বাংলাদেশ অর্থনীতি সমিতি

সাময়িকী

২০১৪

বাংলাদেশ অর্থনীতি সমিতি
Bangladesh Economic Association

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

তৌফিক আহমদ চৌধুরী

সম্পাদক

জুলাই ২০১৪

বাংলাদেশ
অর্থনীতি
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বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

সম্পাদক

তৌফিক আহমদ চৌধুরী

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বাংলাদেশ অর্থনীতি সমিতির
উদ্দেশ্য ও লক্ষ্য

অর্থনৈতিক, বিশেষ করে বাংলাদেশের অর্থনৈতিক বিষয়ে শিক্ষা, অনুসন্ধান ও গবেষণার উন্নয়ন সাধনে উদ্যোগ গ্রহণ এবং উৎসাহ ও সহায়তা প্রদান ।

অর্থনৈতিক বিষয় সংক্রান্ত সাময়িকী প্রকাশনা ।

অর্থনৈতিক বিষয়াদির উপর সভা, সম্মেলন ও আলোচনা সভার আয়োজন ।

অর্থনীতিবিদদের পেশাগত স্বার্থ সংরক্ষণ ।

(বাংলাদেশ অর্থনীতি সমিতি, গঠনতন্ত্র, ধারা খ)

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

সম্পাদকের নিবেদন

বাংলাদেশ অর্থনীতি সমিতির বহুকাঙ্ক্ষিত ১৯তম দ্বিবার্ষিক সম্মেলন উপলক্ষে আমাদের স্মারক-শুভেচ্ছা। বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪ সম্মানিত সদস্য ও সুপ্রিয় পাঠকদের হাতে তুলে দিতে পেরে আমরা আনন্দিত।

বাংলাদেশ অর্থনীতি সমিতির সাময়িকী প্রকাশ আমাদের সমিতির কার্যনির্বাহক কমিটির অন্যতম প্রধান দায়িত্ব (গঠনতন্ত্র, ধারা খ২: উৎস ও লক্ষ্য)। সাময়িকী প্রকাশের কাজটি সুষ্ঠুভাবে সম্পাদনের জন্য সমিতির কার্যনির্বাহক কমিটি একজন সম্পাদক এবং একটি সম্পাদকীয় পরিষদ নিযুক্ত করবেন– এটিও গঠনতান্ত্রিক নির্দেশ (ধারা চ১১: কার্যনির্বাহক কমিটি ও কর্মকর্তাদের কর্তব্য)। গণতান্ত্রিক বিধি-বিধানের প্রতি বর্তমান কার্যনির্বাহক কমিটির পূর্ণ আস্থার অন্যতম নিদর্শনই হল 'বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪'।

অর্থনীতিবিদদের পেশাগত দায়িত্ব পালনের সাথে সামাজিক দায়বদ্ধতা পালনের স্বচ্ছ সমন্বিত প্রয়াসের প্রতিফলন– এবারের বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪। গত কয়েকটি দ্বিবার্ষিক সম্মেলনের মত এবারও একটি বৃহদায়তন ও বৈচিত্র্যসমৃদ্ধ সাময়িকী বাংলাদেশ অর্থনীতি সমিতি প্রকাশ করলো। এবার সাময়িকীতে প্রবন্ধের সংখ্যা ২১ টি এবং লেখকের সংখ্যা ২২ জন। প্রবন্ধের বিষয়ভিত্তিক বৈচিত্রও বেশি।

সমিতির গত দুই বছরের কর্মকান্ডের লিখিত প্রমাণাদি আছে এবারের সাময়িকীতে। যার মধ্যে অন্যতম সমিতি কর্তৃক প্রবর্তিত অর্থনীতি সমিতি স্বর্ণপদক ২০১২ প্রাপ্তদের পরিচিতি, দ্বিবার্ষিক সম্মেলনের (২০১২) উপর বক্তব্য/প্রতিবেদন, আঞ্চলিক সেমিনার (ময়মনসিংহ ও রাজশাহী), বিভিন্ন সংবাদ সম্মেলন, শোকবার্তা ও প্রেস বিজ্ঞপ্তি। এছাড়াও, সংযোজিত হলো বাংলাদেশ অর্থনীতি সমিতির ২০১২-২০১৪ কার্যক্রমের নির্বাচিত ফটো-অ্যালবাম।

