Part of the difficulty stems from the problem of defining the field of demography itself. Some scholars have adopted a narrow definition which includes only the study of the size, distribution and composition of population and the causes of change, while to others, demography is also concerned with the dynamic relationship between population changes and other socio-economic variables. Population policy may be viewed either in the narrow sense as being concerned only with efforts to affect the size, structure, distribution or characteristics of the population or in prospective of the inter-relationships between population and economic and social change i.e it may be conceived of in the much broader sense of including efforts to regulate economic and social conditions which are likely to have demographic consequences [1].

Many writers have adopted a definition of population policy which is narrow enough so that its focus and orientation are within the broad concept of general and social policy. In the opinion of Spengler and Duncan, for example, a pupulation policy is a specific set of government objectives relative to the population magnitude and/or composition along with the instrument by which it may be possible to achieve those objectives. Eldrige defined population policy as "Legislative measures, administrative programmes and other governmental action intended to alter or modify existing population trends in the interest of national survival and welfare" [1]. She recognised that many aspects of population policy influence demographic phenomena and considered that population policy embraces those aspects of general social policy that are designed to counter unwanted demographic effects of overall public policy. It is thus understood, in the restricted sense, as positive, deliberate action by government taken expressly to facilitate achievement of development goals keeping in view of population size, growth and composition in the interest of national wellbeing.

More broadly, some writers have considered economic and social measures which influence population trends to be an aspect of population policy. Assadi states that population policy is conceived now-a-days in a

broader sense, it includes not only the conscious measures for directly influencing the population process but also all the social and economic measures which exercise and influence even in an indirect way the characteristics and process of change of the population. A population policy can not be abstracted from an economic and social policy, as it has to consider the factors which affect the population changes and also the consequences arising from the population changes. Houser has also acknowledged that population policy, may under certain conditions, appropriately comprise of social and economic development policy. Since population policy is considered to be a closely related aspect of general socio-economic policy, specifications of population policy have frequently been integrated into general programmes of economic and social development policy. Among the factors which have been frequently mentioned as falling within the scope of population policy are population size, rate of growth, levels of fertility and mortality, proportion of married, the regulation of international and internal imigration, sex and age structure, the utilization of human resources and the endemic quality of the population [1].

The population commission of the United Nations at its sixteenth session (1971) favoured a concept of population policy "which includes not only objectives and measures aimed at fertility regulation and the supporting family planning programmes, but also objectives and measures designed to extend longivity i.e. to reduce high birth and mortality in general and infant and childhood mortality in particular". As conceived by the commission, population policy should be concerned not only with desirable rate of population growth but also with the structure of the population and its distribution, particularly in urban and rural areas [1].

According to Eldridge, the major purpose of population policy is to control population size but consideration may also be given to influencing its composition and its geographic distribution. The writers in the USSR generally consider that population policy may be concerned only with influencing the components of population growth. Some have particularly emphasized the role of policy in shaping the geographic distribution of the population and its productive employment [1]. Many developing countries, like Bangladesh is identifying rapid population growth as the main hindrance towards development because the higher growth rate of population than that of the overall economic growth rate without prior determination of manpower requirements by skill and categories the

greater is the intensity of problems related to development. The human resources development in Bangladesh on the whole is falling far short of ideal with respect to manpower needed for optimum development effort. As a result, while its economy suffers from shortage of skills the the employment market is burdened with too many generalist looking for employment. For correcting such imbalances, it is necessary to identify, at least approximately, the major areas where the match between the manpower and the economy is conspicuously poor or is likely to be so in the future both in terms of quantity and quality. What is thus identified can then serve as a basis for planning the human resources development in the national perspective [2].

MEANING OF DEVELOPMENT

Achievement of economic development is the ultimate aim of all types of efforts in the economic policy sphere. Different economists have defined economic development in different ways. Economic development refers to the process whereby the people of a country or region come to utilize the resources available to bring about sustained increase in per capita production of goods and services. However, economic development has been defined in three ways:-

(i) One of the definition is to measure economic development in terms of an increase in the economy's real national income over a long period of time. But this is not a satisfactory definition.

"Real national income" refers to countries' total output of final goods and services in real terms rather than in money terms. But this definition fails to take into consideration the effects of changes is composition as well as the growth of population.

(ii) The second definition relates to an increase in the per capita real income of the economy over the long period. Professor Meir defines economic development as the process whereby the real per capita income of a country increases over a long period of time. Prof. Baron says, "let economic growth (or development) be defined as an increase over time in per capita output of material goods" [3].

According to Buchanan and Eills, "development means developing the income potentialities of the underdeveloped areas by using investment to effect their changes and to augment those productive resources which promise to raise real per capita income" [4].

(iii) The third definition of economic development was given from the point of view of economic welfare. Economic development is regarded as a process whereby the real per capita income increase is accompanied by reduction in inequalities of income and increase in the satisfaction of the preferences of the masses as a whole. In the words of Okun and Richardson, economic development is a sustained secular improvement in material well-being which we may consider to be reflected in an increasing flow of goods and services [5]. Of course, this definition is not free from limitation. First, sustained growth in real national income does not necessarily mean an improvement in economic welfare. Second, in measuring economic welfare caution has to be exercised with regard to the composition of the total output that is giving rise to an increase in per-capita income and how this output is being valued. Third, from the welfare point of view we must also consider not only what is produced but how it is produced.

Therefore, in order to avoid value judgements and for the sake of simplicity, economists use the per capita real income as the measure of economic development. Whatever may be the difinition of economic development, it depends on certain factors and population is one of the important factors influencing economic development and how it will help economic development depends on the behavioural attitudes, moral values and ideals of men that constitute the community and the nation.

POPULATION PRESSURE AS A STIMULUS TO GROWTH

According to Nansen thesis, it is argued that population growth is less likely to encourage autonomous investment in underdeveloped countries than in advanced one's where labour is already reduandant; growth of the labour force is not needed to permit the optimal combination of labour and capital to be maintained while capital accumulation takes places. Also there is assurance that increase in number will be accompanied by increased effective demand for housing, transport facilities and public utilities [6]. Albert Hirschman, however, suggests that even in underdeveloped countries popu.ation pressure may, if it is not so severe as to be demoralizing, provide the stimulas needed to improve production techniques, once having discovered the ability to raise living standards by their own efforts. People will continue to make such efforts and sustained economic growth will result [7]. The argument is a little like the more sweeping generalization of the historian Arnold Toynbee i.e Civilizations progress is a consequence of "response" to some "challenge". Societies, where customary ways of life can be maintained without efforts and nothing

happens to disrupt the traditional economic and social organization, are unlikely to progress; societies, confronted with a situation so serious that a universal feelings of hopelessness set in, will not progress either. But where there is both a challenge and a recognized means of dealing with it, economic and social advance will ensue [7].

Hirschman however adds, population growth can provide the stimulus for sustained growth only if there is some slack to be taken up in the economy. Also, a strong reaction is more likely if the population increase comes as a sudden shock; sweeping population preasure is less likely to result in successful efforts to overcome it even when a dramatic decline in mortality rates result in population explosion. Thus Hirschman argument lends support to Higgin's suggestion that where drops in mortality rates have been particularly rapid, untill fertility rates are reduced, corresponding, development effort may fall short.

Hirschman also belives that action is more likely to be stimulated if population growth is combined with increased urbanization or if the consequent growth of domestic market and labour force carries the country across minimum production thresholds in a number of important ways. He does not believe that "underdeveloped countries should institute a generous system of family allowances." Population preasures are a clumsy and cruel stimulent to development and underdeveloped countries are today abundantly supplied with this stimulant. But if a country is able to offset, even if it is partially at first, the effect of the population increase, then they may build confidence through the learning process and they will be able to do progressively better in marshalling its productive forces for development so that eventually output growth will overtake population growth [7].

PRESENT ECONOMIC CONDITION AND TRENDS OF POPULATION GROWTH IN BANGLADESH

Although Bangladesh is abandantly rich in human resources, this huge reserve is virtually untapped; large majority of the people work under handicaps of severe poverty, malnutrition, ill health, illiteracy, regressive attitudes and values and their contribution to the economic development is obviously poor. Education was not geared to the needs of the economy as the supply of manpower for development showed market defficiency in quality and imbalances in categories. While there is an accute shortage of technically qualified personnel in the country; there are no jobs in the labour market for nearly three quaters of a million high school and college

graduates. Over one-third of the country's twenty nine million active labour force is unemployed of which 88% live in rural areas [8].

The fast growth of population during the past two decades has frustrated the development efforts in Bangladesh. In 1951, the population of Bangladesh was 4.21 crores which has doubled itself in 27 years. Under the present annual growth rate of 2.7%, the population will be about 16.00 crore by the end of this century [8]. This unprecedented growth has many serious consequences. First, the present density of 1972 persons per square mile will be doubled and further lower down the present land-man ratio of 0.3 acres per person [9] which is one of the lowest in the world. Secondly, the existing unfavourable age structure of population will be further aggravated with larger proportion of population under age 15. This will create problems for future growth potentials with high proportion of dependent population. Thirdly, with such a rate of population growth, much of the gains that obtained through huge investment for doubling food production for self-sufficinecy during the fourth plan period will be ferestrated. Fourthly, at present, there are 2.44 crore of children of school going age. Under the constant rate of fertility, the member of school going age children will grow nearly twice the present size by the turn of the century. The existing educational facilities need to be doubled to mantain even current level of literacy. Fifthly, given the prospect of economic growth, the current level of unemployment and underemployment (30%) will further worsen when the children already born enter the labour force in the years to come and the social overhead cost of maintaing the increasing number of dependent population will leave little for investment lastly, with such a growth rate of population, there will be increasing number of rural migrants to the urban areas aggravating further the existing housing, transportation, employment, education and other related problems of urban areas and basic needs will remain unmet.

As of today crude birth rate is 43.25, whereas crude death rate is 16.75 showing annual growth rate of around 2.7 per cent. Present infant mortality rate is 150 per thousand live births, while child mortality (1-4 years) rate is 229 per thousand children. 39% of all deaths are due to infant mortality. Maternal mortality is estimated at 30% per thousand live births and accounts for 27% of all deaths of females aged 15-45 years. Life expectancy is presently estimated to be 47 years on average [8].

In these circumstances government. adopted a comprehensive population policy in June 1976, reflecting high prioprity to population

control programmes as an integral part of the development process. It was directed towards influencing the demographic behaviour through information, education and motivation (IEM) activities and family planning services [10]. Some other important determinants of fertility such as opportunitity for education, improved health, reduction of infant and maternal mortality through PHC and MCH famale employment ect. have also been recognized as important component of the policy, even if it is nominal terms only.

Growth Trend of World Population

During the past centuries, the world population has increased abnormally. The first census of world population was undertaken in 1165 A.D. Then the world population was only 30 crores. This number rose to 100 crores by 1830. This means that, it took 700 years to double the world population. But after that the population of the world rose from 100 crores to 200 crores in only 100 years i.e. from 1830 to 1930 A.D. In recent times, population is increasing for more rapidly. From 1930 to 1960, that is only in 30 years, population has gone up by another 100 crores. According to report of U.N.O the total population stood at 342 crores in 1966. By 1969, this number went up to 355 crores. By the next 2000 A.D total population of the world is expected to reach 700 crores. About 72% of this population live in the developing countries of Asia, Africa and Latin America.

The density of population in Bangladesh is very high as compared to other countries as shown in Table -1 below:

Dancity of Population in Bangladesh

Table-1: Density of Population.

Country	Area sq.m.	Population (millin)	Density per sq.m.
Nepal	54368	10.2	202
Burma	26200	20.8	104
India	1267000	580.6	432
Japan	142812	100.0	720
Indonesia	576000	120.7	205
Bangladesh	55598	80.7	1754

Source: Janasankha Shikkha Karjakram, Shikkha Mantranalay (1977 October).

The second Bangladesh census of population was conducted on 6th, 7th and 8th March 1981. According to that census population in Bangladesh is estimated at 80,940.000. Some of the significant findings of the census are given below:-

Table- 2 : Population of Bangladesh.

	1981	1974
1. Total Poulation (000)	87052	71479
2. Male	44850	37072
3. Female (000)	42202	34407
4. Sex ratio (males against 100 females)	106	108
5. Number of households (000)	15135	12679
6. Average size of households	5.75	5.64
7. Density per. sq. mile including river area	1566	1286
8. Density per sq. mile excluding river area	1675	1375
9. Per capita availability of land (in acres)	0.38	0.47
10. Annual growth rate (on the basis of adjusted population)	2.36*	2.70

Source: The preliminary report on Bangladesh Population Census 1981

On the basis of the adjusted population of 1961,1974 and 1981 the compound growth rates calculated are 2.70, 2.36, 2.59, 2.17 for the peciods 1961-74, 1974-81, 1961-81 and 1981-87 respectively:-

Population in Bangladesh

Population distribution in Bangladesh may be presented in different ways. Percentage distribution of population of Bangladesh by age and sex, according to 1974 census, is given in Table-3

Table-3 : Percentage distribution of population by age and sex (Percentage)

	Male	Female	Total
0-4	16.23	17.61	16.88
5-9	17.80	18.95	18.35
10-14	13.45	12.19	12.85
15-19	8.51	8.03	8.27
20-24	6.52	7.25	6.87
25-29	6.35	7.30	5.68
30-34	5.49	5.89	5.68
35-39	5.49	5.17	5.33
40-44	4.71	4.40	4.55
45-49	3.72	3.19	3.46
50-54	3.46	3.21	3.34
55-59	2.09	1.67	1.89
60 + above	6.18	5.13	5.68
	100	100	100

Scource: Statistical Yearbook of Bangladesh; 1980, Statistics Division, Ministry of Planning, People's Republic of Bangladesh.

Table-4 : Trend of Population growth (in 000)

Year	Population
1901	28928
1911	29686
1921	33255
1931	35602
1941	41997
1951	41932
1961	50840
1974	71479
1981	87052

Source:- The primary report on Bangladesh Population Census-1981.

Distribution of Population Between Towns and Villages in Bangladesh.

Generally, in economically advanced and industrially developed countries, high percentage of population live in towns. About 50% to 80% of the people live in towns and cities in developed countries like the U.S.A, U.K., Germany and France. On the other hand, in underdeveloped and agricultural countries like India, Burma , Bangladesh etc. majority of the people live in rural areas. The following Table shows the distribution of population between towns and rural areas in Bangladesh:-

Table-5 : Urban and rural population of Bangladesh as in March, 1974

	Urban			Rural		
Bangladesh	Male	Female	Total	Male	Female	Total
Year-1974	3931692	3045520	6977122	35505203	33915705	69420908

Source:- Statistical Yearbook of Bangladesh , 1980.

The population in Bangladesh has been growing at the rate of 2.7 even though it is a country with one of the highest density and dependency rates in the Asian region. While this includes the potential in terms of human resource, it also poses a challenge both for the country's economy and education in fruitfully exploiting in the human resource potential. It is clear from the tables presented above that (a) the high density and high growth rate taken together imply a rapidly growing preassure on the agricultural and rural sectors and a proportionately greater burden on both economy and education of the country. If through the population control the rate of growth can be reduced, it will have the beneficial effect of reducing the dependency rate, but it will have no effect on the active labour-force during the next 15 years; (b) a comparison of the structure of

population in 1960 and 1974 in the Tables given above shows (1) a rapid increase in the population of 15 years and in the labour-force from 27.4 million in 1961 to 39.8 in 1974 i.e. by 44% and (ii) an increase in the population between 5 and 14 (1st level school age population) from 14.18 million in 1961 to 20.66 in 1974 i.e. by 66% thus indicating the increase in the quantitative magnitude of the task of employment generation and education. It has already been pointed out that the total number of unemployed has been estimated at 31.3 lakhs at the beginning of the second five year plan in Bangladesh and the rate of unemployment has increased 33% or more [8].

It is not, therefore, surprising that even though total number of literates actually rose from 32.6 million in 1961 to 46.3 million in 1974, the incidence of illiteracy among the various age groups is high.

Table-6 : Labour Force illiteracy in 1974

Age group	member (in million)	of illiterates Labour force (%)	Total number of illiterate (in million)
15-19	5.86	72	4.22
20-24	5.72	74	4.20
25 +	27.70	80	22.16

Source: Census Report, 1974 and projection by FREPD, Bangladesh.

It is to be noted that due to high density and high birth of population in Bangladesh the size of farms holding has been reduced. The percentage distribution of farms and farm holding is given in the Table below .

Table-7 : Farm Size in 1980, 68 and 74

	Farm (%)			Area (%)		
Size(in acres)	1960	1968	1974	1960	1968	1974
Less than 0.5	13	12	3.2	1	1	2
0.5-1.0	11	13	9	2	3	3
1.0-2.5	27	32	25	13	17	19
2.5-5.0	26	26	22	26	30	34
5.0-7.5	12	9	7	19	18	19
7.5-12.5	7	5	3	19	15	13
12.5 & above	4	3	1	20	16	11

Source:- Pol. Eco. Vo1. No.2 No.1 - 1976

The Table above clearly shows the skewed nature of farm land distribution in Bangladesh.

NATURE OF UNEMPLOYMENT IN BANGLADESH

Unemployment is one of the most important economic problems in Bangladesh. A large portion of labour force of the country is faced with unemployment, under-employment and disguied unemployment. The benchmark unemployment figure is 3.13 million and the unemployment rate defined as the number unemployed divided by the total labour-force works out to be 31% [8]. It is, however, difficult to quantify precisely the maginitude of underemployment in all sectors. The extremes of unemployment in 1975/76 was estimated by UNDP at 70 lakh man years which constituted 36% of agricultural labour-force in those years. The number of unemployed persons in the agricultural sector is likely to increase by 2 lakhs every year which amounts to an annual increase of 3%. By 1985 we are likely to have 90 lakhs unemployed in the agricultural sector, 33% of all families in the rurals area are now landless. About 90% of agricultural population is now below the poverty line and 80% is said to be undernourished [12].

Though agriculture constitutes the major segment of the rural economy, yet it appears that the volume of gainful economic activity on the farm is not uniform throughout the year. The variations have a rhythmic movement of rise and fall. There are peaks and tough of employment, March to May is the season of minimum unemployment, while in October employment is reduced to the lowest; compared to this, non-farm activity has the least variations from week to week when the labour use was examined by allowing one day as break and 8 hour daily work load as is true of factory work; it appeared that from March to early June there is significant volume of over employment. Even if this overtime work in busy season are allowed to be compensated at other times, there is still a net period of unemployment in the village during the slack seasons [12].

THE PROBLEM OF EDUCATED UNEMPLOYMENT

Educated unemployment is another vital problem in the economy of Bangladesh. According to a study about 44% of the educated job-seekers were unemployed at the biginning of the first five year plan. Of the total number of 10.88 lakhs educated job seekers 4.21 lakhs were absorbed in occupation appropriate to their educational background; 1.89 lakhs were inappropriately placed and 4.78 lakhs were clearly unemployed [2]. This study entitled – "employment market for the educated in Bangladesh" give the following detailed picture of surplus and deficit of various categories of educated manpower .

Table - 8: Surplus labour of educated manpower (As on 30th June 1973)

Type	Number of Job seeking degree holders	Number of posts demanding their qualifications	The balance unemployment/inappropriate placement.
1. Generalist	9,60,330	3,04,604	6,55,722
2. Master degree holders in humanities.	6,441	3,919	2,522
3. Master degree holders in social sciences	7,703	3,145	4,558
4. Master degree holders in economics & sciences	6,360	4,459	1,901
5. Miscellaneous other professionals	6,275	3,801	2,474
Total	9,8709	3,19,932	6,67,177

Source : Political Economy Vol. 3 No. 1-1977

From the above it is clear that vast manpower of the country is now unemployed. Due to excessive growth of population and lack of job opportunity it is increasing day by day. Not only the uneducated but the educated unemployment, is now a vital problem in the economy of Bangladesh. Though excessive population growth is responsible for this and if this continues then, in future our economy will be adversely affected.

WHETHER POLULATION OF BANGLADESH IS AN ASSET OR A LIABILITY

The consequences of population growth on economic development have attracted the attention of economists ever since Adamsmith wrote his "Wealth of Nations". Adamsmith wrote "The annual labour of every nation is the fund which originally supply it with all the necessaries and conveniences of life". It was only Malthus and Ricardo who created an alarm about the effects of population growth on the economy. But their fears have proved unfounded because the growth of population in Western Europe along with technological advance and capital accumulation has led to its rapid industrialization. Population growth has helped the growth of such economies because they harnesed natural resources, had abandant capital and labour. In such countries the supply curve of labour is elastic with respect to the industrial sector, so that even a high growth rate of population has led to a rapid increase in productivity. In fact, every increase

in population has led to a more than proportionate increase in gross national product.

But the effect of population growth on the development of developing countries like Bangladesh are not the same because the conditions prevailing in these countries are quite different from those in developed economies. These economics are poor, capital is scarce and labour abandant. Population growth has been directly or indirectly supported at the cost of economic development. The present rapid population growth in Bangladesh increases the pressure of population on land and has led to mass unemployment. The problem of feeding teeming millions has become serious. Even the need to provide social goods to the masses tends to divert public expenditures from directly productive sectors in the short run. There is great need of educational and health facilities which are not adequately met. It also tends to accentuate the balance of payment problems. Food, consumer goods, raw materials, capital equipment etc. are required to be imported to meet the ever increasing demand of the growing population. Further, the failure to meet the growing demand leads to inflationary pressure in our economy. Last but not the least, rapid population growth depresses per capita income, lower the standard of living and bring down the rate of capital formation.

POPULATION AND PER-CAPITA INCOME

The impact of the present rate of population growth on per capita income in Bangladesh is unfavourable. This growth of population is tending to retard the per capita income in three ways:-

(I) It is increasing the pressure of population on land,

(II) It leads to a rise in costs of consumption goods because of the scarcity of the complementary factors to increase their supplies, and

(III) It is causing a decline in the accumulation of capital because with increase in family members, consumption expenses increase. Even the percentage of dependent children in the total population in Bangladesh is very high. Due to heavy pressure of population in our economy the per capita income is only US$170 [8]. which is amongst the lowest in comparison with the per capita income of other countries.

POPULATION AND AGRICULTURAL DEVELOPMENT

In Bangladesh about 90% people live in the rural areas [8], 80% people directly or indirectly depends on agriculture. So with population growth the land-man ratio becomes adverse. According to land occupancy survey

1977, 33% has no arable land, 55% has less than half a acre of land per head and 33% are unemployed; in agriculture [8;] land is man ratios 0.3 [8]. Disguised unemployment is also prevetent. As a result it is reducing the per capita productivity, propensity to save, and investment. The use of improved techniques and other improvements on land becomes impossible. Capital formation in agriculture is adversely affected and the economy is bogged down at the subsistence level. The problem of feeding the additional population becomes serious due to acute shortage of food products. These have to be imported which accentuate the balance of payments difficulties. Thus the growth of population retards agricultural development in Bangladesh.

POPULATION AND EMPLOYMENT

A rapidly increasing population plugs the economy into mass unemployment and underemployment. As population increases the proportion of workers to total population rises. But in the absence of complementary resources, it is not possible to expand jobs. The result is that with the increase in labour-force, unemployment and under-employment increase. It will be clear from the table 8 above that not only the uneducated but also many educated are unemployed in our economy. According to SFYP there are at least 31.3 lakh unemployed in our economy [8].

POPULATION AND SOCIAL INFRASTRUCTURE

Rapidly growing population in Bangladesh necessitates large investments in social infrastructure and diverts resources from directly productive assets. Due to scarcity of resources it is not possible to provide educational, health, medical, transport and housing facilities to the entire population. In Bangladesh overcrowding is found everywhere. As a result, the quality of these services has gone down; the large population works against an improvement in the quality of the population as productive agents. The rapid increase in school age population and the expanding number of labour-force entrants put ever greater pressure on educational and training facilities and retard improvement in the quantity of education. Similarly, the rapid rate of increase of population is aggravating the problem related to improvement of the health of population.

POPULATION AND LABOUR FORCE

The labour force in an economy is the ratio of working population to total population. It is clear from the data presented above that large percentage of the total population is in the lower age group of I-15 years and hence the

dependency ratio is large. A large percentage of children in the labour-force is the heavy burden in the economy of Bangladesh as well as a wastage of potential resource.

POPULATION AND CAPITAL FORMATION

Population growth is retarding capital formation in Bangladesh. As population increases, per capita available income declines and people are required to feed more children with the same income. It means more expenditure on consumption and a further fall in the already low savings, and consequently in the level of available fund for investment. As population increases rapidly domestic consumption of even exportable goods increases and there is also a decline in the exportable surplus. On the other hand, to meet the demand of the rising population more food and other consumer goods are required. It is leading to an increase in imports. Reduction in exports and increase in imports is leading to a deterioration in the balance of payments position and the government is forced to curtail the importation of capital goods and this is adversely effecting the investment programme in the economy and thus retarding physical and human capital formation.

In addition to the above symptoms, chronic food deficit, high density of population, large volume of disguised unemployment, tendency of diminishing returns and high birth and death rates are now the basic characteristics of the economy of Bangladesh which is caused by excessive growth of population. On the basis of the above discussion, one may conclude that Bangladesh is over populated and population is more of a liability than asset.

Bangladesh is badly affected by over population. All the evils that result from over population must be removed from over economy as early as possible to ensure smooth and steady economic growth and to increase the economic well-being of the people. It is to noted here that population is a vast untapped resource for Bangladesh. The following measures may be taken for the purpose :

INSTITUTIONAL VARIABLES

Family Planning

Family planning simply means the control of births in a family. If this programme is made successful, the population problem will be minimised to a great extent. For its success, the following measures may be taken:

a) Wholly reliable birth control methods should be supplied in sufficient quantity at nominal price to the people who are in need of it.

b) The people should be given necessary training about the effective use of these methods.

c) Mass education along with the female education should be given to free the people from all sorts of superstittion.

d) Mass propaganda through cinema, radio, television, newspapers etc. should be launched to popularise family planning.

e) All the religious and social institutions should be reformed so that they can not create hindrance.

f) A law may be enacted by the government restricting the number of births beyond a certain limit and declaring punishment for the violation of this law.

g) The need and benefits of family planning should be included in the curriculum of schools and colleges.

For a successful family planning programme some other complementary step must be taken in accordance with family planning programme. This complementary programmes are as follows:

Female Labour Force Participation

Female labour-force participation outside the home in non-agricultural activities has a depressing effect upon fertility and studies conducted to date support this hypotheses [13]. The countries which have experienced fertility decline are also found to have higher female participation in the labour-force particularly in non-agricultural activities. Working woman find it difficult to raise children as well as work. In work, they increase this social contracts and get themselves involved in extra familial activities such as attending social parties, meetings and other social activities and these extra familial activities compete with those of family. Thus having a child by working woman means not only forgone income but also forgone social opportunity and these considerations possibly restrain the working woman from having more children. Female labour-force participation in non-agricultural activities in Bangladesh is only 0.9% [13]. This is possibly due to restricted female employment opportunities and negative social attitude towards working woman. Some would argue that in case of massive unemployment and under-employment of adult males, the policy of increasing the female labour-force participation seems to be impractical. This is undoubtedly a negative attitude.

Reducing Infant Mortality

Infant mortality and fertility is related and the evidence of which also exist in Bangladesh [13]. The argument follows that couples will produce more

children than what they disire in a society where there is higher infant mortality in order to ensure the survival of at least few children. Families are assumed to value and hence adjust their behaviour in accordance with surviving children not birth per se. Once couples are sure about the survival of their children, they may not produce more than what they desire. Infant mortality rate in Bangladesh is estimated to be varying between 160 and 140 per thousand live births [13]. This high infant mortality rate has to be reduced to enhance demographic response in this country.

Unless we introduce some sort of social security system, impose ban on child-labour, increase education level of the population and female labour force participation in non-agricultural activities, reduce mortality and take some positive steps towards improving the socio-economic conditions of millions of poor people, the impact of family planning in reducing fertility would be hardly felt in Bangladesh. Those who suffer from the complacency that the family planning is the only solution through which birth rate of Bangladesh could be reduced are living in a fools paradise. There is no evidence in the world that through government sponsored family planning programme fertility of a country is ever reduced significantly. The has been much publicized success of family planning programme of Taiwan dismantled in a recent study which showed that fertility was neither induced nor accelerated by the programme. It is rather the institutional variables like education and PHC and MCH to reduce infant mortality which influenced the fertility in Taiwan.

Restricting the Education System

Development is the outcome of effective usage of two types of resources—men and materials. In order to render material investments worthwhile, it is necessary to synchronize human resources development with overall economic planning. And, again, it is necessary to do this on a regular and continuous basis to deal with such important issues as manpower requirements for the implementation of planned investment programmes, output of the existing and planned educational training facilities, identification of gap between supply of and demand for skills of various catagories and levels, methods of meeting the gaps and of avoiding bottlenecks and finally, organisation of a system of manpower budgeting in the context of the national development commitments[2].

Education is one of the most important variables inversely associated with fertility level of a country. Of all the socio-economic variables used to explain the so-called demographic transition, education is found to be the

most important and consistant variable. Moreover, the countries which have experienced fertility decline have attained a very high degree of literacy level. A recent study has shown that much of the variance in fertility decline is accounted for by education. Education helps to reduce fertility in two ways. First, it helps one to overcome the personal prejudices, stero-type ideas and superstitions and offers opportunity to a couple to understand the pros and cons of a small family size. Second, it offers opportunity for success to the mainstream of the society and helps in improving one's socio-economic status [13]. Both the effects of education have negative bearing upon fertility. Literacy level of Bangladesh is very poor. Unless we improve the education level through a well defined crash programme, the idea of small family size will be hard to get across to the people.

It is to be noted here, that illiteracy is inimical to any progress and stimulant to superistition, dogmatism and obsolete thinking. It is a curse for a nation standing in the way of national uplift. Still three-fourths of our people are groaning under the curse of illiteracy [14]. So the effective participation of the public in national task like family planning programme, modernisation of farming, collectivisation of agriculture and mobilisation of local resources and converting them into productive assets will make little stride unless the people have easy access to education. Among the factors responsible for the non-adoption of family planning methods, lack of education among the people is a major one. The success of family planning programmes can not be thought of in isolation. Our problems of mass poverty, hunger, unemployment and population explosion can not be fought courageously unless we can bring our masses within the literacy net.

If education is to perform its function of an effective change-agent in converting the vast human resources into human capital, then education must change its concept, structure, technology and institutional arrangements [15]. The suggested educational transformation has many aspects, some of which are outlined below :

(a) Education must transmit to the new generation the wisdom of human heritage which has evolved in the specific culture.

(b) Education must fulfil the skill needs of the various occupational groups. Programmes of training will have to be job specific, based on the identification of various groups and their occupational needs.

As for the dependent age groups, an important planning strategy to augment the incidence of education would be to offer relatively shorter programmes of specialised tranining according to needs.

(c) Education must be easily available to the vast mass to population. It must include the uneducated labour-force, out of school youths, school youths and school drop-outs.

(d) Education must provide outlook for new understanding, create new capacities to adapt and stimulate new sources of leadership. This may spread through the educational system through introduction of scientific out look, an emphasis on achievement high lighting new roles in social action and the ideas of progress together with spiritual and moral values.

(e) Education must provide a general education content for personal development. An important function of education derived from man's central role as an agent of development is to stimulate and sustain his impulses of intellectual curiousity and creativity. One of the recent studies shows the existence of a high degree of correlation between general education and production norms, due to the effect of general education on learning new skills, management ability, attitude to work and general alertness and self-reliance [15].

SPECIFIC MEASURES FOR EDUCATION

Integrated Planning

One of the most important strategies relevant for Bangladesh is an integrated approach to planning i.e. the development of education, manpower and economy as complementary and interacting components of development. The new strategy should be based on the recognition of the complementarity of education and economy. This implies that education and economy must sustain their growth in mutually supportive routes through the development of human resources and its productive utilisation.

Introduction of compulsory primary education

Attempts should be made to introduce compulsory primary education immediately. This will make modernisation of agriculture, implementation of family planning and increasing labour productivity much easier. To avoid unemployment and frustration among the educated youth, higher education need to be restricted only to the deserving ones by making the admission criteria more stringent and access augmented through open university and distance education for others. aurgumented

Need-oriented Technical-Vocational Education

Technical-vocational education should be introduced as a part of both formal and informal education. The strategy is desired on the one hand by

the resource constraint and on the other hand by the necessity of making the education system more responsive to developmental needs. Technical-vocational education must aim at turning out more technically trained people at the intermediate level than at the higher level. The bulk of this type of trained manpower should be made available to agricultural and rural sector.

Work and Education Centres

A relatively less sophisticated and less costly training and various types of non-formal education, including adult education and part-time courses may provide our unemployed people with suitable job opportunities in numerous small scale industries. To keepdown expenses of training and non-formal education the existing educational institutions may be used. The facilites in these institutions and the services of these teachers, now very much underutilised, should be made available at little or no cost. Moreover, the programmes in the existing technical and professional schools can also be adopted to meet the needs of various occupational groups. Training in reparing radio, TV, refrigerators, airconditioners etc. will also be helpful in getting jobs. People with these training and skill are getting employment abroad. The export of unskilled and semi-skilled labour to the labour scarce countries is one of the most important sources of foreign exchange earning of Bangladesh [15].

Rural Bias in Education

Education in Bangladesh has created a priviledged class which creates contempt for manual work and field practices. In fact education is a passport to get away from the villages. This simply cannot be allowed to continue any longer. Rural bias in education, emphasis on basic education, manual labour in villages should be a prerequisite for entering higher educational institutions like colleges and universities and be one of the components of a re-structured educational system.

If the above system of education is practised then the present population will turn into productive manpower to ensure smooth and steady economic growth and to increase the economic well-being of the people.

To reduce ill effects of over population the following measures may be taken.

Redistribution of Population

The population in Bangladesh is unevenly distributed. Some areas are densely populated and some are thinly populated e.g. Chittagong Hill Tracts and Off-shore Island etc. As such a programme for redistribution of

population may be taken. According to this programme, people should be induced to move out from the denser areas and settle in the areas with sparse population. However its scope is limited.

Economic Development

Economic development is the fundamental solution to the population problems. Economic development in its true sense is designed to meet all sorts of basic needs of the population on the one hand and on the other, it will also reduce the number of births raising the level of income of the people.

Equitable Distribution of National Income

If the lions share of the national income or wealth is concentrated in few hands, the fruits of economic progress can not be enjoyed by the general people and as such economic development by itselt can do nothing effective towards the solution of population problem. So access to national wealth must be equitably distributed more, and more money should be taken away from the rich people through progressive taxation, inheritance tax, death duty etc. And the money so raised should be spent for the poor people in the form of free medical service, unemployment benefit, financial grant druing sickness, accident etc. Thus fair distribution of real income will not only benefit the poor people who are the absolute majority of the nation, it will also help rapid economic growth as the propensity to consume will go up.

Emigration

The government should undertake an articulated programmes to help emigration to economically advanced countries. This will reduce the population pressure on our economy. At the same time, our labourers abroad will be able to earn valuable foreign exchange which we can be suitably utilised for our economic development.

CONCLUDING REMAKRS

Bangladesh at the moment does not have a proper population policy. Before the problems get further complicated it is time that serious thoughts are given towards formation of a proper manpower planning machinery. There is need for a broad-based organisational arrangement with the task of co-ordination with the national planning agency for formation of policies/strategies, functional co-ordination with various organisations/ agencies in respect of preparation of action programmes and finally co-ordination and liaison with various executing organisations/agencies towards effective monitoring of implementation of various programmes.

Population policy is not a matter of an shot assessment and policy suggestion of adhoc nature; it presupposes a fair amount of research activities with an accent on continuity. The policy measures should be smoothly executed so that the population of Bangladesh may turn into human capital in order to help development of the economy.

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CONDITION OF RURAL POOR, THEIR PERCEPTION ON CAUSES OF POVERTY AND OPERATION OF ANTI POVERTY PROGRAMME

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1. INTRODUCTION

In order to make efforts to reduce poverty or to judge how macro-economic policies affect poverty, we are to know a lot about the poor and have deep insight into condition of their life. Here we shall be concerned with four tasks : (a) outlining set of indicators for monitoring condition of rural poor, (b) highlighting the condition of rural poor in detail, (c) perception of poor on causes of poverty and (d) performance of anti-poverty programme. This work is based on intensive study on 427 households of six districts under RPP, RD-12.

2. INDICATORS FOR MONITORING CONDITION OF RURAL POOR

Since one general unidimensional indicator is likely to be distortive and unable to cover different aspects of their life and tends to be narrow focusing, a set of indicators has to be developed for comprehending and monitoring the levels of living of rural poor. It is well known that poverty alleviation/eradication is expressed generally in terms of satisfaction of basic needs for survival, reduction in vulnerability to extreme shocks and fulfilling the needs of self-respect or freedom. Satisfaction of other non-economic needs will be based on the satisfaction of these three sets of needs.

If problems of survival and vulnerability are resolved, possibility of satisfaction of non-economic needs becomes to a great extent ensured. The main indicator related to the survival needs is the flow and level of income to finance consumption, savings and investment. In the households, reduction in economic vulnerability is dependent not only on income size but also on the amount of asset holding which in turn is dependent on savings and investment. The economic well-being may have several main indicators related to income and asset holding (networth). But there are others and quite important ones which may be changed or will influence any such change. The earning capacity of a family depends on among others the labour power available to the family, the opportunities it has to employ that labour and the quality of that labour. Also as both women

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are sought to be mobilised, gender dimensions in all of these become very important. Furthermore, these have to be placed in the context of the family composition. One therefore, begins with a description of demographic characteristics of the household, explores the available labour power, notes its level of education and literacy (including future skill formation as reflected in school enrolment) and the occupational patterns.

Though among the material assets both land and non-land assets are main, for the poor, non land assets particularly those related to their occupation may be more important. Possibly one should bring here the type and quality of housing.

Indicators may be grouped into the following to cover different aspects of level of living of rural poor :

— indicators related to income,
— indicators related to asset holding,
— indicators related to occupation.
— indicators related to literacy,
— indicators related to demographic characteristics,
— indicators related to consumption, savings and investment,
— indicators related to perception,
— indicators related to sanitation and health condition.

3. CONDITION OF RURAL POOR IN SIX VILLAGES

In order to highlight the condition of rural poor, we shall present here the data of 427 rural poor households; 307 co-operators and 120 non-cooperators poor in six districts under rural poor programme (RD-12).

A. Demographic Characteristics For Poor Households (hhs)

(a) Sex Ratio

Sex ratio is important variable for poverty analysis. It has been found that with the increased level of development, sex ratio increases in favour of female. In case of Bangladesh and India, proportion of female is 0.94. But if one analyses the sex ratio below one year aged infant, the sex ratio may be around one. Though biologically women are less prone to death, due to lack of social care and health treatment, they become victimised to death. As a result in the upper aged group, sex ratio changes in favour of the male. Here sex ratio of the non-cooperator poor is 0.94 while of cooperator poor is 0.97.

(b) Household Size

One the interesting finding is that with increased household income household size is found to increase. In our survey on poor households, we have found that average size of household is 4.7 as against 5.8 at national

level. Household Expenditure Survey also shows the increased size of hhs with the increase of income.

(c) Dependency Ratio

Given the numerical strength of the children (41%), one expects a high dependency ratio. We must distinguish between demographic and economic dependency ratios. Demographic dependency ratio is the ratio of children and old (+65) to adult men and women (16 to 65). In case of economic dependency ratio, the denominator is actual number of earners. Average demgraphic ratio among poor households is 0.74. and economic dependency ratio is 2.00. These two ratios are higher for the entire population than the poor households. As the family size and children member among the poor are generally lower than among the non-poor. One observes dependency ratio to be higher among the later. And thus, on an average, census households (hhs) show higher dependency ratio than sample households comprising only the poor. Thus lower dependency ratio and smaller family size are indicative of poorer hhs. This is substantiated by the Household Expenditure Survey (HES).

4. THE RESOURCE BASE

The resources owned and used by poor households are basically of two types: material and human. Among the material assets, land and non-land assets are main.

4 (a) Land

It has been found that average land size of the poor hhs, is 37 decimals, 48 decimals for cooperators and 11 decimals for non-cooperator poor; 81% of the poor hhs have land not more than 50 decimals; 77% of cooperator households and 99.2% of non-cooperator poor hhs do not have land more than 50 decimals. Among the poor there is inequality of distribution of land. Most of the land is concentrated in the land size group of above 50 decimals.

Mean cultivable land is 26 decimals; 34 decimals for cooperator and 5 decimals for non-cooperator poor households. Homestead land is only 8 decimals on average; 9 decimals for co-operator and 5 decimals for non-cooperator. About 71% land is cultivable land and rest 29% is used for homestead. As compared to this, 48% of total land of non-cooperator poor is used for cultivation and 52% for homestead due to meagre land in all. 8.4% of poor households do not own any land whatsoever, 65% have no cultivable land. Among non-cooperator poor, about 16% are completely landless and 84% households do not have any cultivable land.

It is notable that 82% poor households do not have any pond; 90% of non-cooperators, 79% of co-operator are without pond. Among the poor households, only 48% are found to have operated land; 25% take land in

on tenancy. Among the non-cooperator hhs, only 22% operate on land. It indicates that most of the poor hhs depend on non-land assets and manual labour and non-agricultural activities for their earnings.

4 (b) Non-land Asset

Non-land assets may be either productive i.e., income generating or non-productive i.e., used mainly as consumption durables. It has been found that 99% hhs, possess productive assets whatsoever. Average non-land resource amounted to Tk. 4239 per household and Tk. 905 per capita member; about 73% of total resources are productive asset and the rest 27% is non-productive asset. Cooperator hhs have higher average non-land assets relative to non-cooperator poor households (hhs).

There exists high inequality among the poor as regards holding of non-land assets. Thus not only low size of non-land asset but also inequality of the distribution are intrinsic features of non-land asset holding of rural poor. Composition of productive asset is characterised by major portion of productive asset in livestock and poultry (69%). Next follows investment in trade. Other common items of productive asset possessed by the poor hhs are dao (93%), spade (54%) plough (30%) and fishnet (23%). Among the poor hh. 26% have milchcow, 83% have poultry birds and 43% have ox or bullocks. Nearly 16% hhs have goat or sheep to rear. Only 16% hhs have trade investment. In non-cooperator poor hhs, major portion of productive asset is in ox or bullock, constituting about 53% of total productive asset.

Poor hhs give stress more on bullock for cultivation, poultry birds and goat for immediate return with little investment. Very poor hhs could not go for rearing of milchcow due to lack of funds to procure and maintain. It has been found that structure of productive asset is mainly biased towards agriculture related items and livestock with aversion to industry as a component. Thus hhs are poor not only in terms of size of holding of productive asset but also in its structure. Since 62% productive assets are composed of livestock, it is important to see its physical distribution. Only one-fourth hhs rear milchcow. About 64% of rearing hhs have only one milchcow and the rest 36% hold more than one and 7% hold more than two milchcows. Among the non-cooperator poor hhs, only 10% rear cows and among them, 75% do not have more than one cow. About 18% hhs possess draught animals, among them, 48% have one and 44% have two. In poor non-cooperator hhs, only 12% have draught animals, 75% of them having only one and 33% having two. These are indicative of the scarcity of draught animals among the rural poor households.

Important item of productive asset for the rural poor is poultry, which is kept in 83% hhs with sizes ranging from one to fifty birds. In general, poor hhs have small size of poultry farming. About 71% of cooperator and 86%

of non-cooperator poor hhs have poultry birds numbering less than ten. About 53% i.e., major portion of non-cooperator rearing hhs have the smallest size group of 1 to 5 birds. It should be noted that poultry birds are reared mostly in backyard poultry farming and not on commercial basis. Observation shows that even operated on small scale, poorer hhs can't afford loss and assume less rate of risk with meagre amount of capital at their disposal. Problems are also related to lack of medicine and knowledge on scientific rearing. We have got impression that provision of capital, technical knowledge and institutional arrangement for preventing diseases become crucial for effective poultry farming in the backyard of poor hhs where women and child labour could be effectively utilised for increased income earning.

4 (c) Human Resources

In the 427 hhs, we have 2,000 population, and only 59% among them are adults; 30% male and 29% female; 34% of the population are earners. Taking ten-years as the age for earning capacity, economic participation rate become 42%, which by taking 14 years as age of earning economic participation rate become 57%. Among the non-earners, 23% are involved in household or domestic work, 20% are infants, 19% are students, 2, 3% are incapable and only 1% is found unemployed. Low proportion of open unemployment is conditioned by the fact that poor people cannot afford to remain unemployed.

In dealing with human resources as asset we are to give emphasis on its qualitative aspects namely educational characteristics and literacy. Education is both cause and effect of higher level of living. Formal schooling is important qualitative aspect of human resources for increased productivity. It has been found that about 57% i.e. a considerable size of school level population of rural poor did not get any schooling. Only 6% of school level members passed S.S.C. Average years of schooling are 1.8; 2.1 for cooperator and only .82 for non-cooperator with a singificant difference between the villages. It has been found that level of literacy is relatively much worse in almost all the districts. And in aggregate, 67% female as against 54% male are without any schooling. Among the non-cooperator poor, 77% remain without schooling. About 70% male and 85% female in these households are without schooling. All these are indicative of very poor state of education among the poor, much worse for women and non-cooperator poor households.

Two indicators which affect future skill formation in a family are school enrolment ratio and dropout rate. Overall enrolment rate of children among poor hhs is 0.65; in the non-cooperator hhs it is as low as 0.42. There is significant difference in enrolment rate between the villages. Only 50% of

hhs sent their children to school in full. As reasons for not sending their children to school, the poor have pointed out financial constraint as the main followed by lack of security, distance, social prejudice against education specially for girls, unwillingness of children, diseases of children and need for earning to supplement the family income. Dropout rate has been found around 6%. Dropout also has been majorly for economic difficulties and in case of girls for attaining age of marriage. It should be noted that for increased literacy level, increased retention rate are important. Both of them are related to poverty alleviation and bettering social environment for education.

5. OCCUPATION AND EMPLOYMENT CONDITION OF POOR

5. (a) Occupation Characteristics

Average participation rate (57%) among the poor is higher as compared to the average of total population. Among the non-cooperator poor, participation rate is still higher (65%). These only serve to prove that the poor can not afford to sit idle. Gender specific information on economic participation rate may be misleading to mean that women are not involved in gainful work to a significant extent.

In fact, women are involved in income/cost saving activities rather than in the direct income earning pursuits. Secondly, as many of the activities of the women are combined with household chores, seem to be hidden and it is not clear from the data how far important women's work is. Among the household heads, 11% remain non-earner; 78% is engaged in agriculture and the rest are in the non-agricultural activities. About 15% of hhs are female headed: 60% of the heads are earners and 40% are non-earners. Among the male headed hhs 95% are earners and 90% of the non-earners are incapable. It is notable that male heads are more involved in agriculture while female heads are involved in non-agricultural activities, overwhelmingly important is maid service followed by petty trade. Out of 685 earners in 427 poor hhs , 48% have been found to get engaged in agriculture, 30% being as agricultural wage labourer. In the non-agricultural activities, predominant occupation is petty trade 51% of the earners resort to secondary occupation. Proportion of secondary occupation is relatively more in cooperator households. In the poor households, non-crop activities and agricultural wage labour are two important occupations of the earners. Agricultural wage labour is high among poor non-cooperator hhs. while self-employed in non-crop activities is considerably high among the non-poor. In all, agricultural wage labour and self-employed non-crop activities are the two most important sources of livelihood of rural poor. Gender difference in occupation is that while man concentrates on agricultural wage and non-crop self-employed activities, in-case of women, self-employed and wage labour in non-cropped activities are important.