বাংলাদেশ অর্থনীতি সমিতি এ-দেশের মানুষের মুক্তি ও স্বাধীনতা-মধ্যস্থতাকারী মানব উন্নয়ন দর্শনে বিশ্বাসী এবং দেশপ্রেমে উদ্বুদ্ধ অর্থনীতিবিদদের সংগঠন হিসেবে পরিচিত। দায়িত্ব গ্রহণের পর থেকেই বর্তমান নির্বাচিত কার্যনির্বাহক কমিটি এ দেশে অর্থনৈতিক উন্নয়ন ত্বরান্বয়নে তাদের সীমিত সাধ্যের মধ্যে কাজ করে চলেছে। এ কাজের স্বচ্ছ বহিঃপ্রকাশই বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪। প্রকাশনার পরিসর বাড়লে ভুল-ক্রুটি বাড়ে। সবরকম সতর্কতা গ্রহণ করার পরও যদি এ সাময়িকীতে ক্রুটি-বিচ্যুতি থেকে থাকে তাহলে আমরা আন্তরিকভাবে দুঃখিত। আশা করি পাঠকবৃন্দ ভবিষ্যতে আরো উন্নত সাময়িকী প্রকাশে ইতিবাচক পরামর্শ দেবেন।

আমরা প্রত্যাশা করছি, "রূপকল্প ২০২১"–মুক্তিযুদ্ধের ৫০ বছর পূর্তির সময় ২০২১ সালে বাংলাদেশ হবে "অসাম্প্রদায়িক, প্রগতিশীল, উদার গণতান্ত্রিক কল্যাণ রাষ্ট্র–– বিনির্মাণে সম্মানিত সদস্য, আগ্রহী পাঠক ও কল্যাণকামী গবেষক-নাগরিকদের চিন্তা-চেতনার বিকাশে বাংলাদেশ অর্থনীতি সমিতির বর্তমান সাময়িকী সহ সকল প্রকাশনা সবিশেষ ভূমিকা রাখতে সমর্থ হবে ।

প্রুফ দেখাসহ প্রকাশনা সংশ্লিষ্ট নানান জটিল ও কষ্টদায়ক কাজে সহায়তার জন্য অনেকের কাছে ঋণ স্বীকার করছি, যাদের মধ্যে অন্যতম সেলিম রেজা, মোজাম্মেল হক, আনিসুর রহমান ও রাজু আহমেদ । সেই সাথে আরো যাদের প্রতি ঋণ স্বীকার না করলেই নয় তারা হলেন, আগামী প্রেসের মুদ্রণ কর্মী এবং স্বত্বাধিকারী শাহিন আহাম্মদ এবং প্রচ্ছদ ডিজাইনার সৈয়দ আসরারুল হক । এবারের সাময়িকী সুপ্রিয় পাঠক ও শুভার্থীদের মনোযোগ লাভে সক্ষম হলে আমাদের উদ্যোগ যথার্থ বলে মনে করবো ।

সবাইকে আন্তরিক ধন্যবাদ ।

অধ্যাপক তৌফিক আহমদ চৌধুরী
সম্পাদক, বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪
এবং
সাধারণ সম্পাদক, বাংলাদেশ অর্থনীতি সমিতি

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২ ০ ১ ৪

সূচিপত্র

Sustainable Development of Low Income Countries Through Investment in Tertiary Education

Nobinkhor Kundu[*]
Asma Banu[**]

Abstract

To counterbalance the challenges of globalization, raising the superiority of our tertiary education to global standard is very significant. Tertiary education is the essential enabler of the human capital of the twenty-first century that demands a set of new competencies. It draws lessons for developing countries where policy makers have set out procedure to build a tertiary education in which higher priorities and future strategies would form the center of the sustainable development strategy. In the case of low-income economies, which are keen to invest in tertiary levels of education but the government budget is constrained, this study recommends the formation of financing sources. In addition, it is necessary to develop an effective lifelong learning system to provide continuing higher education and skill upgrading to persons after they have left higher education in order to provide the changing skills necessary to be competitive in the new global economy. This paper analyses the importance of investment in tertiary education with low-income economies to ensure a gradual

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sustainable development over the years. It is apparent that Bangladesh will acquire potential gains from investment in tertiary education.