Latter really includes services and housemaid. Hence on policy ground, it is non-crop activities which is most important for women.

The general pattern remains in favour of agricultural wage and non-crop activities with the non-crop activities gaining added importance in secondary occupation. It has been found that most of the women though are busy with household activities want some sort of cash earning work opportunities in the villages. Their feeling is that these will not anyway hamper their household works.

5 (b) Employment Condition

Information on employment was collected in two ways. In the first place, employment of each family member in income earning activity was asked. Secondly, more indepth information was generated for the week preceding the survey for at least two earning members.

5 (b) i. Duration of Employment

Average days worked per earner are 243 i.e.; 81% of the normal standard for a working year. On average, earners in poor hhs are engaged for 198 days i.e., 81% in primary occupation and 45 days i.e., 19% in secondary occupation. There is a difference between the districts as regards duration of employment but there is little difference in between cooperator and non-cooperator hhs as regards duration of employment. Of course, in non-cooperator hhs relatively more time is spent for primary occupation. It has been found that 32% of the earners are employed for less than 200 days. On the other extreme, 21% of earners work for more than 300 days. Thus underemployment of at least one third earners and overwork of one fifth earners are salient features of employment in terms of time criteria. Average weekly hours of work have been found to the extent of 44 hours with relatively more duration of employment in non-cooperator hhs. In the weekly data, we have found that 5% of earners of poor households remain fully without work. About 24% of the cooperator earners and 18% of non-cooperator worked less than 35 hours a week. On the other hand, 32% cooperator earners are engaged for about 54 hours in a week. It has been found that 8% of cooperator earners and 12% of non-cooperator earners worked more than 65 hours in the week. All these indicate that underemployment and over-work are the two contradictory features of employment of rural poor with little difference in between the districts.

5 (b) ii. Self-employment

This includes occupation except wage labour and services and is likely to be quite important among the earner of rural poor. But our data appear to be against the hypothesis. In all, 57% of the earners work as wage labour, 35% are self-employed and about 8% are engaged in both self and wage

labour. Disaggregation by co-operation status indicate that among the cooperators, self-employment is important in roughly one half of the hhs, while wage labour is important for the non-cooperator poor in nearly three quarters cases. This may be one of the reasons why BRDB and other organisations fail to capture the poorest of the poor. They are mostly in a profession where diversion to other occupations that have to be fostered by credit cannot be relied upon as it would immediately mean a reduction in an already meagre income.

5 Ib) iii. Wage Rate

Determination of wage rate is diffuclt in the rural areas, in as much as there is difference of wage due to difference in mode of payment in kind or cash. Sometimes partial or full feeding along with cash wage or full cash wage payment without food is made to the labourer as remuneration.

Considering all, we have culculated wage rate per hour to the amount of Tk. 4 on average in all districts, with little difference in between the regions. Major portion of (87%) day labourers get below Tk. 5 wage per hour though 7% day labourers get more than Tk. 7 wage per hour. Thus high wage rate and low wage rate co-exist depending upon skill requirement and demand of the work. In the higher wage rate, earners are mostly co-operators while in the lower wage rate, proportion of non-cooperator is relatively greater. Wage rate fluctuates depending not only upon type of work but also on the season of the work and locality.

It has been felt that higher wage rate and guaranteed employment for the whole year are the minimum need for survival of these groups of people of day labour in the rural areas.

6. INCOME : LEVEL, DISTRIBUTION AND STRUCTURE

As well recognised, income is the composite indicator of level of living and important not only for determining level of consumption but also of savings vis-a-vis investible surplus.

(a) Level and Distribution of Income

Average level of household income of poor is Tk. 14985 and per capita income is Tk. 3315 i.e. 94% and 98% respectively of village average. Mean household and per capita income for non-cooperator are Tk: 10,800 and Tk. 2600 respectively. Official estimates of HES show that income per rural household and per capita are nearly Tk. 29 thousand and Tk. 5279 respectively. It has been found that 91% of poor households have income level below Tk. 25000, 9% households have income below Tk. 7500 Among the non-cooperators, none is found to have household income above Tk. 25000. Among the poor households, not only income level is low, its distribution also is inequitable i.e. among the poor, some are more

poor than others. The bottom 75% have only a quarter income while the top 5% or so earn about 12%. The computed gini ratio among the poor is only 0.19 i. e. though less than of the entire population, is considerable.

(b) Structure of Income

About 90% income is from non-loan activity and 10% income is from loan activity. Among the non-loan sources of income, day labour is the major income earning activity for the rural poor. Day labour is the main source of income for 64% households with 80% among non-cooperator and 57% among cooperator households. Other sources of income for rural poor are crop cultivation, petty trade, service, cottage industry, vagetables gardening and livestock rearing. Day labour contributes 31% of total income with 50% in case of non-cooperator. About 19% of total income is from self-employed crop agriculture, 18% from cottage industry and petty trade.

In rural areas, though the self-employed agriculture predominates, day labour is the main source of income for rural poor households experiencing poor sources of income.

(c) Factors Influencing on Earnings of Poor

Regression Equation for Total Income of the Poor

Independent Variables	Regression Coefficient	'T' Value	Elasticity
Constant	2169	3.5	--
Household Size	1986.6	15.4	.62
Owned Cultivable Land	27.8	10.0	05
Amount of Loan	.85	7.5	11
Value of Non-land Productive Assets	.33	5.3	07
Education Score of HHs	65.5	2.17	01

Adjusted R^2 = 65

As revealed in the regression analysis, credit has significat role in increased earnings. It has been found that 10% increased loan leads to 1% increased income. Household size, cultivable land, loan, non-land productive assets and education have significant influence on income of poor households in 65% cases.

7. CONSUMPTION

7 (a) Level

Consumption level is the key variable for indicating poverty situation. Average household consumption expenditure of the poor under study is

nearly Tk. 14600, 30% less for non cooperator from the level of cooperator (Tk.16000). Per capita consumption expenditure is Tk. 3105 for cooperators Tk. 3229 and for non-cooperator Tk. 2793 (Tk. 5017). This is 61% of national level and poverty line (Tk. 5000).

7 (b) Factors Influencing on Consumption Level

Regression results indicate that household size, land, non-land productive asset and amount of loan have definite influence on the consumption level. These variables cover 54% factors influencing on consumption. Figures of regression show that 10% increase in households size brings about 5.8% increase in consumption expenditure, 10% increase in land brings about 0.8% increase in consumption while 10% increase in productive asset brings about 0.5% increase in consumption.

7 (c) Structure of Consumption

Most (72%) of the expenditure, quite understandable, is made for food. This is in abeyance of Engel's law in that with the increase of income proportions spent on food becomes lower. The proporion of food in these villages is much higher relative to national figure, (HES. 1985-86) indicating the pattern of expenditure of poorer households in the study. As per HES, 1985-86, in rural areas, 65%, expenditure is on food and 35% is for non-food items. A significant portion of about 12% expenditure is spent on medical, education etc., 7% is spent on clothing & footwear and social rituals. For non-cooperator poor, proportion of food expenditure is relatively higher than cooperator households. It has been found that average food expenditure and expenditure on cloth and foowear directly increase with the increase of income size of households.

7 (d) Food Consumption

Food is the major element (72%) of consumption and its level increases with the increased earning of household. This is the most important indicator of measuring the condition of poor, since need for food is the first to be satisfied before satisfying other necessities. Average per capita food expenditure is Tk. 2282. Structure of food expenditure shows that 70% food expenditure is on foodgrain alone. Fish and vegetables are other important items constituting together about 10% of food expenditure. Spice takes over 5% food expenditure. Proportion of foodgrain (73%) in food expenditure is much higher for these poor households as compared to national level. Rice alone constitutes about 61% of food consumption This is followed by spice constituting 5.4% food expenditure. Pulse which is believed to be traditional food item for the villagers constitutes only 1.7% food expenditure of poor households because of their incapacity to afford it at present high price level.

Average food expenditure per household is Tk. 10456, average clothing & footwear expenditure is around Tk. 1087 (Tk. 231 per capita) and medical education & daily necessities is Tk. 1794 (Tk. 381 per capita). As regression results show, elasticity of food expenditure is 0.72 i.e., with 10% increase in food expenditure, there will be 7.2% increase in consumption expenditure; with 10% increase in non-food expenditure, there will be 2.8% increase in consumption expenditure. Elasticities of cloth and footwears, medical education and daily necessities is about 0.11. Rich food items like meat, milk and eggs taken together constitute only 3.5% of total expenditure. It has been found that edible oil and spices taken together constitute more than 7.5% which is more than the expenditure on meat, egg, milk and pulse taken together (7%). It has been found that foodgrain, fish, vegetables and spices have major contribution to consumption basket (.85 taken together) for the poor hhs. From the regression analysis, it has been found that with the increased income level per capita, there has been a tendency of decreased proportion of foodgrain and spices. But there is a significant relation of most of the food items except spices with total household income. It is notable that per capita food expenditure on daily basis comes to only Tk. 720. Out of which Tk. 4.8 is allocated for cereals and Tk. 2.7 for non-cereal food items. It indicates, how much poor is food intake of the rural poor. It has been found that per capita foodgrain consumption is 523 grams; 429 grams, rice per capita and 94 grams wheat per capita. In both cases, non-cooperator poor consumes less than the cooperator poor. Average level of foodgrain consumption is close to the standard norms required. But if one raises the questions of the requirements of this hard working groups in correspondence with their energy exhaustion, there will be likely gap or dissatisfaction in foodgrain consumption as well. Fact is fact that most of the earnings are spent on foodgrain consumption to persue survival strategy by the poor households.

7 (e) Intake of Rich Food

We have investigated into the behaviour of the poorer hhs in taking rich food items. It has been found that 81% of the hhs have not been fount to take meat in the reference week. And they took meat last 66 days ago on average. Quantity of meat taken in a week does not exceed 200 grams per household and 4 grams per capita in a week. Though milk is expected to be available in rural areas, 78% are not found to take any milk in the reference week and the last they tool 83 days ago on average. Though most of the rural hhs are poultry farmers, 51% of the poor hhs have reported not to take any eggs in the reference week, and the last they took 36 days ago on average.

Though poor, people have to depend on pulse in absence of other protein items, 29% of the poor are found not to take any pulse even a single day in the last week and last they took 31 days before, 67% of the hhs have not taken any fruit in the last week. Not only takers of rich food are few but also frequency of taking scarce one or two a week in maximum cases.

Not only in rich food items but also in foodgrain, 46% have expressed insufficiency. Survey results show that 25.5% people take food not more than two times a day and 91.6% cooked not more than two times, 16% only one time daily. It has been found that in 81% cases main item of breakfast is rice and in 14% cases is bread as the first item. About 26% hhs are found to have no second item of breakfast. About 44% have vegetables, only 15% have talked of fish as second item of breakfast.

As third item of breakfast, only 5% respondents responded positively. It is interesting to note that 17% hhs have been found not to taken any lunch and 5% have taken lunch with only one item (rich or bread), 73% of the households. (i.e. 85% of lunch taker) take rice as the first item of lunch and 9% (10% of lunch taker) of hhs took bread as first item of lunch. Among the second items of lunch, vegetables, fish and pulse are important. Only 19% of hhs have talked about third item of lunch. These items are mainly pulse, fish and vegetables.

It has been found that most of the poor hhs take dinner and their main first item is rice (95%), and main second items are vegetabes or fish or pulses. 67% of the hhs do not have any third items for dinner and those who have got third item for dinner expressed vegetables, fish or pulse as the main. All these indicate that manue of different times of taking food is very much narrow based with lower proportion of rich food.

7 (f) Hunger and Starvation Situation

Data suggest that 95% of the poor hhs face constant food insufficiency and 83% face starvation situation in some or other part of the year. Average number of months has been calculated around two with greater intensity of starvation in non-cooperator hhs. It has been found that about 70% of hhs faced starvation two or more months a year. About 28% faced starvation for 3 or more months and 12% hhs stated to have faced starvation situation for more than 4 months. Among the months starved, respondents reported name of nine months.

In order of importance and intensity of starvation, these are the months of Kartick, (26%) Chaitra, (20.5%) Ashwin, (16%), Ashar (11%), Baishak (10%), Bhadra (7%), Sraban (4%), Agrahayan (3%) and Jaishta (2%). Thus majority of rural poor are in stravation for a considerable period of the year

along with the conditions of under-nutrition and under-fed situation in daily life throughout the year. Very few poor hhs can manage rich food for their members. It shoud be noted that non-cooperator poor not only suffer most often from the affliction of malnutrition and starvation, but its duration also is the longest in such households.

8. SAVING, INVESTMENT AND DISINVESTMENT

As poor households have only meagre income, barely sufficient to support family expenditures, one finds that not many people are able to save any money. More than two third households (68%) are found not to have any yearly savings and are virtually deficit households. Incidence of saving is the lowest, as may be expected in the non-cooperator households. About 86% non-cooperator as against 62% cooperators have been found not to save any money. Only 9% household yearly saving exceeding Tk. 500. Thus major portion of households cannot save and those who can save very meagre amount. Average yearly saving is about Tk. 395 only.

The average household investment in a year stood at only Tk. 937, which is more than the two and half times of average savings. Thus investment must have been financed from credit and/or disinvestment and/or past savings. As expected, the level of investment is the lowest among the non-cooperator poor. Investment expenditure of poor households under survey constitute 6.2% of income as against 13% at national level. For cooperator, the proportion is 6.7% while for non-cooperator, 3.6%.

There have been occurrences of disinvestment in 30% poor households, 32% cooperators and 24% non-cooperators; some made distress sale for consumption, some made replacement for new investment. Most important item of disinvested fixed asset is livestock. Trees are a poor second resource for sale while land comes up next. Others are ornament, shop, furniture and machine sold by the poor.

Most sales are of value higher than Tk. 500 but below Tk. 5000, 60% below Tk. 2000. Sales of fixed asset in most cases were for consupmtion and repayment of debts. Sale of livestock has been due to difficulty in animal husbandary in poor households in the context of high price of feed and poller and limitation of freeland for tending or grass breeding. Two things are notable here. Non-cooperator households are too poor compared to the cooperators to have any asset worthy of sale. Hence in the former, there is relatively less cases of disinvestment. Secondly, sales are intended in a large number of cases for investment and are thus not disinvestment as such.

9. CREDIT

Credit though not direct input or resouces, is an important proxi for them untilished in production or direct consumption. Credit need among the assetless poor is most acute for organizing income generating activities and employment creation of their surplus labour relative to resource endowment.

(a) Sources and Credit Availability for Poor

Usually institutional credit is scarce for rural poor, but in villages under Rural Poor Programme RD-12, about 85% credit of rural poor covering 84% loan transactions comes from Bittoheen Societies of BRDB. This is followed by friends and relatives (6.6%), NCB (4.8%), money lenders (1.5%), N. G. O. (3%) and traders (.3%) as sources of credit.

It has been found that in these villages, 70% households have credit. But there is a wide difference of condition between cooperator and non-cooperator in getting credit. While 90% cooperators have credit accessibility, 79% non-cooperators do not have any credit accessibility. Infrequent borrowing of non-cooperator is due to that they are not considered credit worthy as they have little to offer by way of security. Thus only programme credit can help the poor households in getting funds. Out of total borrowing 85% of loan is from BRDB and to cooperators. In the absence of BRDB intervention, incidence of loan in case of present day cooperator households would have been rather much lower.

(b) Size of Borrowing

Most loans are small and average loan per transaction has been about Tk. 1631. BRDB loans were mostly (81%) for amounts between Tk. 500 to 2500. Non institutional loans, on the other hand, were smaller, 60-80% being less than Tk. 1000. Cooperators borrowed around Tk. 1635 on the average per transaction while every cooperator borrowed 1.39 times. Thus the average amount borrowed from BRDB comes to just above Tk. 2273. Average amount of loan for transaction increased from Tk. 1425 in the first loan to Tk. 2138 in the third loan i.e. increased over the years.

(c) Rate of Interest

Statutory rate of interest charged by BRDB is 17.5%. Much higher rates are charged by non-institutional sources like money lenders, average being 93% for all villages varying from 50% in Khulna to 144% p.a. in Mymensingh. Interest charge for borrowing from ralatives is 22% on average. About 72% relatives do not charge any interest. Traders charge interest around 68% p.a. varying from 16% in Khulna to 120% p.a. in Jamalpur. Interest rate is important factor influencing the decision of the poor to go for credit at normal time. At the point of extreme poverty

situation, they resort to survival strategy and become forced to take loan from source whatsoever available and become victims to exhorbitant rate of interest in non-instituational sources. It is interesting to note that even money lender gives loan at zero rare of interest for non-economic consideration though such cases are rate. Highest rate of interest is charged by money-lender followed by traders. Very often they are the same people. Cooperator demands more frequent and larger size of credit at lower rate of interest. Non-cooperator poor badly needs credit supply at reasonale rate of interest-from institutional source.

(d) Repayment Performance

Repayment performance of poor households is varied depending upon sources of loan. Repayment rate of poor has been 81% for all loans taken together. Repayment rate has been high in case of BRDB and NCB loan.

Repayment performance for BRDB loan in Bittoheen cooperatives in the country has been 61%. Repayment performance in case of loan from traders has been 37% i.e. very low. Repayment for loan from money-lender has been 73%. Repayment rate for loan from relatives and friends has been 61%. Thus repayment performance for institutional loan was better than that of non-institutional loan. There has been considerable variation in between regions then as regards repayment performance. Villages in Bogra, Khulna and Mymensingh showed relatively higher repayment performance as compared to villages of Jamalpur, Dinajpur and Barisal. About 18% of the households are found to show repayment rate below 50% and 32% hhs showed repayment rate less than 75%. Only 59% showed performance rate above 90% recovery rate. Repayment rate is relatively lower for non-cooperator hhs (69%) as compared to cooperator hhs (77%). Data shows that repayment performance of manager is worse relative to ordinary member and as field experiences showed there are occurrences where manager resorted to defalcation, cash handing and delaying in making deposit of the collections from members.

There have been innumerable allegations from the member against the manager for the financial irregularity. In case of cooperative loans, repayment problem arose from the fact that in disqualified Upazilas, loan is not sanctioned even individual member in a given society repays the loan in full inducing them not to repay. Cooperative member alleged that repayment problem arose out of the uncertainty of getting new loan to mitigate credit need for carrying on their normal income generating activities. Bittoheen cooperatives are much concerned with the recovery problem in as much as the loan is not security based and cost of supervision is very high. Question of cost effectiveness of cooperative loan may raise serious doubt about the long run feasibility of such loan if some

type of institutional arrangement is not build-in for smooth recovery of loan at low cost of supervision per loan transaction.

(e) Structure of Loan Use

Credit need of rural poor is not for production but also for consumption. Data showed that structure of loan is found different depending upon the sources of loan. Credit from BRDB under RD-12 is mainly used for fixed asset and working capital use. As against this, credit from Mahajan and relatives/friends has been used mainly for consumption. Difference in the structure of loan use in between institutional and non-institutional sources has been due to more enforcement and recent supervision for productive use of loan in case of institutional credit. Loan from traders is in most cases used for working capital purposes. Fact is fact that rural poor hhs whether cooperator or non-cooperator have been found to need credit both for production and consumption. Main objectives of cooperative loan as we have surveyed are majorly petty trade, rice husking, livestock raising, pisciculture and goat rearing. Pisciculture though important has been monopoly of manager households, whereas goat-rearing as object of loan is mentioned only by ordinary members. In livestock raising, milchcow and beeffattening are eually important. Purchase of rickshaw van and investment in cottage industry are other two objects of loan. It has been found that 10% of the cooperators have diverted their loan but 90% of the diversion has been for productive purposes. About 22% diverted loan have been used for land purchase, which will be used for agriculture purpose. About 29% loan diverted has been for bunises purpose.

Other objects of diversion were agricultural input purchase, acquisition of rickshaw van and livestock purchase and consumption. Now the question: has credit been effectively used? We have information on income share traceable to the activities ralated to credit use. It shows that in case of co-operators. 12% of total income may be so linked while the propotion is only 2% in case of non-cooperator poor hhs. The cooperator had an annual income of Tk. 16610, 12% of which is Tk. 1993. The average credit per year for cooperative member have been Tk. 757 or so. As BRDB accounts for 85% of total credit, the total borrowing per year comes to Tk. 891 or at most Tk. 1,000.

Assuming that one-third of own resource has been invested to generate income on loan activities, rate of return in terms of value added comes to nearly 133%. If 18% interest is reducted, rate of return in terms of value added will come 115%. Regression analysis showed that 10% loan leads to 1% increased earning of cooperators. This is a very crude estimate but shows that there is a significant contribution of credit to add to household income of the poor.

10. QUALITY OF LIFE

Quality of life may be indicated by several qualitative indicators of life, like housing, sanitation, sleeping facilities, hygienic practices and facilities etc.

(a) Quality of Housing

One of the most visible quality of life indicators is the quality of housing. Practically all the poor hhs own a house of their own but very few of the dwelling units have more than one room. Only 9% of the hhs possess more than one room. Poor housing condition is also demonstrated by the fact that 79% of the houses have no durable roof whatsoever and are generally straw roofed or huts. And those which are durable are mostly of tin roofed constituting only 21%. Condition of non-cooperator is still worse; 92% do not have any durable roof of their house. Poverty in housing condition is also reflected in that 50% of hhs do not have any separate kitchen. This figure increases to 72% in case of non-cooperator poor. Insignificant proportion of durable roof implies necessity of frequent repairing. But as our data suggest, 62% of the living houses did not get repair within the past 3 years, the figure has increased to 71% in case of non-cooperator poor. About 91% of the wall is made of jute sticks or wood, none among non-cooperator was found to have tin or any other durable for the wall. About 67% of the hhs have been found to have living room with bad condition. Most of the living rooms are old aged, about two-thirds are more than seven years of old. All these are indicative of very poor housing condition of the rural poor households.

(b) Sleeping Arrangement

It has been found that 49% of poor hhs and 73% of non-cooperator lack any proper sleeping facility and they usually sleep on floor generally made of mud. About 47% use chowki for sleeping, only 2% of the poor hhs ca use khat (cot). It means that 98% of the hhs have poor sleeping arrangement and 50% of them are having extremely poor condition in this respect.

(c) Sanitation and Hygiene

Sanitation and waste disposal activities constitute another major aspect at quality of life. Under this heading, we shall discuss latrine facilities, drinking water facilities, soap use, frequency of sickness and treatment.

(ci) Latrine Facilities

It has been found that 61% of the hhs do not have any fixed latrine and the figure increased to 78% in case of non-cooperator. And 90% of latrines are of kutcha type.

(cii) Drinking Water

In spite of wide spread tubewell facilities by the health department, 26% of poor hhs have reported not to have any safe water facilities. As a result, a

quarter of hhs still depend on kutcha wells, or open water bodies (pond, river etc.) for their water. It has been found that only 12% hhs have own source of drinking water. About 47% poor households get drinking water from others mostly non-poor and 41% gets supply of drinking water from source owned and used by the community.

Very often, source of drinking water is situated far from the house and water has to be fetched from long distance. In rainy days or at night time, it becomes difficult to carry water and considerable time and energy is wasted for this. This task of carrying water is mostly done by women. In our survey work, we have seen that hhs have urged for establishment of tubewell on priority basis. In villages, where pond is scarce, bathing becomes a great problem and poor villagers feel the need of constructing pond for community use.

(ciii) Soap Use

Two-third rural poor hhs and 82% of non-cooperator poor are not found to possess any toilet soap. Even washing soap is possessed by only 53% of the hhs at the time of interview. Data on times of soap use indicated that 7% of hhs do not use soap at all, 34% use soap one time a month, 30% use 2 times a month, 25% hhs use one time a week and only 4% of hhs use soap more than one time a week, which means that 96% of the hhs use soap did not use soap in the last week even for a single time. In soap use, non-cooperator hhs are in relatively worse position; 21% of them reported no soap use during the year. In general, they have reported that they cannot afford soap after meeting food and other necessities. It has been apparent that frequency of soap use could be increased by increasing their income and making available the cheaper variety of soap along with conscientisation in matters of hygiene.

(civ) Sickness and Treatment

The prevalence of disease appears to be similar across groups and in around 28% hhs. This may be surprising at first sight but the difference between cooperator and non-cooperator is still a matter of degree, not of kind. Also the access to safe water is similar across groups. As water borne diseases are usually most rampant in the rural areas, once safe water is provided, all groups benefit from it in the similar manner. Most of the sickness is due to diarrhoea, dysentery, gastric, stomack pain (29%) and fever (28%). Other diseases are related to skin and bad-headache. About 4% sick hhs from non-cooperator did not undergo any treatment. Not more than 49% of households have been found to have access to modern treatment. In case of nontreatment, main reason as reported was lack of money. Sometimes they reported of lack of helper for treatment or bringing to doctors. There has been occurrences of death in 6% hhs in he last 3 years, and the main reason for the death was disease (44%) followed by

accident (22%). Hunger as a factor causing death has been reported in 16% cases of non cooperator poor households. There have been cases of death by physical attack in 8% cases.

11. PERCEPTION OF POOR ON ROOT CAUSES AND MEASURES OF POVERTY

We have made survey on the perception of the poor as regards reasons of poverty, process of their becoming poor and probable measures of poverty alleviation. On the question of root causes of poverty poor hhs identified want of land (33%) as the chief cause of poverty. Second important cause of poverty perceived by them is lack of capita (37%). As third important factor for poverty, they have identified lack of adequate earning members (14%). About 13% have reported lack of adequate non-agricultural activities as the root cause of their poverty. Identification of these four factors viz; want of land, lack of capital. lack of adequate earning member and lack of adequate non-agricultural activities have been similar in perception across both cooperator and non-cooperator groups. These households are suffering from under employment, low earnings and high dependency ratio.

On the question of main process of their becoming poor they have reported through losing of land by father or grandfather in most (33%) cases. Death of earning member has been second important starting point of becoming poor. The third important process of becoming poor has been identified as falling in serious disease of a certain family member and concurrence of huge medical expenses. Losing of land by sale, damage by fire, litigation and river erosion are other important processes of germination of poverty in the hhs.

We have asked on timing of poverty generation. Responses indicated that 54% i.e., majority poor households became poor from father's time. 15% hhs are poor from grandfather's time and 3% are poor from unknown time. About 28% households are poor in their own time. Thus, about 72% i.e., overwhelmingly major portion of rural hhs have poverty inherited from the previous generations

We have sought responses from the poor hhs about probable measures to be adopted for poverty alleviation. More than one-third of the responses were for creation of work opportunities as an effective measure of poverty alleviation in the rural areas. About 18% have asked for land distribution and 17% asked for loan help, 13% have talked of effective cooperative system for combating poverty. Among others, training for skill formation has also been suggested. They have expressed that package programme for delivery of related inputs rather than un-coordinated separate programme for individual inputs is desirable, nay, highly necessary for effectively

addressing the poor. Functions like marketing, production, finance, training and supply of raw materials are to be integrated for sucessful enterprising. Most of the poor have asked for organisation of cottage and small industry network with adequate marketing support for domestic and export market.

12. ANTI POVERTY PROGRAMME, PARTICIPATION AND PERCEPTION OF POOR ON THE PROGRAMME PERFORMANCE

(a) Operation of RD-12 Project

Study results show that only 20% poor households have participated in cooperatives for the poor, under RD-12 (RPP). In the study villages, RD-12 as an autonomous wing of Rural Poor Programme has been instituted with the explicit objective of increasing income and asset position of rural poor and to help in strengthening the institutional capacity of BRDB in addressing the poor. It is to note that having genesis in RD-II, starting in 1983 and revised in 1988, RD-12 is extensive to 139 Upazilas in 17 new districts of 6 old districts of Bangladesh. This project for the poor has five components: group mobilisation, credit, training, action review and monitoring and management.

Membership is restricted to poor households with below 50 deci als of land and dependent on manual labour for livelihood. The programm aims at increasing its societies to 16,000 with membership of 480,000 1994 from present level of 5581 societies with 142,000 members. Special feature of this programme is to develop both male and female assetless poor cooperatives in each upazilla and deploy one female as URDO or ARDO. In organizational aspect, BSS and MBSS are to be federated into UBCCA which acts as an apex organisation of poor, independent of existing UCCA and with more ticipation. Credit operation scheme is planned with better supervision and higher expected recovery rates (minimum 80%); greater benefit from savings and more direct responsibility of members for loan management and recovery.

A self-sustaining Revolving Loan Fund (RLF) and credit system would be established exclusively for providing credit to the Bittoheen according to their needs and held by a commercial bank but managed by BRDB the lender of funds. Loan applications are prepared at society level, examined by a upazilla loan committee and approved by upazilla Bittoheen Managing Committee. After having loan applications, Deputy Project Director after scrutinishing documents sanction loans with the concurrence of Project Director at district level and issues cheques in favour of the loanee M/BSS societies. The responsibility for sanctioning and recovering loans lies with Bittoheen cooperatives and not with RD-12 field staff who have only advisory and monitoring functions.

The estimated budget of RD-12 is nearly Tk. 100 crores and mostly dependent on foreign grant. As our calculation shows, allocation for direct

operational purposes (Credit & Training) is of very low proportion (35%). At the initial period, higher allocation is said to be for institution building.

(b) Mode and Perceived Reasons of Joining Cooperatives

We have generated information on 307 cooperative hhs, 149 BSS and 158 MBSS members in six villages of 6 old greater districts under RD-12. We have asked years of joining the cooperatives. About 70% of co-operator joined cooperatives during 1983-88 i.e. in the first phase of rural poor programme (RPP) in RD-2. Managers have joined cooperatives relatively in earlier years.

We have asked how the cooperator joined the cooperatives. About 43% responses attributed to request of manager followed by 25% responses at the request of friends, relatives and neighbour for joining the cooperative. Own decision has acted in 22% cases in joining the cooperative. About 6% stated request of BRDB officers responsible in inducing cooperative joining.

We have investigated into the reasons for joining cooperatives, main reasons of joining the cooperative have been stated as enough profit and likemindedness of members. Among other reasons, absence of faction, low pressure for repayment, broad based programme and goodwill of manager have induced the members to join the cooperatives. We sought opnion of non-cooperator hhs who left cooperative before on the causes of their leaving. Main reasons of leaving cooperatives were, not getting any benefit from the cooperative, its being as a pocket cooperative, opposites are in power and non-operation of cooperative.

(c) Associated Activities of Cooperator

We have sought opnion of cooperators on their associated cooperative activities. The most important cooperative activities are basically four : attendance in weekly meeting; regular savings, loan receipt and getting training. We shall discuss largely three important components : cooperative saving, credit and skill training.

(I) Cooperative Saving

As already told, poor hhs have very little savings Hence one of the major objectives of cooperative has been to increase their cooperative savings. Cooperator saves here due to their obligatory deposits in their cooperative fund. As data show, though all have saved money at one point or another cooperative savings appear to be at a very low level of Tk. 322/- on average with little variation among the villages. About two-third cooperators have saving less than Tk. 300/-. Since 65% of cooperators have joined cooperatives more than 5 years ago, cooperative saving is definitely low. Managers are found to have relatively greater amount of savings (618 Taka) which is more than double the amount of savings of the ordinary member.

(II) Credit

About 86% of the cooperative hhs receive credit from the BRDB at least once while 40% obtained credit twice and only 14% receive credit three times. The proportions of loan by type of cooperative and by nature of involvement are similar, but the managers were found to obtain a second credit more often than the members. As a result, while members obtained on an average nearly Tk. 1500, managers would get Tk. 2192 i.e. on average 50% more than the ordinary members. Though credit has crucial importance for income and employment generation, its disbursement is quite inadequate and irregular. With the credit facilities provided by BRDB, 90% of cooperating poor hhs have credit access, while 90% of non-cooperator poor don't enjoy any credit facility from anywhere.

(III) Skill Training

Traning is the most important component of RD-12. Opinion of 346 cooperative members indicated that 69% of them did not get any training. Among the ordinary members, only 12% of BSS and 22% of MBSS ordinary member got training. Major trainings have been provided to managers of BSS and MBSS and main training component was cooperative management along with skill development in livestock and poultry farming. Human development and record-keeping are elements of cooperative training for managers. Ordinary members are not only provided little access to training facilities but also whatever training is given, these are limited to livestock development, conscientisation and cooperative management. As our observation showed, training facilities have to be extended to ordinary members widely and cover intensively the formation of income generating skills, health education, raising awareness on legal rights and childcare.

Inventory of skills unutilized indicated that level of skill among the rural poor is very much poor. And along with their present occupational mix and educational level these indicate very poor quality of human resource. These suggest that for any poverty alleviation programme, massive drive for skill training is an urgent necessity. Our impression is that training programme under RD-12 are not so much effective for skill development and income generation.

(d) Perceived Changes due to Anti-poverty Programme

As already told, most of the cooperators have been involved in RD-2 quite for a few years. They may thus have experienced changes of various nature, material, social or otherwise related to their life style. First, it is notable that four types of changes appear prominent. These are increased social prestige, higher conscious and knowledge, greater income and confidence about future income. Thus most of the changes have been of socio-psychological nature. Further, the changes seem to be experienced in similar degree by various types of cooperator.

As women involvement in socio-economic movement is more of a break in tradition, changes experienced by MBSS member have been investigated in more detail. Here the changes appear more spectacular. Fully three-quarters of the MBSS cooperators believe that respect from their family has increased. Their own standing within the family, whether measured in terms of conjugal relationship, greater weight to their views or better access to food, all have increased substantially. Although many positive benefits follow from their cooperative involvement, it is not yet completely free from some negative aspects. Still some people talk ill of girls and women cooperators face abuses from different quarters, there has been occurrences of quarrel with husband due to cooperative participation. In many cases, relation with neighbour deteriorates due to interest conflict in the cooperative. All these indicate that there exists still very poor social environment for women to participate any collective venture. Role of cooperative is to make a break-through into the social barriers and prejudices against womenhood. Liking for women in cooperative perticipation in major cases has been due to increased income earning facility for the family out of cooperative loan, higher consciousness and increased social power and prestige of the hhs.

(e) Problems of the Cooperators

(I) Expected Benefit not Received

About 82% of the cooperator expressed dissatistaction against the cooperative. They had many expectations before joining the cooperative but many of them remain unrealised. We have investigated into the types of expected benefit not received. More than 56% stated that they expected adequate loan but not received; others indicated unrealised expectations in matters of employment generation, supply of tubewell, construction of houses, distribution of khas land, supply of irrigation equipment and skill development facilities. They expected more employment, increased income, more consumption, increased savings and investment. All their expectations were thus related to their economic well-being.

(II) Perceived Problem of the Cooperatives

The cooperators state that the BSS and MBSS are based with various problems. Most would trace it to a lack of adequate and timely credit which sometimes is also exacerbated by the societies being disqualified for loan. Most other problems are basically organizational in nature. Important organizational problems are for bad relation of manager with members, poor supervision and guidance of field organizers, cash handing and irregularity in depositing the collected money from members and in loan disbursement. Factionalism in the co-operative, undue influence of manager, inadequate training facilities for skill development, irregular saving and loan repayment of co-operative member are other major problems

stated by the co-operators. Besides, the co-operators can not use loan money for profitable ventures always. Activities for profitable investment are limitedly known to the members and encountered with the marketing problems.

(III) Perceived Recommendation for Cooperative Development

The recommendation for an improved cooperative stresses on three types of measures. The first and probably most important according to the respondence is input delivery as regards credit and training for skill formation. These two account for 44% of all responses. The second type of recommended measure relates to improvement and/ or supervision for improved financial performance in mobilizing resources and utilizing loans. These account for 28% of all responses. The third type of measure may be termed organizational. Group homogeneity and leadership roles are emphasized. This accounts for nearly 29% of all responses. Arrangement for more meeting and unity, ousting bad elements and restrictions of entry of non-target people, experienced and committed leadership, drive for sincere relationship among members and spirit of collective endeavour, proper selection of manager are the areas of organizational aspect of improvement for the success of cooperative functioning.

13. FINDINGS AND CONCLUSIONS

For monitoring condition of rural poor, there is the need of using a set of socio-economic flow and stock indicators relating to satisfaction of economic and non-economic needs. These indicators are concretely related to flow of income, consumption, savings, investment, food intake and stock of assets, education, housing, health and sanitation. Demographic variables like sex ratio, dependency ratio and household size are also important for monitoring condition of rural poor.

Unfavourable sex ratio against the female is the symbol of poverty at least in social sense. Household size is found positively related with income size. Average demographic dependency ratio is 0.74 and economic dependency ratio is around two. In poorer households, there has been lower dependency ratio and smaller household size.

Resources held by rural poor are basically of two types: material and human. Material assets are divided into land and non-land assets. Average land size of the poor under study is 37 decimals with 11 decimals for non-cooperators. About 81% of poor households, 77% cooperators and 99% non-cooperator do not have land more than 50 decimals. Not only land size of poor is small but its distribution among themselves is also inequitable. Homestead land on average is 8 decimals. 71% of poorman's land is cultivable and the rest for homestead. 48% of total land of non-cooperator is used for cultivation. More than 65% non-cooperators have non cultivable land.

Most of poor households possess one or other item of non-land productive asset. But its size is very small and its distribution is highly unequal. Major portion of non-land asset is from livestock and poultry followed by trade. Structure of productive asset is mainly biased towards agriculture related items with aversion to industry as a component. There exists inequality in physical distribution of livestock among the poor. Poultry birds are kept in 83% households and reared in the backyard in small scale. Provision of capital, technical knowledge and institutional arrangement for preventing diseases become crucial for effective poultry farming in the backyard of poor households.

As regards human resource, though 59% of population are adults, proportion of earners is only 34% due to low economic participation of women. Economic participation rate above 14 years is 57%. Amidst high underemployment there has been low rate of open unemployment conditioned by their inability to afford to remain unemployed. Qualitative aspect of human resource is reflected in rate of literacy and educational level. About 60% rural poor are without any schooling. A big portion of children in poor households are deprived of schooling. Reasons for non-participation in school are financial constraint followed by lack of security, long distance of school, social prejudice against education specially for girls, unwillingness of children, their diseases and need for supplementing household earning. For the rural poor, agricultural wage labour and self-employed non-agricultural activities are the two most important sources of livelihood. For women, non-crop activities are most important. They are majorly involved in service and housemaid. Most of the women though engaged in household activities, they want some sort of cash earning work opportunities in the villages or in the neighbourhood. Average days worked per earner are 243 i.e. 81% of normal standard of 300 days for a working year. About 80% total time of earner is used for primary occupation. One third of earners are underemployed by working less than 200 days in the reference week. There has been simultaneity of underemployment and overwork. About 57% earners are found to have worked as wage labour in the last week. Among the poorer non-cooperators, 75% earners worked as wage labour in the reference week. This is the reason why poorest of the poor could not be reached easily by anti-poverty programme. Wage is paid either in cash or in kind in both with varying proportions depending on regions, type and seasonality of work. Average hourly wage rate is Tk. 4. More than 87% day labourers get below Tk. 5 wage per hour i.e. Tk. 40 for a standard working day. Higher wage rate and guaranteed employment for the whole year are the crying minimum needs for survival of rural poor.

Income determines not only level of consumption but also of saving rate vis-a-vis investible surplus. Average household income and per capita

income are Tk. 14985 and Tk. 3315 respectively i.e. at 60% of national level. Income level of poor is not only low but its distribution among themselves also is unequal. That is, there are some who are poorer than others. Day labour is the main source of income for 64% rural poor and 80% non-cooperators. Day labour contributes 31% of total income. Other income sources of rural poor are crop cultivation, petty trade, service, cottage industry, vegetables gardening and livestock rearing. Regression analysis shows that credit has significant role in increased earnings in as much as 10% increased loan leads to 1% increased earnings. In 65% cases, household size, cultivable land, loan, non-land productive assets and education have significant influence on income of poor households.

Consumption level which is a good proxi for income and living standard for the rural poor remains at 61% of national level. Determinants of consumption level, as shown by regression analysis are household size, land, non-land asset and amount of loan. Food is the major item of consumption of rural poor and its proportion decreases with increase of income size. In our study villages, rural poor spends 28% for non-food items (as against 35% at national level); 12% on medical education etc., 7% on clothing & footwear and the rest on litigation, repair and social rituals. Average food expenditure and expenditure on cloth and footwear directly increases with increased household income due to larger household. Most of the earnings of rural poor are spent on foodgrain out of which rice constitutes 61%. For the poor, besides foodgrain, fish, vegetables and spices are major food items. There is a decreased tendency of proportion of foodgrain and spices with increased level of per capita income. A meagre spending of Tk. 4.5 for cereals and Tk. 2.7 for non-cereal food items per person daily talk about how poor is the food intake of rural poor. The fact of spending most of the earnings on foodgrain is just to survive as a life strategy for rural poor. Rural poor rarely takes rich food though they need them most to compensate their exhausted energies in hard works. About 80% rural poor did not take meat, 78% did not take milk, 51% did not have eggs and 67% did not take any fruit in the reference week. Even traditional protein item like pulse could not be taken for even a single day in the week by 30% rural poor. Not to talk of rich food items, but also in foodgrain, there has been large incidence of insufficiency (46% households). More than 26% rural poor did not take food more than two times a day. Only 8% households cooked three times a day. Main first food item in the menue is rice not only in lunch and dinner but also in breakfast. Other important items are pulse, fish and vegetables. There has been narrow based menue of food intake at different times of the day. About one fifth rural poor do not take lunch. Around 95% of the poor face constant food insufficiency and 83% face starvation in some or other part of the year. There has been greater intensity of starvation in non-cooperator households. Except the

months of Poush, Magh and Falgoon all other months have been cited as months of starvation with varying intensities and incidence. Average number of months starved is around two. Major rural poor are in starvation for a considerable period of time with the curses of undernutrition and under-fed situation. With their meagre income, barely sufficient to cover necessary expenditure, very few are able to save any money. More than two thirds can not save and are virtually deficit households. Even those who can save, save very meagre amount. Investment is around 6% income as against 13% at national level. There have been occurrences of disinvestment in 30% poor household's some for consumption and some for replacement in new investment. Most important item of disinvested fixed asset is livestock followed by trees and land. Relatively less cases of disinvestment among non-cooperators is explained by their less asset holding, worthy of sale.

Credit need is most acute among the poor for income generation. Though institutional credit is scarce for rural poor, 85% credit is provided to them by Bittoheen cooperatives in RD-12 areas. While 90% cooperators are availing of credit under the anti-poverty credit programme, 79% non-cooperators remain outside credit stream. Rural poor can't get credit due to lack of collateral at their disposal. Thus only special credit programme can help the poor in getting fund flow needed for economic activities. The size of borrowing is small varying largely from Tk. 500 to Tk. 2500. Rate of interest of BRDB is 17.5% against higher interest rate in non-institutional sources like money-lender and traders varying from 20% to 150% p.a. At the extreme poverty situation, rural poor becomes forced to take loan from whatsoever source available and become victims to exorbitant rate of interest. Highest rate is charged by money-lender followed by traders and very often they are the same persons. Repayment is a problem and better for institutional loan than non-institutional loan because of more supervision and productive use in the former. Repayment performance of ordinary member is better relative to managers, who are found to defalcate, cashhand and delay in making deposits of collection from members. Cooperators face uncertainty of getting new loan once they pay back the entire amount specially in case of disqualified UBCCA. The fact that loan is not security based and there is a need of high cost of supervision raises serious doubts on feasibility of such credit programme if alterantive arrangement is not built in for smooth recovery at low cost. Credit under anti-poverty programme is used for productive uses of fixed and working capital, credit from non-institutional sources are used mainly for consumption only exception is credit from traders where credit is used for working capital. Main purposes of cooperative loan have been investment in petty trade, livestock raising, rice husking, pisciculture and goat rearing.

Quality of life of rural poor as indicated by condition of housing, sanitation, sleeping facilities, hygienic practices and facilities is by all conceptions very poor. Around 80% houses do not have any durable roof and are generally thatched huts. About 50% households do not have any separate kitchen. About 91% of the wall of the house is made of jute stick, bamboo or wood. Most of the houses are with one room and in dilapidated condition. Half of the poor and three fourths of non-cooperators sleep usually on floor made of mud. Two third households have no any fixed latrine and 91% latrines are of kutcha type. More than one fourth rural poor do not have safe water facilities, 88% poor do not have drinking water of their own source and water has to be fetched from long distance. Two-third rural poor and 80% non-cooperator have no toilet soap. 96% households using soap did not use soap even for a single time in the reference week. Rural poor can't afford soap after meeting food and other necessities.

There is a high frequency of current sickness among the rural poor (28%) households. Most of the sickness are related to diarrhoea, dysentery, gastric, stomach pain, fever, skin and bad headache. Half of the sick are deprived of modern treatment. Main reason for non-treatment is lack of money. Main reason for recent death cases was reported as diease followed by accident and hugher. Poor people perceive causes of poverty in want of land, lack of capital, lack of adeuqate earning member and lack of adequate non-agricultural activities for labour absorption. They are suffering from underemployment, low earnings from existing occupation and high dependency ratio both demographic and economic. The main processes of becoming poor are through losing land by father or grandfather, sudden death of the main earning member, falling in serious disease of a member and huge expenditure for treatment, damage by fire, litigation and river erosion. Majority poor households have poverty inherited from previous generations. As effective measures of poverty alleviation, they have suggested land reform giving land to the poor, provision of adequate credit facilities, skill training and effective cooperative system for combating poverty. They have suggested package programme, for delivery of inputs in addressing the poor. Marketing, production, finance, training and supply of materials are felt to be integrated for successful enterprising. They have stressed on building network of rural industries with adequate marketing support for domestic demand and export market.

It has been found that by all indicators, position of non-cooperator poor is relatively much worse than cooperator poor. It might be because originally they were poorer and secondly, they are deprived of the advantages of participation in cooperative under anti-poverty programme.

In the study villages, very small proportion of 20% poor households participate in the cooperatives for the poor. RD-12 is an autonomous wing of Rural Poor Programme of BRDB with the explicit objective of enhancing real income and asset position of rural poor. BSS and MBSS are federated into UBCCA which acts as an apex organisation for the rural poor. Credit scheme is organised with closer supervision and higher expected recovery rate, greater savings and more direct responsibility of members for loan management and recovery. Budget of the programme suffers from serious limitation of allocating very small proportion of fund to direct operational purposes of credit and training and hence affecting the very purpose of the programme of poverty alleviation.

At the background of joining the cooperatives by rural poor worked expectation of increased earnings, like-mindedness of members, low pressure for repayment and goodwill of managers. Most important cooperative activities identified by cooperators were attendance in meeting, regular savings, loan receiving and getting training. Though the programmes dates back to 1983, cooperative saving is very small. About 85% cooperators got credit at least once, 40% got twice and 14% got thrice during tenure of their membership. Managers got one and half times more credit than ordinary members. Though credit is important, its disbursement is very irregular and inadequate for rural poor. Its only merit is that 90% cooperators are getting some credit which they could not manage otherwise. Training given is very much narrow based and limited in coverage of the trainees. In spite of limitations of its functioning, some positive changes are perceptible by the rural poor cooperators. They experienced increased income social prestige, increased knowledge and consciousness, courage and more confidence for future income generating venture. Most of the changes are of socio-psychological nature. Changes for women due to cooperative participation have been spectacular. They experienced increased respect and good standing in the family, better conjugal relation, greater weight of their views, better access to food. In spite of this, of course, women still have to face abuses, hear ill talks against girls, quarrel with husband in matters of savings and use of credit. They have to encounter still negative social environment for women in participating in any collective venture. But liking for women's cooperative participation has been increasing over time due to increased income opportunity, increased social power and prestige for the family. Cooperators expressed dissatisfaction over adequacy of loan, employment opportunities expected and skill training arrangement. Most of the problems of cooperative for poverty alleviation are related to adequate credit and better organisational arrangement. Among the organisational problems identified, important are relation of managers with members, more supervision and effective guidance of field organisers, cash handing and

financial irregularity. Factionalism, undue influence of managers, inadequate skill training facilities, inadequate cooperative savings and low repayment are other major problems faced by the cooperatives. Again, cooperators have limited knowledge on profitable activities and are encountered by marketing problems. For improvement of cooperatives, three types of measures have been stressed; first, adequate and regular input delivery (credit & training); secondly, effective supervision for improve financial performance in resource mobilisation and credit utilisation and thirdly, organisational improvement through group homogeneity and effective leadership. It has been felt that the poor people came under such programme mainly for getting credit which is irregular and inadequate in mitigating their problems of acute poverty situation. Programme's contribution is still marginal in addressing the poverty. It does not however mean to advise for its withdrawal or neglect but to stress on its effective functioning on broader basis. Along with such programme activities, there is a need of more massive drives for targeted growth of the poor man's income in the overall macro economic-developmental environment with appropriate redistributive measures whether in matters of means of production or income or service facilities. High real growth with targeting the poor and redistributive measures for them are the important dimensions to address for poverty alleviation. Access to assets, skill, credit for self-employment and work programme for wage labour are crying needs for increased income of the poor. Along with it, targeted access to service facilities by the poor will help the process of poverty alleviation. Success in war on poverty is dependent ultimately on the effectivity of all-out efforts in matters of resource allocation and utilisation in favour of the poor, overall increased productivity in the economy, guaranteed employment of all able-bodied population and development of service facilities for health protection and human resouce development.

Poverty alleviation of poor will be expressed in their increased level of real income and asset position and by that didn't higher consumption level relieving them of malnutrition, hunger and starvation, adequate clothing, more spacious and quality housing with normal sleeping arrangement, adequate sanitation, less frequency of sickness, access to modern treatment, sound health condition and absence of illiteracy.

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THE EVALUATION OF POPULATION POLICY—SOME MISSING LINKS

A.H.M. MAHBUBUL ALAM*

Two related issues in population policy formulation have not received adequate attention. One is the establishment of an adequate working definition of population policy. The other is the proposal of a framework for evaluating population policy choices, potential and actually made. This framework must be sensitive to the requirements of those who have to make the choices—namely politicians and other decision makers.

First, what is population policy? It is commonly defined as a fertility control or fertility limitation policy, but there are some serious problems in this narrow definition. There are political problems: some societies are simply not prepared to accept the notion of fertility limitation for political reasons. There are religious problems: certain religions in certain societies regard fertility limitation as inconsistent with religious norms.

To create a realistic framework of discussion, we need a more comprehensive definition of population policy, which in addition to considering population size and population growth also considers the distribution and composition of the population.

All these variables have a mutually reinforcing relationship. As the composition of the population changes, its fertility behaviour also changes. As the location of population groups changes, so their fertility behavior may change in response to new opportunities or advantages accruing to them from their new environment.

To may mind, population policy must deal with the interaction between population characteristics (size, growth, composition, and location) and the conditions governing the well-being of the population (health, nutrition, employment, and so on), as well as with problems of opportunity and mobility.

If we confine the definition of population policy to fertility limitation policy and seek to evaluate its success or failure by measuring the impact of programmes designed to reduce fertility, the result would be disappointing. There is no evidence that fertility control or family planning programmes reduced fertility among populations they were disigned to affect. In fact, family-planning programmes are associated with lower fertility only in societies where fertility was already declining for other reasons. Such

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programmes are said to have succeeded in Korea, Singapore, Hong Kong, and Taiwan, but in each of these states other factors played a decisive role.

Significant fertility decline has been achieved in situations shere populations were experiencing better living conditions—rising per capita income, better health, more education, better employment opportunities, lower infant mortality, and a more even distribution of such advantages among all sections, especially the poor. Where people enjoy these advantages, they tend to make more choices about their own fertility, and their choice is usually to lower it. Family planning programmes are at best an auxiliary factor. They have made no independent contribution to reducing fertility. To quote Professor Hauser: "I have yet to see an example of a nation mired in illiteracy and poverty where the family planning movement has initiated a decline in fertility."

The classic cases of dramatic fertility reductions have been in Taiwan, Korea, Singapore, Hong Kong, and Costa Rica, where there is evidence that social advantages have been better distributed over the past 10 to 20 years. In countries where this has not happened, such as Brazil and Mexico, the fertility rates have remained very much the same.

I would define population policy as government action influencing population characteristics taken with reference to other conditions in which change is sought, such as the expansion of opportunities for employment, education, shelter, and health, the contraction of such opportunities, and the security of the community. These actions can be taken either to the advantage or to the disadvantage of specific groups, such as the young, the old, the rich, the poor, ethnic majorities, and religious minorities. Direct or indirect manipulation can be involved. In the case of fertility reduction, for instance, the emphasis can be either on contraceptive programmes (direct) or on programmes to expand education and employment opportunities for females (indirect).

Population policy requires an evaluative mechanism to facilitate its assessment for policy makers and scientists in the country concerned. This evaluation system must respond to issues and options involved in the process of development, but besides facilitating an assessment of what has happened it should provide material for a pre-study of policy options on the lines of "What might happen if .....?"

The target of family planning programmes at present in countries with high fertility rates is to establish a balance between population growth and economic development. It is unlikely that such a modest goal will be sufficient in the future. The target of population policies in the future must be to reduce fertility to keep the world population stable. The concept of a stable population is already known through the slogan "Zero Population Growth." This is the first sign of future policies. World population, unless

adequately controlled, is likely to reach a size too large for the well-being of its members before a "natural" dynamic equilibrium is established between birth and death rates.

Biologists know that population growth in a closed enviornment is not unlimited and follows the pattern of an S-shaped curve. The growth of bacteria is the best illustration of this universal law. It is slow at the beginning, similar to the growth of manking until the seventeenth century. Then it accelerates and starts to increase geomatrically. The growth of the bacterial population slows down during the next growth phase and becomes stable. The reason for the stopping of growth is two-fold: the exhaustion of the nutralities in the media and the accumulation of detrimental substances in the environment. Generalizing the law of population growth, a safe prediction might be that human population density will reach a maximum level and world population will be stable because of environmental pollution and a limitation of resources. The size of the naturally obtained stable population is quite likely to be too large for the quality of life to be at an acceptable standard. Therefore, the problem in the coming years will be to stabilize world population at a level below the level of natural equilibrium.

One of the characteristics of present population policies is their liberality. No family is forced to limit the number of their children against their wishes. This freedom is regarded as a human right. Is there a possibility of changing this liberal policy and of taking drastic measures to stop population growth? What could be done if the shortage of all kinds of resources such as food, energy, and raw materials becomes an acute problem, if population density reaches a point where we fail to control environmental pollution, and if the full liberalization of abortion and socio-economic achievements do not reduce fertility to the desired level? If environmental conditions cannot be controlled and go from bad to worse, policy - makers cannot hesitate to change their liberal policies and impose restriction on the number of births. These measures could take the form of postponing the age of marriage and establishing legal provisions in order to discourage families from having more children than necessary to replace those who die.

Political leaders need a more global perspective on their population policy. They need to know how it will interact with policies and programmes inspired by national development goals. They need to know the costs and benefits of alternative mixes of policies and programmes for the achievement of population goals. And they need to know the costs and benefits of the alternative mixes in respect of their political goals, personal and national.

There is a need to consider the role of population policies in achieving both population and development objectives against alternative of policy

options not aimed directly at influencing population characteristics. Finally, the political costs and benefits must be considered for the political assessment finally determines whether something happens or not.

I therefore propose the following framework for evaluation of population policies.

Programme	Development	Policy	Politics
Impact of population program on a specific population objective, that is:	Association of Population Programme with development goals, that is:	Effectiveness of Population Programme in terms of alternative policy choices, that is:	Role of programme achieving Political objectives, that is:
Suppression of fertility	Increasing individual income	Alternation in economic system	Regime Stability
Dispersal of Population groups	Improving income distribution	Income redistribution	Policy loyalty
Homogenization of population group	Providing more employment	Expansion of elementary education	Leadership support
	Reducing Mortality	Improvement of health care facilities	Ideological conformity
	Increasing access to education		National unity
	Decreasing Dependence on external assistance		

The political factor is vital. Scientists and intellectuals who deal with population issues understandably employ standards of theoretical soundness, rational assessment, and scientific modesty. But political leaders function in a different sort of world, where rationality cannot always serve as an effective working tool. Their choices are based on the answer to the question: "Does it make political good sense?" And the standard of political good sense is often a highly subjective one, involving personal values and judgments. Political choices are based on a special cost benefit calculation, based on the certain assumption that every push requires a pull, every take requires a give, every favour requires an obligation, and every credit requires a debit. The evaluation of these dynamics in every political system may be attempted by rational means, but judgments may well be based on instinct and prove on less valid.

The political cost benefit calculus has been neglected within the evaluation framework of population policy making. It can safely be assumed that economic considerations do not always govern the political choices of presidents, prime ministers, cabinet ministers, legislators, and party leaders, whatever the quality of their civic commitment or public spirit. Politicians everywhere are interested in getting re-elected (where elections are relevant) and always in staying in power. They are most likely to respond to propositions helping them to stay in power. As regards population policy

there has been little interest in creating a perspective that might supply such propositions.

Early this year, the U. S. Population Council organized a conference designed to expose state-level political leaders in the northeast United States of population scientists and specialists. The idea was to confront the politicians with population problems that the experts considered relevant to the well-being of the states and thus to motivate the leaders to initiate the necessary policies and actions. A political leader from Massachusetts expressed frustration at the outcome of the conference. He complained that the experts arrived with a policy agenda based on a rational and scientific assessment of the issues, which was completely unresponsive to the political realities leaders had to face, and thus unlikely to provide convincing grounds for political action. In Massachusetts, for instance, talk of "population" is equated by many voters with talk of abortion, and the abortion issue is almost lethal to the aspirations of a politician. Any Massachusetts politician advocating issues labelled "population" thus does so at his peril. Hence, in this state population policy-making requires sensitive selection, packaging, and labelling of issues to enjoy any prospect of success. This requirement was not accepted by the experts, to the discomfort of the legislator, who sincerely disired to act on population policy requirements in Massachusetts. Some experts, on their part, complained that the politicians were dense, timid, and insensitive to their public responsibilities. There was, therefore, little communication between the experts and the politicians. They, so to speak, passed each other in the night.

The episode described above, perhaps in a slightly different form, has occurred in many places outside the United States. It is significant because it demonstrates the limitation of scientific analysis in the political decision-making process. Ultimately policy is a product of politics, not of science, however unfortunate this may be. Scientists interested in policy-making must therefore support politicians on political terms, even when this requires a departure from their accustomed procedures and intellectual processes. Such support may require dealing with issues and responding to problems of marginal interest to the scientists, but critical for political leaders.

Unless the evaluation process in population policy-making is expanded to cover nonscientific issues, the experts will merely continue to talk to each other—at best about increasingly interesting subject-matter. Under such circumstances, scientific output is unlikely to affect policy-making either by providing an improved base for policy choices, or in initiating policy choices where none have been made.

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উফশী প্রযুক্তি ও আমাদের পরিবেশ

এম.এ. হামিদ *

উন্নয়নগামী বিশ্বে ষাটদশকের গোড়ারদিকেই উফশী (উচ্চ ফলনশীল) প্রযুক্তির বিকাশ শুরু হলেও বাংলাদেশে এর প্রসার ঘটে স্বাধীনতা উত্তরকালে। এই প্রযুক্তির উৎপাদন, কর্মসংস্থান ও বন্টনজনিত প্রভাব নিয়ে গবেষণা ও আলোচনা হয়েছে বিস্তর। এর পরিবেশগত প্রভাব নিয়ে চিন্তা-ভাবনা বাংলাদেশে নতুন হলেও, আন্তর্জাতিক পর্যায়ে এর গুরুত্ব ও তীব্রতা উপলব্ধি করা হয়েছে অনেক আগেই। প্রকাশ, উন্নয়নগামী দেশসহ বিশ্বের বিভিন্ন দেশের পরিবেশ সমস্যার মূল কারণসমূহের ধরন বিশ্লেষণ করে তার সম্ভাব্য সমাধানের পন্থাসমূহ উদ্ভাবনের উদ্দেশ্যে গঠিত হয়েছে জাতিসংঘের উদ্যোগে World Commission on Environment and Development (WCED) ১৯৮৩ সালে। সুখের বিষয় বাংলাদেশও এই আন্দোলনে অংশগ্রহণে এগিয়ে এসেছে। বাংলাদেশ সরকার ১৯৯০ দশককে পরিবেশ দশক হিসেবে গণ্য করে ১৯৯০ সালকে পরিবেশ বছর হিসেবে ঘোষণা দিয়েছে। এ কারণেই উফশী প্রযুক্তির পরিবেশগত প্রভাব নিয়ে পর্যালোচনার করার গুরুত্ব এখন উত্তরোত্তর বৃদ্ধি পাচ্ছে।

বাংলাদেশের প্রেক্ষাপটে উফশী প্রযুক্তির পরিবেশগত প্রভাবসমূহ চিহ্নিত করা এবং সেগুলো সমাধানের সম্ভাব্য পন্থাসমূহ পর্যালোচনা করাই বর্তমান প্রবন্ধের মূল বিচার্য।

১. পরিবেশগত প্রভাব

উফশী প্রযুক্তির পরিবেশগত প্রভাব নিয়ে পর্যালোচনা করতে হলে এর প্রতিটি অংগের পৃথক পৃথক বিশ্লেষণ প্রয়োজন। এই প্রযুক্তিটি যেসব উপকরণের সমষ্টি তার মধ্যে রয়েছে উফশী বীজ, রাসায়নিক সার, আধুনিক সেচ, কীটনাশক সামগ্রী এবং অর্থনৈতিক অবকাঠামো। এগুলোর পরিবেশগত প্রভাব আলোচনা করা হলো।

(ক) উফশী বীজ

ষাটদশকের শেষের দিকে শুরু হলেও, বর্তমানে দেশে প্রায় এক-তৃতীয়াংশ জমিতে উফশী বীজের চাষ হচ্ছে। 'কৃষি সম্প্রসারণ,' 'খাদ্যে স্বয়ংসম্পন্নতা অর্জন,' ইত্যাদি শ্লোগান এ ধরনের বীজের পরিমাণ বৃদ্ধির উদ্দীপক। এর ফলে খাদ্য উৎপাদন (ধান ও গমের মানে) বৃদ্ধি পেয়েছে নিঃসন্দেহে। ১৯৬০ সালের দিকে যেখানে খাদ্য উৎপাদন ছিল মাত্র ১০০ লাখ টন বা তারও কম, এখন (১৯৯০-৯১) তা বৃদ্ধি পেয়ে ১৯৫ লাখ টনে পৌঁছিয়েছে বলে শোনা যাচ্ছে।

প্রশ্ন আসে এই বর্ধিত উৎপাদনের উৎস কি? এক বিশ্লেষণে দেখা যায় ১৯৬৯-৮৫ সময়কালে যেখানে জমির পরিমাণ বৃদ্ধি পায় শতকরা ১২·৪২ ভাগ হারে সেখানে উৎপাদন বৃদ্ধি পায় শতকরা ১০·৩০ ভাগ হারে [১;৭৯]। অর্থাৎ এই সময়কালে ফলন বৃদ্ধির হার ছিল ঋণাত্বক, শতকরা ১০·৩০-১২·৪২ = - ২·১২ ভাগ। উক্ত বিশ্লেষণে আরও দেখানো হয় যে

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এই বাড়তি জমির উৎস ছিল মূলতঃ পাটের জমি (যা হ্রাস পেয়েছে শতকরা ১ ভাগ হারে), ডাল ও তেলবীজের জমি (যা হ্রাস পেয়েছে শতকরা ২·৪ ভাগ হারে) এবং অন্যান্য ফসলের জমি (হ্রাসকৃত হার ১·৬ ভাগ)। এরূপ অবস্থার জন্যই খাদ্য উৎপাদন বাড়া সত্ত্বেও জনগণের পুষ্টিহীনতা কমেনি; বরং খাদ্য তালিকায় ডাল ও তেলের পরিমাণ হ্রাস পাওয়ায় দেখা দিচ্ছে খাদ্যে ভারসাম্যহীনতা যার ফলে জনগণ ভুগছে নানাবিধ অসুখ-বিসুখে।

এভাবে উফশী বীজের মাধ্যমে খাদ্য উৎপাদন বৃদ্ধির ফলে দেশের বনাঞ্চলের উপরও বিরূপ প্রতিক্রিয়া লক্ষ্য করা যাচ্ছে। উল্লেখ্য, ১৯৬০ সালে দেশের মোট এলাকার প্রায় ২০% বনাঞ্চলের আওতায় ছিল, অথচ ১৯৮৭ সালে তা হ্রাস পেয়ে দাঁড়িয়েছে মাত্র ৯% এ। আরও উল্লেখ্য যে, একটি দেশের সুষ্ঠ পরিবেশ বজায় রাখতে হলে মোট এলাকার কমপক্ষে এক-চতুর্থাংশ বনাঞ্চলের আওতায় থাকা বাঞ্ছণীয়। যাক, বনাঞ্চল হ্রাস পাবার কারণে প্রাকৃতিক ভারসাম্য ক্ষতিগ্রস্ত হচ্ছে, বন্যপ্রাণী হারিয়ে যাচ্ছে। এক হিসেবে জানা যায় মাত্র ৫০ বছর পূর্বে বাংলাদেশে যেখানে প্রায় ১৩০ রকমের প্রজাতির অস্তিত্ব ছিল, সেখানে আজকাল তা হ্রাস পেয়ে ১১৯ এ দাঁড়িয়েছে। রয়েল বেঙ্গল টাইগার, চিতাবাঘ, হাতী ইত্যাদি প্রাণী আজ প্রায় বিলুপ্তির পথে।

(খ) রাসায়নিক সার

ইউরিয়া, এম.পি. ও টি.এস.পি. জাতীয় রাসায়নিক সারের ব্যবহার বাংলাদেশে দ্রুতগতিতে বাড়ছে। ১৯৬৫-৬৬ সালে মাত্র ৭৬ হাজার টন (নিউট্রিয়েন্ট মানে) সার ব্যবহৃত হলেও ১৯৮৭-৮৮ সালে এর পরিমাণ দাঁড়িয়েছে ৭০০ হাজার টনেরও উপর, অর্থাৎ এ সময়কালে সার ব্যবহারে প্রবৃদ্ধির হার ছিল ১০·৬%। এর ফলে ফসলের ফলন বৃদ্ধি পেয়েছে নিঃসন্দেহে, কিন্তু সে বৃদ্ধির হার এখন নিম্নমুখী, ক্রমহ্রাসমান উৎপাদন বিধির সকল উদাহরণ। পরিমাণের দিক থেকে উদ্বেগজনক পর্যায়ে না পৌছলেও, অবৈজ্ঞানিক পদ্ধতিতে সার প্রয়োগের দরুন মাটির গুণাগুণ নষ্ট হচ্ছে এবং জমির উৎপাদিকা শক্তি হ্রাস পাচ্ছে। এক পরিসংখ্যানে দেখা যায় বর্তমানে প্রায় ১·২ মিহে জমি সালফার এবং ১·৬ মিহে জমি জিঙ্ক ঘাটতির শিকার। শুধু তাই নয়, কোন কোন এলাকায় অপরিকল্পিতভাবে সার ব্যবহারের ফলে মাছের উৎপাদনও ক্ষতিগ্রস্ত হচ্ছে।

(গ) আধুনিক সেচ

উফশী প্রযুক্তির যতগুলো অঙ্গ রয়েছে তার মধ্যে, পরিবেশগত প্রভাবের দৃষ্টিকোণ থেকে, সবচেয়ে বেশি গুরুত্বপূর্ণ হলো আধুনিক সেচ। পদ্ধতিগত দিক থেকে একে দু'ভাগে ভাগ করা হয়—ভূ-উপরিভাগ পানি ব্যবহার পদ্ধতি ও ভূগর্ভস্থ পানি উত্তোলন পদ্ধতি। গত তিনদশকে দেশে আধুনিক সেচের আওতায় জমির পরিমাণ বেশ বেড়েছে। বর্তমানে মোট আবাদী জমির প্রায় এক-চতুর্থাংশ সেচের আওতায় এসেছে, যার মধ্যে আধুনিক সেচের অংশ চার ভাগের তিন ভাগ। কৃষি উৎপাদন বৃদ্ধির ক্ষেত্রে এর অবদান যেমন স্বীকার্য, এর পরিবেশগত প্রভাবও তেমনি স্বীকার্য।

ভূ-পৃষ্ঠস্থ পানি ব্যবহার পদ্ধতির মধ্যে শক্তিচালিত পাম্পই প্রধান। ষাটদশকের গোড়া থেকে মাত্র কয়েক হাজার পাম্প নিয়ে শুরু করে বর্তমানে এই সংখ্যা দাঁড়িয়েছে প্রায় ৫৮ হাজার। এত সংখ্যক পাম্প ব্যবহারের ফলে এবং বিভিন্ন জলাশয়ের ধারণ-ক্ষমতা বৃদ্ধির কোন প্রচেষ্টার অনুপস্থিতিতে গ্রামবাংলার খাল-বিল, হাওড়-বাওড়, পুকুর-ডোবা এমনকি নদ-

নদীর স্থায়ী পানির স্তর হয় হ্রাস পাচ্ছে অথবা শুকিয়ে যাচ্ছে। সেই "কূলহীন কিনারাহীন অথৈ বিল" হিসেবে আখ্যায়িত চলনবিল আজ আবাদী জমিতে রূপান্তরিত হয়েছে। ফলস্বরূপ, নদীমাতৃক বাংলাদেশে শুষ্ক মৌসুমে নৌ-চলাচল প্রায় বন্ধ হয়ে যাচ্ছে এবং ভীষণভাবে ক্ষতিগ্রস্ত হচ্ছে মাছের উৎপাদন। উল্লেখ্য, গত ১২ বছরে (১৯৭৫ থেকে ১৯৮৭) যেখানে জনসংখ্যা বৃদ্ধি পেয়েছে প্রায় ৪৫%, সেখানে মাছের উৎপাদন বৃদ্ধি পেয়েছে মাত্র ১%। সাম্প্রতিককালে এই হ্রাসের পরিমাণ আরও উদ্বেগজনক। মাছ-ভাতে বাঙ্গালী আজ হয়েছে চোরাই পথে আসা গবাদি পশুর গোশতের কাঙ্গাঁলী।

সেচের পরিপূরক হিসেবে এখন জোর দেয়া হচ্ছে বেড়ীবাঁধ ও বন্যা নিয়ন্ত্রণ অবকাঠামোর উপর। ১৯৮৯-৯০ সালে এরূপ বাঁধের আওতায় আসে প্রায় ৩·২৪ মিহে এলাকা যা বৃদ্ধি পেয়ে ১৯৯৪-৯৫ সাল নাগাদ হবার কথা ৩·৬৪ মিহে। এরূপ অবকাঠামোর সৃষ্টির ফলে অনেক স্থানে এবং অনেক সময়ই রক্ষা পায় ফসল, বাড়িঘর এবং বিষয়-সম্পত্তি। তবে বেশিরভাগ বাঁধই অবৈজ্ঞানিক পন্থায় নির্মিত হওয়ায় এর পরিবেশগত প্রভাবও কম বেদনাদায়ক নয়। মাঠ গবেষণায় দেখা যায় যে এ সমস্ত বাঁধের আওতায় জনগণ (যেমন পাবনা-সিরাজগঞ্জ এলাকায়) নিশ্চিত নিরাপদ মনে করে নীচু জমিতেই (বিশেষ করে নদীতে বাড়িঘর হারানোর লোকজন) ঘরবাড়ি নির্মাণসহ কলকারখানা স্থাপন করে। হঠাৎ যখন বাঁধ ভেঙ্গে যায় (বলা বাহুল্য, ব্রহ্মপুত্র রাইট এম্‌ব্যাংকমেন্ট গত ৭ বছরের মধ্যে ৫ বছর ভেঙ্গেছে) তখন অল্প সময়ের মধ্যে ফসলের ক্ষয়ক্ষতি ছাড়াও বিষয়-সম্পত্তির যে ক্ষতি হয় তা বর্ণনাতীত। এ ধরনের বাঁধের বেশীরভাগ রেগুলেটর অকার্যকর থাকায় পানি চলাচল বাধাগ্রস্ত হয় এবং মাছের উৎপাদনও ব্যাহত হয়। FAO এবং UNESCO-এর এক সমীক্ষায় দেখা যায় সারা পৃথিবীর প্রায় অর্ধেক সেচ প্রকল্প (ত্রুটিজনিত কারণে) জলবদ্ধতা, লবণাক্ততা এবং ক্ষারযুক্ত মাটির জন্য দায়ী এবং ফলস্বরূপ প্রতি বছরে প্রায় ১০ মিহে সেচের জমি আবাদের অযোগ্য হয়ে পড়ছে[২;১৮]।

ভূ-গর্ভস্থ সেচ পদ্ধতিসমূহের মধ্যে গভীর ও অগভীর নলকূপই প্রধান। এদের সংখ্যাও গত দশকে দ্রুতগতিতে বৃদ্ধি পেয়েছে এগুলোর মাধ্যমে ১৯৮৯-৯০ সালে সারা দেশে ৩·১০ মিহে জমিতে সেচ দেয়া হয়, এই পরিমাণ চতুর্থ পঞ্চবার্ষিকী পরিকল্পনা নাগাদ (১৯৯৪-৯৫) ৪·৮১ মিহেতে দাঁড়াবে বলে আশা করা হচ্ছে। এভাবে পানি উত্তোলনের ফলে পরিবেশগত প্রভাবের মধ্যে যে তথ্যটি সবার আগে চোখে পড়ে তাহলো ভূ-গর্ভস্থ পানির স্তর নেমে যাওয়া। এল.আর. খান (১৯৮৮) তাঁর এক গবেষণায় দেখিয়েছেন যে ১৯৮৮ সালে রাজশাহী, পাবনা, বগুড়া, কুমিল্লা, ময়মনসিংহ ও ঢাকায় কোথাও কোথাও পানির স্তর ৯ থেকে ১৩ মিটার পর্যন্ত নেমে গেছে। তাছাড়া রাজশাহীর বরেন্দ্র এলাকার প্রায় ৫০ হাজার পুকুর, ডোবা, ইত্যাদি শুকিয়ে যাচ্ছে। এই এলাকা যে মরুভূমিতে পরিণত হতে পারে, এ আশংকা অনেকেই করে আসছেন। এই অতিরিক্ত পানি উত্তোলনের আরও একটি দোষ হলো পানির গুণাগুণ নষ্ট হওয়া। এ ব্যাপারেও অনেক অভিযোগ আসছে দেশের বিভিন্ন বিশেষজ্ঞদের নিকট থেকে।

(ঘ) কীটনাশক সামগ্রী

স্থানীয় জাতের ফসলের ক্ষেত্রে পোকা-মাকড়ের উৎপাদন খুবই সামান্য এবং প্রতিশোধকের ব্যবস্থাও নগণ্য। উফশী ফসলের সাথে পোকা-মাকড়ের সম্পর্ক ধনাত্মকভাবে খুবই নিবিড়। এর কুফল থেকে বাঁচার জন্য কৃষকদের পূর্বাহ্নেই জমিতে কীটনাশক সামগ্রী ব্যবহার করতে হয়। ফলস্বরূপ একদিকে যেমন পোকা-মাকড় দমন হচ্ছে, আবার অন্যদিকে

তেমনি প্রাকৃতিক ভারসাম্যও ক্ষতিগ্রস্ত হচ্ছে। জানা যায়, এই সমস্ত সামগ্রী ব্যবহারের দরুন উর্বরতা বৃদ্ধিকারী অনেক প্রাণীর (যেমন ব্যাঙ ও কেঁচো) অবলুপ্তি ঘটছে। এর আরও মারাত্মক পরিবেশগত কুফল হলো এসব সামগ্রী পুকুর, ডোবাসহ অন্যান্য জলাশয়ে প্রবেশ করে মাছের উৎপাদন দারুণভাবে ক্ষতিগ্রস্ত করছে। Lebel and Kane তাঁদের গবেষণায় দাবী করেছেন এরূপ সামগ্রী ব্যবহারের ফলে উন্নয়নগামী বিশ্বে প্রতিবছরে প্রায় ১০ হাজার লোক মৃত্যুবরণ করছে এবং প্রায় ৪ লাখ লোক সংশ্লিষ্ট রোগে ভুগছে[২;১৯]।

(ঙ) অর্থনৈতিক অবকাঠামো

উফশী প্রযুক্তি প্রসারের ফলে প্রাপ্ত বর্ধিত ফসল স্থানান্তরের তাগিদেই যে পল্লী এলাকায় অর্থনৈতিক অবকাঠামোর, বিশেষ করে রাস্তাঘাট ও যানবাহন, প্রসার ঘটেছে তা অস্বীকার করবার উপায় নেই। আরও সত্য কথা এই যে গত দেড়যুগ ধরে গ্রামবাংলায় যত রাস্তাঘাট নির্মিত হয়েছে তা বাংলার ইতিহাসে বিরল।

রাস্তাঘাটের উন্নয়ন অর্থনৈতিক উন্নয়নের পূর্বশর্ত, সন্দেহ নেই। কিন্তু সেই রাস্তাঘাট যদি অপরিকল্পিত ও অবৈজ্ঞানিক পদ্ধতিতে নির্মিত হয়, তবে তা নানা সমস্যার জন্ম দেয়। গ্রামবাংলায় রাস্তাঘাট নির্মিত হয় বা হচ্ছে মূলতঃ "কাবিখা" (কাজের বিনিময়ে খাদ্য) কর্মসূচীর মাধ্যমে। এরূপ কর্মসূচীর একটি উল্লেখযোগ্য বৈশিষ্ট্য হলো এতে শুধু মাটির কাজ করারই ব্যবস্থা থাকে, কালভার্ট বা ছোটখাট পুল নির্মাণের কোন ব্যবস্থা থাকে না। নতুন রাস্তা নির্মাণের ক্ষেত্রে বৈজ্ঞানিক নির্দেশনার চেয়ে স্থানীয় প্রভাবশালী ব্যক্তির স্বার্থেরই আধিক্য থাকে বেশি। ফলস্বরূপ, একদিকে/একসময় জলাবদ্ধতা আর অন্যদিকে/অন্য সময় অকাল বন্যার সৃষ্টি হয় এবং নৌ-চলাচল ও মাছের অবাধ বিচরণ বাধাপ্রাপ্ত হয়। আবার পানির চাপে যখন এই রাস্তা ভেঙ্গে যায় কিংবা জনগণই তাঁদের সুবিধার্থে এই রাস্তা কেটে দেয় তখন দেখা দেয় অন্যরকম সমস্যা। ক্ষেতের ফসল বিনষ্ট হয় কিংবা রাস্তায় যানচলাচল বন্ধ হয়ে যায়। রাস্তা নির্মাণে যে ইটের ব্যবস্থা হয় তা তৈরিতেও যে গাছ-গাছড়া নিধন করা হয় তাও পরিবেশ দূষণের জন্য অনেকাংশে দায়ী।

২। প্রতিকারের উপায়

আমরা এতক্ষণ উফশী প্রযুক্তির পরিবেশগত প্রভাব নিয়ে আলোচনা করলাম। এই সেকশনে ঐসব প্রভাব থেকে কিভাবে মুক্ত থাকা যায় তা নিয়ে পর্যালোচনা করা হলো। আলোচনাটির কথা ও কতিপয় সুপারিশ।

(ক) কতিপয় জ্ঞানপূর্ণ কথা

প্রথমতঃ উপরে উফশী প্রযুক্তির পরিবেশগত প্রভাবের যে চিত্র তুলে ধরা হয়েছে, তার অর্থ এই নয় যে এই প্রযুক্তির ব্যবহার ও প্রসার বন্ধ করতে হবে। আসলে পরিবেশ দূষণ থেকে মুক্তি উফশী প্রযুক্তি বর্জনের মধ্যে নিহিত নয়, বরং এর কার্যকরী ব্যবহারের উপর নির্ভরশীল। অন্য কথায়, পরিবেশ দূষণ-সক্রান্ত প্রশ্নাদি এবং উফশী প্রযুক্তি ব্যবহার-সংক্রান্ত প্রশ্নাদি (অথবা সার্বিকভাবে অর্থনৈতিক উন্নয়ন-সংক্রান্ত প্রশ্নাদি) আলাদাভাবে বিবেচনা করা যায় না, এগুলো একই সুতায় গাঁথা।

দ্বিতীয়তঃ পৃথিবীর মানচিত্রে বাংলাদেশকে যত ক্ষুদ্রই মনে হোক না কেন উফশী প্রযুক্তি ও পরিবেশগত বিষয়াদি একই সুতায় গাঁথলে শুধুমাত্র বিভিন্ন জেলার মধ্যেই নয়, বিভিন্ন উপজেলা, ইউনিয়ন এবং এমন কি, বিভিন্ন গ্রামের মধ্যেও প্রাকৃতিক অসাদৃশ্য চোখে পড়বে।

মাটির উর্বরতা শক্তির বিভিন্নতা, একই রকম নলকূপের দেয় পানির পরিমাণের তারতম্য এবং বিভিন্ন পুকুরে মাছের উৎপাদন বৃদ্ধির অসমতা এর উজ্জ্বল দৃষ্টান্ত। এমতাবস্থায়, সম বা একবিধ যেখানে পানি অপ্রতুল, সেখানে সেচ প্রকল্পের উদ্দেশ্য হবে প্রতি একক পানির উৎপাদনশীলতা সর্বোচ্চ করা; আবার যেখানে পানি অপ্রতুল নয়, সেখানে জমির সর্বোচ্চ উৎপাদনশীলতা নিশ্চিত করাই হওয়া উচিত মূখ্য উদ্দেশ্য। বলা বাহুল্য, স্থানীয় পর্যায়ের বা উর্ধমূখী পরিকল্পনার গুরুত্ব এখানেই।

তৃতীয়তঃ মনে রাখতে হবে দূষিত পরিবেশ শুধুমাত্র এক বা একাধিক বিষয়ের দ্বারাই সৃষ্টি হয় না, এটা বিভিন্ন বিষয়ের আন্তঃক্রিয়ারও ফসল। উদাহরণতঃ একটি অগভীর নলকূপ ব্যবহারের ফলে পানির স্তর ক্রমাগত নিচে নেমে যাবে কিনা তা শুধুমাত্র (i) সেচের জমির পরিমাণ, (ii) ফসলের ধরন, (iii) মাটির পানি ধারণ–ক্ষমতা, (iv) পানি অপচয়ের পরিমাণ, ইত্যাদি বিষয়াদির উপরই নির্ভরশীল নয়, বরং ঃ (i) আশপাশের নলকূপের দূরত্ব, (ii) আশপাশের জলাশয়ের প্রকৃতি (iii) বৃষ্টিপাতের পরিমাণ, ইত্যাদি বিষয়ের দ্বারাও প্রভাবান্বিত হয়। ঠিক তেমনি মাটির গুণাগুণ শুধুমাত্র রাসায়নিক সারের উপরই নির্ভর করে না, বরং নির্ভর করে জৈবিক সার ব্যবহারের উপর এবং যে সেচের পানি ব্যবহৃত হয় তা লৌহমুক্ত কিনা তার উপরও।

চতুর্থতঃ একজন গাড়িচালক যেমন নিজে শতকরা একশত ভাগ সতর্ক থেকেও দুর্ঘটনার হাত থেকে রেহাই পাবেন বলে শতকরা একশত ভাগ নিশ্চিত হতে পারেন না (কারণ, যিনি সামনে গাড়ি চালিয়ে আসছেন তিনি অতটা সতর্কতা অবলম্বন করতে নাও পারেন, তিনি মদ্য পায়ীও হতে পারেন), ঠিক তেমনি একটি দেশও উফশী প্রযুক্তি ও পরিবেশগত ব্যাপারে সম্পূর্ণভাবে সতর্কতা অবলম্বন করেও, পার্শ্ববর্তী বা ভিন দেশের অশুভ বা অবৈজ্ঞানিক কার্যকলাপের দরুন দূষিত পরিবেশের শিকার হতে পারে। যেমন ফারাক্কা বাঁধ দ্বারা গঙ্গার/পদ্মার পানির গতিরোধ করার কারণে বাংলাদেশের উত্তরাঞ্চলের নদ–নদীতে চর পড়ছে, নৌ–যান চলাচলের ব্যাঘাত সৃষ্টি হচ্ছে এবং দক্ষিণাঞ্চলের সুন্দরবনে লবণাক্ততা বৃদ্ধির জন্য বনাঞ্চলের অবনতি ঘটছে। রাশিয়ার চেরণবিল দুর্ঘটনার কারণে দূষিত টিনজাত দুগ্ধ ব্যবহারের জন্য বাংলাদেশসহ অনেক দেশের জনগণই নানা অজানা রোগে আক্রান্ত হচ্ছে।

শেষে, অথচ গুরুত্বের দিক থেকে সবার উপরে, আরও একটি জ্ঞানপূর্ণ কথা হলো এই বক্তব্যটির তাৎপর্য উপলব্ধি করাঃ "আমরা জমীনকে বিস্তৃত করিয়াছি, উহাতে পাহাড় গাড়িয়া দিয়াছি, ইহাতে সব জাতের উদ্ভিদ যথাযথভাবে মাপা–ঝোপা পরিমাণ সহকারে সৃষ্টি করিয়াছি এবং উহাতে জীবিকার উপকরণ সংগ্রহ করিয়া দিয়াছি, তোমাদের জন্য এবং সেই অসংখ্য মখ্লুকের জন্যও, যাহাদের রেজেকদাতা তোমরা নহ। ..... যে জিনিসকে আমরা নাজিল করি, এক নির্দিষ্ট পরিমাণে নাজিল করি। ফলদায়ক বায়ু আমরাই পাঠাই, পরে পানি বর্ষণ করি, আর সেই পানি দ্বারা তোমাদের সিক্ত করি। এই সম্পদের খাজাঞ্চী (মালিক বা ধারক) তোমরা নও" (আল–কোরআন ১৫ঃ১৯–২২)। অর্থাৎ যেহেতু কোন মানুষ বা গোষ্ঠী বা জাতি প্রাকৃতিক সম্পদের প্রকৃত মালিক নয়, হতেও পারে না, সেহেতু এগুলো ব্যবহারের প্রাথমিক পর্যায়েই, উফশী প্রযুক্তি–সংক্রান্ত কোন প্রকল্প তৈরি করার সময়ই প্রাকৃতিক ভারসাম্য যাতে নষ্ট না হয়, পরিবেশ যাতে দূষিত না হয়, সেদিকে অবশ্যই নজর রাখা বাঞ্ছণীয়। মানব জাতিসহ সকল শ্রেণীর প্রাণীর অস্তিত্বের জন্য এই ভারসাম্য রক্ষা করা অত্যাবশ্যক।

(খ) কতিপয় সুপারিশ

উপরের মন্তব্য সাপেক্ষে উফশী প্রযুক্তির সম্ভাব্য পরিবেশগত প্রভাব থেকে দূরে থাকার জন্য নিম্নে কতিপয় সুপরিশ রাখা হলো—

(i) মাটির গুণাগুণ রক্ষার্থে এবং পুষ্টিতে ভারসাম্য ফিরিয়ে আনতে ফসলে বৈচিত্র্য আনয়ন করতে হবে। ডাল, তেলবীজ ও শাকসবজির চাষ বাড়াতে হবে।

(ii) সীমিত জমির কথা স্মরণ করেই, চাষের নিবিড়তা বৃদ্ধির মাধ্যমে খাদ্য উৎপাদন বৃদ্ধি কর্মসূচী সফল করে তুলতে হবে।

(iii) কম পানি লাগে এবং কম পোকা–মাকড়ের আক্রমণ হয় এমন ধান–গম বীজ উদ্ভাবনের প্রচেষ্টা অব্যাহত রাখতে হবে। ডাল ও তেলবীজের উফশী বীজ উদ্ভাবন করতে হবে।

(iv) রাসায়নিক সারের পাশাপাশি জৈবিক সার ব্যবহারের জন্য প্রচারণা চালানো অত্যাবশ্যক।

(v) ভূ–গর্ভস্থ পানির চেয়ে ভূ–পৃষ্ঠস্থ পানির উপর বেশি জোর দিতে হবে। এর জন্য খাল–বিল, ডোবা–পুকুর, বিল–ঝিল এমনকি নদ–নদী খননের বা সংস্কারের ব্যবস্থা করতে হবে। পূর্ববর্তী সরকারের খাল কাটা কর্মসূচী, প্রয়োজনীয় সংশোধন সাপেক্ষে, চালু করতেহবে।

(vi) পানি রোধের জন্য নয়, বরং পানি নিয়ন্ত্রণের জন্য বাঁধ নির্মাণ করতে হবে। এরূপ বাঁধে কার্যকরী স্লুইচগেট অবশ্যই রাখতে হবে।

(vii) স্থানীয় প্রযুক্তির উন্নতিসাধন করতে হবে। প্রযুক্তি ডিজাইন ও বাছাই এর সময় পরিবেশগত প্রভাবের দিকে খেয়াল রাখতে হবে।

(viii) কীটনাশক সামগ্রীর যথেচ্ছ ব্যবহার রোধ করতে হবে। দেশীয় পদ্ধতিতে পোকামাকড় দমনের প্রচেষ্টা চালাতে হবে। কীটনাশক সামগ্রী আমদানি করার সময় এগুলো ঐ রফতানিকারক দেশ ব্যবহার করে কিনা তা খোঁজ করে দেখতে হবে।

(ix) অপরিকল্পিত ও অবৈজ্ঞানিক পদ্ধতিতে পল্লীর রাস্তাঘাট নির্মাণ বন্ধ করতে হবে। রাস্তা নির্মাণের ফলে নৌ–চলাচল যাতে বন্ধ না হয় সেদিকে খেয়াল রাখতে হবে।

(x) গাছ কাটা রোধ করতে হবে। একটি গাছ কাটা পড়লে ১০টি গাছ লাগাতে হবে এমন শ্লোগান কার্যকরী করতে হবে। রাস্তার পাশে লাগানো গাছপালা রক্ষণাবেক্ষণের দায়িত্ব আশপাশের জনগণকে দিতে হবে এবং তারা যাতে এ দায়িত্ব পালনে উৎসাহ পায় সে ব্যবস্থা অবশ্যই করতে হবে।

(xi) সবচেয়ে বড়কথা, খাদ্য উৎপাদন বৃদ্ধি, মাছচাষ গবাদিপশুর উন্নয়ন, পল্লীর অবকাঠামো তৈরি, বন্যা নিয়ন্ত্রণ বাঁধ, ইত্যাদি কর্মসূচী প্রণয়ন ও বাস্তবায়নের জন্য সমন্বিত কর্মসূচী গ্রহণ করতে হবে।

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ACCOUNTING FOR CHANGES IN THE BALANCE OF TRADE OF BANGLADESH : 1972-73 TO 1988-89

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The external sector of Bangladesh is characterised by continued and growing deficit in the balance of trade. During the period from 1972-73 to 1988-89 export earnings grew at a 4.2 per cent annual rate while import payments grew at a 4.5 per cent annual rate. Consequently export earnings gradually fell behind and financed only about 40 per cent of the import bill in recent years (see Table 1). This has drawn the attention of the planners and the policy makers for a long time and various policies have been pursued to adjust the trade imbalances. The present paper has a limited objective. It is known that deterioration of trade balances can be attributed to a few underlying factors. This paper purports to isolate and analyse the factors underlying Bangladesh's trade imbalances between 1972-73 and 1988-89. Such decomposition of factors causing deterioration in trade balances will help policy-makers to formulate appropriate and strong adjustment policies. The organisation of the paper is simple. Section 2 provides a description of the factors underlying trade imbalances. Section 3 explains the statistical method used for decomposing the factors underlying the trade imbalances. An analysis of the results is presented in Section 4. Section 5 contains the conclusion of the study.

2. FACTORS UNDERLYING BALANCE OF TRADE DISEQUILIBRIUM

The balance of trade is defined as the value of exports of goods and services minus the value of imports of goods and services. It can be decomposed into price and quantity components. Changes in the balance of trade can spring from changes in quantities of exports and imports or in their prices. Changes in the balance of trade resulting from changes in the quantities of exports and imports at unchanged prices is termed the quantity effect. Changes in the balance of trade resulting from changes in the prices of exports and imports at unchanged quantities is termed the total price effect. The total price effect can be further decomposed into two effects — the terms of trade or relative price effect and the inflation or

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general price level effect. The terms of trade effect includes changes in the balance of trade attributable to changes in the price of exports and imports which at unchanged quantities alter the net barter terms of trade defined as the ratio of the price indexes of exports and imports.

Table-1 : Price Indexes and Values of Exports and Imports and Trade Balance, 1972-73 to 1988-89

Year	Price index of Exports	Price Index of Imports	Million US $		
			Exports	Imports	Trade Balance
1972-73	56.9	37.9	354.2	780.0	-425.8
1973-74	59.5	54.9	369.7	925.0	-555.3
1974-75	67.7	71.2	344.0	1403.0	-1059.0
1975-76	58.9	68.3	371.9	1275.0	-903.1
1976-77	62.0	67.5	404.6	875 0	-470.4
1977-78	72.0	63.9	489.8	1349.0	-859.2
1978-79	91.6	79.2	609.7	1556.0	-946.3
1979-80	113.2	89.0	722.3	2372.0	-1649.7
1980-81	100.0	100.0	710.7	2533.0	-1822.3
1981-82	84.8	99.7	626.0	2572.0	-1946.0
1982-83	88.6	91.8	686.0	2309.0	-1623.0
1983-84	101.3	90.4	811.0	2353.0	-1542.0
1984-85	119.3	85.0	934.0	2647.0	-1713.0
1985-86	94.1	87.7	819.0	2364.0	-1545.0
1986-87	101.7	88.8	1074 0	2620.0	-1546.0
1987-88	113.5	95.6	1078.0	2580.0	-1502.0
1988-89	125.3	83.0	1148.0	2752.0	-1604.0

Sources : World Bank, Bangladesh Adjustment in the Eighties and Short-Term Prospects, Vol. II : Statistical Appendix, 1988; World Bank, World Tables, 1989-90.

The inflation effect includes changes attributable to the overall changes in the prices of exports and imports at unchanged quantities which keep the terms of trade constant. Equiproportional increases in export and import prices lead to a deterioration in the balance of trade when there is initially a trade deficit and to an improvement in the balance when there is initially a trade surplus [2]. These various elements of changes in the balance of trade for Bangladesh are calculated using the statistical method described in the following section.

3. THE STATISTICAL METHOD FOR ANALYSIS

The statistical method used in this paper was originally proposed by Stuvel [6; 294-307] and later used, among others, by Auten [1; 69-77] and Mehta and Moore (1981). The method decomposes the total change in the balance of trade for each inter-year into its components, viz., quantity,

terms of trade and inflation effects in such a way that they add up to the total change. Calculation of these changes proceeds through the following steps.[1] Table 1 contains the basic data on export, import, trade prices and trade balance used in this study.

(i) Chain price indexes of exports and imports are constructed using the simple price indexes of exports and imports according to

$$\text{Chain price index of exports in year } t = \frac{P^x_t}{P^x_{t-1}} \quad (1)$$

$$\text{Chain price index of imports in year } t = \frac{P^m_t}{P^m_{t-1}} \quad (2)$$

where P^x, P^m are simple price indexes of exports and imports respectively and t is time period.