Keywords: *Higher Education, Economic growth, Sustainable Development.*

JEL Classifications: *I21, O47, Q01*

1. Introduction

Previous studies on low-income economies place heavy emphasis on investment in primary education, partly due to the primary sector orientation of these economies and high rates of returns associated with primary schooling. Gathak (1995), Papagergiou (2003) and Psacharopoulos (1985, 1994), emphasized primary education as a necessary and adequate ingredient for economic growth and development in developing countries, especially those with low income. This argument is based on the economic structure of these countries and the estimated high rates of return on investment in primary education. Lau, et al. (1991) and Psacharopoulos (1994), among others, argue that, based on the rate of returns, universal primary education is one of the most significant factors enhancing economic development in low-income economies. Their studies find that the rates of return on primary education are higher in poor countries, because wages earned by additional years of schooling exceed by far the initial cost of schooling.

Most low-income economies, however, are characterized by poverty, low state investment, limited numbers and quality of educational and legal institutions, inadequate financial resources and capital market imperfections. These factors combine to prevent adequate investment in human capital. Thus, the stock of skills and productive knowledge embodied in people remains low and consequently limits economic growth. Primary schooling is inadequate for the purpose of adopting the sophisticated technology that characterizes a modern economy. Secondary and tertiary education is of greater significance for technological innovation, absorption and diffusion (Engelbrecht, 2002).

Human capital theory, however, postulates a positive relationship between the levels of education, the main way of acquiring human capital, and labor productivity. That means higher levels of education, ceteris paribus, contribute more to economic growth than lower levels of schooling. Human Development is a concept which considers both quantitative and qualitative aspects of sustaining life, aiming at increasing human welfare. Moving forward in a knowledge based economy, human capital becomes one of the major building blocks towards a sustainable growth path. Basic education should provide the foundation for learning, and tertiary education should develop core

skills that encourage creative and critical thinking. As a consequence, tertiary education is essential, and tenacity of any nation to development, advancement, progress and sustainable growth and its effective returns contribute towards development and advancement of a nation, which will get benefit from generation to generation. Education provides a positive guidance to our future generation and helps to accelerate development of the nation.

2.   Litrature Review

UNESCO Director General Koichiro Matsuura mentioned of a 'veritable revolution' in Higher education with the dynamics of accelerating demand, diversification of provider's impact of information and communication technologies, and globalization (UNESCO World Conference on Higher Education, 2009). Investment in human capital, through investment in tertiary education, is a necessary ingredient to economic growth and development; although it is not sufficient (Cypher and Dietz, 1997). For a long time, the development of human capital was regarded as a requirement for the growth and development of any economy (Schultz, 1961).

Economic growth in future depends on the kind of educational investment made at present, therefore, defining a financing policy for education that promotes the country's human capital at higher levels, together with complementary policies to enhance their effective use in a way that can make the system sustainable, should address this problem in the long-run. Not only is education significant for economic growth, it also holds considerable private benefits for individuals. These benefits accrue either directly or indirectly. Economic development strategy should lay emphasis on investment in human capital, as human resources are the most significant resource of the country.

Jan. P. Voon (2004) says that the rate of return is the rate of interest that equates the PDV of the costs and benefits of acquiring a university degree. The general cost and benefit framework is expressed as:

$$PV = \sum_{t=1}^{n} \frac{B_t}{(1+r)t} - \sum_{t=n+1}^{m} \frac{C_t}{(1+r)t} = 0$$

$$\text{Or,} \sum_{t=1}^{n} \frac{B_t - C_t}{(1+r)t} = 0$$

where, C_t is the opportunity cost of university degree in year t; B_t is the benefit of university degree in year t; n is the length of education; $(m-n)$ is years in workforce or, individual earning life span assumed to terminate at the age of 65 when the same cohort of the graduates retires from the workforce; r is internal rate of return to the

investment, in this expression for the rate of return it is assumed that all costs are incurred in years 1 to n, and benefits accrue between years n and m).

Cost includes any forgone earnings, sacrificed because the individual is in school and does not work. In addition to forgone earnings, households face direct costs in spending a child to school. These costs may include school or uniform fees, payments for books and other materials, transportation costs, or other "unofficial" fees to ensure a child get the attention of a teacher. Even though the dollar value of the private benefits of an education is likely to far exceed the dollar value of the private costs, a value for education can be found because future benefits are much more heavily discounted than costs incurred more immediately. Once the private rate of return to schooling is estimated, it can be compared to the internal rates of return to other household investments. Economists argue that one cannot simply add up the costs and compare them to the benefits because money received in the future is worth less than money that can be spent today. Such positive time preference is the result of both uncertainties about the future. Future benefits need to be discounted to compare them to current cost. One way of doing so is to compare the present value of all costs and benefits.

According to Psacharopoulos (1994), the elaborate method follows an algebraic definition of the rate of return which is the rate that equates a stream of benefit to a stream of costs for a given period. In this method of private rate of return calculation, the only cost of the education project under evaluation is the opportunity cost of staying on in school beyond the age of 18 instead of working in the labor market. The data requirement of this method is quite demanding and is usually not available for most developing countries. The basic earnings function is due to Mincer (1974) and involves the fitting of a semi-log ordinary least square regression using the natural logarithm of earnings as the dependent variable, and the years of schooling, potential years of labor market experience and its square as independent variables. In this semi-log earnings function specification, also used by Appleton et al (1999), the coefficient on years of schooling can be interpreted as the average private rate of return to one additional year of education regardless of the education level to which this year of schooling refers (see also Appendix).

This study estimated the effects of three forms of human capital on schooling, namely formal education, experience provided by employers, and its square pursued by employees. Human capital theory suggests that higher education raises the productivity of workers by imparting useful knowledge and skills, hence raising workers' future income by increasing their lifetime earnings (Becker, 1964). Becker (1964) and Mincer (1974) provide an explanation that links investment in higher education with workers' wages. Over the past thirty years or

so, hundreds of studies have been conducted to estimate rates of return to education (RORE); most such studies show that higher schooling is a crucial factor in explaining variations of salary and wages in well developed countries (Cohn & Addison, 1998).

Comparative studies have been conducted in some less developed countries, focusing on investment in higher education (Psacharopoulos, 1985, 1994). At tertiary level, the graduates acquire skills to cope with logical and analytical reasoning tasks, as well as the technical knowledge required in the current era of globalization (Colclough, 1982). Endogenous growth models emphasize the importance of investment in human capital and the potential gains from the transfer of technology from countries with a more advanced study capacity to the low-income countries, because economic theory suggests that these levels of education help a country to make the transition from a low-income to a high-income economy. The study draws significant lessons for Bangladesh from the impressive investment in human capital and the economic growth achieved by the selected model countries.

This study explores interrelated issues in development economics. An objective of this study is to highlight the significant role of tertiary levels of education for sustainable development of future generation of low-income economies. More specific objectives of this study are to identify- the conditions under which the expansion of education at tertiary levels would be fruitful and sustainable for low-income economies, like Bangladesh. This study, following the questions, investigated:

i.   Why is the importance of tertiary education for long-run growth of low-income economies?
ii. What are the sources of investment in these tertiary levels of education for sustainable development of future generation to overcome the resource constraints in respect of financing education in low-income economies?

3. Data and Methodology

This study employs secondary data. It draws on a variety of sources, including books, theses, academic journals, institutional reports and the internet. The collection of data involves an extensive survey of the literature selected in accordance with the stated study questions and objectives. Existing literature on the contribution of education on long-term economic growth and sustainable development is generally reviewed. The study focuses on those studies that deal with the relationship between tertiary levels of education and sustainable

development of future generation in selected low-income countries. Investment in schooling and other factors responsible for the significant impact of education on economic growth in these economies are analyzed.