Deflated values of exports and imports for each year are calculated at the prices of the preceding year according to

$$\text{Deflated values of exports : } P^x_{t-1}\, Q^x_t = \frac{P^x_t Q^x_t}{P^x_t / P^x_{t-1}} \quad (3)$$

$$\text{Deflated values of imports : } P^m_{t-1}\, Q^m_t = \frac{P^m_t Q^m_t}{P^m_t / P^m_{t-1}} \quad (4)$$

Where Q^x, Q^m are quantities of exports and imports respectively.

(ii) The inter-year changes in export and import values and their components of quantity and price are calculated as follows :

$$\text{Inter-year change in export values in year } t = P^x_t Q^x_t - P^x_{t-1} Q^x_{t-1} \quad (5)$$

$$\text{Inter-year change in import values in year } t = P^m_t Q^m_t - P^m_{t-1} Q^m_{t-1} \quad (6)$$

$$\text{Quantity component of exports in year } t = P^x_t Q^x_t - P^x_{t-1} Q^x_{t-1} \quad (7)$$

$$\text{Quantity component of imports in year } t = P^m_{t-1} Q^m_t - P^m_{t-1} Q^m_{t-1} \quad (8)$$

Price component of exports = Inter-year change in export values - Quantity component of exports (9)

Price cpmponent of imports = inter-year change in import values - Quantity component of imports. (10)

1. Calculations involving steps (i) and (ii) are not presented. They can be obtained from the author on request.

Thus, the inter-year change in export (import) values in year t is calculated by deducting export (import) values in year t-1 from those in year t. The quantity component of exports (imports) in year t is calculated by deducting export values in year t-1 from their deflated values in year t. The price component of exports (imports) is calculated by deducting quantity component of exports (import) from the inter-year change in export (imports) values. The calculated values may be either positive or negative. A positive (negative) value in a particular period indicates an increase (a decrease) in the value as compared to the corresponding value in the preceding year.

(iii) Finally, the inter-year change in the balance of trade and the factors contributing to the change are obtained according to :

Inter-year change in the balance of trade = Inter-year change in export values - Inter-year change in import values (11)

Quantity component = Quantity component of exports - Quantity component of imports (12)

Price component = Price component of exports - Price component of imports (13)

$$\text{Terms of trade effect} = (P_t^x Q_t^x - P_t^m Q_t^m) - k(P_{t-1}^x Q_t^x - P_{t-1}^m Q_t^m) \quad (14)$$

$$\text{where } k = \frac{P_t^x Q_t^x + P_t^m Q_t^m}{P_{t-1}^x Q_t^x + P_{t-1}^m Q_t^m}$$

$$\text{Inflation effect} = \text{Price component} - \text{Terms of trade component} \quad (15)$$

In other words, the inter-year change in the balance of trade is calculated by subtracting the inter-year change in import values from that in export values. A positive (negative) value implies an improvement (deterioration) in the balance of trade in the inter-year period compared to the previous inter-year period.

The inter-year change in the balance of trade is decomposed into quantity and price components. The quantity component is constructed by subtracting quantity component of imports from that of exports for each inter-year. A positive (negative) value signifies contribution of quantity component towards balance of trade improvement (deterioration). The price component series is similarly consturcted by subtracting price component of imports from that of exports for each inter-year. Again, a positive (negative) value signifies contribution of price component towards balance of trade improvement (deterioration). The price component is further decomposed into terms of trade effect and inflation effect. A

positive (negative) value of these variables shows the extent of their contribution towards the improvemtnt (deterioration) in the balance of trade. The results of these calculations are presented in Table 2.

4. ANALYSIS OF THE RESULTS

Table 1 shows that Bangladesh experienced balance of trade deficits during the entire period under study. Table 2 shows that year to year changes in the balance of trade have been very uneven—marked by both small and large changes. There was little change in the balance of trade in 1986-87; it remained roughly the same as in 1985-86. The deterioration in the balance of trade in that year due to deterioration in the quantity component was roughly matched by an improvement in the terms of trade effect. The largest improvement in the balance of trade occurred in 1976-77. This was a reflection mostly of an improvement in the quantity component and in small measure of an improvement in the terms of trade effect. The improvement in the quantity component in its turn resulted from a small increase in exports and large compression of imports attributable to the protracted effect of the large devaluation of taka in 1975. The largest deterioration in the balance of trade occurred in 1979-80. This was caused by deterioration in both quantity and price copmponents. Real exports actually declined while real imports increased in that year. In particular there was sudden jump in foodgrains and oil imports. The inflation effect also had an unfavourable impact on the trade balance. Its severity was, however, neutralised to some extent by improvement in the terms of trade.

Table-2: Inter-year Changes in the Balance of Trade Components, 1973-74 to 1988-89.

Year	Trade Balance	Quantity Component	Price Component	Terms of Trade Effect	Inflation Effect
1973-74	-129.5	140.8	-270.3	-184.8	-85.5
1974-75	-503.7	-224.1	-279.6	-45.8	-233.8
1975-76	155.9	157.0	-1.1	-91.3	90.2
1976-77	432.7	401.7	31.2	31.0	0.2
1977-78	-388.8	-532.2	143.4	143.4	0.0
1978-79	-87.1	82.6	-169.7	63.3	-233.0
1979-80	-703.4	-579.6	-123.8	181.4	-305.2
1980-81	-172.6	201.0	-373.6	-228.7	-144.9
1981-82	-123.7	-19.2	-104.5	-104.5	0.0
1982-83	323.0	95.4	227.6	227.6	0.0
1083-84	81.0	-56.3	137.3	137.3	0.0
1984-85	-171.0	-481.1	310.1	310.1	0.0
1985-86	168.0	460.3	-292.3	-292.3	0.0
1986-87	-1.0	-47.9	46.9	46.9	0.0
1987-88	44.0	116.5	-72.5	70.5	-143.0
1988-89	-102.0	-628.6	526.6	313.5	213.1
Mean	-73.6	-57.1	-16.5	36.1	-52.6
Standard Deviation	282.2	329.5	237.2	177.3	131.7
Coefficient of Variation	-3.8	-5.8	-14.4	4.9	-2.5

The quantity component deteriorated in as many years as it improved during the preiod examined. There was not, however, any sustained movement in any direction. All the inter-year deteriorations in that component, except the one in 1983-84, were associated with deteriorations in the balance of trade. On the other hand, inter-year improvements in the quantity component were associated with improvements in the balance of trade only in half of the times. This indicates that while deteriorations in the quantity component frequently lead to deteriorations in the balance of trade, improvement in that component is less certain to lead to improvement in the trade balance.

The greatest improvement in the quantity component was recorded in 1985-86. This was caused by a small increase in the volume of exports coupled with a large drop in the volume of imports. The worst deterioration took place in 1988-89. This was caused by a small drop in the volume of exports coupled with a large increase in the volume of imports. On an average, this component has exerted a negative impact on the trade balance as shown by its negative mean value of -57.1.

The price component declined in more than half of the inter-years. Thus, the inter-year deteriorations in the balance of trade were associated no less frequently with movements in prices than with movements in quantities. On an average, the price component exerted a negative impact on the balance of trade as shown by its negative value of—16.5. Its negative contribution to the trade deficit is, however, much lower—less than a third of the quantity component. The variability of the price copmponent is much higher—roughly three times the variability of the quantity component as shown by their respective coefficients of variation. This indicates relative volatility of trade prices compared with trade volumes.

The terms of trade component declined in six while it improved in ten of the inter-years examined. There is observed tendency for this component to gradualy improve for three or four consecutive inter-years interposed by deteriorations for shorter periods. On an average, it exerted a positive impact on the balance of trade deficits as shown by its positive mean value of +36.1.

The inflation effect (that is, the effect of the general rise in export and import prices in widening trade deficits or increasing trade surpluses) was of no consequence for the balance of trade deficits in half of the period examined. During the other half of the period it contributed to expansion of the trade deficits in six years and to its reduction in two years. On an average, it contributed to worsen the balance of trade deficits as shown by its negative mean value of—52.6. On the average the negative effect of

rising trade prices overwhelmed the small positive effect of the terms of trade producing a negative total effect on the trade balance.

The above analysis leads to the following observations about the factors underlying the balance of trade changes in Bangladesh : (1) The quantity component was the dominant factor underlying the balance of trade deficits. (2) The total price effect, though of lesser magnitude, has reinforced the quantity component in widening the deficits and has added to its variability. (3) The terms of trade effect had a positive impact and the inflation effect had a negative impact on the balance of trade deficits. (4) The quantity component exhibits greater variability than terms of trade. These observations are further evaluated by examining the simple and partial correlations between different sets of variables shown in Table 3.

The simple correlation between changes in the balance of trade and the quantity component is 0.71. This impiles that deterioration in the quantity component led to significant deterioration in the balance of trade. The partial correlation between them holding terms of trade effect constant is 0.89. This means that if the terms of trade had not acted favourably, deterioration in the quantity component would have brought even greater deteriorations in the balance of trade.

The simple correlation between changes in the balance of trade and the terms of trade effect is 0.12. Thus an improvement in the terms of trade led to a small change in the balance of trade in the opposite direction. An increase in the price of exports, ceteris paribus, led to a fall in the quantity demanded of exports so much so that export earnings fell to widen the trade deficit. This implies an elastic demand for Bangladeshi exports. However, the partial correlation coefficient between these variables holding the quantity component constant is 0.78. This means that if the quantity component had not declined, an improvement in the terms of trade would have led to significant improvement in the balance of trade.

Table 3 shows that the simple correlation between changes in the balance of trade and the inflation effect is 0.54. Since the initial balance of trade position shows deficit, a general rise in trade prices widens the trade deficit and deterioration in the inflation effect leads to significant deteriorations in the balance of trade. The inflation effect shows low degree of association with other components as shown in the last column of Table 3. It may be added that the simple coefficient of correlations between changes in the balance of trade and the quantity component and between changes in the balance of trade and the inflation effect are significantly different than zero at the 5 per cent level; the correlation between changes in the trade balance and the terms of trade effect is not statistically significant.

Table - 3 : Correlations

Correlation Matrix				
	Trade Balance	Quantity Component	Terms of Trade Effect	Inflation Effect
Trade Balance	1.0	0.71	—0.12	0.54
Quantity Component		1.0	—0.71	—0.02
Terms of Trade Effect			1.0	0.19
Inflation Effect				1.0
Partial Correlation Coefficients between				
Quantity component and terms of trade effect, holding trade balance constant				—0.89
Quantity component and trade balance, holding terms of trade effect constant				0.89
Terms of trade effect and trade balance, holding quantity component constant				0.78

The simple correlation between changes in the balance of trade and each of its three components considered above reinforces the notion that the quantity component is the primary influence on the balance of trade of Bangladesh. The terms of trade effect appears to be relatively unimportant in determining the changes in the balance of trade.

Table-3 shows the simple coefficient of correlation between the quantity component and the terms of trade effect to be -0.71. This strong and statistically significant relationship indicates that deteriorations in the terms of trade led to significant improvements in the quantity component. This suggests that as the terms of trade deteriorates Bangladesh tries to increase its volume of sales to maintain its level of export earnings. The partial correlation coefficient between the same variables, holding changes in the balance of trade constant is -0.89. This implies that deterioration in the terms of trade resulted in improvements in the quantity component to such an extent that there was little trade balance effect . This result is symmetrical with that obtained earlier when improvement in the terms of trade led to the deterioration of the quantity component.

5. CONCLUSION

The statistical analysis reveals that changes in the balance of trade of Bangladesh can be accounted for, in decreasing order of importance, by the quantity component, the inflation effect and the terms of trade effect. On the whole, the former two factors contributed terms of trade effect. On the whole, the former two factors contributed terms of trade effect. On the whole, the former two factors contributed towards deteriorations and the last one contributed towards small improvement of the balance of trade during the period examined. All three components, viz., the quantity component, the terms of trade effect and the inflation effect contributed in declining relative importance, to the variability of the balance of trade. The relative importance of the quantity component indicates that deteriorations in the trade balance stem more frequently from the demand pressures for imports resulting from the development process as well as from short-run problems of demand management and less frequently from other sources of change. Thus the major burden of trade deficits of Bangladesh rests on imbalances of domestic origin though factors beyond its control, i.e., factors for which it is not responsible or wholly responsible, also played a role[২] . From the standpoint of policy, the relative importance of the factors of domestic origin in determining both the level and the variability of the balance of trade means that the economy is in need of both short term demand management policies and long term structural change. The cooperation of the international economy in terms of financing the deficit as well as expanded trade opportunities may work as palliatives in the adjustment process.

2. Factors responsible for balance of payments disequilibrium are now broadly divided into two groups, viz., domestic and external. Adjustment policies and the role of external financing differ in these two cases. Sec [2, 4,3].

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PLANNING INVESTMENT IN EDUCATION : SOME PROBLEMS AND STRATEGIES

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1. INTRODUCTION

In any economy there is a strong tendency for people with certain levels of education to hold certain types of jobs. For example, in developing countries nearly all people who have received a university education work at professional, technical, or managerial jobs usually either in government or as independent professionals. People whose schooling ended at the secondary level tend to hold middle level jobs in the clerical, sales, and service occupations. Half or more of the labour force in the typical developing country is made up of farmers and agricultural labourers who have received little or no formal education.

It is tempting to jump from these observable facts to the assumption that a certain level of education is required if a person is to fill a particular occupational role. If this assumption were valid it would follow that a growing economy, which is expected to undergo a shift in occupational structure towards more professionals, technicians, and industrial workers, must follow a defined pattern of educational development to obtain the kinds of trained people it will need.

In an influential presidential speech to the American Economic Association 1960, Theodors Schultz suggested that such activities could be considered a process of accumulating capital, which could later be drawn upon to increase a worker's productivity and income. He called this investment in human capital. This form of investment, said Schultz, is every bit as important as investment in physical capital but until his speech it had largely been neglected by academics and policy-makers [1]. Subsequent work by Schultz and others elaborated the development activities mentioned above.

Studies sponsored by the World Bank lend further support to the idea that human resource development has an important bearing on economic growth [2,3].

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There is reason to believe that the relationship is two-way and mutually supporting. On the one hand growing economies can and do devote increasing resources to improvement of educational, health, and nutritional standards. But it is also apparent that investment in human resources helps to accelerate economic growth. It dies this by increasing labour productivity, encouraging greater physical investment, and reducing the dependency burden of the population. These contributions to growth are especially evident in the case of education.

Some unresolved problems in planning for national development that continue to plague the newly emergent countries centre around the issue of investment in education. Crucial among these problems which rightly seem to agitate the mind of the planner are:

(1) What is the most appropriate level of investment in education in the application of the available resources to national development?

(2) How can this investment be best distributed among the various types and levels of education so as to achieve the desired balance between the supply of and demand for educated and trained manpower?

(3) How can the mechanism for the conversion of the educational 'input' into 'output' be so streamlined as to maximise its productivity, both in quantity and quality?

These problems stem essentially from the constraint imposed by the competing claims of the various sectors of development on the limited resources available to a developing country. Theoretically they are not beyond solution. It is known to the planner that his risk is to plan the application of the available resources to the various ends in such a way that the return on the investment is maximised in terms of the rate of economic and social development.

The general principles underlying this concept are:

(1) The different sectors of development are interdependent, rendering it necessary to strike a balance in the allocation of resources among the competing ends recognised as important to economic development.

(2) Educational development should therefore be integrated into the total plan so as to ensure that the supply of qualified manpower is matched by the demand for it.

(3) Underinvestment or overinvestment in any one of these interdependent sectors of development leads to an imbalance and retards the rate of the overall growth of the country.

The translation of this theory of balance into a planned programme of action, however, bristles with many difficulties inherent in the social and economic situation of a developing country. It is true that during the last two decades notable advances have been made in refining the planning instrument and theroretically it is possible for the planner to estimate the economic demand for education of various types and levels through the use of various techniqies singly or collectively. But the forecasts even within the limited scope of the economic demand are vitiated by the difficulty in controlling the many variables affecting the input-output coefficients in the rapidly changing conditions of the developing countires, as also by the peculiarity of the production function of education and the complexity of its conversion mechanism. What follows in this paper is a brief discussion of some of these problems peculiar to educational planning and some of the strategies that may be tried in the formulation of a plan to deal with them.

II. THE CURRENT TREND OF INVESTMENT IN EDUCATION

Each of the developing countires in South and South-East Asia has a rich cultural heritage in which education was held in high esteem. Until the launching of the planned effort for overall national development, education was, however sought primarily for its human and social values. It was even regarded as an end in itself in so far as it aided the self-fulfilment of the individual. Inevitably in such a system the economic objectives occupied a place of secondary importance, and the vocational elements in education received very little attention. But the new passion for progressed and advancement which swept these countires brought in its wake also a new awareness of the importance of economic growth. In the process, scientific and technological education hitherto almost completely neglected, was suddenly pushed into the focus of public attention and education came to be valued for its vital role not only in social and cultural development but also in economic development. The plans of these countries for national development present some of the most exciting social and economic experiments, and the plan performance in achieving the targets of development is indeed very striking in many cases.

Most of these countries are now poised for still greater effort towards the goal of an economic and social breakthrough. The task ahead is, however, full of problems and challenges (briefly discussed below) which must be viewed in their correct perspective and approached with objectivity and vision.

Firstly, in spite notable rise in the expenditure on education which is at least partly accounted for by the insignificant size of educational expenditure in the pre-plan period, by and large the level of expenditure on education reached in most cases after years of planned effort hardly exceeds 2 per cent of the G.N.P. (per capita G.N.P. being $. 170). This points up the increasingly widening educational and economic gap between these countries and the advanced countries, which spend from 4 per cent to over 7 per cent of their considerably much larger G.N.P. (per capita G.N.P. being $. 1,100 approx.)

Secondly in terms of real educational development as indicated by the ratios of enrolment to the school-age population at various levels, the situation is even more disconcerting. The average enrolment ratios of 42 per cent in the first level, 12.4 per cent in the second level and 1.6 per cent in the third level in these countries are in sad contrast with the corresponding enrolment ratios of 73 per cent, 59 per cent and and 11 per cent respectively in the advanced countires [4;45-8].

Thirdly, the picture becomes still more depressing when account is taken of the serious underinvestment in certain types of education at various levels, for example in the fields of scientific, technical and vocational education. The deficiencies in these vital areas of education are evidence of imbalances within the educational system adversely affecting its fruitfulness.

Fourthly, the high rate of attrition at various levels detracts further from the effectiveness of the current investment in education and underlines serious interferences in the mechanism for conversion of the educational 'input' into 'output'. The inference is that the present investment is either inadequate for the size of the programme or not being effectively applied. This rate of attrition is as high as 70 per cent in some cases.

Fiftyly, even though the Asian countries officially recognise the pervasive value of primary education, and are commited to what is known as the objective of universal compulsory education reaffirmed by all the Asian nations under the Karachi Plan in 1960, the progress made to date indicates this objective has not been achieved in all the countries by 1980, the target year,

Sixthly, while under political and social pressures higher education continues to grow, it is still deficient both in quantity and quality. Besides, investment in research is extremely insignificant. In 1960 expenditure per

Table-1: Educational Statistics for Selected Countries (1970s and mid 1980s)

Country	Enrollment ratios					Approximate public expenditure dollars per pupil			
	% of illiterate adults	Primary School		Secondary School	Higher education	% of GNP	1st level	2nd level	3rd level
		Gross	Net	gross	gross				
Brazil	24	96	76	33	12.0	3.8	90	280	1330
Colombia	19	125	na	46	12.2	2.6	100	50	280
Bolivia	37	86	77	34	16.4	3.1	1110	70	380
Peru	20	114	92	59	21.3	3.4	180	70	na
Chile	11	112	100	59	10.4	5.8	360	160	1220
Kenya	53	104	72	20	1.0	6.5	50	110	2350
Ghana	70	76	na	34	1.3	1.8	110	190	630
Tanzania	21	98	72	3	0.4	5.9	30	340	7900
Bangladesh	71	80	na	22	3.1	1.5	7	13	48
Indonesia	38	120	100	33	4.1	2.2	na	na	na
India	64	79	62	30	8.7	3.0	20	40	120
Pakistan	76	44	na	14	2.0	1.9	30	40	310
Sri Lanka	15	103	na	54	3.6	3.0	na	na	50
South Korea	7	104	100	86	21.0	4.3	100	80	170
Malaysia	40	92	na	49	4.6	7.6	240	220	2880
Japan	1	100	100	92	30.0	6.0	1340	1490	1720
Hungary	1	100	98	73	14.1	5.0	310	1820	5330
United Kingdom	1	102	95	83	19.4	5.7	1500	960	3630
United States	1	na	na	na	58.0	6.8	na	na	2931

Source: UNESCO Statistical Yearbook 1984 (Paris, 1984); World Bank, Development Report 1985 (New York, Oxford University Press 1985) Year of most recent estimate available varies by country.

Table-2: Expenditure on education in Bangladesh

(Crore Taka)

Years	GNP at factor cost	Total Public expenditure on education	Public expenditure on education as percentage of G.N.P.	Private Expenditure on education (estimated 20 per cent of total government expenditure.	Grand total of expenditure on education.	Total expenditure on education as percentage of G.N.P
1981-82	25709	182	0.7	36	218	0.8
1982-83	28459	392	1.3	78	470	1.6
1983-84	34322	481	1.4	96	577	1.7
1984-85	40378	515	1.1	104	619	1.5
1985-86	45263	697	1.5	139	836	1.8
1986-87	52466	858	1.6	172	1030	20
1987-88	58489	1043	1.8	209	1252	21
1988-89	64452	1280	20	265	1536	2.4

Source: Computed from BBS data.

Table-3: Allocation to Education in Different Five Year Plans

(Crore Taka)

	Total outlay	Allocation to education	Education as % of total outlay
1. First plan plus two year plan	5433	258.86	4.76
2. Second plan	16060	509.51	3.17
3. Third plan	38600	1180.00	3.05
4. Fourth plan (Estimate)	67230	3289 (including Religious Affirs)	4.89

Surce: Various plan documents.

head on research and development was as low as $U.S. 0.1 in Pakistan as well as in India, compared to $6.2 in Japan, $3.4 in Britain, $36.4 in the U.S.S.R and $78.4 in the U.S.A [5].

It should be stressed here that the role played by education in capital formation has certain unique features. These lie in the potential of education to discover new talents, new goods, new technologies and new instruments of social policy. Those who perform these function constitute a new class of repidly growing importance in the advanced countries as distinguished from the other three classes of producers, namely primary, secondary and tertiary. In the developing countries research has a key role to play through the application of higher knowledge to the economic and social problems which beset these countries in hundreds.

It cannot be overemphasised that the rate of economic growth cannot be faster than that of the development of human resources. The people are both an end and a means of development. There is no instance of a developed country where the people are underdeveloped. Conversely, there is no instance where the people are developed and the country has remained underdeveloped.

III. DIVERGENCE BETWEEN PLAN CONCEPT AND PRACTICE

Contrary to the value theoretically attached in the plan concepts of most of these countries to the role of education in the formation of human capital, in practice the traditional attitude towards education as a social service and consumption seems to linger on in the minds of the planners and policy-makers in their understandable concern for accelerating the pace of economic growth. As a result, they tend to assign a high priority in the allocation of resources to investment in physical captial, steel mills, damps, fertiliser plants are looked upon as symbols of growth, wealth and prestige and they get the precedence. More or less as a logical corollary to this concept of investment, it is considered essential to cut down on all consumption and plan more on 'production', so that as a resualt of

increased prosperity more will be available to be spent on social welfare activities. By implication all education except technical, vocational and professional education is regarded as consumption and placed in the category of social welfare activities.

It is, indeed, evident that the proposition that education is an investment in human resources finds acceptance in most plans as a philosophy rather than an economic reality. In the end a lower priority is assigned to educational development. Such a situation underlines a disturbing gap between theory and practice—an outcome of the fact that the general awareness of the economic value of education still remains dim and unclear. Throughout this region where education has been traditionally held in high esteem, the economic value of education is taken for granted by the educators. The subject, however, has received very little attention from them as a field of research.

IV ANALYSIS OF THE ECONOMIC VALUE OF EDUCATION

An analysis of the economic value of education is, however, not an easy task. It is as difficult to identify the many variables as to isolate the consumption and capital components of education and measure their precise value. There are many elements in education which are intangible, imponderable and beyond measurement.

Some of the studies in this field have, however, succeeded in bringing into focus the vital role of education in creating human capital—an essential factor for economic development. These studies undertaken by some of the outstanding economists in the U.S.A., Britain, the U.S.S.R and elsewhere, have exposed the serious fallacies in the prevailing concepts of development planning which underestimated the value of education as an investment. In this context the following observation by a noted economist are, indeed, most significant.

When we consider education as an investment, we must consider it as purposefully as other forms of capital outlay. This the older and more developed countries do not necessarily do or need to do... Wealth has made it possible for them to be much more easy going. The new country cannot be so permissive towards those in whom it invests [6;37].

Even viewed as a consumer good, education is hardly ever entirely present consumption. Because it is more enduring than most other durable consumer goods, it is a source of future satisfaction and adds to future real income. But these satisfactions are not taken into account in measuring national income. Neither does the economic analysis take into account the benefits flowing from an individual's education to his family, neighbours, employer, co-workers and the society, which may be called 'external economies'. It may also be noted that there is real difficulty in isolating the

consumer component, so that an analysis of education as investment, though theoretically possible, is not easy to accomplish.

Where education results in increasing future earnings of people, it is an investment in human capital in the form of abilities acquired through education. The productive capacity of labour is largely a 'produced means' of production, so that human capital is the outcome of investments in which education forms a major part. Estimates of the rates of return of investment in education in the United States based on 1958 data [7;Table-[18] are as follows:

(a) Elementary 35 per cent.

(b) High school 10 per cent.

(c) College 11 per cent.

Based in internal rates of return to total resource investment in schooling, Hansen's estimates [8] show that the marginal rate of return rises rapidly from the completion of the seventh to eighth year of schooling, from a rate of about 9 per cent t0 29 per cent. This marginal rate of return then declines for high schools and colleges; the eleventh to twelfth year of schooling shows a return of nearly 14 per cent, and the fifteenth to sixteenth year a strong 15 per cent.

The studies in the U.S.S.R. indicated that (a) the elementary literacy given in a year of schooling raised a man's productivity by 30 per cent whereas the training of entirely illiterate workers at the factories and plants increased their productivity only by 12 to 16 per cent [9] and (b) 'the labour productivity of the persons having and four years of schooling exceeds that of the illiterate persons by 43 per cent, the labour productivity having university education by 300 per cent respectively [10;347].

In the initial period of planned development of the U.S.S.R., the prevalent thinking (similar to that of some of the planners and policy-makers in developing countries today) was that investment in machines was the most decisive factor in development. However, the difficulties experienced with untrained workers in operating the machines led to a reorientation in the plan policy.

75 per cent of the Russian population in 1917 could neither read nor write. Between 1920 and 1939 more than 57.5 million illiterate and 38.5 million semi-literate adults finished schools or courses in reading and writing compared with about 31.5 million finishing four-year elementary schools and seven-year junior secondary schools in the twelve years from 1924 to 1935. The contribution of education to labour productivity during 1940-60 is further indicated by the rise in national income of the U.S.S.R. during this period from 33,000 million roubles to 146,600 million roubles in constant

prices (that is, an increase of 338 per cent). 23 per cent of this increase (i.e. 33,700 million roubles) was the result of the raising of qualifications of the labour force. As a result the return on investment in educational development exceeded all other indices in the whole country as far as is known, growing from 52 per cent to 144 per cent a year [11;10-1].

The striking progress made by Japan since the Meiji restoration in 1868 in her transition from a backward economy to the rank of one of the advanced nations of the world gave her a unique place in Asia. Both in her economic development and in her reconstruction after the Second World War, Japan's achievement is attributed chiefly to the human factor as represented by her educated and trained manpower. Public expenditure in Japan amounted to 24 per cent of the total expenditure of the national Government, which is higher than that of most of the advanced countries. Like the United States, the U.S.S.R. the U.K., the German Federal Republic, France and Italy. Though Japan is not one of the countries with highest national income (her per capita income being approximately $U. S.350), she spends over 5 per cent of the national income on education. According to a study undertaken by the Ministry of Education in Japan, during the period of twenty five years from 1930 to 1955 increase in educational capital was estimated to have contributed 70 per cent of the 37 per cent increase in the national income [12;139].

The experiences of three countries in respect of the economic value of investment in education briefly reviewed in this paper relate to three different patterns of growth achieved in different cultural, social, economic and political conditions. But in all three cases investment in education proved to be highly effective as an instrument of economic and social growth.

It should, however, be recognised that research has not as yet gone so far as to enable us to say that a given amount of investment in a given type and level of education will lead to a given increase in the gross national product. Besides, the findings of the various studies in this regard related to the total cultural and social situation of the country concerned and also to its stage of development. In like manner it is not possible to separate the economic value of education form its social value. For examle, motives, habits and attitudes of people play a crucial part in economic growth in as much as they determine whether the people will seek and achieve this growth. The major role played by education in bringing about the desirable changes in the traditional habits and attitudes essential for economic growth underlines the fact that education is also a vital instrument in inspiring progress, in raising the general level of aspiration and also in sparking the urges of drive and enterprise.

It is therefore of the very essence that goals of education must be thought of in terms of overall national development, including not merely economic growth but also human and social development, which derive their inspiration from the national ideals. Educational development, therefore, involves a dynamic process of modifying habits, attitudes and motivations to stimulate and sustain continuous progress, enriching the life of its citizens to a higher level of fulfilment.

V. METHODS OF EDUCATIONAL PALANNING

The multiple effects of investment in education and also the complex manner in which they are interwoven within the total social, economic and cultural situation of a country make it imperative for the planner to examine carefully how he will use the various methods available to him in determining the most appropriate level of investment in education and also the manner of its distribution among the various types of education.

Manpower Planning: Presumes that the economy's need for educated labour can be predicted, making it possible to plan the growth of the educational system to avoid both manpower shortages, which may slow down economic growth, and manpower surpluses, which waste educational resources and may lead to educated unemployment or "brain drain".

The starting point of manpower planning is therefore a prediction of manpower needs. There are various ways of obtaining such a prediction. A simple one is to survey employers, asking how much labour of various kinds they expect to employ, say, five years and ten years in the future. This is not a very good method for several reasons: employers often have no way of estimating future employment, different employers will probably use different assumptions in estimating their future demand for labour, so their replies cannot be aggregated consistently; enterprises to be started up in the coming five to ten years are left out of the calculation; and so on. A second possible methods, if data for two historical dates are available, is to calculate past trends and then extrapolate them. A more sophisticated method, based on the work of Dutch Nobel Laureate Jan Tinbergen and the American economist Herbert Parnes involves deducing the future employment pattern from a projection of GNP growth.

The Tinbergen-Parnes methodlogy predicts manpower needs through the following steps. (1) It starts from a target growth rate of GNP during the planning period, which must be at least several years long, since the training of middle and high-level manpower takes time. (2) It then estimates the structural changes in output by sector of origin needed to achieve that overall growth rate. (3) Employment by sector is estimated, using some set of assumptions about labour productivity growth, or about the elasticity of

employmnt growth relative to output growth, which is its inverse. (4) Next, employment by industry is divided into occupational categories using assumptions about the "required" structure in each industry; these are then summed across industries to get the economy's required occupation mix. (5) Occupational requirements are then translated into educational terms via assumptions about what sorts of education are appropriate for each occupational group.

The five steps lead to an estimate of manpower requirements in some future year. To project manpower supply in the same year, one first adjusts the current stock of manpower for expected losses through retirement, death, emigration, and withdrawal from the labour force. Then one projects increases to manpower supply resulting from outputs of the school system, immigration, and entry into the labour force by nonworking adults. The projected manpower supply is then compared to projected requirements. If a gap emerges, it is usually assumed that it must be closed through accelerated school enrollments. In some cases, other ways of increasing manpower supply, such as upgrading less skilled workers or bringing in foreign manpower are considered.

This methodology will sound familiar to anyone who knows input output analysis, since it involves the use of sets of ifxed coefficients to derive input needs from output targets,. The chain of deduction in the calculation of manpower requirements is as follows: GNP—industrial structure—total employment by industry—occupational sturcture of employment—educational structure of employemt. Each arrow represents a set of fixed coefficients.

A major difficulty with the manpower planning approach is that in the real world these coefficients are often unstable and unpredictable, Labour productivity is affected by many factors, and often changes unexpectedly. The occupational mix also changes, for both exogenous (external) and endogenous (internal) reasons. For example, new technologies may be introduced, bringing a new set of occupational requirements. Or a change in relative wages might induce employers to hire a differednt mix of workers, such price adjustments are assumed away in the model. In the long run, in fact, changes in the coefficients tend to occur as a direct result of changes in the supply of educated labour. People with more schooling gradually do jobs that previously were done by less educated persons. This process is termed educational deepening.

Undercutting the logic of manpower planning is the fact that there is no unique education-occupation linkage. The knowledge required to do virtually any job can be acquired in any of several ways, through formal, non formal, or informal education. Similarly only a small fraction of what is learned

in most educational programmes is unique to a specific occupation; much more of it is applicable to a range of jobs.

Another problem with manpower planning is its failure to take account of the cost of education. Manpower "requirements" are assumed to be absolute, and the conclusion is always that any projected gap should be filled through educational expansion, generally of secondary and higher formal education. Yet these types of schooling are relatively expensive in many LDCs (right-hand columns of Table 9-1), and alternative, possibly cheaper ways of dealing with the problem, such as nonformal education or on-the-job training, are seldom considered.

These objections, plus the emergence of the competing cost-benefit approach, have doomed manpower planning to limbo as far as most academic specialists are concerned. However, the approach is still used by practical planners to gain at least a rough idea of what a developing country's possible manpower problems are. Often its greatest support comes from politicians who find its apparent, but spurious, precision appealing. They like to be told, say, that the country needs to train 125 architects by 1995. As a matter of political economy, manpower planning is more likely to be influential when it projects deficits that when it projects surpluses. In the former situation it provides an apparently strong rationale for expanding a particular type of education. In many developing countries, however, schooling has expanded so much that few manpower deficits can be legitimately projected. In these circumstances, society's demand for education and the political pressures that go along with it generally ensure that the school system continues to expand at a much faster rate than would be indicated by manpower planning, which tends to be ignored.

VI. COST BENEFIT ANALYSIS

The hypothesis underlying human capital theory is that individuals, or their governments on their behalf, make expenditures on education, health, and other human services primarily for the purpose of raising their incomes and productivity. The added output and income that result in future years then become a ruturn on the investment made. Application of this idea to formal education begins with a set of lifetime earnings curves, such as those shown in Figure-9-1. These curves, which show average earnings at various ages for pepole with particular amounts of schooling have been calucated for many populations, and nearly all of them show some common characteristics. First, given the amount of schooling defined in terms of either years of school or the highest level attained, earnings increase up to a maximum level that is reached around age forty or later, then level off or decline. Secondly for those with larger amounts of schooling the curve is higer, and steeper in its rising phase; although pepole with more schooling start work a bit later in life, they usually begin at

a higher earnings level than those with less schooling who are already working. Third, more schooling leads to later attainment of maximum earnings and to higher earnings in retirement. All three of these features can be seen in the curves for Mexico and India shown in Figure 9-1.

Estimating the Private and Social Rates of Return Cost-benefit analysis, introduced in Chapter 6 as a planning tool and used in Chapter 8 to analyze employment, is pertinent to both private and social calculations of the value of education. We take up the private rate of return first. We can begin by imagining a set of parents faced with a decision on how much schooling to provide a child. They have a rough idea of what the lifetime earnings curves look like and regard them as a prediction of what the child would earn at different levels of educational attainment. Although it may strain one's credibility, it is necessary to think of these parents as calculating the discounted present value of the future earnings stream attached to each level of schooling and comparing it with the cost of attaining that level of school.

The present value of prospective earnings in any future year can be defined as

$$V^t_0 = \frac{Et}{(1+1)t} \qquad (9\text{-}1)$$

Where V^t_0 + present value of earnings in year t, E_t = earnings in year t, and i = the rate of interest (opportunity cost of the parents, capital) The earning are "discounted" to the present using the rate of interest, i.

The discounted present value of the entire stream of earnings until year n is therefore.

$$V = {}^{n}{}_{t=i}\frac{E_t\, t}{(1+i)} \qquad (9\text{-}2)$$

This is the benefit side of the cost-benefit calculation. The Private costs of schooling—that is, those costs borne by private households—are of two types, explicit and implicit. Explicit costs are those involving actual otulays of cash. Those most obvious type of explicit cost is tuition fees, but it is important to recognize that even free—that is, tuition free-schooling entails costs, both explicit and implicit. Cash outlays are often required for books, uniforms, transportation, and other purposes. Some type of explicit cost is almost always present, and can serve as an important barrier to school attendance for children from poor families. In addition there are implicit costs in the form of the forgone earnings or opportunity costs of students who could be working as wage-earners or as unpaid but productive workers in family farms and enterprises if they were not in school. In general these

opportunity costs are most significant for older students and higher levels of schooling. But in settings where young children can work productively, they may be a factor even at the primary level, particularly for the poorer household.

The costs of schooling are incurred before its benefits are received. One way to determine whether a particular educational investment is worth while is to compare the discounted present values of the benefit and cost streams, as explanied in Chapter 6. If the former exceeds the latter, using a relevant rate of interest to discount both streams, then the investment should be made. If discounted costs exceed discounted benefits, the investment is not worth making.

The more common method, however, involves calculating the internal rate of return on the investment. This, as we saw in Chapter 6, is the discount rate that equates the discounted present values of the benefit and cost streams. We can solve for the internal rate of return using the following equations.

$$\sum_{t=1}^{n} \frac{E_t}{(1+r)^t} = \sum_{(t=1)}^{n} \frac{C_t}{(1+r)^t} \qquad (9\text{-}3)$$

Or

$$\sum_{(t=1}^{N} \frac{E_t - C_t}{(1+r)^t} = 0 \qquad (9\text{-}4)$$

Where C_t= Private costs (explicit and implicit t^0 incurred in last year t, and r= internal rate of return. Using this approach, the family's rate of return on an investment in education would then be compared to the returns on other investments they might make. The educational outlay would then be made if it offered the highest return.

There is also a social or economic rate of return, which is calculated using a more comprehensive measure of cost: all costs of education, public as well as private, are now included on the cost side of the calculation. In other words, public-sector outlays that are not reimbrused by tuition are added in here. Properly speaking income should be measured after payment of income taxes when the private rate of raturn is estimated, and before payment of income taxes when the social (economic) rate of return is estimated. This makes both benefits and costs higher in the social rate of

return calculation than in the private rate f return calculation. Depending on the relative magnitude of the cost borne directly by the government and the income tax collected, the social (economic) rate of return to education can be either higher or lower than the private rate of return. In practice, however, calculations done for developing countries generally measure income before taxes in estimating both the private and the social rate of return. This is doen partly because personal income taxes are less important in developing countries than in developed countries and partly because tax data are harder to obtain. If the same measure of benefits (income before taxes) is used in calculating both the private rate of return and the socail rate of return, while a wider range of costs is included in the social rate of return calculation, it follows that the private rate of return must be higher than the social rate of return when this less satisfactory method of calculation is used (as in Table.)

Table - 4: Some Estimates of Rates of Return to Education

		Social			Private		
Country	Year	Primary	Secondary	Higher	Primary	Secondary	Higher
Latin America							
Brazil	1970	na	24	13	na	25	14
Chile	1959	24	17	12	na	na	na
Colombia	1973	na	na	na	15	15	21
Africa							
Ethiopia	1972	20	19	10	35	23	27
Ghana	1967	18	13	17	25	17	37
Kenya	1971	22	19	9	28	33	31
Asia							
India	1978	29	14	11	33	20	13
Indonesia	1978[b]	22	16	15	26	16	na
Pakistan	1975	13	9	8	20	11	27
South Korea	1971	na	15	9	na	16	16
Developed Co Countries							
Japan	1976	10	9	7	13	10	9
United Kingdom	1978	na	9	7	na	11	23
United States	1969[c]	na	11	11	na	19	15

Source: George Psacharopoulos, "Returns to Education: A Further International Update and Implications, "Journal of Human Resources 20, No. 4 (April 1985): 583-604.

a. Income measured before payment of income taxes.
b. Social rates refer to 1978, private rates to 1977.
c. Private rates for secondary and higher education have declined since 1969; 1976 estimates are 11% and 5% respectively. For social rates no later estimates are available.

It should be stressed that social cost-benefit analysis of education is more comprehensive than private cost-benefit analysis only on the cost side. The various social benefits of education, all those which are not relflected in higher earnings, are excluded from both calculations. It would be better to include them, but is difficult to quantify benefits such as greater social cohesion and enhanced ability to participate in politics.

Analyzing the Rates of Return: Many private and social rates of return to investment in education have been estimated for both developed and developing countries. Some representative results are displayed in Table 9-4. All the rates shown in the table are marginal rates. That js, they are rates of return on the additional investment needed to move from one level of educational attainment to the next higher level.

Three principal conclusions emerge from Table 9-4 and other similar calculations. First, rates of return to education in developing countries are generally high. In many cases they are higher than the rates of return earned on investments in physical capital. Therefore education looks like a good investment in most LDCs. Second, usually the highest social rates of return are earned on primary schooling. This is particularly true in countries where primary schooling is still far from universal. In countries where almost everyone has completed primary schooling, like the United Kingdom and the United States, the rate of return at the primary level becomes indeterminate because there is no lower level with which to compare it. Third, the spread between private rates of return (where income is measured before taxes) and social rates of return can be large because the government sometimes bears most of the costs. Examples from Table 9-4 are secondary education in the United States and higher education in the three African cuuntries. In other cases most of the costs of schooling are privately financed and the spread between the two rates of return is small.

VII. USING THE ANALYSIS IN EDUCATION PLANNING

Of what practical value are these calculations? The idea is that private rates of return can serve as guides to individual educational choices while social rates can inform public investment and policy decisions. But doubts surround the validity of both claims.

From the private point of view, the main problem is predicting what the structure of earnings will be in the future. The procedure outlined above implicitly assumes that the current structure provides and accurate guide to the future, but in fact relative earnings can change considerably for reasons originating either on the demand or the supply side of the labour market. In many LDCs in recent years the numbers of people possessing all kinds of academic credentials have incresed much faster than the numbers of jobs traditionally held by people with these credentials. The result, discussed in

Chapter 8, is that school leavers tend to be unemployed for a long period of time, following which they may accept lower salaries than their predecessors obtained. This process of educational deepening makes the incomes earned by previous school leavers a poor guide to the future since the rate of return to a paticular level of schooling is likely to decline.

Despite this tendency, applicants continue to besiege the secondary schools and universities of most developing countries. How is this fact to be explained? Some observers interpret it as evidence that applicants for schooling are not motivated exclusively, or even primarily, by a desire for economic gains, but that they want more schooling mainly for social or psychological reasons. A different explanation is that when schooling is heavily subsidized by the government, the private rate of return reamains reasonably high even as the social rate dips in response to educated unemployment and the continuing devaluation of academic creadentials. This latter thesis has been used to explain the continuing strong demand for secondary and higher education in countries such as India and Sri Lanka. It suggests that education can be simultaneously a good investment for the individual and a bad investment for society.

In applying the cost-benefit approach to educational planning, the starting point is again data on lifetime earnings by level and type of education, along with information on the costs—explicit and implicit, private and public—of providing each leval and type of education. The social rates of return on the various levels of education (primary, secondary, higher) and types of education (academic, vocational, nonformal, on-the-job) can then be calculated and compared. A rational government would expand those forms of education showing high social rates of return and cutback on those showing low rates of return.[1]

There are, however a number of questions that can be raised about this procedure. As with manpower planning or any other planning methodology, its results are only as good as its assumptions, and some of these can be questioned. Like the hypothetical parents discussed earlier, cost-benefit analysts must worry about how the sturcture of earnings may change in the future. In addition, they must make a number of assumptions about things that are of no concern to the private decision-maker.

If education is to be treated as an investment comparable to a road or steel mill, it must be justified in terms of its contribution to national output. From the social point of view, higher earnings are not sufficient justification unless they result from higher productivity. The usual way of linking

1. More precisely, activities showing a rate of return higher than the opportunity cost of capital (the return thought to be obtainable if the funds were invested outside the education sector) would be expanded and those with lower rates would be contracted.

earnings to productivity is to assume that wages are equated to the marginal product of labour through the working of a perfectly competitive labour market. But if wages and salaries are more influenced by other factors (for example, the salaries paid to expatriates in colonial days—see Chapter 8), then wages or earnings are not necessarily equal to marginal product and thus become imperfect indicators of social benefits. In theory this problems could be dealt with by using shadow wages or opportunity costs (estimates of what wages would be under competitive conditions) instead of actual wages, but this adjustment has seldom been attempted.

A second and closely related issue is whether the relationship between education and earnings is truly causal. Up to now we have in effect assumed that differences in average earnings associated with differences in education are entirely caused by these educational differences. This is not strictly the case, since both education and earnings are also partly the results of other factors, such as individual ability and socioeconomic origin. People who are more able or who come from favoured backgrounds may do better both in school and in the workplace. According to the "screening hypothesis;" the main role of education is not so much to train people as to select those individuals who will do best in the job market.

Even if we agree that education does raise earnings, there is a question of how this works. Do schools teach skills that turn out to have economic value, or do they only socialize people to work better—to be punctual in their attendance and conscientious in completing their assignments? These issues have been much debated, but recent research appears to lend strong support to the view that underlies cost-benefit analysis of education: that skills learned in school, especially literacy and numeracy, account for much of the differential in earnings associated with higher levels of schooling (13;1016-30)

The cost-benefit approach implicitly assumes that educational categories adequately specify the types of labour relevant to the labour market. In other words, it assumes that there is perfect substitutability within each educational category. If categories are specified only by level (primary, secondary, higher) this assumption is obviously crude. Surely there are significant differences between graduates of academic and vacational high schools, or between graduates of medical and legal faculties. Separate calculations.

Like any planning tool, cost-benefit analysis can be used to provide information, but it cannot be used mechanically to dictate solutions. It can be used to measure the productivity of the existing pattern of investment in education. If, for example, the social rate of return to primary schooling is high, this suggests that investment at this level is likely to be socially

remunerative. Similarly, large differences between private and social returns may help explain patterns of educated unemployment, as we have seen. But the value of these calculations is alwasys limited by the assumptions on which they are based. It is particularly hard to adetermine how fast the social rate of return will decline as a particular variety of education is expanded. To know this we would have to calculate the elasticities relating earnings differentials to the relative supplies of different kinds of labour.

A second approach which seems to be gaining in popularity in the developing countries is populaly known as the manpower approach; this aims at planning the development of education in such a manner that the educational output at various levels should match the demand for educated and trained manpower of various types needed in the various sectors of national development. This method postulates the availabitlity of adequate data regarding(i) the number of persons of various levels of education in each occupation in the economy up to a given future year; (ii) the present number of persons and their educational levels in each occupation; (iii) the annual number of withdrawals from each occupation due to death, retirement or movement out of out of the labour force; and (iv) the annual number of separations from one ocupation and access to another as the result of job changing. On the assumption that entry into each occupation is precisely related to a known type of education of a given level, the required output of each course at various levels of education can be quantified. Again, if on the supply side the input output ratio of the various types and levels of education is known, it should be possible to work out the required change in the annual number of graduates of various types and levels in order to produce the output required by the given date.