It reviews theoretical methods of investment in tertiary education of low-income economies and assess is the effectiveness of investment in tertiary education levels. This study, based on endogenous growth theory and empirical evidence, argues that tertiary levels of education are essential in order to develop human capital capable of driving economic growth. Endogenous growth models emphasize the importance of investment in tertiary education of low-income economies and the potential gains from the transfer of human capital from low-income countries to the more advanced countries.

4. Returns to Schooling Analysis

4.1 Gross Enrollment Rates

Higher education influences economic well-being in three ways. First, the direct expenditures by the institutions, their employees, and their students impact the local economy. This spending multiplies through the local economy until the monies are used to purchase goods and services from outside the local area. Second, higher education provides financial and non-financial benefits to the individual who pursues an advanced education and to society in general. Third, institutions of higher education are increasingly focused on knowledge creation. Thus, universities are sources of key study and development innovations that simultaneously can be beneficial to society and conducive to economic growth (OECD, 1998).

Table 1: Changes in Schooling, Gross Enrollment Rates, by region, 1970-2000

Region	Primary		Secondary		Tertiary	
	1970	2000	1970	2000	1970	2000
East Asia/ Pacific	89.4	111.4	23.8	66.4	1.1	14.4
Europe/Central Asia	99.3[a]	99.5	86.2[a]	85.6	30.9[a]	46.0
Latin America/Caribbean	107.2	124.7	27.6	84.8	6.2	22.6
Middle East/North Africa	70.1	95.6	23.5	70.3	4.4	20.7[b]
South Asia	70.6	94.8	23.0	48.0	4.2	10.0
Sub-Saharan Africa	51.0	81.7	6.3	25.7[b]	0.8	3.6[b]
High Income	100.0	101.9	75.0	106.0	26.2	61.1

[a]   *Due to insufficient data for 1970, the values for Europe and Central Asia refer to 1980.*
[b]   *Values refer to the late 1990s.*
Source: *World Bank, World Development Indicators online.*

People with more years of schooling tend to earn more than people with fewer years. Useful thinking about education and investment and higher education produces human capital. The expectation is also that these investments will yield a positive return. By attending school, an individual hopes to acquire human capital, which makes that individual more productive, and therefore, better compensated.

Worldwide, gross enrollment refer to the total number of children enrolled in a given school category divided by the number of children of the age group that officially corresponds to the levels of schooling, and net enrollment rates refer to enrollments of only those of the relevant age group, in any type of tertiary education amounting to about one out of every four members of the age group. In the high-income countries, the rate is close to 60 percent; in the middle-income nations, it falls to 22 percent; and in the low-income nations, it drops to 10 percent.

International evidence also shows that no country could become an economically advanced country, if the enrolment ratio in higher education is less than 20 per cent. In fact, we find no country in the group of the developed countries whose enrolment ratio in higher education is less than 20 per cent, and conversely we find very few countries with an enrolment ratio of above 20 per cent among the developing countries.

The importance of higher education further increases in the era of international competition and globalisation. International experience shows that it is only those countries that had built up high quality human capital stocks, through good higher education systems, could reap the benefits of globalisation (e.g., East Asian economies), and countries that do not have stocks of quality human capital suffered the most from the policies of globalisation and structural adjustment (e.g., countries in sub-Saharan Africa). Given all this, it is imperative that societies pay adequate attention to higher education. This is more significant, if societies would like to transform themselves into prosperous economic tigers.

4.2   Returns to investment on Schooling

Tables 2 and 3 present estimates of annual private and social internal rates of return for schooling by income categories. The results are from a meta-analysis by World Bank economists, Psacharopoulos and Patrinos (2004). The authors compiled the results of internal rate-of-return calculations for over 75 nations. Some of these studies refer to outcomes as far back as the late 1950s, while others refer to the 1990s. At all levels of schooling, private rates of return may be higher in low-income economies than higher-income economies. This may seem

Table 2 : Returns to investment in education by level,
full method, latest year, averages (%)

Region	Private Rate of Return			"Social" Rate of Return		
	Primary	Secondary	Higher	Primary	Secondary	Higher
Asia *	20.0	15.8	18.2	16.2	11.1	11.0
Europe/Middle East/North Africa*	13.8	13.6	18.8	15.6	9.7	9.9
Latin America/Caribbean	26.6	17.0	19.5	17.4	12.9	12.3
OECD	13.4	11.3	11.6	8.5	9.4	8.5
Sub-Saharan Africa	37.6	24.6	27.8	25.4	18.4	11.3

Source: *G. Psacharopoulos and H. Patrinos, "returns to Investment in Education: A Further Update", Education Economics 12, no. 2 (August 2004)*
*Non-OECD.

surprising, given the much higher wages and salaries workers earn in high income nations. But rates of return measure something different than the levels of earnings. Take the case of graduates of tertiary education (table 2).

Table 3 also finds, as expected, that the returns to schooling tend to be greater the poorer is the country. This is especially evident when comparing low-income economies to the high-income economies. This may be due to much larger pay

Table 3 : Returns to investment in education by level, latest year,
averages income group (%)

Per-capita income group	Mean per capita(US$)	Private Rate of Return			"Social" Rate of Return		
		Primary	Secondary	Higher	Primary	Secondary	Higher
Low income ($755 or less)	363	25.8	19.9	26.0	21.3	15.7	11.2
Middle income (to $9265)	2996	27.4	18.0	19.3	18.8	12.9	11.3
High income ($9266 or more)	22,530	25.6	12.2	12.4	13.4	10.3	39.5

Source: *G. Psacharopoulos and H. Patrinos, "returns to Investment in Education: A Further Update", Education Economics 12, no. 2 (August 2004).*

differentials between tertiary and primary school graduates. Or it may reflect opportunities tertiary school student have to earn some income while studying (so there is less cost from foregone earnings), including receipt of government stipends for attending a school, a common practice in many developing nations.

Figure-1: Returns to investment in education, latest year, averages by low-income group (%)
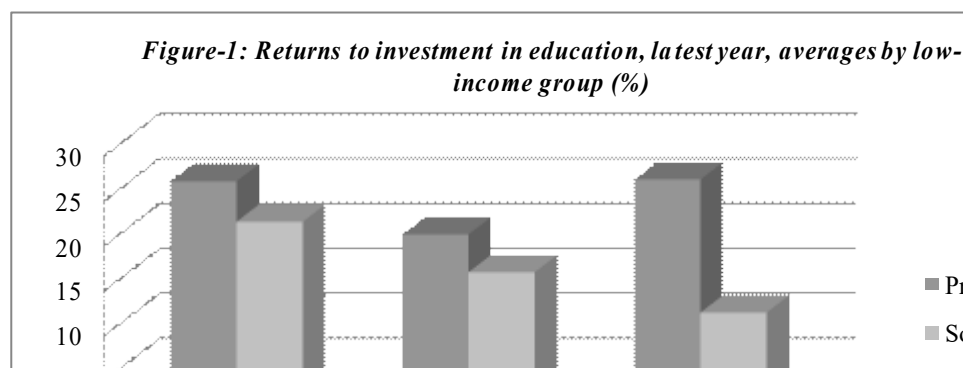
The relative gap between private and social returns is especially large for tertiary schooling in low and middle–income nations. This reflects the relatively high per pupil cost and high degree of state subsidy for tertiary education, often including free tuition. The classic pattern of falling returns to education by level of

Figure-2: Private returns to investment in education, latest year, averages per-capita income group (%)
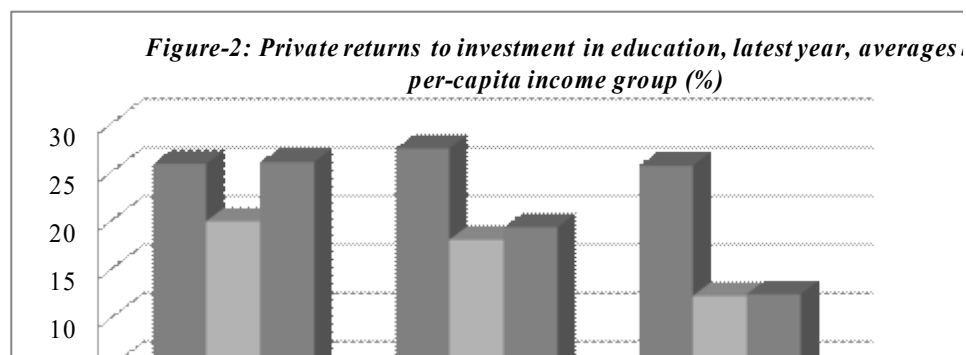
economic development and level of education are maintained (see Tables 2-3 and Figures 1-2). Also, in the updated data set the private returns to higher education are increasing. These new results are based on six new observations and updated estimates for 23 countries since the last review (Psacharopoulos, 1994).