It will, however, be unrealistic to hope that such a refined model of labour supply and demand can be constructed. In the first place manpower forecasts can seldom be made with reliability beyond short periods, whereas because of the 'lead time' in education, educational planning calls for a time perspective extending to twenty years or more. In the second place, even if forecasting were reliable, the structure of the labour force would be bound to change with technological progress, with a corresponding change in the educational component of diffierent occupations. However, within limits the production requirement of an industry or a firm can be met by varying occupational mixes, i. e. by re-engineering. Thirdly, there is a difficulty of spelling out the patterns of occupational mobility so as to ensure precise estimates of separations from and accession to specific occupations. In the fourth place the educational requirements for many occupations are so flexible that it is difficult to translate them into educational output figures, though a large majority of

jobs in any economy need not be differentialted because of their interchangeability so far as educational qualification is concerned. Lastly, in any estimate based on manpower forecasts, provision for education of women and girls and others who do not work will also have to be included.

In spite of the limitations to the manpower approach, some of which have been briefly discussed in the foregoing paragraphs, the value of even approximate forecasts of manpower by different levels and types of education to the planned development of a country can hardly be overstressed. Such forecasts, even if they are not entirely reliable, serve as an important guide to the planner in checking the imbalances and distortions in the educational 'mix' which characterise the educational systems of most developing countries as they have grown in the past in an unplanned manner. Combined with what is commonly known as the 'social-cum-cultural approach' which aims at providing the country with an informed and responsible citizenry, so equipped educationally that each individual can live a full personal and socially useful life the 'manpower approach' should prove to be of great value.

VIII. DISTRIBUTION OF INVESTMENT AMONG VARIOUS LEVELS AND TYPES OF EDUCATION

Even if it were possible to develop suitable criteria for determining an appropriate level of investment in the education sector, an agonising problem for the planner is how to achieve a balance in the application of the available resources to the various subsectors of education. The problem is greatly aggravated by the serious imbalances already existing among the various types and stages of education in the developing countries and the pressure generated from within the existing system for these imbalances to continue. Free choice in education which is governed by social and cultural conditions peculiar to a country presents the most formidable obstacle in the way of accomplishing a rapid and radical change in the trends of the growth of the various subsectors of education.

The slow rate of growth in scientific and technical education in the region stands out in sharp contrast with the impressive gains made in main land China in these critical areas as indicated by the following extracts from the report of an American human resource analyst:

Once a land of philosophers, artists and peasants, China is being transformed into a nation of technocrats. Its confucian sages have been replaced by scientists, engineers and industrial managers, its educational programme is geared mainly to industrialisation. China seeks to gain standing as a world power through rapid industrialization...

It is turning out three times as many engineers as the U.S., and ranks third in the world in this respect after the U.S.S.R. and the U.S in that order.

Perhaps the most remarkable statistic giving the measure of China's effort is that of the country's present 250,000 scientists and engineers; 90 per cent have been trained since the Communist Government came to power in 1949[F] [14;144].

Developing countries of South-East Asia where conditions in respect of scientific and technical education are comparable to those of Bangladesh are clearly required to step up their programmes in these vital areas of education. It is imperative that the second and third levels of education should be completely reoriented both in structure and content in order to achieve a balance between general, scientific, technical and professioal education. An important aim should be to divert an increasingly larger number of students to technical and professional courses, part-time or full-time, right from the beginning of second-level education up to third-level education according to a perspective plan to achieve the desired balance within fifteen or twenty years. The comparative expensiveness of scientific and tecnnical education calls for an imaginative planned approach to the alternative choices, available in developing these types of education, and also the need to motivate innovations and attack the problem on all fronts, through formal full time schooling, on=the-job training apprenticeship courses and short-term special courses.

Since the central purpose of an educational plan is the development of human resources, an index to the stage of a country's development is provided by the stage of development of human resources reached by that country. A penetrating study (4;185-6) on the subject embracing seventy-five countries in different stages of development indicates:

(1) 'A high correlation and presumably some causal relation between enrolments in education (and hence investment in education) and a country's level of economic development as expressed by G.N.P per capita';

(2) 'This correlation is higher in the case of second and third level enrolment than in first-level enrolment';

(3) 'The highest rates of human resource development are required by countries which hope to advance from an underdeveloped and a partially developed level.'

The critical importance of investment in education, and in particular secondary education, in the developing countries is, of course, beyond question. However, the use of the third-level enrolment as one of the two indicators of the country's advance to the exclusion of first level enrolment can be rather misleading.

If enrolment in the third level has to be regarded as an index of advancement, then Britain is to be regarded as less advanced and poorer than the U.A.R. (since Egypt has many more graduates per head of population than England') (15;126). In the second place, it is not just any kind of higher education that can stimulate development. As a matter of fact larger enrolment in the third level of education may even be an evidence of imbalance where it is tilted heavily against science and technical education or where the investment in the first level is not commensurate to the needs of economic development, as indicated, for example, by the larger segment of the labour force lacking even the basic education of the primary level.

Different levels of education and economic growth have to be viewed historically if there interrelationship is to be seen in its proper perspective. The higher correlation noticeable between third-level education and economic growth is chiefly the outcome of the rapid progress made by most of the advanced countries in higher education in comparatively recent years. For example, the United States entered the 'take-off' period in her economic growth around 1860, and the stage of mass consumption in the early 1920s. But the ratio of enrolments in higher education and secondary education (from grade 9 upwards) to the total enrolment was only 1.3 per cent in higher education and 4 per cent in secondary education, compared with 94 per cent in elementary education even in 1899-1900. These ratios for secondary and higher education rose respectively to 2.7 per cent and 10.3 per cent in 1919-20, but still elementary education accounted for 87 per cent of the total enrolment. A similar trend could be seen in Japan and the U.S.S.R., where the gains in higher education enrolments were also of recent origin. One is led to the conclusion, therefore, that both the progress in economic growth and the advance in higher education were built on the foundation of first-level education in most of the advanced countries (16;116-8). Our view of the correct relationship between economic growth and human resource development is likely to be distorted if the latter index excludes the vast human resource covered by first-level education.

In the inititial period of development the educational plans may not succeed in producing the desired equilibrium between supply and demand in education in the ecoonomic sense of the term. Surpluses and shortages are likely to arise in various degrees depending on the country's position, even within the critical areas of education like science, technical and professional education.

The difficulties in producing a perfectly balanced programme should not, however, discourage the educational planner, nor should the nation be

overconcerned if some imbalance occurs in spite of al posible precautions. Because of the social value of education, any surplus of educated manpower in a particular level of education should not be considered a waste. A strategy would be to initiate measures for correcting the imbalance by retraining the surplus manpower in a particular field for employment in another sphere where there is a shortage. In view of the long lead time (of fifteen to twenty years in some cases) in education, wisdom further warrants that overspecialised programmes at the degree level should be kept down to the minimum and more stress should be laid on developing a curriculum in the secondary stage which is diversified but strong in its core contents so that the period of actual specialisation would be limited to four to five years of education beyond secondary education. This should make it easier for the planner to influence the supply in the pipeline over shorter plan periods to meet unforeseen changes in the pattern of growth. In the professional courses, the stress should be on turning out generalists with basic professional grounding. They may undergo specialist training for a year or two in those fields where specialists are needed under a short-term plan.

It will also be necessary to build into the plan incentives and controls in the form of scholarships and subsidies to attract students to the critical areas of education as indicated by the demand for trained manpower. Deterrents may also have to be applied in the form of tighter admission requirements or higher fees in areas suffering from surpluses. As mentioned earlier, the production requirement of an industry or firm can aslo be met, within limits, by 're-enginering', that is, by varying the occupational 'mixes'.

IX. THE INPUT-OUTPUT RATIO AND THE BALANCE BETWEEN QUANTITY AND QUALITY

The problem of investment in education has so far been viewed only in its quantitative aspects; but the special significance of quality in education can hardly be overstressed. As a matter of fact, quality is most certainly the central factor in any concept of education, since education is regarded as a process of qualitative change aiming at the development of the innate abilities of an individual so that he may lead a full and productive life personally and socially. We would, however, stress that quality in education should be viewed not in its abstract sence but in the context of an exising social situation and the need to plan for the educational development of the largest number of people possible at a given stage with the given resources. A practical strategy in educational planning is to take into consideration the following dimensions of the concept of quality : First. the

concept of quality at any point of time is relative to the stage of development of a country and the human and material resources available for further development. Thus quality cannot have the same meaning and content in all the various countries, and even in the same country in all stages of its development. It is not a static notion. As the level of a country attainment rises, the concept of quality also tends to move up in the scale, thus producing a kind of multiplier effect in educational development. Second, the quality of educational output is a product not merely of the formal educational system but also of the informal system, which includes home, community and all other out-of-school influences like those of professional and cultural organisations, films, radio, television, libraries and museums. In other words, overall social changes play no small part in determining the degree of change in the quality of education. Third, the conflict between quality and quantity is not peculiar to the developing countries. It exists even in the most advanced countries, and because of the ferment it creates in man's mind not to be contented with what has been achieved in quality, it serves as a motive force for new adventures in the realm of creative, inventive and in novative efforts.

It should be borne in mind that even though total investment may increase (as has actually been the case in many of the developing countries), the symptoms of underinvestment may continue to persist in the form of a high rate of attrition and low educational standards. Even though in some cases the total output may in fact increase with increasing investment, the wastage also may simultaneously rise in an alarming proportion. This anomalous condition is explained by the quantitative expansion outpacing qualitative improvement. Wastage, however, is not a full measure of the qualitative deficiency in an educational system, in as much as financial allocations do not represent all the components of the educational input, which include not only physical facilities like classroom accommodation, equipment, etc., but also the innate abilities of the children at various levels, teachers, curriculum, methods of teaching, values and attitudes as modified by goals and values within the formal and informal system acting and reacting on one another.

The non-mathematical model shown in Fig. 1 [16; 107] illustrates the complex process involved in the conversion of the educational input into educational output and the interaction of this process and the national goals and values. The goals of national development motivate the developments not only in the educational but also in other sectors of development, though for the sake of simplicity other sectors are not shown

in the model. It may be noted that the goals are based not only on values selected from the national culture, but also from the universal structures of economic and social organisation, disciplines like mathematics, science and the humanities, which transcend national boundaries, and on concepts of progress derived from the human values of freedom, equality and justice. Here is a most challenging task for leaders, in all walks of life, the policy-makers in the Government, and specialists in economics, sociology, anthropology, political science, public administration, law and education, with ample scope for the universities also to contribute through research in the fields relevant to the formulation of such goals.

The model is based on the assumption that the whole process is well articulated, and that there is no interference in the mechanism for converting the input into the desired output. This conversion turns the population of school age and beyond into an educated manpower trained in good citizenship and developed in habits, attitudes and motivations necessary for achieving present goals and continuing progress. The output also includes the critical high level of manpower needed in roles of leadership in the various sectors and in trained workers of various levels. Together the educated manpower constitutes the human capital essential not only for economic growth (which also requires physical capital, not shown in the model) but also for social progress. These in their turn, on the one hand, provide the human and material resources needed for further development of education, and on the other enrich the national culture and inspire still higher goals of development, in what well may be regarded as a dynamic process or chain reaction that enables the nation to achieve still greater progress.

In fact the difficulties in articulation and the interferences in the conversion mechanism and channels of communication may be numerous and most agonising to the educational planner. They can be anything from an uncreative curriculum, lack of trained teachers, unsuitable textbooks or inadequate financial resources to causes deep-rooted within the cultural tradition of the nation, such as, for example, an achievement lag stemming from a philosophy of life in which man's capacity to renounce material well-being is regarded as the highest virtue, or a doctrine of life in which poverty and low social status are accepted as acts of fate. But the educational planner cannot run away from these problems. On the contrary the success of his planning depends on his ability to identify and provide for all such present and potential cultural, social and psychological impediments in co-operation with his colleagues in other sectors of development.

Fig. 1. An input-output model

GOALS
OF
NATIONAL DEVELOPMENT
based on selected values from inherited national culture and acceptable universal structures, disciplines and concepts of human progress

(2)
INPUT
CURRICULUM
(a) Aims, (b) values and attitudes, (c) skills and abilities

(3)
OUTPUT
EDUCATED MANPOWER
(1) Citizenry is responsive and committed to national goals.
(2) Habits, attitudes and motivations are conducive to dynamic progress.
(3) Trained leaders and workers meet manpower needs in various sectors (including contribution of new ideas and technology).

Through
(a) Processes of teaching and learning, (b) incentives and motivations, (c) counselling and guidance, (d) individuals innate capacity, motivation and environmental factors

REPRESENTING
HUMAN CAPITAL

in

(A)
FORMAL SYSTEM
Schools, colleges, universities

(B)
INFORMAL SYSTEM
Home, neighbourhood, professional and cultural organisations, press, films, radio, television, libraries, museums.

For

(A)
SOCIAL PROGRESS

(B)
ECONOMIC GGROWTH

(i)
SUPPLYING HUMAN AND MATERIAL RESOURCES

for
EDUCATION

(ii)
AND ENRICHING CULTURE AND INSPIRING HIGHER GOALS.

The pressures for rapid expansion of education at all levels are indeed tremendous and ever mounting in a developing country. It will be anything but realistic for a planner to disregard these pressures. However, in setting the pace for expansion he must take the trouble of going beyond the consideration of available resources and ensure that the projected expansion will result not merely in a numerical increase of enrolment but also in a proportionate incease in the educational output without a deterioration in its quality. Within the limits of the total social situation, the directions that the planner can follow in seeking quality are provided by the educational goal—which in the case of most developing countries is to move both vertically and horizontally in educational development so as to (i) ensure maximum attainable expansion of basic education, and, at the same time (ii) stimulate efforts in higher education and research to approach the level of quality attained in advanced countries.

The solution naturally will take different forms in different countries. But a prudent strategy seems to lie in placing the emphasis on quantitative expansion in the lower stages of education, and on quality in the higher stages. The disparity between these two extreme points of variation in the quality of education can be reduced considerably through better teacher-education programmes, enrichment of the curriculum, improvement of textbooks and introduction of in-service training for teachers as well as administrations. In other words, the educational 'input' can and should be improved to achieved an 'output' not only larger in quantity but also better in quality. The strategy indicated is to invest proportionately more in the supply of qualified teachers than has hitherto been the case, and to view expenditure on teachers as an integral part of the development expenditure, even though such expenditure may at the end of the plan period, on the completion of a project, be absorbed in the current operational budget. Where plan concepts exclude such expenditure from the components of development expenditure, the educational programme is bound to suffer a serious setback in the quality of its performance, with its inevitable adverse repercussion on the return to investment in education, as indicated by the experience of some countries.

X SUMMARY OF CONCLUSIONS

The major conclusions that follow from the foregoing discussion of the strategies in planning the investment in education are summarised below :

(1) The educational plan should be designed as an integral part of the overall plan for national development motivated by the national goals and ideals. In veiw of the interdependence of the various sectors of national development and the need to achieve a balance in inter-sector development, the preparation of the educational plan and of the overall national plan calls for close team-work among the

specialists in various related disciplines, departments and ministries.

(2) The educational plan, whatever the duration of the plan period, should keep in view the national objectives in education and be thought of not only in terms of the manpower needs that it is designed to meet, but also in terms of the values, attitudes and motivations that it is desired to create, modify or strengthen. (An input-output model has been used to illustrate the interplay of goals, values and educational development.)

(3) The plan should view education as an investment in human capital and not as a purely social service. Hence the priority assigned to it should not be less than that assigned to investment in physical capital and allocation of resources to education should not be residual in character. On the countrary, investment in education should be treated as an input in the costing of projects in other economic sectors based on the forecasts of manpower needs.

(4) Underinvestment in education can be corrected (a) by readjustment of priorities between education and other sectors of development in the allocation of the available resources, and (b) by progressively raising the share of education in the G.N.P. ten to fifteen-year plan to raise the share of education in the G.N.P. to at least 4-5 per cent is likely to stimulate efforts in this direction.

(5) In order to ensure that the educational output at various levels should match the demand for educated and trained manpower needed for economic and social development, the educational plan should be based on both 'manpower needs' and 'social-cum-cultural needs'. The manner in which the two should be synthesised will naturally depend on the existing structure of the educational system and the future educational needs of the country.

(6) Where an educational system suffers from serious imbalance between the various areas of education, sound planning will call for higher priority being assigned to the areas of deficiency. Throughout the region, scientific and technological education is extremely underdeveloped, thus underlining the need for a complete reorientation in the plan approach to the development of these critical areas through the restructuring of second-and third-level education and the introduction of technical and professional courses right from the beginning of the second level.

(7) While secondary education will continue to occupy the pivotal place in the developing countries, the educational plan must also reflect the national goals. For example a common goal of the developing

countries for reducing inequalities can be supported by the educational plan by providing for an extension of primary education (where this goal has not yet been achieved) and by providing a ladder of scholarships and subsidies as well as suitable bridges between different types of education to ensure that talented boys and girls, irrespective of their social and economic status, can proceed to the type of level of education for which they have ability and aptitude.

(8) Because of the lead time in education a plan, even though designed for a particular period of time, will have elements in it with short-range, medium-range and long-range goals so as to result in a viable development policy. Surpluses and shortages are likely to arise in various degrees in view of the long lead time in education and the difficulties involved in producing entirely accurate manpower forecasts. The plan should therefore be dynamic in its approach, with sufficient elasticity for meeting the needs of a changing situation.

(9) A plan should build into it a system of incentives and controls for correcting such imbalances. For example, students could be attracted to the critical areas of education through scholarships and subsidies and deterred from proceeding to areas suffering from surplus by stricter requirements of admission, etc. Short-term imbalances could be substantially corrected by retraining the surplus manpower in a particular field for employment in another where there is a shortage. To an extent, 're-engineering' by varying the occupational 'mixes' in an industry or firm may also serve as a short-term remedy for such imbalances.

(10) In educational planning, priorities and balance have to go together because of the interdependence of the various stages of education and the unique character of the 'production function' of education. In fixing priorities, more weight will have to be given to those areas of education which are of strategic importance. For example, scientific and technological education at both second and third levels, which is crucial for ecunomic growth, and primary and adult education, for political and social development, should receive appropriate consideration.

(11) Quality in education depends on the efficiency of the conversion mechanism in turning inputs into outputs. The less interference there is in the operation of this mechanism, which includes teaching and learning processes of education, innate capacity and motivations, formal educational institutions, their housing equipment and organisation and also informal agencies of education, the greater

will be the efficiency resulting in a quantitatively larger and qualitatively better output.

(12) Where, in terms of the national objectives and the plan policy in education, emphasis has to be laid on quantitative expansion in the lower levels of education and on qualitative excellence in the higher levels, the gap in quality between the two can be narrowed considerably by including measures to strengthen the programmes of teacher education, inservice training, reorientation of the curriculum, textbooks and generation of community interest in development.

(13) In the allocation of given resources between capital and operational outlay, the latter should be sufficiently weighted in order to ensure, on the one hand, an adequate supply of qualified teachers, and on the other an improvement in the salary and incentive system to attract to the teaching profession highly motivated and better qualified persons.

(14) Investment in higher education should emphasise excellence. In view of the rapidly growing knowledge and the competing claims on the limited resources in a developing country, the aim should be to create centres of excellence in selected disciplines (gradually embracing more and more fields). Adequate stress should also be laid on research oriented to the goals of development, so that the fruits of research may be applied in accelerating the pace of development.

(15) Last but not least, an educational plan must be dynamic, growing and pragmatic in its approach, adapting and readapting itself to the changing needs and conditions in seeking balanced investment (a) between education and other sectors of development, (b) between the various types and levels of education within the education sector, and (c) between quantity and quality of education.

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STRENGTHENING TECHNOLOGICAL CAPABILITIES FOR BETTER ECONOMIC PERFORMANCE OF INDUSTRIAL TECHNOLOGIES IN BANGLADESH

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1.0 INTRODUCTION

Bangladesh is predominantly an agricultural country. The role of industry sector in its economy is still to gain any significant level. However, considering the rising population and limited opportunity in agriculture to meet the growing demand for employment, the importance of industry sector for economic development hardly requires any emphasis. Policies of the Government at different times after the independence of the country have emphasized the need for rapid growth of the industry sector. Barring the debate of ownership, successive plicies have consistentty vowed to reduce the country's dependence on imports, increase the export earning, utilize local resources, develop local capability etc. In spite the avowed objectives, the performance of the industry sector remained unimpressive for long. Contribution of the industry sector towards Gross Domestic Production (GDP) is staggering between 8-10 percentage points for last several years (Table-1). Other indicators do not also show any sign of promise for the industry sector for last few years. Capital productivity, labour productivity etc. as available from Census of Manufacturing Industries (CMI) show rather an unpromising trend (Table-2). From table 2 it is evident that though labour productivity has increased at the rate of 11% a year during 1980-81 to 1984-85, but during the same period the capital intensity has also increased by 24% a year on the average and on the other hand output per unit of capital shows a declining trend.

Performance of the industrial sector also appears to be poor while judged from the profit and loss accounts of the various public sector corporations holding most of the large scale industries (Table-3). It is observed that except Bangladesh Chemical Industries Corporation (BCIC) most other corporation are running at the expense of national exchequer. Many factors can be attributed to the poor performance of the public sector corporations amongst which inefficient management is most common. Poor recovery of industrial loans, capital flight etc. as reported in various studies

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do not also prove a healthy trend in the development of private sector industries. It is revealed from a study [10] that 30% of the units financed by Ganata Bank (a nationalised commercial bank) upto September, 1989 are sick.

Table 1 : Gross output on Industrial Sector and its Share in Total GDP at Current and Constant Prices (1984-85 = 100) for Different Years

(Million Taka)

Year	Total GDP at		Industry Output		Share of Industry (%)	
	Curr. Price	Const. Price	Curr. Price	Cons. Price	Curr Price	Const. Price
1984-85	407157	407157	40112	40112	9.85	9.85
1985-86	466178	424300	43563	41156	9.34	9.69
1986-87	537689	440624	47631	44403	8.85	10.07
1987-88	589220	450237	500037	44328	8.49	9.84
1988-89	656402	464085	55608	45927	8.47	9.89

Source: Statistical Year Book (SYB), 1989 and Statistical Pocket Book, 1990.

Table 2: Capital Productivity and Labour Productivity of Industry Sector at Current Prices.

Year	Fixed Asset (K) (million Tk.)	Gross Output (Q) (million Tk.)	Total persons Engaged (L)	Q/K Q/L (000 Tk.)		K/L (000 Tk.)
1980-81	11,509	40,717	4,47,868	3.53	90	25.7
1981-82	13,962	47,630	4,66,477	3.41	100	29.9
1982-83	14,467	50623	4,60,043	3.49	110	31.4
1983-84	22,873	62,042	4,62,500	2.71	130	49.4
1984-85	27,170	69,917	4,80,827	2.57	140	56.4
1985-86	—	75,483	4,66.636	—	160	—
1986-87	—	84,639	4,67,147	—	180	—
1987-88	—	94,157	4,67,630	—	200	—

Source: 1980-82 from SYB, 1986; 1983-85 from SYB, 1989; 1986-88 from Statistical pocket Book, 1990.

Table 3: Profit/ Loss Account of Major Public Sector Corporations

(in Crore Taka)

Corporation	Years				
	1983-84	1984-85	1985-86	1986-87	1987-88
Bangladesh Jute Mills Corp.	—29.65	—146.0	—158.0	—41.9	—103.5
Bangladesh Textile Mills Crop.	12.09	4.22	—56.27	—22.67	—30.0
bangladesh Steel and Engg. Corp.	—15.39	—3.91	0.54	1.48	—2.6
Bangladesh Chemical Ind. Corp.	—	15.75	10.67	—	2.6
Bangladesh Sugar & Food Ind. Corp.	4.4	—2.0	—2.8	—2.76	—

Source : Bangladesh Economic Survey 1985-86 and 1987-88.

Successive policy instruments of the Government have mainly encouraged setting up new industries without putting adequate attention to redress the sick state of the existing industries from both public and private sectors. Government has also not given any thought over the real causes of this state of affaris in the industry. Various studies on industry points out the country's insufficient capability in management of transfer of industrial technology [6,7,9.10,11,12, 13].

These studies implicate a necessity to develop such capabilities. However, to develop technology transfer capabilities one should know what is to be planned at what stage, what management decisions to be taken and what should be the institutional responsibilities at each stage etc. The objective of the present paper is to review the state of the art of planning and management capability of some of the industrial units and analyse them to suggest some measures that could be undertaken to improve their performence as well as to get advantage of the learning effect in future planning and management of new indusrial units. The study has been limited to focus mainly on the technological capability in acquisition, adaptation and assimilation of technologies from foreign sources. i. e. transfer of technology from abroad covering some of the industrial subsectors viz. (a) Fertilizer (b) Engineering Industries (c) Leather and (d) Other Industries.

2.0 TECHNOLOGY TRANSFER AND CAPABILITY NEEDS

Acquisition of new technology through import is generally perceived as technology transfer. But technology transfer through mere importation of hardware and services or skills for operation and maintenance can be characterized as static transfer. Developing countries in most cases have not yet achieved real/dynamic transfer of technological capability including design and reverse engineering which is needed for augmenting technology based development.

The existing technology transfer process in developing countries tends to be unsatisfactory mainly due to lack of concern for assessment, adaptation and absorption of technology into the economy (APCTT, 1986). Politico-economic constraints posed by the present day global economic environment can also be held responsible to some extent in this regard. To overcome the situation in the interest of effective transfer and assimilation of imported technology concerted effort is needed to secure some capability with respect to all the four component of technology namely; Technoware, Humanware, Infoware, and Orgaware.

Technological capability is a complex outcome of interractions of technological institutions, resource endowments and interest groups [14]. Capability of planning, management and implementation of technology

transfer from outside sources involve activities of diverse dimensions. It commands activities like:

i) Recognising/Identifying the technology through determining and specifying the need;

ii) Acquisition of the technology through assessment, negotiation and participation;

iii) Assimilation of the acquired technology through production and marketing; and

iv) Adaptation and Development of the acquired technology through research and development.

Recognising and/or identification of a technology involves determination and / or fixing specification of the needed technology based on techno-economic and socio-cultural dimensions of the demand. Once a technology need is identified it is to be mitigated either by developing the technology indigeneously or by importing it from alien sources or by combining both. While acquiring technology from foreign sources one has to explore the alternatives, assess them for appropriateness to the recipients condition and negotiate with the supplier of the selected technology. Acquisition process also invloves the receiving of the technology by participating in the process in installation testing, trial run and reading and understanding of the design and other pertinent documents.

Assimilation of the acquired technology is the process of production and marketing of the technology or its outputs. It involves production planning and control operation and maintenance and marketing. During the assimilation process adaptation of the technology to the users conditon is an automatic outcome. It involves monitoring the present state of affairs of the technology in use and also forecasting possible changes the technology may have to undergo. Research and development on the technology thus becomes an obvious activity in the process.

All the above activities involve all the four components of technology viz. Technoware, Humanware, Infoware and Orgaware. Good capability of planning management and implementation of transferring technologies from foreign sources is to induce right type of humanware in a right type of institutional setting with right kind of infoware to select and transfer the right kind of technology. A comprehensive approach is thus essential for successful planning and management of technology transfer.

Strategic works to be performed under the above major activities related to planning and implementation of technology transfer keeping in mind all the technology components for each activity have been outlined in table 4.

Table 4: Strategic Works and Their Technology Components at Different stages of Planning and Implementation of Technology Transfer.

Stages	Strategic Works	Technology Components			
		Technoware	Humanware	Infoware	Orgaware
Identification of Technology	Market Study; Need Assessment Feasibility Study; Study of End-users.	Computer	Business Adminstrator; Economist; Technologist; Social Scientist; Computer Scientist.	Market Data; National Statistics; Groth Plan; Information about Inputs.	Institutional Setup in Planning and Implementing Authority; Research Institutions; Consultancy House.
Acquisition of Technology	Technology Assessment; Bid Evaluation Micro-assesment Negotiating for Technology; Technology Receiving	Computer	Technologist; Engineer; Economist; Social Scientist; Lawyer; Adminstrator; Subject Specialist; Erection Engineer and Technicians.	Knowledge of State-of-art of the Technology; Information about Alternate Technologies; Knowledge of TA Tools and Techniques	Institutional Setup in Planning and Implementing Authority; Research Institutions; Law Firms; Consultancy House; Banks.
Technology Assimilation	Operation; Maintenance; Marketing.	Machineries and Equipmens; Materials.	Industrial and Production Engineer; Manager; Planner; Technician; Marketing Personnel.	Operation and Maintenance Manual; Drawing; Market Data; Sales Information.	Implementing Organization with Appropriate Authority and Responsibility; Operation and Maintenance Consultant.
Adaptation and Development of Technology	Technology Forecasting; Market Study; Research and Development.	Research Facilities.	Design and Production Engineer; Economist; Market Specialist.	Design Parameter; Market Information; Feedback From End-user; Knowledge about Global Technology Status;Related Books and Journals	R & D Unit within Implementing Authority; Research and Development Institutions.

3.0 EXISTING CAPABILITY OF PLANNING AND IMPLEMENTATION OF TECHNOLOGY TRANSFER.

There are several studies on various industrial sub-sectors [1,5,6,7,9,11,12,13]. These studies though have been carried out covering different aspects of technologies, had one thing in common i. e. on capabilities to absorb imported technology. As a result the issue of "transfer of technology" has surfaced directly or indirectly in these studies. Based on a review of the existing studies the following sections would examine the industrial technology transfer capabilities with respect to all the four components of technology:

(i) Technoware—embodied in hardware or physical means;

(ii) Humanware—embodied in human resource in the form of know ledge, skill etc.

(iii) Infoware—embodied in documents like drawings, manuals, books, etc.

(iv) Orgaware-embodied in institutional form.

3.1 Public Sector Industries

Fertilizer

Fertilizer industry started its history in Bangladesh from early sixties. Upto now 5 plants for production of urea and one for TSP have been installed. One more plant for urea is under construction. All these factories are under the public sector and managed by Bangladesh Chemical Insdustries Corporation (BCIC).

From different studies on the completed units, it appears that there was nominal local participation in technology transfer activities. Table 5 shows the extent of different strategic works done in planning and implementation of technology transfer. From the table it may be seen that except operation and maintenance works, local capability is still to gain any significant involvement. It may also be observed that certain vital activities like technology assessment, technology forecasting etc. are not at all exercised while others are accomplished in a less effective manner.

As regards quality of the works it has been observed that most works done can not be said to be satisfactory. Feasibility studies of the recently acquired plants viz. Chittagong Urea Fertilizer Limited and Jamuna Fertilizer Company Limited did not examine growth of consumption, price elasticity of demand international market etc. very carefully. In absence of proper technology assessment it is not expected that negotiation for technology, technology receiving, manpower development etc. have been done effectively.

Efficiency of operation and maintenance of fertilizer plants in the country has remained high. It was found by Huq and Islam [6] that NGFF, UFFL and PUFF were run on the average 97-99% of the designed streamdays. ZFCL was able to be in stream on the average for 86% of the designed capability and performance of CUFL in this regard was about 74%.

Regarding unscheduled downtime one would agree that there are some causes like electricity generation problem, raw material supply problem, storage and distribution problem etc. on which operation and maintenance capability has very little to contribute. It has been observed by Huq and Islam that downtime due to load shedding, storage shortage, raw material shortage etc. were much less compared to mechanical and process problems. These latter two problems are weaknesses of maintenance which may be mainly due to dependence on foreign spares and local incapability to develop backward linkages.

Table 5: Status of Different Strategic Activities done in Planning and Implementation for Transfer of Fertilizer Production Technology in Bangladesh with Respect to Four Components of Technology.

Strategic Works	Technoware		Humanware		Infoware		Orgaware	
	Local	Foreign	Local	Foreign	Local	Foreign	Local	foreign
Feasibility Study	?	?	—	XXX	X	XX	X	XX
Technology Assessment	n	n	n	n	n	n	n	n
Selection of General Contractor	?	?	X	XX	—	X	X	XX
Bid Evaluation (micro-assessment)	?	?	X	XX	—	XX	X	XX
Negotiation for Technology	?	?	X	X	—	X	X	X
Technology Receiving	X	XX	X	XX	X	XX	X	Xx
Operation and Maintenance	X	XXX	XX	X	X	XX	XX	X
Marketing	X	—	X	—	X	X	X	—
Technology Forec asting	n	n	n	n	n	n	n	n
Market Study	—	—	X	—	X	—	X	—
Research and Development	X	X	X	—	X	X	X	—

Note:
X X X= High Involvement
XX=Medium Involvement
X= Low Involvement
X= Peripheral Involvement
— = No Involvement
?= Not known
n= Not Done

Technology adaptation and generation is generally an output of applied research and development effort. Given the technological climate in Bangladesh a basic change in fertilizer production technology in the country may be impossible or at least unthinkable at the moment. However, possibility for improvement of the performance through development and utilisation of local plant items/ parts, modification and adaptation of sub-

systems etc. are possible if suitable human resource planning and investment are available.

Human resource development was always a component of each technology importationg as regards fertilizer industry is conerned. it has been identified by studyin contract documents of NGFF, UFFL, ZFCL and PUFF [13] that training content in each successive plant has improved over the previous one with respect to knowledge and still beyond just operation and maintenance. However, in reality human resource development programme so far have achieved very little beyond O & M skill. Moreover it is found that training programmes started later than when it was necessary. Thus local authority failed in managing acquisition of knowledge and skill for technology adaptation and development through the training programmes.

It may be mentioned that some in-house organisational development with respect to R &D has taken place in BCIC, the umbrella organisation of fertilizer plants. A research and productivity unit was created both at corporate head-quarter and at each enterprises of the corporation. Proforma for various productivity measurement was also designed both for monthly and annual accounting. Research and productivity activities report of BCIC for the period 1983-88 shows that a number of research programmes were taken up in response to various problems ecountered in different fertilizer plants. These programmes include searching alternate materials, developing testing facilities for standardization, inventory, energy consumption and conservation, environmental problem, recovery from waste, modification of sub-system, incorporation of locally deveoped plant item etc. It may be mentioned here that given the ineffective HRD programme associated with the import of fertilizer plant, these R & D programmes and their execution and success are solely left on uncertainity.

Engineering Industry

Engineering industries in Bangladesh belong to both private and public. In general small and medium size industries are at the private sector and the public sector owns mostly large units. Private sector engineering industries specially the small ones are mainly engineering workshops established with locally available machineries and do not manufacture any particular technology or product which are formally imported from abroad. Large and medium units are based on imported machineries and technologies. In this section only two large units belonging to the public sector would be referred to analyse technology transfer capabilities. These units are; (i) General Electric Manufacturing Co. and (ii) Bangladesh Diesel Plant. Table 6 shows the extent of different works done for planning and implementation in transferring engineering industry technology.

Table 6 : Status of Different Strategic Activities done in Planning and Implementation for Transfer of Engineering Industry Technology in Bangladesh with Respect to Four Components of Technology.

Strategic Works	Technoware		Humanware		Infoware		Orgaware	
	Local	Foreign	Local	Foreign	Local	Foreign	Local	foreign
Feasibility Study	?	?	_	XX	X	X	X	XX
Technology Assessment	n	n	n	n	n	n	n	n
Selection of General Contractor	?	?	X	X	_	X	X	XX
Bid Evaluation (micro-assessment)	?	?	X	XX	_	XX	—	X
Negotiation for Technology	?	?	X	X	_	X	X	X
Technology Receiving	X	XX	X	XX	X	X	X	X
Operation and Maintenance	X	XXX	XX	X	XX	X	XX	X
Marketing	X	_	X	_	X	—	X	_
Technology Forec asting	n	n	n	n	n	n	n	n
Market Study	X	—	X	—	X	—	X	_
Research and Development	X	X	X	_	X	X	X	_

Note:
X X X= High Involvement
XX=Medium Involvement
X= Low Involvement
X= Peripheral Involvement
— = No Involvement
?= Not known
n= Not Done

From table 6 it can be seen that involvement of local capability in most of the works were peripheral except operation and maintenance. Quality of those works done mostly by expatriate can not be said to be good enough. Feasibility of both the plants were done by expatriate consultants and had estimated a demand following a very ordinary method of demand forecast. In either of the cases the capability of the probable consumers and their limitation were not taken into consideration. As a result over capacity plants were acquired.

In both cases there is little evidence of proper technology assessment, except relevant project evaluation. Project evaluation mainly concentrated on financial and economic aspects and gave very little or no attention to technological aspect. Financial and Economic aspects were also considered for highly idealistic situation i.e. 100% capacity utilisation. Sensitivity of these plants were not analysed for lower capacity utilisation. Selection of technology was vested to the outside contractor and had no provisions to allow the recipient any authority over choice. Nogotiating for the technologies were also not done in favourable terms.

For the electrical equipment manufacturing unit poor technology assessment and negotiations have resulted in incompatibility of standards between the supplier and recipient countries, poor training programme, uneconomic plant capacity. The plant could hardly be utilised for more than 10% of its capacity (12). Incompatibility of standards has also adversely affected alternate choice of raw materials and intermediate inputs by local authority and thereby affecting adaptation and development process. Training component failed to incorporate design and development know-how. However, the people in the plant after putting much effort on their own could cross the barrier of incompatible standards and could use local materials and intermediate items in their production.

The plant is still not out of problems. Major buyers of this plant are power development board and rural electrification board. Bulk of their purchase are funded foreign donors and hence the donors have some influence over the purchase of these organizations. Products of this plant are also not cost competitive. The main reason for high cost is high material cost. The challenge before the plant is to change the design to reduce use of material in the products and thereby cost.

For the diesel engine manufacturing plant the results of poor technology assessment and negotiation are almost identical viz. uneconomic plant capacity, poor training programme, poor acquisition of documents and know-how, restrictive clauses in contract, poor local participation etc. Average capacity utilisation was only 36% [1]. After much effort in R & D and production the plant could, however, establish some backward and forward linkages, improve the rejection rate and carry out some adaptation and modification jobs. But the major problem of the plant is lack of demand. It's major buyer, Bangladesh Agriculture Development Corporation procures engines when foreign finance is available. BADC is also influenced for its procurement by the funding agencies.

Human resource development programme in both the transfer process were poor. Manpower training was in the areas of operation and maintenance. Areas like design and development, marketing etc. were not covered. However, these plants have their own design & development sections which have made some positive contribution for the plants in terms of techonology adaptation and development. Both the plants have difficulty in marketing their products. They are thus constrained to utilise their capacity and thereby learn the technology by doing on it. All efforts end up in vain unless there is a flow through the process.

3.3 Private Sector Industries

Leather Industry

Leather processing is an age old technology in Bangladesh. Vegetable training techonology is the earliest form and subsequently followed by chrome tanning introduced in 1946. Historically leather industry for Bangladesh is mainly export oriented.

The industry was most dominated by Pakistani entreprenours who abandoned their enterprises after Bangladesh came into being. Government of Bangladesh took over these industries but eventually disinvested them to Bangladeshi private entreprenous.

As mentioned, leather industry has grown mainly based on world market demand. As such leather processing technology is influenced by the demand in the world market. Vegetable tanning was the traditional technology. Chrome tanning strated due to demand from developed countries in Europe. Unitl recent times most of the industry used to process leather upto wet-blue stage. Due to some policy incentives of the government, the industry is now gradually going for processing leather upto finished stage.

Although the industry is based on export market, it is learnt from different studies that excess capacity has already been installed both from output demand and supply of raw material point of view. According to a survey conducted in 1983 the installed capacity for wet-blue was 171 million sq. ft. while the available supply of hides & skins was around 100 million sq. ft. [7].

Based on a limited number of studies carried out so far for this industry and our discussions with the industry personnel it may be said that technology transfer in this sector is somewhat encouraging. Table 7 shows the extent of different strategic works done in planning and implementions for transferring technology. From table 7 it is evident that involvement of local capability in various activities are quite satisfactory compared to other public and private sector industries. It is reported that in this sector entrepreneurs have close interraction with the technology suppliers as well as with the product buyers. This situation is believed to be helpful to the entrepreneurs in carrying out different activities more effectively by using local capabilities. However, as yet there are some weaknesses in some areas of technology transfer which deserve attention for achieving effective technology transfer in leather industries.

Evaluation of technology by the entrepreneurs is usually satisfactory but due to some scrupulous benefit from import, the choice of technology has remained import biased.

Table 7: Status of Different Strategic Activities done in Planning and Implementation for Transfer of Leather Industry Technology in Bangladesh with respect to Four Components of Technology.

	Technoware		Humanware		Inforware		Orgaware	
Strategic Works	Local	Foreign	Local	Foreign	Local	Foreignn	Local	Foreign
Feasibiliy Study	?	?	XX	X	X	XX	XX	X
Technology Assessment	n	n	n	n	n	n	n	n
Bid Evaluation (micro-assessment)	?	?	X	X	X	X	XX	X
Negotiation for Technology	?	?	X		X	X	X	
Technology Receiving	X	X	X	XX	X	XX	X	X
Operation and Maintenance	X	XX	XXX	—	X	X	XX	—
Marketing	X	—	XX	X	X	X	XX	X
Technology forecasting	n	n	n	n	n	n	n	n
Market Study	?	?	X	X	X	X	X	—
Research and Development	X	X	X	—	X	X	X	—

Note: XXX= High Involvement
XX= Medium Involvement
x=Low Involvement
X=Peripheral Involvment
— =No Involvement
?=Not Know
n=Not Done

In general, people directly and indirectly related to the industry are of the opinion that the operation and maintenance efficiency of the industry are quite satisfactory. According to a technical executive working in the industry for more than a decade and who was attached to several leather units on part-time basis, the rejection rate at wet-blue stage is well within 5%. Hoever, according to a TIP study [5] the performance in leather industry is not so optimistic and as noted "wet blue production in Bangladesh leaves much to be desired. Because of limited technical expertise determination of the dosage of tanning chemicals is haphazard and often incorrect. Temperature measurement and regulation are seldom done properly and fleshing by hand is uneven. Liming is inadequate and the chrome tanning is done or terminated at PH values too low to prevent the release of free acid during shipment. As a result a percentage of the wet blue hides and skins exported arrive in damaged condition and exporters are made to accept discounts of upto 30% on their deliveries". However, according to the industry personnel these faults are being rectified by reworking during the manufacturing process itself. It is reported that exporters sometimes complain about quality to get some undue benefit specially when there is slump in the international market.

Formal R&D in leather sector is very limited. Leather division of BCSIR and Bangladesh College of Leather Technology are the two R&D institutions in this sector. The letter one is mostly engaged in manpower development. Both of these institutions mostly extend testing facilities to

the industry. They also some times, if approached, solve technical problems. However, informal in-house R&D in the sector is quite commendable. A number of simple types of machineries such as paddles, wooden drums and drying equipment have been made locally. These equipment proved to be least cost and at the same time give equal quality output. Each industrial unit in the industry continuously tries chemicals of different recipes to improve upon their quality. For this they are to incur certain cost but once become successful they make benefit out of it.

Other Industries

These are the case studies of two private distillery plants [11]. These companies acquired plants on turn-key basis from foreign sources financed by Bangladesh Shilpa Rin Sangstha. These companies faced tremendous difficulties in starting up the plants and then with the help of local consultants the plants were put into operation.

Unlike leather industry these entrepreneus had little familiarity about the technologies they were going to acquire. Table 8 demonstrates that local participation and extent of work done in different strategic activities of planning and implementation in acquiring technology were very poor. Entrepreneurs alone can not be made responsible for this state of affair. Improper assessment of technology by development finance institutions, over-playing of indentors etc. also have important role in this respect.

Table 8: Status of Different Strategic Activities done in Planning and Implementation for Transfer of Technology in some Private Industries in Bangladesh with Respect to Four Components of Technology.

	Technoware		Humanware		Inforware		Orgaware	
Strategic Works	Local	Foreign	Local	Foreign	Local	Foreignn	Local	Foreign
Feasibiliy Study	?	?	X	—	X	X	X	—
Technology Assessment	n	n	n	n	n	n	n	n
Bid Evaluation (micro-assessment)	n	n	n	n	n	n	n	n
Negotiation for Technology	?	?	X	—	X	—	X	—
Technology	X	XX	X	XX	—	XX	X	X
Operation and Maintenance	X	XX	X	—	X	X	X	—
Marketing	X	—	X	—	X	—	X	—
Technology forecasting	n	n	n	n	n	n	n	n
Market Study	?	?	X	—	X	—	X	—
Research and Development	X	—	X	—	X	X	X	—

Note: XXX= High Involvement
XX= Medium Involvement
X=Low Involvement
X=Peripheral Involvment
— =No Involve ment
?=Not Know
n=Not Done

4.0 OBSERVATION AND ANALYSIS

From the technology transfer case studies discussed in the previous section it is observed that there are shortcomings in both planning and implementation stages which affects technology transfer process both in public and private sector industries. The activities like assessment of technology in pre-operation stage for planning purpose and forecasting of technology in pre-operation stage for development of the acquired technology are not at all exercised in its true sense. For other major activities except operation and maintenance there is dominance of foreign capability in public sector industries. In private sector these works get much less importance. Performance of the industries irrespective ownership are at best successful in operation and maintenance. In some cases this much is also limited by market constraint. In technology transfer measure this is the static state of technology transfer.

Poor performance in planning and implementation works of technology transfer are thought to be either due to lack of capability or due to non-utilization of available capability. From the previous discussions, it appears that the following activities were not persued properly and as such successful transfer of technology was constrined to a great extent.

a) Feasibility Study;
b) Technology Assessment;
c) Negotiation for Technology;
d) Marketing; and
e) Adaptation and Development.

Problems related to above mentioned activities are related to either humanware, or infoware, or orgaware components of technology. Therefore strengths and weakness of each of these components would in fact determine the technological capabilities with respect to transfer of technology.

Feasibility Study

Assessment of need or identification of demand in terms of quantity and specification is done formally or informally in both public and private sector. This activity is well established in the process but it is the quality of assessment which is under question. In most cases it is found that there is overestimation of demand. Estimation of demand is largely based on apparent demand without going into the details like economic progress of the ultimate users, demand elasticity with price etc. and socio-cultural changes.

Absence of adequate information is considered to be one of the reason for poor need assessment. It is thought that there are sufficient competent human resources available in the country but it is the question of intention

to employ the right people. In case of public sector there is abundance of foreign consultants involved who may not have sufficient knowledge on socio-economic and cultural requirments. In private sector the entrepreneures are not aware of the benefit for the cost of such assessment and as such reluctant to incur any cost for this activity.

It may be observed that to upgrade need assessment capabilities entrepreneurs have to be educated to understand the benefit of the same against its cost. Since this activity is at the conceptual stage of the project it should be planned and implemented accordingly by the higher authority of concern. In public sector it should not be performed below the corporate level. In private sector individual entrepreneurs can plan and implement it. In either case the assessment body comprising of competent personnel preferable from local sources should be provided with adequate information.

Technology Assessment

Once as assessment of need is made and offer of technology is invited, assessment of the offer (s) is also required with respect to technological, economical, social, politico-legal, resource and environment factors. This assessment identifies the gap between needs and capabilities and thus as a very important tool helps management for subsequent decisions. It is immensely helpful for technology negotiation and planning for the development of in-house capability in assimilation and adapting and developing the technology that is going to be acquired.

This activity is totally missing in the process of technology transfer in Bangladesh. In public sector the project is evaluated after certain vital decisions like technology negotiation, human resource development plan etc. are taken. The consequence is evident from any of the case studies on technology transfer in Bangladesh.