Private returns are higher than 'social' returns, where the latter is defined on the basis of private benefits but total (private plus external) costs (Figure 1). The average "social" rates of return to schooling account for only social cost, not social benefits, hence our use of quotation marks around the word *social*. By incorporating the full cost of schooling but not any positive externalities, "social" return for a given level of schooling must be less than the corresponding private return. This is because of the public subsidization of education and the fact that typical social rate of return estimates are not able to include social benefits. Nevertheless, the degree of public subsidization increases with the level of education, which has regressive income distribution implications. Overall, the average rate of return to another year of schooling is 10%.

Returns to education by level of country income are presented in Table 3 and Figure 2 (Psacharopoulos, 1994). The highest returns are recorded for low-income and middle-income countries. This update includes new country estimates and updated estimates for 42 countries. Average returns to schooling are highest in Latin America and the Caribbean region and for the sub-Saharan Africa region (Table 4). Returns to schooling for Asia are at about the world average. The returns are lower in the high-income countries of the OECD.

4.3 Coefficient on Years of Schooling

Tables 4 and 5 present estimates of annual private and social internal rates of return for schooling by income categories.

টেবিল ৪ : টেবিল পড়বভভরপরবহঃ ড়হ্বধৎং ড়ভ পযড়ড়ষরহম: ধঃব ড়ভ ৎবঁৎহ

Region	Mean per capita (US$)	Years of schooling	Coefficient (%)
Asia*	5182	8.4	9.9
Europe/Middle East/North Africa	6299	8.8	7.1
Latin America/Caribbean	3125	8.2	12.0
OECD	24,582	9.0	7.5
Sub-Saharan Africa	974	7.3	11.7

*Source: G. Psacharopoulos and H. Patrinos, "returns to Investment in Education: A Further Update", Education Economics 12, no. 2 (August 2004).*Non-OECD*

These results are from a meta-analysis by World Bank economists, Psacharopoulos and Patrinos (2004). In the high-income countries, the coefficient on years of schooling is 7.4 percent; in the middle-income nations, it increases to10.7 percent; and in the low-income nations, it rises to 10.9 percent (table 5).

টেবিল ৫ : টেবিল পড়বভভরপরবহঃ ড়হ্বধৎং ড়ভ পযড়ড়ষরহম: সবধহ ৎধঃব ড়ভ ৎবঁৎহ
(ইধংবফ ড়হ গরহপবৎংইবপশবৎ ঈযরৎৎরিপশ): চবৎ-পধঢ়রঃধ রহপড়সব মৎড়ঁঢ়

Per-capita income group	Mean per capita (US$)	Years of schooling	Coefficient (%)
Low income ($755 or less)	375	7.6	10.9
Middle income (to $9265)	3025	8.2	10.7
High income ($9266 or more)	23,463	9.4	7.4

Source: G. Psacharopoulos and H. Patrinos, "returns to Investment in Education: A Further Update", Education Economics 12, no. 2 (August 2004).

Globally, the percentage of the age cohort enrolled in tertiary education has grown with the most dramatic gains in upper middle and upper income countries. In low-income countries tertiary-level participation has improved only marginally. Sub-Saharan Africa has the lowest participation rate in the world. In Latin America, enrolment is still less than half that of high income countries.