The diverse nature of technology assessment (TA) makes it a multi-disciplinary task. It should comprise of economist, seciologist, technologists, subject matter specialist etc. Human resource in these disciplines are not scarce in the country. In case of non-availability of people from a particular discipline he/she may be hired from outside sources. Thus the responsibitity of the recipient is to constitute an assessment body for looking after his interest and not of the supplier of the technology. This is a decision to be taken at upper echelon of the authority. In case of public sector, the authority should be at corporate level or above. In private sector it is certainly the highest authority of the organisation concerned. These authorities may seek the help of a consultative body for assessment or can constitute a body by themselves inviting appropriate persons. But in either cases the authority should be careful that the constituent members are

sincere to the honest interest of the recipient in transferring technology.

Introducing TA in technology transfer process may go against the interest of many parties involved in the process. These parties may have different degress of influence in decisionmaking. In such a situation it is advisable to enact a law to make TA a mandatory activity in the process.

Negotiating for Technology

In Bangladesh, irrespective of public and private sector, technology transfer deals are full with unfavorable terms of contract. These deals have generally failed in:

i) incorporating participation of local monpower in installing, commissioning, testing and trial run and utilisation of local resources;
ii) avoiding restrictive terms specially related to modification, adaptation and marketing;
iii) acquiring training for manpower in design, development and markenting aspect;
iv) securing penalties in case of failure in performance guarantee;
v) acquiring detail information of operation, maintenance and design of the technology.

Negotiating a deal is an art. Parties in a deal have different motivations. The recipient in a technology transfer agreement should be aware of his needs and capabilities on the basis of an indepth TA exercise, so that a favorable deal can be made. It is also necessary for the acquiring party to possess good bargaining intelligence and knowledge of lagal aspect. Considering the multiplicity of discipline involved in a contract it is to be realised that the negotiating teams must include specialists to handle specific matters besides the members of the asessment team. Tentatively the team may consist of:

1) legal expert in contract and corporate laws;
2) financial specialist;
3) technical experts/members of the TA team;
4) government representative;
5) financier's representative.

Negotiation should be carried out under the leadership of a competent person form the owner's/recipient's side with authority to take most decisions at the negotiating table. Manpower to constitute such a team from within the country may not be difficult but proper institutional and regulatory mechanism is required to be developed in this regard.

Marketing

Marketing or commercialisation capability is the key to successful assimilation of technology. Successful commercialisation of the output

provides the opportunity for learning by doing. It is to be kept in mind that ultimate target of technology transfer is the commercialisation of technology.

Public sector enterprises in Bangladesh uterly fails in marketing. Strategic planning for marketing is absolutely absent. Institutional arrangement for marketing is there but lacks proper manpower, planning and investment. Other aspects of marketing like marketing research, customer follow-up and feed-back etc. are also absent. In private sector the situation is not so disappointing but they also lack proper manpower and knowledge.

Organisation and manpower for marketing should be planned when the technology acquisition process starts, so that marketing mechanism along with proper manpower is ready when production starts. Marketing is closely related to technology operation, adaptation and development. So, it should be closely integrated with the production system.

Adaptation and Development

Adaptation and development in industry is the product of high calibre design and development personnel, in-house R & D commitment in terms of money and manpower and general R & D environment of the country. In most public sector enterprises there are R & D set ups but with inadequate money and manpower. Manpower training programme in technology transfer process rarely contains training in design & development aspect. There is also very little opportunity for local people to participate in installation commissioning, testing and trial run activities. Despite such low level of input, R & D efforts in these enterprises have made some positive contributions towards adaptation and development.

R & D in private sector is rarely formal. Recipe manipulation and local machinery development in leather industry, changeover of micro-processor controlled system to electrical switching control system in a process plant and so on are definitely R & D activity. It is also not necessary to develop a formal system for R & D. However, this form of R & D should be recognised for greater national interest.

Without going to the detail of general R & D environment in the country it can be said that very little can be expected from this environment when a process of interaction between R & D organization and industry is generally absent. There is a wide gap between the knowledge of R & D organisations about the problems of industry and knowledge of industry people about the capability of the R & D organisations. There is an urgent need to bridge this gap.

5.0 CONCLUSION

Analysis of technology assimilation, adaptation and transfer in the case of some of the industrial technologies indicates a bleak picture of local capabilities which has reinforced poor industrial performance in many ways. However, the contemporary social structure may also have a influence on the process of technology transfer which have not been studied within the scope of the present paper.

Industrial performance measured in economic terms reflects the interactions of all the technology components and hence weak linkages between them need to be overcome through planned development of technological capabilities. In an aid dependent regime, importation of hardware alone features the main objective of technology transfer which in fact may be termed as static transfer of technology. For effective (dynamic) technology transfer there is a need to acquire competence for the application of imported technology as well as its development at various stages discussed earlier. Once the technology transfer capability is achieved it is expected that the industrial performance may be atuned to its desired level in the presence of an appropriate policy environment. Therefore, a strategy for successful assimilation, adoption/adaptation and transfer of technologies must be persued through both public and private channels for gaining mastery over technology in the drive towards better industrial performance. In Bangladesh, technological issues involved in the process of effective technology transfer particularly for industrial technologies has yet received very little attention and unless there is a cencerted effort for building in-house technological capabilities, the country would remain not only technologically dependent but also for its industrial performance to a great extent. Hence the need for proper planning and management of industrial technologies for achieving effective technology transfer and thereby enhancing industrial performance is a vital issue and deserve serious consideration both for public and private sector industrial units.

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PROFITABILITY OF PUBLIC INDUSTRIAL ENTERPRISES IN BANGLADESH A STUDY OF COTTON TEXTILE INDUSTRY

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INTRODUCTION

The public enterprises in Bangladesh were created to play a crucial role in the socio-economic realm of the country. More specifically, the large-scale nationalisation programme was undertaken in pursuance of the state policy of establishing socialism and creating a society free from economic and political exploitations.

But to make the nationalisation programme a success it was necessary to establish adequate and appropriate criteria for measuring the performance of the public enterprises. Lack of performance criteria and absence of clear-cut demarcation of the activities, responsibilities and authorities [1;8] at the various levels of management of nationalised enterprises made accountability difficult.

Further, the party in power at the prime stage of nationalisation created the scope of the chaos and mismanagement in the nationalised enterprises by placing inefficient and selfish party supporters in administrative posts as well as by retaining the former 'Bangalee' owners in their management [2;431]. As a result, the performance of the nationalised sectors in the post-liberation years, in terms of private financial profitability and losses, was considered to be poor [3;229].

This state of affairs in the post-liberation years was severely criticised in the public media. Public enterprises were alleged with the charge of mis-management, inefficiency and corruptions. In course of time, all these seemed to create an environment for adoption of the disinvestment policy [4;2-3]. Thus it seemed that the poor private profit performance of the public enterprises was considered by many as the prime evidence of non-attainment and even defeat of the objectives of nationalisation.

It was, therefore, essential to closely examine the low profit and persistent loss-syndrome of the public enterprises. It was necessary to examine:

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1. Whether the concern over the poor or negative profit performance of the public enterprises was justified or it was the legacy of the past colonial capitalistic economy characterised by over-concerned with profits and losses.
2. Whether the concept of private financial profitability is an appropriate criterion for measuring performance of the public enterprises or not.
3. Whether any other concept of profitability is more appropriate in this regard which may be suitably used in measuring performance of the public enterprises.
4. What is the relevant profitability for the public enterprises?
5. What is the true performance of these enterprises in terms of this relevant profitability?

OBJECTIVES

Considering the above points this study aimed at choosing an appropriate concept of profitability for the public industrial enterprises and applying that concept to measure and analyse the past profitability of public cotton textile industry in Bangladesh. More specifically, the study was undertaken to achieve the following major objectives:

1. To choose an appropriate concept of profitability which can be used as a measure of performance of the public enterprises.
2. To compute and explain the profitability of the public cotton spinning enterprises by using the appropriate concept of profitability for measuring performance of the public enterprises.
3. To examine the significance and impacts of profitability of the public enterpises.

COVERAGE AND PROCEDURES

The study covered eight homogeneous public cotton spinning enterprises selected randomly. The sample mills represented 27.38% of total spindleage capacity of the public cotton spinning mills in 1983-84. In terms of the number of spinning mills, the sample size represented 36.36% of the total number of public cotton spinning mills in 1983-84. The profitability of these enterprises for the period from 1974-75 to 1983-84 was determined and explained by using Prof. Leroy P. Jones' model of

public profitability[1] which appeared to be the most appropriate measure of profitability for the public enterprises.

The study was based on both primary and secondary data but a major portion of the data belonged to the former category and were collected from the enterprises. The revenue and cost data were taken from the audited final accounts of the enterprises. Non-financial data were collected from the enterprise MIS (Management Information Service) reports. The primary data including the opinion were collected through direct personal interview by the researcher by using sets of well designed, pretested closed but flexible recording schedules.

Opinions of the sample respondents as to the various aspects of profitability were recorded on the Likert seven-point summated rating scales. The sample respondents were selected purposively for interview from the different bodies such as the Textile Ministry, the Corporation, the enterprise and other interest-groups.

The statistical techniques used in summarising and analysing the collected data included 'statistical average', 'measurement of trend', 'correlation', 'test of significance of difference', and multiple regression analysis'. In testing the hypotheses appropriate non-parametric statistics were used considering the characteristics of data.

MAJOR FINDINGS

The study uncovered following major findings:

Average annual public profits earned by the sample enterprises from 1974-75 to 1983-84, at current market price, at constant market price, at current shadow-price and at constant shadow price were 63.89, 129.89, 900.51, and 553.56 lakh taka respectively (vide Appendix, Table-1). Thus public profits were found positive under any price base. Public profits at

1. Among the contemporary measures of performance of public enterprises, Prof. Leroy P. Jones' public profitability (which has been defined as, output minus Intermediate inputs, Wages, Rents, and opportunity cost of working capital; divided by stock of Fixed operating capital) was considered to be the most appropriate for this study since:

i. It is the social profitability or social surplus or social quasi-rent per unit of fixed capital.

ii. It is based on the notion of costs and benefits from the social point of view.

iii. It excludes all items of income and expenditure from the point of view of private owners.

iv. It is a single composite measure of performance, which avoids duplication and counts each cost and benefit for once either in the numerator or the denominator.

v. The valuation of fixed assets in this method takes into account the physical deterioration and inflation factor.

vi. It makes an explicit charge for the opportunity cost of scare working capital and treats fixed capital as sunk cost.

The private financial profitability was found to be quite inappropriate and hence unsuitable as a measure of performance of public enterprise, since it disregards the above points in computing the profit.

current and constant shadow prices were higher than the same at current and constant market prices, respectively.

The average annual public profitability at current shadow price, at constant shadow price, at constant market price and at current market price were 14.83%, 11.45%, 2.69%, and 1.07% respectively (vide Appendix Table-1).

Public profits at current shadow price showed an increasing trend of Taka 91.14 lakh per year (vide Appendix, Table-2). Public profitability at constant shadow price[2] showed a very low decreasing trend over ten years from 1974-75 to 1983-84, i.e. 0.32 per cent per year (vide Appendix Table-2). Inefficient use of both working capital and fixed assets seemed to contribute greatly to the slow decreasing trend of public profitability at constant shadow prices.

The major proximate causes of high public profit at shadow prices were:

(a)Low percentage of cost of goods sold on sales revenues.

(b) High mark-ups on sales price and costs.

(c) High contribution margin per unit.

(d) High sales over break even point.

(e) Low fixed cost.

The major proximate causes of low public profit at market prices were just the reverse of the above i.e. (a) High percentage of cost of goods sold on sales revenues and (b) low mark-up on sales price and costs, and so on.

The basic reasons for low public profit at market prices were:

i. Lack of clear-cut pricing objectives

ii. Lack of pricing autonomy

iii. Low quality of yarn*

iv. Low mark-ups on cost

v. Inefficient procurement policy of raw cotton

vi. High wastage*

vii. Low labour productivity

viii. Defective piece-rated incentive system

ix. Under-utilisation of capacity*

x. Increase in wage rates

xi. Employment of more social members

xii. High cost of repair and maintenance

2. Based on 1977-78

* These factors affected both, public profitability at market as well as at shadow prices.

xiii. Increase in the price of power and fuel
xiv. In-efficient distribution system*
xv. Smuggling of yarn into the country*
xvi. Change in consumers' preference
xvii. Import of second-hand cloth*
xviii. Illegal practices of readymade garment companies*
xix. Increase in the bank rate of interest*
xx. Increase in the price of working capital items*
xxi. In-effective management of working capital*.

The following factors were found to be responsible for low quality of yarn:
i. Old and worn-out machineries
ii. Inferior quallity of raw cotton
iii. Lack of proper quality control
iv. Little autonomy in the hands of enterprise management for improving the quality of yarn
v. Lack of co-ordination between machine conditions and production specifications
vi. Poor maintenance
vii. Lack of applied research
viii. Defective bonus system.

The following factors were found to be responsible for high wastage of raw cotton and yarn.
i. Sub-standard quality of raw-cotton
ii. Old and worn-out machineries
iii. Lack of proper maintenance
iv. Frequent power failure and load shedding
v. Lack of humidity and temperature control in the factory premises
vi. Lack of proper control and supervision of the production process.

The following factors were found to be responsible for low labour productivity.
i. Lack of formal training of the workers
ii. Old and outdated machineries
iii. Poor maintenance
iv. Poor quality of raw cotton
v. Lack of proper supervision of the factory workers
vi. Shortage of raw cotton

* These factors affected both, public profitability at market as well as at shadow-prices.

The following factors were seemed to be greatly responsible for under-utilization of capacity.

i. Power failure and load-shedding
ii. Absenteeism of workers
iii. Shortage of spare parts
iv. Maintenance.

Other factors responsible for low capacity utilization were:

i. Mechanical troubles
ii. Shortage of raw cotton
iii. Late arrival and early departure of factory workers
iv. Shortage of skilled workers
v. Count-change of yarn
vi. Meetings, strikes and lock-outs.

The factors responsible for high cost of repair and maintenance were found to be:

i. Higher market wages of semi-skilled and unskilled maintenance workers
ii. Higher prices of stores, spares and accessories
iii. Old and worn-out machineries.

The following factors were found to hinder proper supervision of the factory workers.

i. Political exploitation of labour
ii. Unhealthy trade-unionism
iii. High percentage of local-workers
iv.Loopholes in the existing transfer and promotion policies of the factory staffs and workers
v. Poor academic and professional back grounds of the mill executives and office staffs.

Other major factors which were found to have adverse effects on the public profitability (both at market and at shadow prices) were:

i. Inefficient and ineffective operative management
ii. Poor profit planning and profit control systems
iii. Limited degree of 'Managerial Autonomy' and limited degree of control of the factors in the hands of the corporation and enterprises.

Variations in direct material cost, sales prices, opportunity cost of working capital and sales volume together accounted for 85.31% and 88.29%

variations of profits between high and low profit mills under public profit at current and constant market prices repectively, (vide Appendix. Table-3)

On the other hand, variations in sales volume, opportunity cost of working capital, selling and administrative cost, and factory wage cost, together were responsible for 91.46% and 90.08% of profit variation between high and low profit mills under public profit at current and constant shadow prices respectively (vide Appendix Table-4).

A multiple regression analysis based on just economic factors indicated that sales volume, working capital, productivity, and wastage were the four impotant determinants of inter-mill profits which explained 79 per cent of change in public profit (at constant shadow prices).

On the other hand, a multiple regression analysis of just management factors indicated that product quality and labour management relation were the two most important management factors that determined mill-profit performance.

A coordinated run of management and economic factors indicated that product quality, labour-management relation and working capital were the most important determinants of varying inter-mill profit performance.

Profit planning and profitcontrol system of public cotton spinning enterprises was not found to be scientifically based. It was fraught with various flaws and weaknesses which, most probably, made the system inefficient and ineffective leading to a failure to achieve the desire profit objectives (by directing the activities of the enterprises in the proper tracks).

Low and high-profitability of public cotton spinning enterprises were found to have either medium or high unfavourable, and favourable impacts respectively (as measured by Likert 7 points summated rating scales), on the mill, mill-management, mill workers and staffs, on the corporation, and on the society as a whole.

The following hypotheses were tested statistically and accepted as valid in case of public cotton spinning enterprises in Bangladesh:

1. Profitability of the public industrial enterprises at shadow-prices is higher than the bank-rate of interest (in Bangladesh) and the profitability of the same enterprises at market price is lower than the bank-rate of interest (in Bangladesh).
2. Profitability of the public industrial enterprises at shadow prices is qreater than the profitability of the same enterprises at markert prices.
3. The following factors affecting profits vary significantly between high and low-profit public cotton-spinning mills. The factors were found

significantly favourable for the high profit mills and unfavourable for the low profit mills:

(a) Capacity utilization
(b) Idle spindles
(c) Spindles idle due to shortage of spare parts
(d) Spindles idle due to absenteeism
(e) Spindles idle due to maintenance and mechanical troubles
(f) Productivity
(g) Percentage of wastage
(h) Number of skilled workers
(i) Sales units.

The average number of idle spindles due to power failure, however, does not differ significantly between high and low profit public cotton spinning mills. Perhaps all the sample mills are similarly affected by this factor.

4. There are significant positive correlations between:
   (a) Profitability and growth of public enterprises (cotton spinning);
   (b) Profitability and contribution of public enterprises to the public exchequer;
   (c) Profitability and social services of the public enterprises; and,
   (d) Profitability and achievement of public confidence in the public enterprises.

MAJOR CONCLUSION

Public cotton spinning enterprises were found to be socially and economically profitable. They indicated a good performance in terms of level of profitability since shadow profitability was greater than the bank rate of interest. Although a slow decreasing trend of profitability was observed, if this was adjusted for limited autonom, poor maintenance, old and outdated machineries, power failures etc. then the performance in terms of trend too might be considered as anything but unsatisfactory. This is not a discrete conclusion with the public enterprises. "There are innumerable examples of very successful public enterprises. They range from Swaraj Tractactors, in India to Consupo, a government retail food chain in Mexico, to Renault in France"[5:537]. Moreover this finding is also corroborated by the findings of other recent works [6,7,8].

POLICY IMPLICATIONS AND RECOMMENDATIONS

Among others, the study has the following major policy implications and recommendations.

Financial profitability has been found to be an inappropriate measure of performance of public industrial enterprises. Hence any crucial decision based on it (such as disinvestment) is not only anti-soical, but economically unjust and irrelevant.

Public profitability at market prices inadequately reflects the performance of public industrial enterprises, since it is not independent of the strait-jacket of controlled and imperfect market prices.

Public profitability at shadow prices is the true and fair measure of performance of these enterprises. Hence for measuring performance of these enterprises public profitability at shadow prices should be used.

Since product quality, labour-management relations, working capital, sales-volume, productivity and wastage explained existing change in public profit at constant shadow prices from mill to mill a pragmatic thought to enhance this profit may be given by the management, by concentrating just on these factors.

Since public profitability was found to have significant positive correlations with the contribution to the public exchequer, social services, growth and achievement of public confidence in the public enterprise, and since the latter variables are closely related with the socialist transformation, surplus generation, employment, expansion and acceleration of economic growth, public profitability may also be considered in the perspective of achievements of these objectives of public enterprise in Bangladesh.

Therefore, all plans, programmes, and policies of the public enterprises which act as hindrances to attain a reasonable rate of profit should be reviewed and revised thoroughly with a view to making the public enterprises a strong device of economic and social uplift to a great extent, and adequate attention should be given in this regard by the Government, Corporations and Enterprises.

Since low and high profitability of public enterprises were found to have (either medium or high) unfavourable and favourable impacts respectively, on the mill, mill-management, mill-workers and staffs, on the corporation, and on the society, any increase in the profitability of public enterprises would serve the interest of all these groups and, any decrease in the same would also affect their interests adversely.

As such, the Ministry, the Corporation, the mill-management, and the mill-workers and staff should work sincerely and in close co-ordination, in order to make the public enterprise profitable and prestigious, rather than defaming it as a losing concern to the detriment of the interests of themselves, and of the society as a whole.

Finally, the profitability being a calculated composite figure, based on different concepts, any faulty measure of it or any profitability which is not based on social benefits and costs, will have great repercussion on the society, and will jeopardise the achievement of social objectives, and at the extreme the very existence of the public enterprises themselves.

Appendix (i)

Table-1: Public Profit and Profitability of Sample Enterprises

Category of Public Profit	Total Profit from 1974-75 to 1983-84 in Lakh Taka. (a)	Annual Average Profit in Lakh Taka. (b)=(a ∏ 10)	Total fixed operating Assets from 1974-75 to 1983-84 in (c)	Profitability in percentage of Fixed Assets (d) = (a∏c)
At current Market prices	574.97[1]	63.89[2]	53,555.59[3]	1.07
At constant Market prices	1298.88	129.89	48,326.08	2.69
At current Shadow prices	9005.06	900.51	60,738.10	14.83
At constant Shadow prices	5535.64	553.56	48,326.08	11.45

N.B. 1. Excluding figures of 1981-82, being an abnormal year.
2. The average was for 9 years e.g. 574.97 ∏ 9 = 63.89.
3. Total Fixed Assets for 1981-82 (abnormal year for BTMC) was excluded, thus, 60738. 10 - 7182.51 (1981-82's figure) = 53,555.59

Table-2 : Trend Values of Public Profit and Profitability

Year	Trend Values Public profit at current shadow price (Lakh Taka)	Public Profitability at constant shadow price (Percentage)
1974-75	490.38	12.93
1975-76	581.52	12.61
1976-77	672.66	12.29
1977-78	763.80	11.97
1978-79	854.94	11.65
1979-80	946.08	11.33
1980-81	1037.22	11.01
1981-82	1128.36	10.69
1982-83	1219.50	10.37
1983-84	1310.64	10.05
	+91.14	-0.32

Appendix-(ii)

Table-3 : Average percentage of Profit Variance between High and Low profit Mills (Ten year's Average from 1974-75 to 1983-84)

Elements of Variances	Account for Percentage Variation of Public Profit	
	At current Market price	At constant Market price
Direct Material cost	47.94	48.32
Sales Price	16.98	26.33
Opportunicy cost of working capital	11.98	9.30
Net Sales Volume	8.41	4.34
Total (A)	85.31	88.29
(Others)		
Factory Wages	5.88	3.50
Selling Administrative Expenses	3.68	3.89
Store, Repair and Maintenance	2.38	2.76
Power and Fuel	1.95	1.43
Other Manufacturing overhead	.80	.13
Total of others (B)	14.69	11.71
Grand Total (A+B)	100	100

Appendix-(iii)

Table-4: Average Percentage of Profit Variance between High and Low Profit Mills (Ten year's average from 1974-75 to 1983-84)

Elements of Variances	Account for Percentage Variation of Public Profit	
	At current shadow prices	At constant shadow prices
Net Sales Volume	48.81	45.95
Opportunity cost of working capital	28.18	27.64
Selling and Administrative expenses	6.23	8.79
Factory wages	8.24	7.70
Total (A)	91.46	90.08
(Others)		
Sales price	—	—
Direct Material	—	—
Power and fuel	3.76	4.25
Store, Repair & Maintenance	3.38	5.35
Other Manufacturing overheads	1.40	.32
Total of others (B)	8.54	9.92
Grand Total (A+B)	100	100

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POVERTY IN RURAL BANGLADESH : TREND AND MAGNITUDE

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INTRODUCTION

Poverty in Bangladesh is massive both in terms of absolute numbers and as proportions of total and rural populations. Despite significant economic growth since the late 1970s, the poverty and unemployment situations in Bangladesh continue to be serious. In 1985, for example, while GDP was about 60% higher than that in 1974, there were nearly 16 million more poor in 1986 than in 1974 [1]. Available evidence [2] also suggest that in Bangladesh about 60 million people in the rural area live below a nutritionally determined poverty line. Although declines in relative poverty measured on the basis of a nutritionably determined poverty line are reported by some studies [3] the overall poverty situation in the country still remains precarious and intensity, particularly among the rural poor is reported even to have worsened. With this background, we now turn to examine the magnitude and intensity of poverty in the study areas.

POVERTY IN THE STUDY AREAS: MEASUREMENT AND PROFILE

There are three basic approaches to the analysis of poverty problem. These are (a) the consumption approach (b) the income approach (c) the physical quality of life index. The present study attempts to address the poverty problem in the study areas following the first two approaches.

The limitations of using both the nutritional and income approaches to determine the incidence of poverty are well discussed in the literature and bear no repetation [4]. The use of the third approach is precluded by the lack of availability of appropriate data.

Consumption Approach

In the consumption approach, usually the family food-intake is converted into energy values and then compared with the recommended daily allowance of calorie-intake to find the level of poverty. Accordingly information on diets obtained from the selected households by the study following the 24-hour food recall method have been converted into calories. Since cereal constitutes about two-thirds of our total food intake and contributes about 90 per cent of calories to our diet the present study is confined mainly to this particular food group and converts the household cereal consumption into energy values using Bangladesh food value table

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[5,6]. Other foods contributing towards calorie-intake play such a minor role in the diet of the study households that their exclusion will not vitiate the conclusion of the present study. Cereals in Bangladesh consists of rice, wheat and some other minor grains. The present study incorporated all these grains in obtaining the calorie values.

Recommended energy allowance for different age-sex group of population was obtained from the study by Ahmad and Hassan [7]'. Since energy requirement varies widely from one activity to another, it is desirable to estimate the requirements on the basis of occupation. Below the poverty line under the two approaches may be that in estimating the income (whether current or expected) of the respondents it was difficult to account for the inflationary rise in prices of various commodities constituting the consumption bundle. As a result the income reported by the respondents fell much short in real terms to purchase the consumption bundle. While this may be applicable to all land-owning groups, the severity might be much pronounced for the landless group with meagre income.

Table-6 compares the poverty situation of the study areas based on the consumption and income approaches. Except for the landless families the results obtained from the income approach seem to be broadly in agreement with those obtained from the consumption approach. According to the consumption approach, 39 per cent of the marginal land-owning families were found to lie below the poverty level while 41 per cent of households belonging to the same category were found to live below poverty line according to the income approach. In case of small land-owning groups percentage of households falling below poverty line was calculated to be 31 per cent according to the consumption approach and 32 per cent according to the income approach. In the medium and large land-owning groups, the proportion of households falling below poverty line were 17 per cent and 14 per cent respectively as per the consumption and income approach.

In case landless households the results obtained from the two approaches do not coincide with each other relating to the proportions falling below the poverty line. For example, while 58 per cent of the landless are seen to lie below the poverty line as per the consumption approach, the proportion turns out to be only 36 per cent as per the income approach. One plaussible reason underlying this statistically significant (i.e. p. 0.05) difference between the proportion of households lying line if its current income is less than 80 per cent of the expected income. Similarly a household is said to lie above the poverty level if its current income is equal to or more than that of its expected income.

The findings based on the income appreach, are presented in Table 4. The table revoals that there exists an inverse relationship between poverty

and income i.e., as income goes up the level of poverty goes down and vice-versa. Based on this criteria 36 per cent of households belonging to landless category, 41 per cent of marginal, 32 per cent of small and 14 per cent of medium and large land-owning families had income below 80 per cent of the required leved i.e. these households could not afford the required bundle of goods to meet their basic nutritional needs. It is interesting to note that even in the well-to-do segment of the study population there exists deprivation. The table further reveals that in general the incidence of poverty is higher in the traditional villages compared to villages which had some external interventions. This implies that exposure to development programmes have positive impact in improving the quality of life of our rural population.

Table-5 exhibits disaggregated household level poverty situation in terms of income approach. According to this approach, about 10 per cent of the study households had income below 50 per cent of their required minimum and another 15 per cent had income below 70 per cent of their expected earnings. Among the various economic groups the situation of the landless and marginal land-owning families are worse compared to study population. It appears from the table that 9 per cent of study households have energy intakes below 60 per cent of their requirement. Further breakdown indicates that 2 per cent of them can not even fulfil 50 per cent of their daily requirement and most of them belong to the landless families. Among the various economic groups, the situation of the landless and marginal land-owning families are worse compared to that of the remaining two study groups viz, small and large land-owning families. This is hardly surprising in view of the glaring inequalities in the distribution of wealth and economic opportunities existing both in the survey areas and in the country as a whole.

Income Approach

According to this approach the current income of a household is compared with its expected income and the resulting gap between the two is used as an indicator of the poverty level. Expected income is that level of income which enables a household to buy a bundle of goods that ensures balanced diet to its members such that their daily macro and micro- nutrient needs are fulfilled. The balanced diet for different age-sex groups of members of a family is developed following the criteria set by Gopalon et al [8]. Local level prices of 1987-88 are multiplied by the required quantity of goods to obtain the expected income of a family. Like that of the consumption approach the income approach also takes 80 per cent of the expected income to be the cut-off point. That is a household is said to lie below the poverty economic groups it has dropped by about 5 per cent in case of landless families, 13 per cent, 7 per cent and 3 per cent respestively

in case of marginal, small and large farm families. The situation of the landless, marginal and small farm families are observed to be better relative to the richest lando-wning class. Studies concerning poverty conducted in other areas of the country also lend support to our findings [9].

The reasons for this general decline in the overall povety trend are not very far to seek. Since agriculture is the largest sector of economy upswing in its growth would have important implications in terms of the incomes of the poor. Indeed, studies have shown that create adoption of the new HYV technology in agriculture in the eighties have led to a reasonalby high growth rate in the sector and that this rate of growth has enabled the bottom 40 per cent of the rural population to increase their relative share of the incremental income [10]. In addition, the contribution of the non-farm sectors in increasing the incomes of the poor and thus in alleviating poverty must also be taken into account. However, though a favourable distribution of the benefits from the growth in the farm and the non-farm sectors is not beyond question, the overall growth of the economy and its sectoral components along with a lowering of the population growth rate has created a congenial environment for the alleviation of poverty.

Table-3 provides disaggregated household level poverty situation in terms of per cent of energy requirement met by different segments. For example, while there are variations in the proportion of households falling below poverty line in the programme and non-programme villages, 39 per cent of families belonging to marginal farm size, 31 per cent of small and 17 per cent of large farm families are found to lie below the poverty line in both the areas taken together. By contrast 61 per cent of marginal, 69 per cent of small and 83 per cent of large farm families had intakes above poverty level, although the situation is relatively better in the programme than in the non-programme villages. The relative better position of the households in the programme villages might be a reflection of increased employment opportunities resulting from developmental activities carried by various government and non-government agencies in the are.

Table-2 compares the present poverty level (1987-88) with those of the 1981-82 national levels by economic groups. The 1981-82 study classified the selected households as A, B, C, and D on the basis of the annual Union Parishad tax paid. The A category poorest households usually do not pay any tax and they are known to be the landless. The B category households pay some tax (amount may vary between unions) and are treated as mariginal landholders. The C category people pay an appreciable amount of tax and are regarded as the rural middle class. The D category households are the richest land-owning class of the village and they pay the highest slab of tax [5]. Assuming the 1981-82 study household classifications A, B, C, and D same as the landless, marginal, small and large families of the present

study we may say that relative poverty situation in the study area has improved between those two periods. The table reveals that overall the poverty level has dropped from 49 per cent in 1981-82 to 42 per cent in 1987-88.

In the present study we have accordingly classified the population by level of activity and accommodated the occupation group into these classifications following FAO/WHO guidelines and in the light of the study by Ahmad and Hassan [7].

The consumption approach assumes 80 per cent of the energy requirement fufilled by a household to be the cut-off point for poverty measurement. According to this approach, a household is said to lie below the poverty level if the average energy intake (2273 K.Cal) of its members falls below 80 per cent of the required level. Alternatively, a household is said to be above poverty level if the average energy intake level of its members is just equal to or more than 80 per cent of the required level. The results obtained by using this measurement are presented in Table 4.1. It appears from the table that 42 per cent of the study households had energy intakes below 80 per cent of the required level i.e. these households were lying below the poverty line. The remaining 58 per cent of the households could fulfil their requirement. It is interesting to note that so far as the landless households are concerned external interventions could not seem to have made significant contributions in providing them with the required food basket because the vast majority of these households (58 per cent) fell below the poverty line as they could not fulfil even the minimum level of energy needs.

As economic status improves the incidence of poverty is expected to diminish and more families are likely to rise above the poverty line. This positive association between economic status and standard of living of the masses is seen to hold good in case of the survey households.

Table-1: Poverty Level (in per cent) in Terms of the Fulfilment of Calorie Requirement by the Households in the Study Area

Poverty Level		Per cent of Household				
		Landless	Marginal	Small	Medium & Large	All
Below Poverty Level	P	58	33	27	14	42
	NP	57	45	37	20	
	Both	58	39	31	17	
Above Poverty Level	P	42	67	73	86	58
	NP	41	55	63	80	
	Both	42	61	69	83	
Sample Size	P	278	32	104	44	458
	NP	112	42	70	41	265
	Both	390	74	174	85	723

Source: Field Survey
Note: P=Programme Village
NP=Non-Programme Village
Below Poverty Level=Households fulfilling less than 80% of the calorie requirement.
Above Poverty Level=Households fulfilling 80% and above of the calorie requirement

Table-2: Comparison of the Poverty Level of the Study Households (1987-88) with those of the 1981-82 National Nutrition Survey (in Per cent)

Poverty Level	Percent of Households									
	Land-less	A	Margi-nal	B	Small	C	Medium & Large	D		A
	1987/88	1981/82	1987/88	1981/82	1987/88	1981/82	1987/88	1981/82	1987/88	1981.82
Below Poverty	58	63	39	52	31	38	17	20	42	49
Above Poverty	42	37	61	48	69	62	83	80	58	
Sample Size	390	221	74	174	174	112	85	90	723	597

Source: Field Survey

Table-3: Per cent Distribution of Household Meeting Different Proportion of Calorie Requirements

Per cent of Requirement		Pre cent of Households Meeting Calorie Requirement				
		Landless	Marginal	Small	Medium & Large	All
60	P	12	9	5	—	9
	NP	20	9	4	2	10
	Both	14	9	5	1	9
60-69	P	19	7	9	2	12
	NP	24	10	12	2	13
	Both	20	8	10	2	13
70-79	P	28	17	13	11	21
	Np	12	26	21	15	19
	Both	24	22	16	13	20
80-89	P	22	23	17	12	20
	NP	23	25	19	10	21
	Both	23	24	18	11	20
90-99	P	16	26	22	23	20
	NP	14	14	23	15	16
	Both	15	20	22	19	19
100 & Above	P	3	18	34	52	18
	NP	7	16	21	56	21
	Both	4	17	29	54	19

Source: Field Survey
Note: P=Programme Village
NP=Non-programme Village

Table-4: Poverty Level (in Per cent) By Household according the Income Approach

Poverty Level		Per cent of Household				
		Landless	Marginal	Small	Medium & large	All
Below Poverty Level	P	35	34	34	2	31
	NP	38	49	30	27	37
	All	36	41	32	14	33
Above Poverty Level	P	65	66	66	98	69
	Np	62	51	70	73	63
	All	64	59	68	86	67
Sample Size	P	278	32	104	44	458
	Np	112	42	70	41	265
	All	390	74	174	85	723

Source: Field Survey

Table-5 : Per cent Distribution of Households Meeting Different Proportions of Income Requirement

Per cent of Requirement	Area	Per cent of Households Meeting Income Requirement				
		Landless	Marginal	Small	Medium & Large	Total
50-59	Programme	9	10	11	—	9
	Non-programme	16	11	13	12	14
	Both	11	10	12	6	10
	Programme	7	8	7	—	7
	Non-programme	9	13	12	7	11
	Both	8	10	9	4	8
60-69	Programme	6	10	7	—	6
	Non-programme	8	11	3	5	7
	Both	6	10	5	2	7
70-79	Programme	13	6	8	2	10
	Non-programme	4	14	3	3	6
	Both	11	10	6	2	8
80-89	Programme	9	12	6	2	8
	Non-programme	14	11	5	10	10
	Both	10	12	6	6	9
90-99	Programme	13	7	8	7	10
	Non-programme	12	4	4	2	6
	Both	13	6	6	5	9
100-& above	Programme	43	47	53	89	50
	Non-programme	37	36	60	61	46
	Both	41	42	56	75	49

Source : Field Survey

Table-6 : Comparison of the Poverty Level of the Study Households according to Consumption and Income Approach (in Per cent)

Poverty Level	Per cent of Households									
	Landless		Marginal		Small		Medium & Large		Average	
	C.A.	I.A.	C.A.	I.A.	C.A	I.A.	C.A	I.A.	C.A	I.A.
Below Poverty Level	58	36	39	41	31	32	17	14	42	33
Above Poverty Level	42	64	61	59	69	68	83	86	58	67
Sample Size	390	390	74	74	174	174	85	85	723	723

Source: Field Survery
Note : C.A. = Consumption approach
I.A. = Income approach

Table-7: Causes of Poverty as Stated by the Respondents

Causes	Programme Villages					Non-Programme Villages				
	S1	S2	S3	S4	Total	S1	S2	S3	S4	Total
Small quantity of land inherited	68.35	84.78	47.12	13.64	61.57	72.97	95.00	58.57	19.5	
Did not inherit why land from father or husband	82.57	43.48	4.81		49.13	44.59	10.00	2.86		16.23
Could not start any work for lack of capital	89.45	82.56	50	25.00	52.49	56.76	57.5	31.43	21.95	44.91
Sold Land	.92	2.17	.96	2.27	1.31	4.05	1.25	4.29		2.64
Land erosion by river	.46				.22			1.43		.38
Divorced	4.83				.87	1.35		5.71	4.88	2.64
Widowed	8.75		1.92		1.75	1.35	1.25			.75
Others	.46				.22	4.05	2.5			1.86

Source: Field Survey
Total exceedes 100% because of multiple responses

Table-8: Distribution of the Survey Households by Ownership of Non-land Assets and by Landownership Groups

Assets in Taka	Number & % of Households									
	Programme Village					Non-Programme Village				
	Landless	Marginal	Small	Medium & Large	Total	Landless	Marginal	Small	Medium & Large	Total
1000	127	6	3	—	136	42	7	6	1	
	(45.68)	(18.75)	(2.88)		(29.70)	(37.50)	(16.67)	(8.57)	(2.44)	(21.13)
1000-5000	92	11	20	3	126	26	8	7	4	45
	(33.09)	(34.37)	(19.23)	(6.82)	(27.51)	(23.22)	(19.05)	(10.00)	(9.76)	(16.98)
5001-10,000	34	8	31	5	78	24	12	14	4	54
	(12.23)	(25.00)	(29.81)	(11.36)	(17.03)	(24.43)	(28.57)	(20.00)	(9.76)	(20.38)
10,001-15,000	11	3	29	9	52	12	10	12	7	41
	(1.80)	(3.13)	(6.73)	(27.27)	(5.02)	(10.72)	(23.81)	(17.14)	(17.07)	(15.47)
15,001-20,000	3	1	7	12	23	4	3	20	3	30
	(1.08)	(3.13)	(6.73)	(27.27)	(5.02)	(3.57)	(7.14)	(28.57)	(7.32)	(11.32)
20,001-25,000	3	1	5	3	12	1	—	4	3	8
	(1.08)	(3.13)	(4.81)	(6.82)	(2.62)	(0.89)		(5.72)	(7.32)	(3.02)
25,001-30,000	2	1	3	5	11	—	1	5	1	7
	(0.72)	(3.13)	(2.88)	(11.36)	(2.40)		(2.38)	(7.14)	(2.44)	(2.64)
30,001-35,000	1	—	1	2	4	1	—	1	2	4
	(0.36)		(0.96)	(4.55)	(0.87)	(0.89)		(1.43)	(4.88)	(1.51)
35,001-40,000	2	—	1	1	4	1	—	—	2	3
	(0.72)		(0.96)	(2.27)	(0.87)	(0.89)			(4.88)	(1.13)
40,001 & above	3	1	4	4	12	1	1	1	14	17
	(1.08)	(3.13)	(3.85)	(9.09)	(2.62)	(0.89)	(2.38)	(1.43)	(34.14)	(6.42)
	278	32	104	44	458	112	42	70	41	265
Total	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

Source: Field Survey

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DEVELOPMENT OF PHYSICAL INFRASTRUCTURE AND THE FOURTH FIVE YEAR PLAN

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ROLE OF INFRASTRUCTURE

An essential function of the government in promoting economic development is to ensure an adequate provision and efficient expansion of infrastructural facilities. These include both physical infrastructure such as energy and transport, as well as social infrastructure such as education, training and health facilities. These activities are not only characterized by lumpy investment and economies of large scale, but also by large external economies and hence would not be undertaken by the private sector. But these are essential for undertaking private sector investment in directly productive activities. The availability of cheaper and more extensive energy, efficient and fast transport services, and skilled and disciplined manpower increases the profitability of investment in directly productive activities by reducing their costs of production, and widening the market for their products. Sometimes local communities may be pursuaded to take responsibility of the development of some of the facilities, particularly for their maintenance, but the basic responsibility for planning and development of these facilities must remain with the government.

The focus of this paper is physical infrastructure, more particularly power and transport. I do not have expertize to go in depth into technical aspects of planning these infrastructure. Rather I concentrate my efforts on some economic issues[1].

ELECTRIC POWER

Review of Past Development

Electric power has been the fastest growing sector of the Bangladesh economy. Tolal generation capacity increased 3.5. times over the last decade (2226 MW in 1989/90 compared to only 642 MW in 1979/80). The annual rate of increase in generation capacity was 10 per cent per year during the Second Plan period and 17 per cent during the Third Plan. There has also been an impressive development in the power distribution

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1. For an overview of the development of infrastructure since independence see Khan and Hossain (1989)

network. The length of the distribution line increased from 15,000 KM in 1979/80 to 64,000 in 1989/90, an increase of 16 per cent per year. The increase was slower during the Third Plain (13%) compared to the Second Plan (18%). The development of the transmission capacity was slower, at 6.6. per cent during the Second Plan, and 3.2 per cent during the Third Plan. Thus in the process of the rapid expansion of the capacity, the system has become somewhat unbalanced.

Despite the impressive increase in the power generation capacity, the availability of electric power is still inadequate relative to the country's need. The growth in demand for electricity has also been rapid, at 11.8 per cent per year during the 1975-85 period, and at 13.4 per cent during the Third Plan period. During the last five years domestic consumption increased at 14 per cent per annum, commercial use at 21 per cent, and industrial use at 10 per cent. The existing generation capacity is about 20 kw per thousand population and the amount of power available for distribution is less than 50 KWH per person. In 1988, Bangladesh has an energy consumption of 50 kg of oil equivalent, compared to 210 kg for India and 330 for Thailand. Only 55 per cent of the distribution lines are under the Rural Electrification Board (REB) and only 28 per cent of the consumers are served by it. Total number of villages electrified stood at 13,000, about 20 per cent of the villages in the country. Shortages leading to frequent power failures are wide spread in district towns and rural areas, particularly in the western zone. Over the years, expensive electric power has been an important factor behind the relatively high cost of manufacturing activity, and the uncertain supply of power is sometimes mentioned by entrepreneurs an important cause of the underutilization of industrial capacity. As an insurance against uncertain supply, many manufacturing units have set up their own generating plants which remain unutilized most of the time, resulting in a high cost of acquisition of power for these enterprises.

The electric power supply system also suffers from operational and managerial deficiencies which are reflected in a very high and increasing system loss, estimated to be about 42 per cent of the generated output in 1987/88. The high rate of loss is attributed largely to illegal connections, theft and under-reporting of actual use through manipulation of meter reading. Because of this, the system operates at a loss which is covered by allocating the depreciation charges for own use of the Power Development Board and in some years by providing direct subsidy from the government budget. Much of the cost of the inefficient management is passed on to honest subscribers through higher prices. The electricity tariff increased from Tk. 0.19 per KWH in 1972/73 to Tk. 2.21 in 1989/90, an increase of about 16 per cent per year. This compares very unfavorably with 12 per cent rate of inflation in the economy during this period. During the Third

Plan period however the annual rate of increase in power tariff has come down to 7.8 per cent.

The Fourth Plan

The stated objective of the electric power sector in the Fourth Plan are (a) to increase utilization of the existing capacity, (b) to reduce unit cost of fuel through optimization of energy mix, (c) to ensure reliable and uniterrupted power supply, (d) to increase efficiency of resource management in the power system including reduction of the system loss, (e) to augment power supply in rural areas through intensification and expansion of the coverage of rural electrification programme, and (f) to correct the imbalance in the power system through expansion of the transmission and distribution network. The Fourth Plan document thus demonstrates an awareness of the weakness of the system and recognizes the need to rectify them.

The physical targets for the increase in energy supply has been fixed at 12 per cent per year against an increase in projected demand of 13.6 per cent. The sypply-demand gap is expected to be met by reduction in system loss to 25 per cent by 1994-95. In order to achieve the targets, the generation capacity would be increased by about 7.7 per cent per year, transmission capacity at 6.3. per cent and distribution capacity at 14 per cent per year. Nearly 15,500 additional villages will be brought under electrification.

The overal plan targets for the sector does not appear to be too ambitious. At the present stage of development of Bangladesh, investment in the power sector needs to grow at a faster rate than of total investment in the economy. The Power Development Board has the physical capacity to implement the programme, as demonstrated by the performance during the Third Plan period. However, the system may have developed substantial excess capacity in power generation compared to transmission capacity, and hence the target for the expansion ot transmission capacity may be fixed at a higher rate than the generation capacity in order to fulfil the Plan's objective of correcting imbalance in the power system and increasing capacity utilization. Also, one wonders wheather the Rural Electrification Board would be able to fulfil the the plan targets. The number of villages brought under electrification was 3500 during the Second Plan and 5130 during the Third Plan. The target of the Fourth Plan to bring 15,500 new villages under rural electrification thus appears very ambitious.

Although the Fourth Plan aims at reducing the inefficiency of resource management, this is not reflected in Plan targets. The target for the reduction in system loss is fixed at 25 per cent which is an unacceptable

figure. The Third Plan target was fixed at 20 per cent. In developed countries the system loss is 6 to10 per cent, and even in India it is less than 15 per cent. While the fuel cost per unit was reduced to from Tk. 0.56 per KWH in 1982 to Tk. 0.40 in 1989/90, it is projected to increase to Tk. 0.58 by 1994/95. The non-fuel cost in current prices is projected to grow from Tk. 376 crores in 1990/91 to Tk. 793 in 1994/95, an increase of 21 per cent per year. This is inconsistent with the stated objective of maximum utilization of existing capacity which should increase labour productivity and hence should keep down labour cost. This is also inconsistent with the Plan's Philosophy of promoting an 'efficiency culture' in Plan implementation.

Since sufficient infrastructure has already been developed in the power sector one would expect that the system has developed a potential for generating surplus after meeting its own current expenditure and should be able to self-finance its development programme. Although the major portion of the development budget is financed with foreign aid, the BPWD is still dependent largely on the government budget for the counterpart fund, which acts as a constraint to the expansion of the system. During the Third Five Year Plan period 45 per cent of total investment in the power sector was projected to be financed by domestic resources, 71 per cent ot which was expected to be mobilized out of own surplus. The realized surplus, which includes the provision for depreciation charges, was only 37 per cent of the target. The Fourth Plan's financial allocation is about 18 per cent lower during the Third Plan. While reduction in inefficiency has been mentioned as an explicit target of the Fourth Plan, the target for generation of internal surplus has been set at only 50 per cent compared to the target fixed for the Third Plan.

Table-1: Investment Outlay for Electric Power, Allocation for the Third and Fourth Plan (Tk crores at 1989/90 prices)

Plan Period	Foreign Exchange	Level Currency		Total
		ADP	Internal Income	
Third Plan	3774	648	2028	6450
	(58.5)	(10.0)	(31.5)	(100.0)
Fourth Plan	3550	745	1003	5298
	(67.0)	(14.1)	(18.9)	(100.0)

Note : Figures within parenthes are percentages of total Allocation.

Yet, if the system loss could be reduced to 15 per cent by 1994/95, and the non-fuel cost increases at par with the inflation rate, (i.e, at 10 per cent per year), the system will be able to self-finance itself with moderate increase in power tariff, while the provision for depreciation could be used

as counterpart fund for further development of the system. The depreciation is estimated at Tk. 2656 crores for the Fourth Plan period, which is 52 per cent higher than the Fourth Plan allocation of local resources. The unit cost (excluding depreciation) per KWH would increase to Tk. 2.84 by 1994/95, which would require an increase in power tariff at 5 per cent per year in order to breakeven. Thus the Fourth Plan should emphasize on self-financing of the development of the system, while allowing BPDB to increase tariff at less than 5 per cent per year. This would put pressure on the Board to reduce the system loss at realistic levels.

TRANSPORT INFRASTRUCTURE

Review of Past Development

The transport sector accounts for nearly 8 per cent of the GDP in Bangladesh of which reportedly 56 per cent originate in road transport, 35 per cent in water transport, and the remainder in railways and civil aviation. Nearly 70 per cent of the value added originate in the unorganized road and water transport sector for which the information base is extremely weak. Railways and Civil Aviation are entirely in the public sector. For road and water subsectors however the infrastructure facilities are provided by the government, while the transport operation in mostly in the private sector.

The freight traffic is estimated to have been growing at 5 per cent per year and passenger traffic at about 7 per cent. Of the total freight about 56 per cent was moved by roads, 30 per cent by waterways and 16 per cent by railways. The share of the three modes of passenger traffic was 58, 28 and 21 per cent respectively.

The railway system has undergone very little change for a long time. Of the total Railway route of 2747 KM, only 100 KM were developed during 1960s and 34 KM since independence. In 1989/90, the Railway had a fleet of 307 locomotives, 1500 passenger vehicles and 19,077 freight wagons (BBS. 1990. Since independence, the number of locomotives has declined, while the number of coaches and wagons has changed little. But by the end of the Second Plan, the passenger traffic increased by over 50 per cent and freight traffic by 30 per cent, which increased overcrowding in the system. During the Third Plan period both passenger and freight traffic has declined, due to diversion to road transport. The railway has been operating at a loss for a long time, and in recent years the loss has increased substantially. The average loss for 1985-89 period was Tk. 100 crores, which is nearly 40 per cent of its operating expenses. The system is badly in need of attention and investment, for reorgazation and modernization. Even the critically important lines between the ports and major urban centres are single tracked, which causes a great deal of delay and untimely operation in moving commodities and people.

The waterways consist of nearly 5,200 KM of routes navigable throughout the year and another 3,200 KM navigable during rainy season. For the relatively low lying regions in the South, boats and launches are often the only mode of transport available. Over 3,500 launches and ferry boats, both public and private, operate in the waterways. In addition, an estimated 308 thousand country boats operate on a regular basis to transport people and goods.

Water routes connect with road transport in places where large gaps in the roads require ferry services. In 1983 there were 52 major gaps of this kind, eight on national highways, seven on regional highways and 37 on district and feeder roads (Wennergren, 1983). It was estimated than in early 1980s, about 8.2 million people used ferry services annually. During the 1980s however a large number of these gaps have been filled through construction of bridges. Still, on the two major crossings on the Padma and Jamuna, the ferry services and facilities are inadequate in relation to the demand. Trucks often have to wait for sevral days before crossing, which increases the cost of transport and acts as a hindrance to movement of perishable agricultural commodities.

Bangladesh has made good progress in road transport during the 1980s. A total of 3853 KM of new roads were added during the 1980s increasing the total length of paved roads to 1962 KM in 1989/90. The rate of increase in road length was 7.9 per cent per year during the Second Plan and 5.1 per cent during the Third Plan. The number of buses and trucks operating on roads increased by 5.7 per cent during the Second Plan, and 8.7 per cent during the Third Plan.

Road development in 1980s has however been unbalanced. Efforts were concentrated on upgrading and maintenance of national and regional highways connecting major cities and district headquarters, and also for construction of upazila connecting roads, which become necessary after decentralization of administration in 1983. Not much attention was given to the development of feeder roads, which connect rural markets with road network to facilitate the movement of goods into and out of rural areas. During the Third Plan period, the length of feeder roads increased by 506 KM (7% per year) while the length of upazila connecting roads increased by 1000 KM (12.4% per year). The quality of construction of roads has deteriorated over time, aggravating the problem of maintenance of roads.

The rural areas are mostly served by unpaved earthen roads which are not suitable for year round motorized transport. These roads require frequent reconstruction and heavy maintenance which are mostly carried out though the rural public works programme. Animal driven carts are the major mode of transport on these roads. Farmers in remote areas engage in

much greater subsistence production than would otherwise be the case, producing almost everything for the family rather than for the market which remains out of reach due to lack of access to commercial transport network. Large landowners invest in their own means of transport to market their surplus and passengers (Hossain and Chowdhury , 1984).These remains highly underutilized during much of the year, which increases the cost of agricultural production.

About 12 per cent of the public sector investment was allocated to the transport sector during the First and Second Plan, which was reduced marginally to 11 per cent during the Third Plan period. Nearly 94 per cent of the investment targets were achieved during the Second Plan, and 73 per cent during the Third Plan. Over successive plan periods, relatively more emphasis has been given on the development on road transport, than on railways and water transport. The share of waterways in total transport sector allocation declined from 35 per cent during the First Plan, to 25 per cent during the Second and 22 per cent during the Third Plan. For the road sector the actual investment during the Third Plan exceeded by 40 per cent over the original allocation, due to the need for repairing the damages caused by the 1987 and 1988 floods.

Table-2: Financial Allocation to Transport Sector

(Tk. crores at 1989/90 prices)

Subsectors	First Plan	Second Plan	Third Plan	Fourth Pan	Increase over Third Plan (per cent)
Rail	474	786	984	997	1.3
Road	562	778	1200	1749	45.8
Water	700	603	672	878	30.7
Air	247	280	247	359	45.3
Jamuna bridge	1982	2447	3104	3983 2257	28.3

Source: Five Year Plans

The Fourth Plan

The Fourth Plan recognise the need for a conscious and delibrerate attempt to ensure an integrated approach to the development of transport system as a whole leading to an efficient allocation of scarce resouces and progressive improvement of the country's transport sector. The major constraints identified are (a) the absense of a developed construction industry in the country leading to exclusive foreign dependence, (b) low standards of construction leading to quick deterioration of roads, and (c) insufficient attention to regular maintenance and rehabilitation due to resource constraints leading to further deterioration, (d) inadequate

development of passenger facilities in railways, (e) diversions of rail traffic to other more flexible mechanized modes of surface transport, (f) continuation of uneconomic branch lines, and keeping of large surplus staff in the pay roll of railways, and (g) inadequate investment to improve the channel condition in waterways, through dredging and provision of navigational aids, (h) absence of launch and boat landing facilities in rural areas. The Fourth Plan thus makes a realistic assessment of the problems faced by the sector.

The major targets of the Fourth Plan for the sector are:

a) Construction of 475 km of paved roads and 9500 meters of bridges including the Jamuna Multipurpose Bridge.
b) Rehabilitation and improvement of 1400 km of arterial roads.
c) Renewal and rehabilitation of 235 km of MG and 340 km of BG railway track.
d) Dredging 301 km of waterways.
e) Provision of launch landing facilities at 75 places and rehabilitation of 5 pontoons and gangways.
f) Acquisition of 5 ships and one oil tankers.

The Forth Plan allocates Tk 6340 crores for the transport sector, which is 15.3 per cent of the total public sector investment proposed in the Plan. This is substantially higher than 10.5 per cent allocated during the Third Plan period. The increase is however entirely due to provision of Tk. 2257 crores for the Jamuna Bridge. If one excludes this amount, the allocation would come to 9.8 per cent, which is significantly lower than the resources allocated during the previous plans.

From the sub-sectoral allocation it appears that the imbalance in the system in favour of roads will continue during the Fourth Plan period. Compared to the Third Plan, the Fourth Plan allocation is about 46 per cent higher for road transport, 31 per cent for water transport and only 1.3 per cent for railways. The additional allocation for waterways is mainly for acquisition of five ships. Thus infrastructural facilities for boats and launches would hardly improve within the water sector. Specific targets have been fixed for development of arterial and upazila connecting roads, but there is no fixed target for feeder roads. Thus the neglect of the interest of rural areas may continue.

The Fourth Plan mentions the inefficiency in the operation of railways and shows that the amount of loss incurred by the railways has increased over time. But there is no policy guidance about how to reduce the losses. Since railways now compete with road transport in large segments under its operation, an increase in railway fares may even

aggravate the problem. Also, one would have expected an analysis of the impact of Jamuna Bridge on the railways if the railway tracks are not included in the bridge. My own reckoning is that it would lead to further diversion of traffic from railways to road transport which contribute to an increase in the loss in operation of railways. If the railway track is included in the bridge, the railways will need large investment's to replace the 924 KM of broad gauge lines in the western zone by meter gauge.

Inland waterways is one of the cheaper modes of transport in Bangladesh. It has the potential of serving remote areas with minimum investment for development of infrastructures. With manually operated country-boats, the movement of goods and passengers is extremely time consuming, so that there are mostly used for short distance haulage. But with the expansion of private ownership of irrigation equipment in recent years a quiet revolution has taken place in the water transport sector in that the engines are being used to mechanize the country-boats during the rainy season for long distance haulage. The Fourth Plan document should have addressed the issue of how to support this development. Support for technological improvement and establishment of low cost landing ghats near hats and bazars in rual areas could contribute to faster development of the water transport system.

The public sector is marginally involved in road transport and water transport operations for which the government provides subsidy. During the Third Plan period the BRTC incurred an operational loss of Tk. 20.5 crores in the operation of the bus fleet. The cumulative loss was Tk. 144 crores upto 1987/88. In 1989/90 only 54 per cent of the bus and 52 per cent of truck fleet were roadworthy, compared to 65 and 90 per cent respectively during 1984/85. In view of the inefficiency of management in operation of public road and water transport, and the Fourth Plan strategy of promoting private sector development, the plan should have addressed the issue of whether the public sector should continue to operate in this activity. In this context, the desirability of acquisition of five ships in the public sector should also be explored.

The pricing of services of public sector transport is also an important issue. The passenger fare for transport sector is fixed by the ministry of communication. The prices have increased at a much slower rate than inflation and once fixed they are kept at that level for quite a long time. The Fourth Plan rightly mentions that this has been a major hindrance to greater private sector participation in road transport and a major cause of operational losses of BRTC. It could also be responsible for the diversion of traffic from railways to road transport. The Fourth Plan should have made concrete suggestions regarding pricing policies to be followed during the Fourth Plan period for the road transport sector.

Appendix

Table-1: Growth of the Electric Power System, 1979-90

Items	1979/80	1984/85	1989/90	Target (1974/9)	Second	Annual rate of increase	
						Third plan (actual)	Fourth plan (targets)
Generation capacity (MW)	642	1018	2226	3218	9.7	16.9	7.7
Transmission Line (KM)	1762	2420	2829	3845	6.6	3.2	6.3
Distribution Line (KM)	15090	35071	64466	123490	18.4	12.9	13.9
No. of villages electrified	4406	7888	13018	28446	12.3	10.5	16.9
Energy generation (GWH)	2353	4545	7700	13577	14.0	11.0	12.0
Engrgy Sales (GWH)	1406	2840	5390	10184	15.0	13.7	13.6
No. of consumers (in thousand)	522	810	1710	2882	9.2	16.1	11.0

Table-2: Increase in Demand and Supply of Electricity 1975-89

Period	Net Generation MW	Final Consumption MW	System Loss	Average prices (TK./KWH)
1975-80	1793	1194	37.3	0.35
1980-81	2540	1595	34.6	1.03
1981-82	2896	2028	33.2	1.03
1982-83	3294	2399	30.1	1.35
1983-84	3803	2703	32.5	1.35
1984-85	4326	2841	37.3	1.43
1985-86	4572	3307	31.1	1.75
1986-87	5301	3485	37.6	1.80
1987-88	6136	3773	42.3	2.03
1988-89	6717	4695	34.0	2.06

Table-3: Consumption of Electric Energy by Type of Consumer, 1975-89

Type of Consumers	1975/76		1984/85		1988/89		Annual rate of increase	
	MWH	Per cent	MWH	Per cent	MWH	Per cent	1975-85	1985-89
Domestic	135	14.5	657	23.1	1100	23.4	17.1	13.8
Industrial	658	70.6	1607	56.6	2331	49.6	9.3	9.7
Commercial	88	9.4	250	8.8	531	11.3	11.1	20.7
Others	51	5.5	327	11.5	33	15.6	20.4	22.3
Total	932	100.0	2841	100.0	4595	100.0	11.8	13.4

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EXTERNAL ECONOMIC ENVIRONMENT AFFECTING WORLD TRADE IN GARMENTS—AN OVERVIEW

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1. INDRODUCTION

Due to high labour cost involvement in the makig and consequently high price of garments in developed countries with high wage level, their consumers' demand which is highly elastic has been increasingly met by cheap import from developing countries with cheap labour supply. Technological development in this sector of developed countries has not yet been able to produce better quality products at lower cost than those in the developing countries. This situation in the garments sector offers significant comparative advantage to developing countries with abundant labour supply to invest in the export oriented garments industries. This advantageous situation has been effectively utilized by East Asian countries over the last two decades. Recent hard quota restrictions on them and their higher wage level hold out considerable opportunities for low wage countries like Bangladesh—to enter into developed countries market for garments.

Bangladesh though experienced a phenomenal growth in garments sector by contributing one third of country's export earnings still is far from realization of its potential of production capacity and labour supply. While there has been quota restrictions on considerable number of items, it has to expand its market a lot with aggressive marketing and effective export management with proper adjustment to changing world trade environment. Hence, it is very important to have clear vision and constant awareness of world market situation and vigorous look for newer and greater market for our garment products. This paper addresses itself to highlight external economic environment affecting world garments trade with emphasis on some of its key aspects, so that policy planners and individual exporters would be conscious in formulating long term marketing strategies for garment products. There will be no debate that external economic environment affecting garments exports is determined inter alia by three basic factors:

(a) Comparative advantages and competitiveness for garments manufacturing in the major importing and exporting countries.
(b) Commercial policies (related to protection and liberalization) of major importing countries of garments.
(c) Proviso of international trade agreement more specifically Multifibre Arrangment (MFA) relating to garments.

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The paper is structured into five sections incorporating above three basic aspects of external economic environment for world garments trade besides introduction and conclusions.

2. COMPARATIVE ADVANTAGE AND COMPETITIVENESS IN GARMENTS MANUFACTURING

In usual practice, it is expected that in international trade, each country gains by specializating in items in which it enjoys a comparative cost advantage and exchanging them for items in which it does not have such advantage. Generally, competitiveness in the international trade may depend on productivity and wage level influencing on the export price level. Countrywide data[1], show that in garments sector, relative value added per worker is the highest in FRG followed Italy and USA. It is observed that labour productivity in garments secor of Hong Kong is 40% with respect to US position. And wages also are at very low level of 51% with respect ot USA position. That is, relative productivity with respect to relative wage level does not make Hong Kong's position better but in case of Korea relative productivity to relative wage exceeds the level of USA making it absolutely competitive with USA. Due to low wage level even with very low level of productivity, many developing countries are enjoying absolute competitive advantage. Relative competitive advantage for labour intensive garments are still higher. Among developed economies, high competitiveness in garments is observed in case of Italy and U. K. The country like India shows very low labour productivity at a level of only 5% to that of U.S.A. But due to low wage level (of 6% of US level) and high labour abundance it can make export to U.S.A. Data on labour productivity and relative wages in garment sector of U.S.A.[2] show that relative wage level is decreasing from 1960s constantly, but labour is on the increase. This does mean that in garment sector wage level does not correspond to productivity level. While productivity has increased from 80% index in 1960 to 125% in 1985, relative wage to U.S. manufacturing in 1972 has declined from 104% to 88.71% in 1985. This demonstrates that though labour productivity is increasing, relative wage level in the sector is such lower than the other sectors of manufacturing and discouraging the labourer to work here.

Labour cost in developing countries with respect to developed countries is very low. In case of Bangladesh, it is only 4% of U.S level while for Pakistan, India, Hong Kong, and Korea, the levels are 5%, 9%, 19% and 20% respectively with respect to U.S. level. This is indicative of sure relative advantage for these countries in labour intensive products of garments.

We can discuss comparative advantages and disadvanteges with adjustment to country size and intra-industry trade and for that we can use two types of indices; one based on ratio of production to consumption and second based on ratio of net exports to sum of exports and imports. Results of calculation of these indices[3] indicate, most of the developing countries are in comparative advantage while most of the advanced countries are on comparative disadvantage in garments manufacturing. It

has been found in the survey of 55 countries under UNIDO, that two-thirds of garments exports of countries with comparative advantage are accounted for by three exporters: Italy, Hong Kong and Korea. This type of concentration involves two completely different types of exporters; first one is capital rich (like Italy), and second one is with relatively abundant labour resources (for example, Hong Kong and Republic of Korea). This might be because, world wide garment industry consists of two parts: one is based on high fashion with relatively high per unit profit margin, the second is based on low production cost. In so far as import is concerned, two countries (U.S.A. and FRG) account for almost 50% of total imports from the countries having comparative advantage. The major markets for garments are U.S.A Japan and EEC accounting together for over 75% of total import of all the countries considered in the study. Relating trade to domestic production and consumption, it is observable that major exporters have developed their industries with export orientation and production far exceeds domestic consumption. On the other hand, major importers satisfy the bulk of their consumer needs through domestic production. On average, over 80% of the country needs of those having comparative advantage of the garments is met by domestic production. Of course, in the absence of import restriction the figure might have been less.

On closer analysis, it will be revealed that textile manufacturing in international scale involves an interdependent processes whereby some countries export raw materials to other which process them into intermediate products and export them to yet further processing. More than one processing may be located not only in one country but also in one plant on the ground of economies of operation and efficiency. Each stage should be located where economies of operation and efficiency. Each stage should be located where economic environment offers the greatest efficiency. Restructuring of employment pattern in particular country in the international integration of textile processing will indicate that while employment will be lost in some processing where other countries have comparative advantage, in another processing home country might enjoy comparative advantage.

In practice, no country has comparative disadvantage in all stages of textile processing because of difference in factor intensity between the stages. Hence in the interest of efficient allocation of resources and specialisation, labour absorption should be consistant with the international efficiency that should occur in all countries involved in the interdependent processing. Data of comparative advantage of in all stages of processing of textile[4] reveal a significant pattern of interdependence among the countries involved.

Regionwise, developed market economies enjoy very low comparative advantage (as low as 0.03) in textiles & garments combined together and experience high comparative disadvantage in the last stage of processing. i.e. in garments. On the other hand, developing countries enjoy higher comparative advantage in both textiles and apparel with very high degree of

comparative advantage in garments (as high as 0.69). These countries experience comparative disadvantage in first stage i.e., fibre making. Among the developing countries, semi-industrialised countries experience much higher comparative advantage (with as high as 0.91) in garments making followed by yarn and fabric making. Their comparative advantage arose out of the fact that they have acquired required technological base for competition, and enjoy abundance of much cheaper labour compard to developed countries. Again, in many processes sophisticated technology with which developed economics are in advantage could not be applied successfuly as yet. Besides, labour intensiveness as the characteristic of textiles could not be relegated to the background even in developed countries where it is possible for labour displacement out of technological sophistication. This is among others, majorly due to strong pressure of trade unionist in the situation of high unemployment problem prevailing internally in the country. Cost of labour also is increasing with increased level of development and more skill requirement in case of sophisticated technology use. Again, there is a question of high maintenance cost and possibility of large sunk cost and losses in case of change over to different items due to changes of market demand. Again, the question whether they will enjoy comparative advantage even if they are allowed to go for technological sophistication remained unanswered in the context of much cheaper labour use in the cheaper intermediate technology in textiles and garments in cheap labour abundant developing countries with some technological base and advancement.

If we analyse the data country wide, we can see that developed country like USA is the dominant country at the first stage of processing. This has been due to its advantage in natural cotton fibre production as well as advantage in the petrochemical based man made fibre industry. It does not engage itself in much trade at stage two. Instead, it processes the fibres into yarn and then processes the yarn into fabrics. Thus, USA enjoys a strong competitive position in fibres and fabrics. At the final stage i. e. garments making, it is at the highest comparative disadvantage among the most important trade participants in textiles. Among the developed economies, Japan remains dominant in enjoying comparative advantage in general textiles combining all stages together. But it is net importer of fibres and garments. Only in yarn and fabrics, it becomes net expoteter and its main comparative advantage is in fabrics making. EEC experienced comparative advantage among developed economies in garments. FRG though enjoys some comparative advantage in yarn and fabrics but have comparative disadvantage in fibre making and garments. Only exception is Italy which enjoys highest comparative advantage among developed economies in garments. FRG though enjoys some comparative advantage in fibre making, yarn and fabrics making, experiences comparative disadvantage in garments. Most of the developing countries participating in textiles trade enjoy comparative advantage in general with the exception of fibre making.

In general, they buy fibres and process it into yarn and fabrics or buy fabrics and make garments. Coefficient of comparative advantage in case of China, Taiwan and Korea tends to be one signifying minimal import and cent per cent one way export trade of the garments product. Taiwan, Republic of Korea and China though have comparative advantage in yarn, fabrics and garments, they concentrate more on the last two. In this way we can see that developing countries, specially semi-industrialised, are significant importers of fabrics ad exporters of garments. If we divide all stages into distinct groups of yarn, fabrics and garments, we shall find that former two is comparatively more capital intensive than the latter. Pattern of comparative advantage reflects these differences. In fibres, exports originate mainly from three sources: (a) USA, (b) India and cotton producing developing countries of Middle-East and central America, (c) EEC and Japan. The last group is the larger net importer identified with comparative disadvantage.

In yarn making, comparative advantage is less pronounced in as much as USA and Japan though enjoy comparative advantage yet their trade volume is quite modest and only the Asian developing countries (with their comparative advantage) are significant exporters. At the stage of fabric making, comparative position of USA declines as compared to yarn while that of Japan increases. Asian developing countries continue to enjoy comparative advantage though their net export does not increase so much, since instead of export they process fabrics into apparel. At the stage of garments making, comparative disadvantage is experienced by USA followed by Japan and EEC (except Italy). The highly competitive countries are the developing countries of Asia.

From the above discussion, it is noticeable that even without raw material base, countries with abundant labour supply can process the imported raw materials efficiently and with comparative advantage to participate into international trade in textiles and garments. Consequently, they can benefit from industrial interdependence by rationalizing their industrial structure accordingly.

There are exporters like Hong Kong which is becoming net imprter of many products of textiles. Again, in most of the countries, intra industrial trade of textiles and garments is a predominant phenomenon due to difference in cost advantage in different products of various categories. The conclusion thus we can make is that industrial interdepenence if it can be utilized properly may bring natural benefit to all participants—both developed and developing countries. After all, disadvantage in one may be compensated by advantage in another sector. Productivity and wage are the most important determinants of competitiveness in international trade in garments. Not only low wage but also technical level influencing productivity is the determinant affecting competitiveness in world markets. But competitiveness can find its place if trade environment is fair and free from restrictions by the participants in world trade. About this we shall deal in the next two sections.

3. COMMERCIAL POLICIES OF IMPORTING COUNTRIES OF GARMENTS

Considerable influence on world garments trade is made by commercial policies of the importing countries. Since North America and EEC are the major importers constituting 70% of world garments imports, their commercial policies significantly affect the world trade pattern of garments products. It should be stressed that they are major participants not only in the garments import trade but also in world merchandise (60%)[5]. Their policies affect not only exporting countries but also other importing countries.

Hence world garments trade at present is determined not only by the proviso of MFA but also by the commercial policies pursued by these two important regions of the world. Two most vital components of commercial policies are tariff policies and non-tariff measures. Both liberalization and protections find their vehicles in these two vital components of trade policy.

3a. Tariff Policy of EEC and North America

Through successive round of GATT negotiations for liberalisation of international trade, tariff on manufactured goods has fallen from an average level of 40% to 7% for most of the industrialised countries even before the last round of multilateral trade negotiations. Full implementation of tariff cuts of the Tokyo round would have meant that tariffs on manufactures would average 6% in EEC and 4.9% in USA, i. e. a 20% cut for EEC and 30% cut for USA. Tariffs on trade in garments have in both these developed regions remained persistently much higher (about the double the rate o yarn)[6]. From the data available on tariff rate, several observations are in order. First, tariff rate on garments in much higher than on manufactured goods as a whole.[7]

To be sure, tariffs have tended to fall in all items but tariff on garments remain very high. Tariffs on garments are as high as 25.5% in USA, 15.5% to 21% in EEC and 18.3% in Canada[8]. Secondly, in textile as a whole tariff rate increases with the degree of processing of the goods. This may be suggestive of comparative advantage of these importing countries in the earlier stages of processing and of relative disadvantage in later stages of processing in textile as consistent with the findings of the previous section. Thirdly, tariff rate is discriminatory against not only communist countries, but also non member countries of GATT and countries who have no agreements of most favoured nation clause in case of EEC. US tariff policy is discriminatory not only against communist countries but also against newly industrialised developing countries.

Fourthly, North American tariffs are much higher than in EEC. Tariffs discriminate against GSP beneficiaries in EEC and Canada, both in manufactured goods or garments imports. In USA, tariff rates are slightly preferential towards GSP beneficiaries in garments, as distinct from general manufacturing. Note, however, that GSP in USA excludes dominant garments products from preferential treatment.

One precaution about EEC tariff being nominally lower is that EEC is characterized by an overwhelmingly important intratrade. Hence, EEC's lower tariffs can not translate into significant incentives for export from developing countries, although some relief does doubtlessly result.

Generalized System of Preferences

Generalized system of preference (GSP) was adopted in the mid 70's (in Canada, 1974, in EEC, 1975 and in USA, 1976) GSP can allow reduced tariffs or duty free entry into markets of these developed countries to the eligible products exported by the developing countries without any reciprocity so to promote industrialization and increase export earnings in the latter countries. However, goods for which imports from deveoping countries at preferential rates would likely cause injury to domestic industry of host countries, are excluded from preferential treatment. Garments have been either excluded or included with preservation and restriction in GSP. GSP is not a permanent arrangement of tariff preferences and may be withdrawn at anytime and revised periodically. The rules of origin are an essential element of all GSP schemes. Goods eligible for GSP must be shipped directly to importing countries, and must be either wholly or substantially processed within exporting countries.

Under US GSP, beneficiary country will lose preferential treatment if it exceeds 50% of total US imports in the product, secondly through discretionary graduation and thirdly where comparative need ceilings are exceeded. From 1985, new criteria for preferential treatment have been firstly ensuring workers right of association and minimum work condition in beneficiary country, secondly, requirement of president's report on three discretionary factors of eligibility: country's meeting reasonable export practice, its reduction of trade distorting investment practices and reduction of borrowers to trade in services, and thirdly more explicit graduation through establishment of lower competitive needs limits for beneficiaries with relatively better competitiveness, unless beneficiaries provide reasonable access of US export to its market (This element of reciprocity if virtually derogatory to GSP principles). Under the new GSP, eligibility to beneficiary status means country with less than 680 dollars per capita income. As already noted, US GSP does not include major products of garments. The amendments in the new GSP would further restrict product coverage and would eliminate the waiver of competitive need limits. All these are meant to deny preferential treatment to competitive products in the US market, to reserve a share of benefits for the less competitive beneficiaries and provide some measure of protection for US producers. These would help non beneficiaries suppliers of developed regions, which supply more than 70% GSP eligible products. Less developed beneficiaries hardly get any increasing benefits as a result of exclusion of major beneficiaries. Under the rules of commercial origin applied by USA, a regional association of developing countries is treated as one country on joint request by member country to qualify for GSP. Though liberalisation has been proclaimed for LDCs time and again, their share does not exceed

1% of total preferential import. The beneficiaries who can take advantage of the scheme see their benefits continuously reduced. There is a necessity to broaden the beneficiaries and expand product coverage in the field of textiles and garments and other export of developing country. Small beneficiaries did not benefit from competitive need exclusions proclaimed[9]. The positive aspect of the new scheme was that LDCs would be fully exempted from competitive limits which may in the long run export oriented investment in these countries.

Duty free preferential treatment under GSP in EEC is granted for garments only to those developing countries that have signed bilateral agreements on trade in textiles with EEC. In 1987, there were 26 beneficiaries. For non MFA textile products, duty free preferential treatment is granted to all beneficiaries. Duty free access to EEC market is limited by quotas or ceilings i. e., maximum quantities after reaching which preferential treatment is automatically barred. For purposes of quota or ceiling arrangement, MFA as well as not MFA textiles and garment are grouped by product category[10].

Products considered sensitive are subject to a priori limitation. Individual country quotas are set for more competitive suppliers and tariffs ceiling for less competitive ones. LDCs benefit from unlimited duty free entry. The majority of ceilings were abolished and the character of the remainder was changed from a global to an individual restriction. Every country can actually receive preferential treatment for its exports upto the amount fixed by ceiling its exports from other countries do not exhaust the maximum amount. The maximum amount globally fixed for all EEC imports are spread over more than 120 specified categories of textiles and clothing for all eligible countries. Individual quotas for MFA products were set according to the competitive power of the country and its stage of development. All 195 categories of MFA products in 1987 are considered so sensitive that preferential imports of these have to be made subject to a priority limits in the form either of allocated ceilings or non-allocated ceilings. Some increase in the EEC's offer to countries other than dominant suplier in the context of textile and garments was agreed to an important measure of administrative simplification by accepting a reduction from 1420 to 480 in number of allocated ceilings.

All developing countries are eligible to use preferences in 42 non MFA products in 1987. Non sensitive products constitute the vast majority of products in the scheme and no appriori limitations are calculated from them. Imports of sensitive products are subject to much control and surveillance. Individual allocated ceilings of garments products are apportioned among member states according to some stand key. Tariff quotas are divided into two shares, the first share (80%) being allocated to member states according to standard key, the second share (20%) being held as a reserve to cover the requirements for additional preferential imports by those member states which have exhausted their original share.

In order to qualify for preferential tariff treatment, eligible goods must be transferred direct to EEC and must comply with origin criteria as specified by EEC. Goods must be wholely obtained from the beneficiary country and/or material must have undergone sufficient processing.For garments, at least two successive processes must be undergone in the country or region to qualify for GSP benefits. The eligible beneficiaries of EEC's GSP scheme are developing countries, members of the groups of 77. For garments products covered by MFA, eigibility to benefit on the scheme continues to be conditional upon having signed a bilateral self-restraint agreement with EEC or giving a similar undertaking. Most important garment products covered by the scheme are; shirts, blouse of wool or of fine animal hair, jourseys and pullover, T-shirts of cotton, leather apparel, dresses of wool and woollen jackets.

EEC recognizes 38 beneficiaries in 1987 as LDC's; of these, 29 belong to ACP group, so that in practice, only 9 LDC's (Afganistan, Bangladesh, Bhutan, Haiti, Laos, Maldives, Nepal, North Yemen and South Yemen) effectively use the EEC scheme. The rate of utilization of GSP scheme of EEC is about 37% in 1984 though preferential imports into EEC have been increasing over the years.

GSP rate in Canada is equal to British preferential tariff rate as MFN rate less one third whichever is lower. In 1987, 36 LDC's benefited from duty free entry for all products eligible for GSP treatments. In order to qualify for preferential tariff in Canada, rules of origin are that eligible goods must be transported or direct to specified port in Canada and products must be either wholly obtained from the beneficiary country or the import content of materials does not exceed 40% of ex-factory price. In 1986, the requirement for the import content limit as applied to LDC's has been raised to 60%. Materials imported from Canada are considered to be originating from the beneficiary country. The most important garments producst are leather garments and hair knitted garments.

The GSP tariff on garments is 10% as against MFN rate most of 20%. The GSP tariff rate for women's and girls knitted garments is 5% as against MFN rate of 25.4%. The rate of utilization of GSP in Canada remains at the level of 70%.

If we analyse the figures for the GSP scheme of OECD countries, we can see that only 28.4% of imports are covered by GSP scheme. The proportion of dutiable imports is the highest in the USA (73%) and lowest in EEC. But utilization of GSP benefits has been the highest in Canada (78%) followed by USA 57%). EEC's GSP utilization has been as low as 37% i.e., remarkably very poor. Such low level of preference with low rate of increase and low level of utilization of GSP have been the reality in spite of rhetorical proclamations about the preferences given by the GSP scheme. This has been due to increased restriction and conditionalities for benefiting from GSP scheme imports on the beneficiary developing country. In many

cases, importers in the preference giving countries themeselves often lack sufficient information on how the preference works. This is a matter of particular concern to the exporters who obtained the immediate benefits from the GSP tariff cut. Due to unfamiliarity with the details and technicalities of the scheme, exporters are often deprived of the GSP benefit.

3b. Non-tariff Measures

Non-tariff measures mainly lie concealed within government procedures and regulations of trade. When these measures influence the price, volume or direction of trade, they are described as non-tariff barriers. The trade coverage ratio of non-tariff measures affecting textiles and clothing is deemed to be high.

The figures[11] provide several important findings. First, imports of developed market economies from developing and socialist countries appear to be more liable to non-tariff measures than those from developed market economies; this is in essence discriminatory. Non-tariff measures (MTMs) even on manufactured imports from LDCs tend to be much more in use than those from the developed market economies. Second, the trade coverage ration of non-tariff mesures as applied to textile and garments is more than two and half times the ratio for manufactured imports. At present, 56% of textile and garments imports are subject to non-tariff measures. Third, depending on source of supply, there is a sharp variation in the trade. Coverage ratio of NTMs. When imports originate from developed market economies, the trade coverage ratio of NTMs is 28.2% while in case of import from developing countries, it remains as high as 73.4% going upto 76.7% for the major exporters of the developing countries. Such high coverage of non tariff measures has also been noticed in the imports of textile and garments from socialist countries. Last, the trend of trade coverage ratio of NTMs is on the increase in all products including textiles and garments (except that the import from least developed countries under NTMs has decreased to some extent i. e., by 1.3% in 1986 as compared to 1981). This will have little impact on the overall trade in textiles and garments inasmuch as the share of LDCs here is very insignificant. Trade coverage of non-tariff measures is much higher for garments: it remained at a stable 67.4% for garment products during 1981-86.

As indicated in UN data[12], several findings emerge. First, readymade garments are subject to more non-tariff barriers than textiles (78% in 1986 for exports from developing countries). The coverage of NTBs for garment imports from developed market economies has decreased from 40.2% in 1981 to 38.9% in 1986. In EEC, over 80% or existing non-tariff measures in these sectors apply solely to developing countries. A similar pattern emerges for US non-tariff measures for garments. This might have contributed to increased imports from developed countries and a decrease in imports from traditional exporters of garments. During 1980-85, imports into EEC of textiles and garments from OECD (excluding Japan) have risen by as much as 269% whereas import of these products from the major

suppliers. East Asian NICs have increased by only 71%. Late starters during 1980-85 has increased only by 68%. Imports from China has increased by 201% during 1980-85. Import from restricted suppliers increased by 104%. But the share of textiles and garments imports into the U.S.A from restricted suppliers has decreased from 85% in 1980 to 81% in 1985, whereas US import of textiles and garments from the OECD has increased from 11% in 1980 to 19% in 1985. The restraining coverage of NTMs, as also the differential treatment in the case of textiles and garments imported has thus continued to increase in the developed economies[13].

In EEC, 57% of garments is subject to NTMs and 77% of these are treated differentially. In the US. 100% of the non-tariff measures are applied differentially. Developing countries pursue non-tariff measures on a nationally consistent basis: they do so, so as to cope with balance of payment difficulties. But developed countries impose non-tariff barriers on imports with a variety of objectives, which are adverse to the interest of developing countries and in promotion of normal trade relations.

The most important feature of non-tariff mesures is that a large number of the members are country specific, discriminatory in character and highly concentrated in certain product sector of which garments remain the most important. Such restrictive measures cover major imports of garments from developing countries and are on the increase with consequential adverse effect on world trade in these products.

Multifibre Arrangement

Most of the trade in garment is managed by Multifibre arrangement. This provides the legal framework for the series of bilateral restraint agreements and quantitative restrictions that impede international trade in garments. MFA was preceded by voluntary restraint on Japanese textiles, where a short term arrangement and long term arrangement were operational upto 1973. Already there have been four MFAs: MFA I for the period 1974-77, MFA II for 1977-81, MFA III for 1982-86 and recently MFA IV for 1986-1991.

Ci) MFA I, 1974-77

Long term arrangement was superseded by MFA in 1974. MFA-I covered imports of man made fibre and wool products in addition to cotton textiles. It carried over the market disruption concept, the bilateral agreement powers, and the unilateral quota powers of the LTA. As a concession to exporters, MFA-I provided that bilateral restraint agreements should enable growth of import of not less than 6% and provided three types of flexibility provisions: transferability of quotas (to the extent of 5% to 7%) among 'swing' product categories, limited adjustment (borrowig from next years quota upto 10%) and 'carry over' quota to a future year (upto 10% less any carry forward). The Textile Surveillance Body was established by the GATT to supervise the implementation of the agreement and to arbitrate disputes arising from it.

The basic objectives of MFA are to activate the expansion of trade, the reduction of barriers to such trade and the progressive liberalization of world trade into textile products, while at the same time ensuring the orderly and equitable development of this trade and avoidance of disruptive effects in individual markets and on individual lines of production in both importing and exporting countries. A principal aim in the implementation of this arrangement was to further the economic and social development of developing countries and secure a substantial incraase in their export earnings from textile product and to provide scope for a greater share for them in world trade in these products. There has been mention of a move for encouraging importing countries to progressively move into more viable lines of production or into other sections of the economy and provide increased access for textile products from developing countries to the markets of importing developed economies.

Multifibre Arrangemnt was intended to hamper adjustment problems of textiles and garments industries in the developed countries caused by low cost suppliers from developing countries. This, they were explicitly discriminatory. Though the interest of developing countries and trade liberalization was expected to be upheld by the document, in practice it did not always work out this way. Even small suppliers and new entrants were not exempted from hard core restrictions MFAI was in spirit and practiced a restiirictive arrangement. Here the multilateral approach had been replaced by a bilateral approach in form and a unilateral approach in essence. Ultimately, exporting developing countries had to respond to the 'call' of developed importing countries and had to accept the restrictions imposed by the letter on the grounds of so-called market disruption. The merits of this disruption in the textile industries of particular exporting countries had little chance to be discussed between the 'called' developing country and the importer as provided in the arrangement. Developing countries thus had to take the judgment of the developed countries as a datum in the course of their negotiations.

The MFA had permitted the use of discriminatory quantitative restrictions on imports of particular products from particular sources, which were inconsistent with international obligations of participant countries. MFA has been in essence a derogation of GATT principles of non-discrimination in applying protection of domestic producers form injury caused by increased imports and providing adequate compensation to the affected supplier. It has thus been possible for developed country textile importers to use the MFA provisions as a foreign policy instrument to extend discriminatory market access to particular exporters on the basis of the domestic and external political interests at stake in the relationship.

Cii) MFA 1977-82

On 14 December 1977, the MFA has been extended for an additional four years. The new protocol incorporated a provision that a mutualy acceptable solution within the framework of MFA could be negotiated in a spirit of equity and flexibility which includes the possibility of jointly agreed reasonable departures from particular elements in particular cases. If we look closely at the provision, we can see that the reasonable departure clause was in essence a move to legitimise unilateral imposition of departures from the MFA provisions by the stronger on the weaker participant and to justify the deviation from MFA largely in the interests of the stronger partner. The United States had already reached restrictive bilateral agreements with its main suppliers. At the instigation of France and UK, the EEC resolved to tighten up dramatically the imports from 'low cost' suppliers and became for the first time in this lengthy history of restrictions the leader in promoting the cause of protectionist in amongst the developed countries. MFA II allowed for more restrictive quotas than did MFA I. Although the EEC initiated generalized measures of quota imposition, other industrial countries followed their own restrictionist course. The practice of global ceilings under the doctrine of cumulative market disruption allowable under MFA II violated te bilateralism implicit in the MFA. Thus the MFA II changed the characteristics of the arrangement in a fundamental way.

Ciii) MFA III 1982-86

On 22 December 1981, the protocol of further extension of MFA upto 1986 was negotiated. This protocol together with MFA I and MFA II is known as MFA III. MfA III maintained the restrictions carried over from earlier arrangements and incorporated several additional restrictive approaches built into the earlier Carter White paper on textile trade. From now on a normal minimum growth rate of 6% may be abandoned for dominant suppliers (e. g. Hong Kong, Taiwan, R. Korea, Macaw) of all three fibres and cases of market, disruption (e. g. when importing cuntries face a threat to their minimum viable production) may be used as the principal criteria for imposing further restrictions on trade.

An Anti-surge clause was introduced to preclude full utilization of previously unused quotas. This limited the growth of medium sized and new small exporters.

Market disruption is redefined to refer to the overall growth of the market for the product in the importing countries ad takes into account any decline in growth resulting from shifting patterns of demand.

Consequently, the import growth rate both major suppliers and in sensitive categories have been markedly limited. The US-Hong Kong

bilateral agreement, for example, limits growth from 1982 to 1987 from 3.8% to 0.7% per year, for 32 restricted categories covering 60% of Hong Kong textile exports to the USA. Under MFA III, the US negotiated forty one bilateral agreements with its major suppliers, which covered the growth rate of specific types of clothing and textile exports. The US also initiated a "Call" system, which allows the restriction of exports not covered by any specific bilateral agreements. The call system adds a greater degree of restrictiveness by limiting the export potential of new entrants and is thereof particularly harmful to countries which are starting at a very low export base. The status quo for the industrial and newly industrialized countries at the expense of the newer and more efficient textile and garment export countries was thereby maintained. This is similar to the "basket extractor" device adopted under MFA II by the European community to limit any textile or garment imports when it reaches a designated percentage of the preceding year's total. MFA III does not include the reasonable departure cluase and concessions are made on exports of new entrants and small suppliers as on exports of cotton textiles by cotton producing countries. However, the surge clause results in the inclusion of additional provisions in the bilateral agreements: if export of particular textiles or garments which are subject to the quantitative limits exceed in any agreement year the level of the preceding year's exports by 10% of quantitative limit fixed for the current year, the EEC may request the opening of consultations.

In case of exacerbation of a situation of market disruption, a lower positive growth rate for a particular product from a particular source may be agreed upon bilaterally. In case of heavily utilized quotas, the exporting countries may agree to any mutually acceptable arrangements with regard to flexibility.

In most cases a 'mutually acceptable solution' has been prescribed without defending the weaker participants in the trade transaction and weakening the role of Textile Committee. It was thus agreed to take administrative action as evidence to reflect the country of time origin.

Participating country reaffirmed their commitment to the objectives of expansion of trade reduction of barriers to such trade and the progressive liberalization of world trade in textile products, while recognizing that these objectives also crucially depend upon matters outside the scope of the Arrangement, such as reduction of tariffs.

The participants reaffirmed the importance of effective functioning of two organs of the Arrangement viz, the Textile Committee and Textile surveillance. The body had sought for close cooperation from members in order to ensure the proper functioning of the MFA. It was stressed that all

participants should refrain from taking measures outside MFA before all relief measures within it are exhausted. The extent of acceptance of such appeal by the participants depends on the interest served by such support to a particular country and can thus hardly the increases of weaker participants in the trade.

In spite of restrictions in MFA III, imports of textiles and apparel continued to increase rapidly in 1983 and 1984. Quota reastrictions could not succeed in slowing import growth of textiles. The reson for this lay in the appreciating value of the U.S. dollar, a marked increase in shipments from countries outside the MFA, (e. g. Italy being one of the most prominent) and transshipment of semifinished apparel from countries with filled quotas to countries with unfilled quotas where pieces are assembled and exported to the US under their unfilled quot[14]. To address these problems the US administration tightened textile import regulations and set specific percentages of import growth that would indicate market disruption and hence trigger a 'call' namely, the extension of quotas to a previously unrestricted category of textile of garments products. However, the soaring value of the dollar caused imports to continue to increase at an unprecedented rate. This had promoted president Reagon, for example to call on 9 May, 1984 for more stringent regulations on textile imports [15]

On 1 August, 1984 US Customs Commissioner announced tightended regulations governing the determination of the country of origin. The new rules defined the country of origin as the country where the cloth was cut rather than where it was sewn as it was in the previous definition. This became effective from 4 April 1985[16].

On March 8, Chairman of the Retail Industry Trade Action coalition called for a 'consumer impact test' to be applied before erecting new trade barriers. He estimated that quotas cost consumers $ 4.4 bln annualy and that every worker in the textile and apparel industries could be provided with $ 1500 in adjustment assistance in place of quota protection.

Early in 1985, the Jenkin's Bill, that would have substantially (about 30%) cut textile and apparel imports, (which had surged enormously in 1984) was passed in the U.S House of Representatives by a vote of 262 to 159, not enough to override a presidential veto but enough to convey the direction of U.S political sentiment on the subject of trade in textile[17].

On 25 September, in the Senate a revised version of the bill was introduced with the hope that it would avoid a Presidential veto. The revised bill redefined major exporters as those that provide more than 10% of US imports and thus reduced the number of major exporting nations from 12 to 3-Taiwan, Hong Kong and Korea. This saves two countries

China and Brazil from the worst effects of the bill[18]. For major suppliers, quotas would be rolled back to a level that would have existed if imports from them had increased at 6% per year from 1980 to 1984. Subsequent growth would be limited to 1% a year taking the 1984 level as the base. Intermediate suppliers, those providing between 1.5% and 10% of US annual imports, would not be rolled back but would have their 1985 quotas frozen at the 1984 level and would be permitted a 1% growth thereafter. Smaller exporters would be allowed a 6% annual growth as under the Jenkin's version of the bill [19].

The Retail Industry Action Coalition conducted a broad anti protection campaign. The American Textile Manufacturers Institute pressed ahead. Senate passed the bill by a comparable margin 60%-39%. The House accepted the Senate version and sent the bill on to President Reason, who vetoed it in December 1985.

The proponents of the Jenkin's Bill were able to mobilise over the next 8 months the votes for overriding the Presidential veto, the following August, just after the completion of negotiation on the renewal of the MFA. This enabled the textile and garments producers to keep the pressure on US negotiators to achieve by negotiation at least part of what the proponents of Jenkin's Bill wanted. In August, the bill won substantially more House votes than it had the previous September. Still, the industry fell 8 votes short of a two-thirds majority needed to override the veto. Thus, the protectionist pressures impinging very strongly on the Jenkin's Bill, even though vetoed by the President, gave a red signal that harsher protectionist measurs are not unlikely in the future to further curtail trade in textiles and garments.

Civ.) MFA IV 1986-1991

The Multifibre Arrangement was extended for a further period from 1 August 1986 to 31 July 1991. The US administration this time took a harder line than the FC, refusing to accept liberalisation of long standing restrictions at present and insisting on broadening them to permit limits on fibres never before controlled. In bilateral talks, the US Trade Representative persuaded the leading foreign suppliers—Hong Kong, Taiwan and Republic of Korea to accept new agreement cutting their growth rate to less than 1% per year—one of the main elements of the Kenkin's Bill vetoed by US president.

MFA IV includes at last all conceivable fibres in the MFA. It has plugged all the 'leaks' which allowed imports of garments and textiles to grow under the previous arrangements. And yet, the participants agreed that the final objective remains the application of GATT rules to trade in textiles and stressed the importance of promoting liberalisation of trade in textiles and

garments. Emphasis has been placed on the achievement of objectives of MFA expansion of trade for developing countries, reduction of barriers to such trade and progressive liberalisation of world trade in textile products, while at the same time ensuring the orderly and equitable development of this trade and avoidance of disruptive effects in individual markets and on individual lines of production in both importing and exporting countries.

The textile committee confirmed that the predominant exporting countries may agree with the importing participants to any mutually acceptable solution as regards growth and flexibility; but in no case should such growth and flexibility be negative. Importing participants at the same time recognised the importance to predominant exporting participants of stability and certainty throughout the full like of their bilateral agreements, keeping in mind also the need for orderly development of trade in germents.

In case of difficulties in particular importing countries arising out of sharp and substantial increase in imports as a result of significant difference between larger restraint levels and actual import, countries may consult in order to arrive at a mutually acceptable solution including provision of equitable and quantifiable compensation where appropriate. As regards consistently underutilised quotas, consideration should be given to their removal upon request. Should a quota that has been removed may be reintroduced, the quota level shall however fully take into account the previous restraint level. The renewal reiterates that in exceptional cases of market disruption a lower positive growth rate may be agreed upon reaffirming the reasonable departure clause of MFA II. Thus the tone of the renewal is one of ample scope for restricting imports at will, specially those from major suppliers. In all cases, importing countries retain the authority to control imports unilaterally for two instead of one year.

The protocol indicates, inter alia, more favourable treatment to exports from least developed countries, small suppliers and new entrants, on which restraints shall not normally be imposed as well as to export of cotton textiles from cotton producing countries.

The protocol of MFA IV has been on the whole, more restrictive than its predecessors. The Arrangement has broadened the scope to extend increasingly restrictive bilateral agreements to every textile producer and the call and basket extractor systems are there in the hands of industrial countries to exert protectionist pressures on developing country exporters.

Managed trade under the MFA has become a permanent feature rather than a temporary measure of protection as initially perceived to enable the industries to adjust and get restructured within the developed economies.

Though negotiated under the auspices of the GATT, the MFA is a derogatory from GATT rules. It admits discrimination between exporting countries against developing countries only. Under the Arrangement, nine industrial countries only viz, US, FC, Canada, Japan, Switzerland, Norway, Sweden, Finland and Austria restrict imports of textiles and germents from twenty eight developing countries. Australia and Newzealand though not members have made their own arrangements with developing countries exporters of textiles and germents. In 1984, exports of industrial countries amounting to 52% of world exports of textiles and garments were not subject to MFA restrictions.

Second, MFA allows the unilateral imposition of restrictions by importing countries. Third, the MFA is derogatory from GATT rules in that no provisions are made for payment of compensation for the restrictive actions taken. The restrictive character of the MFA is reflected in reducing basic growth levels of imports, increase of the number of countries and products subject to restraints and application of administrative measures for unilateral action. In order to reverse the restrictive tendency in the textile trade it becomes necessary to make a concerted attack on the factors distorting, the MFA such as abandonment of trade policies devoid of economic meaning e.g., cumulative market disruption and low cost suppliers, reexamination of criteria for protective action, removal of confusion regarding intentions behind restrictive measures, avoidance of meaningless international surveillance, serving to legitimise rules foreign to the rules of MTN and creation of legal and administrative structures effective in ensuring conformity with resisting protectionist pressures. What has been done in this direction so far as to refurnish the rhetoric in discussions in trade documents and negotiation tables in favour of more liberalised trade without taking any measures to contain the growing measures of discriminatory protectionism implicit in the MFA.

MFA IV has been negotiated at a time when Multilateral Trade Negotiation (MTN) was held at Uruguay in September, 1986 and there was some link in between the two. The Uruguay declaration stated that MTN would aim at formulating modalities that would permit the eventual integration of this sector into GATT on the basis of strengthened GATT rules and discipline[20]. In the task of integrating MFA into GATT, on the side of industrial countries, it was necessary to reach an agreement to bridge the gap between MFA and provisions of GATT's safeguard clause. The MFA discriminates among supplier countries must notably between industrial countries enjoying free access and developing countries imposing controls on foreign exchange expenditure on imports. In contrast, GATT provides that protecting countries may call only for non discriminatory, most favoured nation treatment in temporary protection of imports.

However, all parties in the MTN passed up the subject of textiles and germents on the ground that it is already covered by MFA-IV. That approach has been the most likely course and least likely to halt the trend towards tighter protection in the sector over the past quarter century [21].

Effect of MFA : An Overview

MFA with all its ramifications of restrictions in trade has had multiple effects on the world garments trade. As shown in data of GATT[22], 65% of world garments trade is affected by MFA (40%) or bilateral restraints (25%). Most of the constraints are on exports from developing countries and Eastern Area. Restraint free imports are all from industrial countries to the industrial countries. At present, 80% of the garments import trade into the USA and EEC is covered by the Multifibre Arrangement. Not only is the restrictive coverage overwhelmingly high, it tends to increase sharply with successive renewal of the MFA. Again, as in the USA, the rate of increase of non-MFA imports is exceeding the MFA imports is exceeding the MFA imports due to restrictive calls in case of the latter. High value imports for non-MFA garments have increased considerably as indicated by the sharp difference of growth in value and volume terms. The rate of imports in the MFA categories as in USA has increased in recent years in spite of more restrictive measures. Import from exporters with bilateral agreement under the MFA is considered to be the most restrictive.

In the EEC, imports from exporters with bilateral agreements has amounted to 74% in case of T-shirts, 97% in cases of blouses and 99% in case of men's, women's shirts of total MFA imports of these items[23]. But these product categories are the most important items for developing countries. Thus, it is clear that the interest of developing countries is being subjugated to the most restrictive measures of the MFA.

There has been, as indicated in the study of Institute of International Economies, a considerable increase in import prices of garments coming into the developed country markets due to protective measures under the MFA. Price increase have been successively greater in different phases of the textile trade arrangement. The price increase has been particularly steep in case of imported garments 35% in phase II (i.e., MFA I and II) and 39% in the period of MFA III. Restrictive measures on imports have induced a price decrease in domestic manufacture of garments (28% in phase II and 31% in phase III). Coefficient of price response has been 0.8 in all the periods signifying that induced in all the periods signifying that effect on domestic price increase. This means that the rental income for established suppliers of imports to the domestic market of developed countries, due to higher import prices, increases more than the increase of profits of domestic manufactures. In spite of import restrictions, the quantity of

imports has increased @ 8.5% p.a. in both the phases of the MFA. Of course, of most cases, non-MFA products and sources of supply might have compensated the loss of supply of MFA products or sources. But in any case, in the absence of restrictive measures under the MFA, imports would have increased appreciably. Data provided by the Institute of International Economics suggest that induced decrease in imports of garments due to restraints has been 4000 million lbs in 1984, which is valued at $ 28 bln.

Elasticity of demand for imported garments in USA as shown in Table 13, is about 2.0. Elasticity of domestic supply tends to be unity for garments. But elasticity of demand for domestic goods is much less than unity in the case of garments. Cross elasticity of demand for domestic goods relative to price of import has been considerably higher, about 3 in the case of garments products (Hufbaur et al, 1986). The quantity of imported goods is directly related to the price of domestic goods. Hence, domestic manufacturing has to increase efficiency to survive in the post-liberalisation. Thus efficiency or rational allocation of resources and consumers interests are relegated to the background when protective measures are reinforced. There has been estimated net loss of $ 12788 million in US economy in 1984 due to protective measures for garments sector[24]. Net loss due to protection has been due to higher cost of restraints to consumers per job served relative to gain to the manufacturers out of the restraints. Consequently not only workers and manufacturers of developing countries (exporters) but also consumers and general public of developed importing countries are adversely affected by protective measures imposed by the latter. This occurs to serve the interests of trade unionists, domestic inefficient manufacturers and vote politics inside the importing countries other than from the point of countries' overall welfare.

Manufacturers, workers and the Governments of exporting countries thus have to bear the burden of protective measures in importing countries. Suppliers cannot fulfil even the target of allowable exports due to cumbersome administrative procedures in the import countries, which in the context of the new restrictive measures adopted in importing countries, increase the cost of administration of exporting agencies and cost of the supplier- exporter. For a new supplier, a quota is imposed on the basis of its market share in the previous year when its share would have been quite insignificant. This enables established supplier to extract rental income out of price increases as a result of physical quota imposition. For example, in the years 1982 and 1983, Hong Kong gained $ 724.6 mln rental income from Europe and the USA[25]. More important, quota rent does not compensate for the growth in exports which trade restrictions may have frustrated.

Quotas, allocated on the basis of historic shares of exports freeze the pattern of production. In case of discretionary measures adopted to allocate quotas, uncertainty affects production and corruption is bred. Manufacturers are compelled to divert their energies from efficient manufacturing to rent seeking. Product diversification and quantity upgradation are the two important dimensions to which manufacturers are required to give attention. But both of these routes are capital intensive. Protection thus leads to erosion of developing countries' comparative advantage. As of now, major portion of government exports of developing countries to U.S and EEC is subject to quota restriction. Due to difficultive of quota administration, rate of utilisation become low in many countries thus further affecting garments sector.[26]

Though the first impact of any imposition of quotas is on the diversion of export opportunity to other countries, where trade is managed through an institution such as MFA, gains to the new countries could be short lived. Again, such diversion would be to developed exporters such as Italy where no gain results for developing countries.

Fresh attempt by the developed countries under MFA IV to block loopholes in their barriers to garments exports is likely to limit newcomers to minimal quotas. Evasion of restrictions by upgrading or product diversification will become harder. This will definitely deter the new-comers again mostly less developing countries, from their natural comparative advantage in exporting garments as a means of redressing their trade deficit. All these indicate that garments in the major importing countries have been receiving over the years more comprehensive and persistant protection than any other industrial sector, even though original rationale for their special protection more than two decades ago was to provide temporary relief so that the industries could adjust and become sufficiently competitive to face international competition on their own. Industry and labour groups in developed countries—major importers are pressing for still higher protection, and in an environment of trade deficits they are for enacting more restrictive import quotas. The consequences could include collapse of international MFA and perhaps of new Uruguay Round of multilateral trade negotiations as well. As found by W.R. Cline, it can be well argued that by far the best policy choice for importing nation would be gradual liberalisation rather than for stricter restrictions. Sooner the realisation of this truth better will be the environment for international trade. Of course, all depends upon successful soothening of multipicity of economic as well as political interests in the importing countries.

Issue of Market Disruption

Market disruption has been the main issue of concern for all negotiation. In spite of scope of accommodation of all interests in the negotiation

developed market economies pressurise for unilateral action raising the complaint against developing countries on the pretext of market disruption of importing countries out of cheap imports from the latter. They don't bother for the industrial disruption of developing countries resulting out of protective measures of importing countries. Issue of market disruption is raised only in relation to the goods of interest to developing countries.

Again, this issue is discriminatorily used against developing countries where import from developed market economies is not subjected to restriction. Moreover, quota is imposed on physical units rather than value so that developing countries will be compelled to go for export for high quality goods where they have weaker competitive strength. As a result, quality upgradation and product diversification as alternative policies in the circumstances of protective measures become limited for application. Thus interest of weak participant is subjugated in a very crude way. Imports of developed countries' exporters as already seen do not become subject to so much restriction due to fear of retaliation.

As a result, trade becomes diverted from restrained developing countries to unrestrained developed market economies. This does not reduce imports of importing countries but affects exports of developing exporters and their economies seriously. Thus bargaining strength out of country's economic position is the point of count in trade negotiation and international trade arrangements.

Import penetration ratio as an important indicator of market disruption is though relatively higher, major portion of garments (around 75% to 80%) is met by domestic manufacture of the major importing countries (EEC & North America). Meeting only one fourth consumption out of imports with comparative advantage of exporting developing countries should not call for raising market disruption for garments so harshly as presented now by the developed importing economies. It is true that in course of time import penetration has been increasing over the years, but it increases very insignificantly. Import penetration ratio for garments from developing countries increases during 1980-83 from 14.2% to 15.8% in EEC from 14.4% to 16.4% in North America and from 6.8% to 8.9% in case of Japan[27]. This indicates that argument for market disruption from imports of highly sensitive product like garments can not be reasonably established and without imparing efficiency unduly to favour the pressure groups of manufacturers and trade unionists unduly affecting the interest of consumers.

Question may be raised about the possibility of increasing domestic manufacturing to satisfy the consumption gap due to protective measures. But high price as a result of import restraint curtails the consumer demand

and again, there is scope of trade diversion from developing to developed countries. Thus ultimately such pssibility of benefiting the manufacturers becomes limited. Again, for higher profits and higher consumers' demand, manufacturers will pursue for more productivity with capital intensive methods of production which means no significant additional gain out of new employment though there might be possibility of higher wages out of protective walls. In so far as trade deficit of importing countries is concerned, protective measures under MFA in no way can address the problem so adequately as proclaimed. This is because first, it increases the scope of retaliation affecting the developed economies more. Secondly, it limits the participation of developing countries in export, diverting their attention to inward looking development though on inefficient basis of resource allocation.

This affects not only the entire international trading system, but also the world economy in general and will breed mutual distrust and unfaith, worse both for developing and developed countries. It is unfortunate that when question of market disruption is raised, question of production disruption in exporters' economy is ignored or by-passed completely. Again, one can't understand why aid dependency should not be substituted by flourishment of export trade in developing countries for sustained development in the overall international economic environment. In all, interests of both developing countries and developed countries should be harmonised for sustained international economic relations and economic development of world community as a whole on long term basis.

5. CONCLUSIONS

External environment affecting garments exports is determined by the comparative advantage and competitiveness of trade participants, MFA and commercial policies of the major importers (EEC, North America) of garments. Competitiveness in the international trade and garments are dependent on productivity and wage level which influence on the export price level directly. Though labour productivity in developed countries is relatively much higher technological development in the garment sector of this countries has not yet been able to produce better quality at lower cost than in the developing countries due to the latter's much lower wage level. This situation in the garment sector has offered significant competitive advantage and competitiveness for the developing countries. Thus not only productivity level increase but also lowering of wage level is important for gaining competitiveness in the world trade in garments. In case of USA, major garment importer and also a major domestic manufacture of garments, wage level of garment sector is much lower than the productivity level over the last 25 years beginning from 1960. This indicates that though labour productivity has been increasing relatively, wage level of the garment

sector is so much lower than other sectors of the manufacturing that discourages the labourers to work in this sector. It creates a situation where interest of the labourer for higher wages will conflict with the interest of the consumer for cheaper products from imports. Along with it, interest of the domestic manufacturer for higher profits will be conflicting with consumers' interest of cheaper supply from imports.

Immediate implication of this observation is the necessity of restructuring of the developed economy with reallocation of investment resources from sectors like garments with competitive disadvantage to other sectors with competitive advantage and accommodating the developing countries to participate in the international trade of those products in which they enjoy comparative advantage. This is in the interest of strength and confidence in international trade environment.

It is notable that concentration of garments exports has been in two completely different types of exporters: one is capital rich and for high fashion garments (e.g. Italy) and another is with abundant labour resources and is based on low production cost (e.g. Hong Kong & Korea). Tariff rates on garments in these countries remain higher than on manufactured commodities in general, even after the multilateral tariff cuts during the Tokyo Round of 1964/67. Generalised System into importing countries exclude most garments items and again, conditionalities and rules are complex. Developed importing countries in recent times instead of pursuing a policy of tariff increases, pursue policies of protection in the form of divergent non-tariff measures which, imposed relatively more on imports from developing countries, are in the way of discriminatory trade policy. Trade coverage ratio of non-tariff measures for garments, is more than two and half times the ratio for manufactured imports. At present, about 80% of garments imports from developing countries is subject to non-tariff measures.

MFA providing the legal framework for bilateral restraint agreements in international trade in garments is becoming pivotal in course of time. Pressures from both industry associations and unions within major importing countries in the context of balance of payment and unemployment problems have legitimised attempts to restrict imports through newer, more diverse and harsher froms on the ground of market disruption. In many instances, bilateral agreement less takes the form of unilateral imposition by the importing countries in presence of representatives of exporting countries. Discrimination and non-economic manoeuvers are apparent from the harsher and newer provisions of the trade policies of the importing countries and demands for stricter provisions in MFA and in other forums of trade negotiations.

Though protectionist policy in garments sector is to serve the interests of domestic manufacturers and wage labour, consumers' interest is considerably affected and inefficiency is bred in resource allocation with the ultimate net loss for the economy as a whole. Again since protectionist policy is not applied to developed economies but only to developing countries, it results in diverting import source from developing to developed market with having no effect on the total volume of imports.

In imposing import quota restrictions, issue of market disruption is raised ignoring or by passing the issue of production disruption in garments sector of exporting developing countries. Import penetration ratio does not exceed 25% but this is highly presented for non-tariff barriers which result in inefficiency of allocation of world resources for the benefit of all developing and developed countries. Non-tariff barriers in case of garments which are items for exceptional interest for developing countries have been affecting not only the entire international tradings ystem, but also the world economy in general and breeding natural distrust and unfaith, worse both for developing and developed countries. After all, we can't expect sound world economy unless we can harmonise the interest of developing and developed countries by accommodating the weaker partners to flourish through participation in world trade where they enjoy relative comparative advantage.

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LABOUR MIGRATION AND DEVELOPMENT : A CASE STUDY OF A RURAL COMMUNITY IN BANGLADESH

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INTRODUCTION

Main purpose of the present paper is to attempt an assessment of the impact of foreign remittances made by the migrants upon the rural society of Bangladesh, particularly when a large-scale exodus takes place from such communities. The paper is based on a study done in a few villages of Boalkhali and Hathazari upazilas under the district of Chittagong in 1987, from where a disproportionately large number of people migrated to the Gulf states. The method of field work mainly consisted of formal interviewing with a structured questionnaire, along with which informal discussion with informed individuals and groups were extensively resorted to. Participant observation and informal social enquiries helped not only in strengthening the data base but also in cross-verification of the data collected through formal interviews.

In course of our study on the impact of foreign remittances, data on the ownership of assets and properties and standard of living in terms of housing, household furniture and equipments and food-intake, was collected. Our focus of study was the family or the household unit to which the migrant belongs, economically, socially and psychologically. Size of the sample was 50 i.e., 50 households were surveyed wherefrom 56 people migrated.

We started with the obvious assumption that foreign earnings will increase the possession of properties and improvement in the standard of living of the families concerned. The following table shows the position of the migrants' families under study in terms of land ownership before and after migration.

Table-1 : Comparison of land ownership before and after receiving remittance.

Group	% of families before receiving remittance.	% of families after receiving remittance.	% of Families transferred
Landless	28	6	22
upto .4 acres	6	10	-4
.4 - 2.5 acres	46	34	12
2.5 - 5.0 acres	16	34	-18
5.0 - 10.0 acres	4	14	-10
10.0 - above	0	2	-2

N. B.: Last column of the table shows sign. Here – ive sign means inclusion of new families in the group while + ive sign means departure from the group.

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Table-1 shows a comparison of the families in terms of land ownership before and after receiving remittances. In this table we find that in total 22% of the families in the sample improved their position from landless group, 4% of the families entered the group owning land upto .4 acres. 12% of the families improved their status from subsistance group (i.e. the group owning land .4 acres to 2.5 acres). 2.5-5.0 acres land owners can be treated as middle farmers group; 18% of the new families entered in this group. 5.0 acres to 10.0 acres land owners are rich farmers group; 10% of new families entered this group. There was on family before receiving remittance which owned farm size greater than 10.0 acres, but after receiving remittance 2% of the families entered this group.

In terms of land ownership position of the families went up after receiving remittance.

Table-II shows a comparison of the house in which the migrant's families live now as against the standard of housing before migration. 60% of the families used to live in kacha houses before receiving foreign remittance, the condition improved after receiving foreign money and only 18% of the families now live in the kacha houses which are still unaltered. However 42% of the either has improved housing or constructed better quality houses. 36% used to live in kacha houses of higher quality with kachari houses before emigration, 16% of them live in kacha houses with kachari houses after receiving remittance. So 20% of them either improved their houses or constructed pucca houses after receiveing foreign remittance. 34% of the families improved their house after receiving foreign remittance. 4% of the families had pucca houses before migration; after migration 32% families lives in pucca houses. So 28% families has constructed pucca house after receiving foreign remittance.

Table-II: A comparison of the house before and after migration.

Description of the house	% of families before emigration.	% of the houses after migration	% of transfer
Kacha (temporary)	60	18	42
Kacha with (Kachari house)	36	16	20
Improved House	0	34	-34
Pucca (permanent)	4	32	-28

Table-II shows that house of the migrant families improved in quality, expanded in area and the area to the yard also expanded. So we can conclude that condition of the housing of the migrant's families improve.

Table-III shows that sanitary condition of the families improved a lot.

Table-III: A comparison of the quality of the toilets they use before and after migration.

Quality	% of family (before)	% of family (after)	Transfer in % of total
Kacha	84	24	60
Improved	0	4	-4
Pucca	14	50	-36
Sanitary	2	22	-20

Table-IV: Source of water supply after migration

Source	No of family	Percentage
Pond	1	2
Public tubewell	21	42
Personal tubewell	27	54

Table-IV shows the source of water supply after migration of the members of their families. Pond is the main source of water supply to 2% families. Public tubewell is the source of water supply to 42% of the families. 54% families have personal tubewell as the source of water supply.

Table-V shows a comparison of the family's source of water supply before and after we find 28% families transferred from being dependent on tanks to tubewells public or personal. Dependence on public tubewell decreased by 22% of total distribution. 48% new families sank tubewell of their own.

Table-V : A comparison of the family's source of water supply before and after migration.

Source	% of family (before)	% of family (after)	Transfer as % of total
Ponds	30	2	28
Public tubewell	64	42	22
Personal tubewell	6	54	-48

We can conclude that condition of supply of pure drinking water improved. In this connection one thing should be noted that users of tubewells did have ponds but we classified them on the basis of supply of pure water.

Table-VI shows the possession of furnitures by the families of the migrants after receiving foreign remittance. It reveals that 18% of the families have only one palonk or better quality wooden bed. 26% have tow,

38% have 3-4, 6% have 5-6 palonks. Owners of palonk in the total distribution stands 88%. Chowki owners are 4% of total distribution and they have two chowkis in number, 14% of the families found to have only one cabinet, 20% have two of it, 48% have 3-4, in total 82% families found to have cabinet after migration of their member. 38% of the families found to have one set of sofa, 18% have two sets of it while 4% is found to have 3-4 sets of sofa. 60% families in total is found to have sofa set. 6% is found to have two chairs, 8% have 3-4, 6% have 5-6, 2% have 7-10, have than 10 chairs is found to possess by 4% families. In total 26% families have chair.

8% families still made their bed on the floor of their house, 14% of the families have neither sofa nor chair.

Table-VI: Possession of furniture by the families after receiving foreign remittance.

Desscription of the furture.	No of families possessing						Percentage of column						Total families	% of total
	1	2	3-4	5-6	7-10	10-	1	2	3	4	5	6		
Palong	9	13	19	3	0	0	18	26	38	6	0	0	44	88
Chowki	0	2	0	0	0	0	0	4	0	0	0	0	2	4
Cabinet	7	10	24	0	0	0	14	20	48	0	0	0	41	82
Sofaset	19	9	2	0	0	0	38	18	4	0	0	0	30	60
Chair	0	3	4	3	1	2	0	6	8	6	2	4	13	26

Table-VII shows a considerable increase of families possessing different types of furniture at includes also a quantitative increase of furniture owned by the families. In the table owner families of single palonk diminishes by 2% but families having two palonks increased by 6% and even a higher group possessing 3-4 palonks increased by 32%. There were no family which possessed 5-6 palonks but now they stands 6% of the population and a total view shows that in total palonk owners increased by 42%. Chowki owners before emigration shifted to the higher class by possessing palonks now there is 4% family having two palonks. Cabinet owner families diminished in the group possessing only one cabinet by 10% there is 2% increase in the group possessing two cabinets, a 36% rise is recorded in the group possessing 3-4 palonks in total 82% families have cabinet after receiving foreign remittance which is 28% higher than those before emigration. Families those possesses sofaset increased by 30% in the group possessing only one set, 16% rise is recorded in the group having two sets. There were no family in the group owning 3-4 sets before emigration but after emigration as stands 4% of the sample. Total families owning sofaset now stands 60% it is 50% higher than the families before receiving foreign remittance. No family is found to have a single chair and the group owning two diminished by 2% and the group having 3-4 chairs also diminished by 8%, group of families having 5-6 diminished by 6% the group of 7-10 remains unchanged and owners of more than 10 decreased

by 4%, in total chair owners now stands 26% which is less than those before emigration by 20%, it is because after receiving foreign remittance they included them selves in the higher group owning sofa. Also some farmer families without chair and sofa entered the group of chair owners. Here we can conclude that quality of the families by possession of furniture is improved.

Table-VII : A comparison of the possession of furniture before and after migration of the members of the family.

Decsition of furniture	% of families possessing 1		% of families possessing 2		% of families possessing 3-4		% of families possessing 5-6		% of families possessing 7-10		% of families possessing above 10		% of total families possessing	
	bef.	aft.	bef.	aft.	bef.	aft.	bef.	aft.	bef.	aft.	bef.	aft.	bef.	aft.
palonk	20	18	20	26	6	38	0	6	0	0	0	0	46	88
chowki	6	0	10	4	0	0	2	0	0	0	0	0	18	4
cabinet	24	14	18	20	12	48	0	0	0	0	0	0	54	82
sofaset	8	38	2	18	0	4	0	0	0	0	0	0	10	60
chair	0	0	8	6	16	8	12	6	2	2	8	4	46	26

Person who have palonk his possession of chowki is not recorded in table-VII again, person who have sofa his possession of chair is not recorded.

Table-VIII gives us a view of the possession of modern electric equipment by the families of migrants after receiving foreign remittance. The table shows 22% families have radio sets, 78% have two in one, 24% have television set, 24% have electric fan and 30% have camera.

Table-VIII : A view of possession of modern household electric equipment.

Equipment	No of family	Percentage
Radio	11	22
Two-in-one	39*	78
Television	12**	24
Electric fan	12***	24
Camera	15****	30

* two of them have two sets.

** one family is found to have two set.

*** five have two, 4 have three, two have four and another one have five electric fan.

**** two of them have two, one have three.

Before emigration 22% families possessed radio. No one reported to have Two-in-one, television, electric fan and camera before emigration of their member. Upto this we can say that the living condition of the migrant families improved substantially.

Table-IX-A shows income generating assets owned by the families after migration of their member. This table includes new families those came to own this assets those that own before is not included here. Here we find

4% new families have cottage industry 8% families purchased vehicle, 4% found to have shops in village, 12% to have shops in town, 4% families found to have rentable shops in village another 4% is found to have rentable shops and houses in town.

Table- A : X Income generating assets after emigration

The assets	No of family	Percentage
Cottage industry	2	4
Vehicle	4	8
Shops in village	2	4
Shops in town	6	12
Rentable shops in village	2	4
Rentable house & shops in town.	2	4

Table - ix - B : Cattle ownership after emigration

	No of families possessing					Percentage of column					Total	Percentage of total
	1	2	3-4	5-6	above-6	1	2	3	4	5		
Cow	4	15	9	2	0	8	30	18	4	0	30	60

Table-IX-B shows income generating assets related to agriculture, 8% families found to have one cow, 30% have two, 18% have 3-4, 4% have 5-6 in total 60% found to have cow.

SOME ADDITIONAL INFORMATION

20% families purchased urban land. 38% families are cultivators and 62% of them are non-cultivators but before migration of the members of their family 68% families were cultivators and 32% were non-cultivators. So 30% families became non farmer after receiving foreign remittance. 60% of the families were found to have employed servants to help them in their household work. This shows a rise of 30% before emigrtion. So 30% of the families in the sample employed servants after receiving foreign remittance.

CONSUMPTION OF NUTRITIOUS FOOD ITEMS

Table-X is divided into three tables, table-A, B and C which show consumption of nutritious food items by migrant's families before and after receiving foreign remittance. Table-X-A shows that before migration 5% of the families even could not afford to consume fish every week. They consumed fish only when they could manage it. But after receiving foreign remittances every family regularly consumed fish. 14% of the families consumed only half seer of fish every week but after receiving remittance no one is found in this bottom group. 36% of the families consumed half to one seer of fish before. But consumers of 1-2 seers of fish dropped by 2%

from 30% before to 28% after receiving remittance. Families in the group consuming 2-3 seers of fish increased from 6% to 30%. 3-4 seer consumer group increased from 2% before to 22% after, 4-5 seer consumers increased from 2% before to 8% after receiving foreign remittance. No family consumed more than 5 seers of fish before migration but the group includes 10% of families after receiving foreign remittance.

When focusing at consumption of meat we found that 40% of the families were unable to take meat every week before migration of their members but none was found so after receiving foreign remittances. 14% of the families consumed half seer of meat weekly before receiving foreign money but no one was found consuming such quantum after receiving foreign remittance. Consumer of half to one seer of meat dropped from 32% before to 12% after receiving foreign remittance. Consumers of group consuming 1-2 seers of meat increased from 12% to 34% after receiving foreign money. No family consumed 2-3 seers of meat before but after receiving foreign remittance 32% families came into this group. 8% families consume 3-4 seers while no family consumed this amount before. In the group of consumers of 4-5 seer meat an increase from 2% before to 8% after is recorded, 4% consumed more than 5 seers after receiving foreign remittance while no one consumed this quantity before.

Table-X-B compares consumption of milk by the sample families before and after receiving foreign remittance. It shows 46% families were unable to consume milk before receiving foreign remittance 4% of the families do not consume milk even after receiving foreign remittance. 30% families consumed 4 seers of milk per week before but it stands 12% after consumers in the group 4-8 seers per week increased from 18% before to 58% after, 8-12 seer group increased from 2% to 18%, 12-16 seers consumers increased from 2% before to 4% after, so is the group consuming 16-20 seer.

Table-X-C compares weekly quantity of eggs consumed before and after receiving foreign remittance. It shows 72% family as non consumers of egg before, 54% still non-consumers of egg after receiving foreign remittance. Here we see 14% consumed upto 5 eggs per week before receiving foreign remittance but after receiving it dropped to 4%, 10% consumed 5-10 eggs before but 18% do so after, 4% consumed 10-15 eggs before it becomes 8% after. While no family consumed 15-20 eggs per week before, 12% consumers after another 4% consumers 20 to above after receiving foreign remittance while no one consumed this quantity before. In total 46% families were found consuming eggs after receiving foreign remittance but it was only 28% before receiving the same.

Sample size = 50 (i.e. 50 household surveyed) wherefrom 56 people migrated (No of migrants = 56)

Table-X-A

(Fish and meat weekly quantity) Consumption of protein supplying items before and after migration.

		No of non-consumer family & %		Group of families by quantity consumed (in seer) and their %										Total consu-mers.	% of total
				$\frac{1}{2}$ seer %		$\frac{1}{2}$-1%		1-2, %		2-3%		3-4,%		4-5,%		5-above,%			
Fish	Before emigration.	5	10	7	14	18	36	15	30	3	6	1	2	1	2	0	0	45	90
	After migration.	0	0	0	0	1	2	14	28	15	30	11	22	4	8	5	10	50	100
Meat	Before emigration.	20	40	7	14	16	32	6	12	0	0	0	0	1	2	0	0	30	60
	After migra-	0	0	0	0	6	12	17	34	16	32	4	8	5	10	2	4	50	100

Table-X-B
(Milk-weekly quantity)

		No of non-consumer family & %		No of families by quantity consumed (in seer) and their %										Total consu-mers.	% of total
				upto 4 seer,%		4-8, %		8-12, %		12-16, %		16-20, %	above 20, %		
Milk	before emigra-tion.	23	45	15	30	9	18	1	2	1	2	1 2	0 0	27	54
	After migra-tion.	2	4	6	12	29	58	9	18	2	4	2 4	0 0	48	96

Table-X-C
Consumption of egg (weekly quantity)

	Non-con-sumer family & %		No of families by quantity consumed (No of egg) and their percentage.										Total consu-mer family	% of total
			upto-5, %		5-10, %		10-15, %		15-20, %		above 20%			
Before emigration.	36	72	7	14	5	10	2	4	0	0	0	0	14	28
After migration.	27	54	2	4	9	18	4	8	6	12	2	4	23	46

Table-X in aggregate shows that families consuming major items supplying protein increased in number, Quantity of different items consumed by them also increased. Facts produced in the tables of this chapter i.e. table-I to XII enable us to draw a conclusion that social and living condition of the families registered considerable improvement.

FURTHER UTILISATION OF FOREIGN REMITTANCES

As we have seen, receipt of foreign remittances helped to increase the standard of living of the respondents substantially, leading to the increased consumption of food, clothing and shelter. Basic needs once met, they then move on towards consumption of luxuries. Buying social status through new and higher income plays no mean role. Spending unusual sums of money on marriages, festivals, gifts to relatives and on charities and donations are the ways to gain in social status. Investment in rural land and dwellings and urban land and buildings are two other important sources of using foreign remittances. The following table shows some major heads except agricultural land on which (foreign) remittances are spent :-

As it is apparent from the table above, households numbering 14, 28% of the sample, used 21.62% of their total remittances from the Middle East in acquiring urban property. 56% of the households spent 11.08% of the remittances in marriages of the members of their families, which ranks second in importance. 34% of the households spent 10.97% of their foreign income (remittances) in helping others to migrate which involved paying fees to the agents or obtaining 'Aqama' or Employment vouchers from employers in the Middle East, expenditure incurred in obtaining Passports and Visas and over above, air fare to the country of destination. This help is in most cases given to the immediate kins, sons, son-in-laws, nephews, own brothers or sister-in-laws etc. But in some cases, such help was given to close friends, neighbours and distant relations on condition that they will pay the money back in due course once they have stared earning. Construction of houses is another important head of expenditure which claims 10.93% of the remittances received from abroad.

Next is the expenditure incurred in course of two major religious festivals—Eid-ul-Fitar and Eid-ul-Azha. These are also major social festivals of Bangladesh with huge dominance of Moslem population. On an average 5.68% of the remittances went towards that end. Repairing and renovation of dwelling houses comes next claiming 5.38% of remittances. Gifts given mainly to relatives and sometimes to close friends with foreign income other than on ceremonial occassions account for 3.17% of the foreign earnings. This is no insignificant amount and helps mainly to cement ties with the kins and close friends and nighbours at home. An additional gain arising out of it is the enhancement of social status because of behaving as a generous

and wealthy man. Communal feasts given to the kins, friends and co-villagers on the occasions like 'Akika' (naming of the new-bron ones) Khatna (Circumcission) or Jeyafat (feast on the occasion of death of a close kin) which are socio-religious ceremonies account for 2.22% of the earnings from abroad. Rest of the money 5.08% of the total foreign earnings, was found to have been spent on marriages of the relatives and friends, gifts or presentations given on social ceremonies like birthday parties, Akikas and Khatna's of a new born baby, charities and donations and subscriptions to schools, clubs etc.

Table - XI : Some major expenditures—incurred by the sample households on an average as percentage of total remittance of the group.

Heads of expenditure	No of household in the group.	percentage of household in the group.	Average % of total remittance of the group used for
Acquiring of urban property (land, buildings or shops)	14	28	21.62
Marriages of family members.	28	56	11.03
Help for migration	17	34	10.97
House construction	16	32	10.93
Religious festival (Eid & Kurbani)	47	94	5.68
Repair of houses	17	34	5.38
Non-ceremonial gifts to relatives & friends	42	84	3.17
Feasts (Akika, Jeyafat etc.)	9	18	2.22
Marraiges (relatives & friends)	28	56	1.51
Gifts in social ceremonies	29	58	1.44
Religious activities (Milad, Quran Khwani etc.)	19	38	.89
Chairity	14	28	.66
Subscription (School, club, Madrasha)	16	32	.58

In the above table, we have seen the nature and extent of non-productive expenditure (not very directly ralated to production) incurred out of foreign remittances or earnings. Now we would like to see how far the earnings have gone in productive investment and thereby helped in promoting production. Since our sample units are drawn from rural areas and overwhelming majority of the migrants are members of the rural-folk, we would like to examine how far their earnings have helped in increasing rural production in such spheres as agriculture and cottage industries.

As we have already seen in a previous table XI that the number of landless families rapidly deminished with migration of their members. It further shows that farm size registered increase. Moreover, it also shows a decrease in the number of non-economic holdings. It is also apparent from the various tables showing the pattern of expenditure that the purchase of land accounts for a major portion of their income. The following table, however, gives another picture of the changed relationship of the sample households with the agricultural land on receipt of the foreign earnings.

Table - XII : Changed production relation of the sample households with Agricultural land after receiving foreign remittances.

Nature of the family	Before emigration	After receiving foreign remittance remain so	Newcomer in the group after receiving foreign remittance	Total families after receiving foreign remittance
Farmer	34	16	3	19
Non-farmer	16	13	18	31

As it is apparent from the table XII above, there were 34 families tilling land before migration of their members. With the receipt of foreign earnings 18 of them gave up tilling their land. It is also apparent that the number of families actually engaged in farmings declined to 19 after receiving foreign earnings in place of 34 before migration. On the other hand, number of non-farmings families rose to 31 in place of 16 before. While land per family showed an increase in our study, families were found to be actually withdrawing from productive activities and becoming non-farmers. What was actually found to happen was that 28 of such non-farming families were found to renting out their land.

As it has been shown by some economists that there occurs significant differences between owner-farmer and tenant farmers in so far as increase in productivity is concerned. What was found to take place in the areas under study, was the sale of land by small owners because of poverty and uneconomic size of the holding on the one hand and the lure of the greatly enhanced price offered by the migrants, called 'Dubaiwallahs'. The sellers mostly work under the impression that instead of cultivating uneconomic holdings, they can earn more by means of local trade or business which usually does not materialise. What was actually found to happen was the concentration of land in the hand of migrant families who are turning non-farmers and contributing to the decrease in production.

IMPACT ON LAND PRICE

Along with a large number of studies made on migrants from India, Pakistan, Bangladesh, Egypt, Turkey or any other migrant population having rural background, our present study too confirms the great craze among the migrants to buy land. Land is the only productive means with which these people are usually familiar with. It is also considered to be the safest of all investment as it can not be destroyed or lost. It is also a means to gain in social status in a rural community which is the main source of production and income.

There has been a considerable increase in the possession of land by the migrant households. This would obviously lead us to believe considerable concentration of land in the hands of migrants. It was found that even those who sold land to pay for migration, bought back lost amount of land at their first opportunity. While they were buying land, none was found selling land after migration. Naturally sellers are the non-migrants.

In our sample 66% of the families bought land and 18% of the families from below the group owning 2.5-5 acres of land included in this group. Another 10% family entered the higher group owning 5-10 acres of land. Possession of land above 10 acres is rare in this area although we found 2% of the family entered this group while there was no such family in this group before. Purchase of land by this people increased the price of land. Phenomenally as it will be evident from the table below. To compare the situation two areas were studied : one with large number of migrants and the other without such large numbers.

Table - XIII : Change in the price of land from the year 1970-82 in the study area (Vill. S. Pur P.S. Boalkhali) with large number of migrants in the population.

Year	Price of land per acre in taka
1970-71	20000.00
1974-75	30000.00
1978-79	67500.00
1981-82	125000.00
1984-85	160000.00

Table-XIII shows price of land in different years from 1970-71 to 1981-82 in the village of S. Pur of Boalkhali thana. The table shows that price of land was taka 20000 per acre during 1970-71. In the year 1974-75 when large scale migration from this area stated, it reached taka 30000 per acre. In the period 1978-79 land price more than doubled and soared to taka 67500.00 per acre. In the period 1981-82 price of land become very high reaching taka 125000 per acre. During the present study we came in touch with a family who already finalised to purchase a piece of land having a price 1,70,000 per acre. This trend is continuing in the adjoining villages namely Akubdandi, Popadia and S. Pur of Boalkhali thana.

Price of land is increasing all over the country, but in areas where there is large exodous of migrant's land price soared sky high compared to the area from which no one migrated or migrated only a few who migrated recently. The village of D. Pur under Patiya thana is characterised by very small number of migrates, only a few of them migrated recently and its land price increase showed a significant difference from that of the village of S. pur.

Table - XIV : Price of land at different years in an area without large number of migrants (village D. Pur, P.S : Patiya) in the population.

Year	Price of land per acre in taka
1970-71	25000.00
1974-75	37500.00
1978-79	50000.00
1981-82	75000.00
1984-85	85000.00

Table-XIV shows the price of land in a village without large concentration of migrants. In this table we see that price was higher than those in the table-C during 1970-81, 25000.00 taka per acre. In 1974-75 price of per acre land reached 50000.00.

While comparing this two tables we find that in the period 1970-71 price per acre of land was lower in our study area than the control village (outside the study area) with almost no migrant family. During period 1974-75 increase in price of land in both the area was found to be consistent. Price in the study area were still lower in our study area. During the period 1978-79 price of land in the study area jumped to a considerable extent compared to the control village. While the price of land was higher in the control village in 1974-75 by taka 37500 per acre than those in the village in our study area. In the period 1978-79 price in the village outside the study area is exceeded by that of study area by an amount of taka 37500.00 per acre. Since other economic factors which influenced the price of land to rise works equally on both the villages, we can therefore, say that it is the impact of foreign remittance on the price of land of the study area which is the cause of a sudden increase in the price of land of this village. During the period 1984-85 difference in price reached 75,000.00 taka per acre which is unusual and it again points to the fact that this was caused by foreign remittances, thereby leading to a serious inflationary situtation in the local land market.

SUMMARY AND CONCLUSION

Summarizing the findings discussed alone, it may be said that on the positive side standard of living of the migrant families has improved a lot. They now eat better food, wear better clothing and have better sanitary facilities and medical care. Most of the immigrants have T.V. sets. Radio-cassette players and even some of them have fridges at their village homes which is rather a luxury considering the average standard of living obtaining in rural Bangladesh.

Housing which is an important component of the standard of living has also improved significantly as almost all the migrants have either pucca or brick-built houses or have been building new ones. So has improved the supply of drinking water lack of which causes a number of diseases.

But as it will be apparent from the data given above that the negative effects of migration outweighs very heavily the positive effects so far as the rural community as a whole is concerned. Phenomenal increase in the price of land has already been seen, leading to huge inflationary situation in the land market. But this has not brought in any corresponding benefit in terms of increased agricultural productivity. Rather it has led to the concentration of land in the hands of absentee land-lords on the one hand and the creation of marginalisation or landlessness of peasants in the locality.

Soaring cost of food and other essential goods and services because of the lavish spending of migrants is another negative aspect of migration. It was found that the price of fish, meat, egg, poultry, vegetables and all other necessities were found to have gone up three to four times from 1974 to 1984. Some of these rises have taken place all over the country because of general inflation. But as we found, migration has given added fillip to the inflationary spiral in the locality with large concentration of migrants. For example, the price of beef, chicken and fish in the locality was found higher than the Chittagong city on an everage by Tk. 3 to 4 per seer and Tk. 5 to 6 from the village in Patiya. The reason given by the overwhelming majority of respondents for the higher prices in the locality which was a rural area, where usually prices are likely to be lower, was the presence of too many migrant families with enough of petro-dollar competing for the limited supply of goods in a rural market.

The cost of local services has also registered a sharp rise in the locality because of migration. Rickshaw fares, auto-rickshaw fares, boat-fares, charges of local barbers and even local mollah's for religious services have gone up out of proportion because of free spending by the migrants. It was told by a good number of respondents that while the normal rate is taka one for a service, a migrant will pay a note of taka five to display his affluence. As a result, local servicemen have a great preference for the migrants over the inhabitants in the locality.

The cost of ordinary farm-labourers have also gone up because of large-scale migration to the Middle East. It was seen in the village that about 45% of the adult males great majority of whom are young, have left for the Gulf States and other Arab countries leaving many aged and old people, women and children behind, causing a considerable shortage of active rural manpower. Consequently wages of farm-hands have gone up by about 40% in comparison with the villages in Patiya wherefrom no such large exodus has taken place.

But the cost of labour has not yet been so prohibitive as to warrant the use of labour saving implements in agriculture. We did not find any case of using powertiller or shallow tubewell for irrigation by a migrant.

Non-immigrants in the village also suffer in other ways. Butchers were found to be very loathe to sell meat in small quantities like half a seer or a seer, because the migrants buy in large quantities and hardly bargain about prices. In course of field work, common complaint of the local people we came across was that they (non-migrants) cannot buy anything for the 'Dubaiwallah' the common name for the migrants to the Middle East.

As it is quite evident from the data given in the previous chapters, migrants also cause considerable economic wastage by indulging in costly communal feasts on such occasions as 'Jeyafat', 'Mejbans', 'Akikas' and 'Khatnas' (Circumcission). They also spend a large sums of money in marriages and religious festivals like to Eids. Sometimes they compete with each other in matters of expenditure for the purpose. But in a strict economic sense, these are nothing but wastages. Although ostensible purpose of these communal feasts is given as religous or social, the real object was found to display the newly acquired wealth of the migrant. This also enables him to raise his status in the rural society.

Similarly large sums of money spent by the migrants in marriages, in giving feasts and dowries has resulted in a very adverse consequence for the non-migrants. It has raised the standard and consequently, cost of marriages for the parents particularly with daughters of marriageable age. Now even the non-migrants, too, are to maintain certain standard and give some dowries in keeping with the standard laid down by the migrants.

Over all impression that we gained from the present study is that migrants and their families spend a considerable proportion of their income in immediate and conspicuous consumption to improve their living standards as well as status in the society. So far as productive investment is concerned, we did not come across a single instance where an immigrant has undertaken such a venture. Nowhere we found a modern farm tool or machinery like shallow or deep tubewell, being used by a migrant in the villages we studied.

Paine found a similar evidence in the case of Turkish migrants working in West Germany and said that "the proportion of savings spent on producer goods was rather small, as was the amount of agricultural and industrial machinery brought in under the concession scheme." [1; 134]. Similar pattern of spending by the migrants from Yugoslavia, Algeria, Italy and other countries in the western Europe was noted by Castles and Kosack when they said :

"Once basic necessities have been bought, migrants often spent large amounts on durable consumer goods. Sometimes radios, gramophones or even cars are brought home. This is a form of conspicuous consumption which does nothing to raise living standards in the long run. There are cases of tractors being driven home from Germany to Yugoslavia, but these are exceptional. Even when returning migrants do invest their money, it is likely to be in a piece of land, a shop or a house ..... such investments can not be regarded as productive. [2; 418-9]. "

This pattern of spending seems almost universal in case of migrants workers from all countries. We may therefore conclude that the overall impact of the earnings and spendings of migrants has been one of rampant inflation which has increased the purchasing power of migrant families and redistributed the available supply of food and land in their favour, causing a corresponding loss of them to the rest of the population [3]. We may further conclude that migration is not an unmixed blessing for a rural community in a country like Bangladesh.

REFERENCES

1. Suzanne Paine : Exporting Workers : The Turkish Case, Cambridge University Press, 1974.
2. Castles and Kosack : Immigrant Workers and Class Structure in Western Europe, Oxford University Press, 1973.
3. Similar views were expressed by Mahmud and Osmani as well when they said :

   "The distributional consequences seem all the more disconcerting as there is some reason to believe that the enrichment of the remittance receivers has led to an absolute impoverishment of at least some sections of the population. The effect has operated through the impact of remittances on the price level".

   (W. Mahmud and S.R. Osmani; Impact of Emigrant Workers' Remittances on the Bangladesh Economy, The Bangladesh Development Studies; No. 3, Monsoon, 1980. P. 26)

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