There is a general presumption that higher education is not necessary for economic growth and development. Without realizing the importance of higher education in development, many low-income countries tend to ignore higher education. Analyzing the contribution of higher education to economic well-being, the higher education has been given great social responsibilities, in harmony with the enormous needs and expectations of the society. Higher education is one aspect, which not only enhances knowledge but creates awareness in social and economic development. This education will ultimately lay out the economic and social well being of an individual.

The social return includes all costs entailed in the provision of schooling. These costs must be taken into consideration. On the benefit side, schooling benefits the individual through higher earnings but schooling may also produce a positive externality and potential positive externalities from schooling. More schooling, especially higher education, may also lead to technological progress that is not fully captured by private returns. More schooling has benefits which is why it is considered a merit good. Health clinics and tube wells for clean water improve health and fertility externalities, and educating women reduces child mortality, fertility, maternal mortality, and spread of HIV/AIDS etc. By virtue of the respect, higher education can create awareness in social and economic development.

It is significant to remember that even in the 21st century there great is the importance of tertiary education for long-run growth. It is also necessary to improve the quality and efficiency in higher education, because they are an integral part of an ordered society. In addition, higher education is also a *public good* – at least a *quasi-public good*, benefits from which are not confined to the individuals that go to universities, but also the society at large and have profound positive effect on economic growth and development. Evidence can be cited from East Asia. According to The World Bank, 60% to 90% of growth achieved in Japan and other East Asian industrialized countries is the result of human capital development rather than natural resources and finance. While we must treat such findings with caution because economic factors cannot be separated from wider social and institutional factors, they underline the critical significance of tertiary education.

5.   Financing Problem of Tertiary Education

In poorer nations, educated workers are relatively scarce, often making schooling, especially tertiary education, an investment with a higher rate of return than in advanced economies, where educated workers are far more abundant. Given the relative scarcity of students with a tertiary education in poorer nations, the pay premium to having such an education may be greater than the relative pay gap between university and high school graduates in richer nations. It is the relative scarcity of labor skills, a combination of the strength of labor demand and the extent of labor supply, which determine the attractiveness of schooling as an investment. The emergence of higher education was prompted by several factors: (1) Demand for tertiary education increased much faster than the primary and secondary could cope with; and (2) the government's inability to mobilize financial resources needed to establish and run an adequate number of higher education institutions with required enrolment capacities. The continuous widening of the gap between the supply of and demand for higher education opened up new opportunities; private entrepreneurs, philanthropists and social leaders stepped in to fill this gap. In addition, by this time globally and nationally, there was a general shift in ideology, with a preference toward privatization and market-based provision of higher education (Perkins et al., 2006).

In the current era of globalization, economic growth and development will be stunted in low-income economies unless they invest adequately in higher levels of education and define economic policies that enhance the effective use of advanced skills within the economy. Although investment in tertiary education remains poor low-income economies, more harm than good will result from expanding tertiary education, unless acceptable quality can be ensured. The 21st century focus should be on applying rigorously already established quality standards and consolidating and rationalizing existing universities, before investment is made on expansion in tertiary education. The problem of resource scarcity added further to the problem. But given the inter-dependence of one layer of education with the other, higher education becomes critically significant for developing and sustaining a good quality primary and secondary education. It is also a critical factor necessary for economic growth and development and also for its sustenance.

In the case of lower income economies, where there is a concentration on investment in tertiary levels of education but the government budget is constrained, this study recommends the creation of Public Private Partnership (PPP) and students Bank loan (low-interest) by *internal* sources. This can partly

be financed through borrowing at low interest rates from the International Development Association (IDA) of the World Bank Group by. Besides, scholarships and social support to students are becoming increasingly significant for attaining quality and efficiency in higher education.

Investment in tertiary levels of education has helped formerly low-income countries such as Taiwan and Singapore to attain vast increases in economic growth. Low-income countries, such as Bangladesh, should follow these success examples by investing in higher levels of education. This study suggests how Bangladesh can draw lessons from the success stories of Taiwan and Singapore of her investment in higher levels of education contributed to their economic growth. Further, it suggests an education-financing mechanism for Bangladesh and a framework that can be used to design meaningful education policies for sustainable growth and development of country.

The World Bank's policy approach to find mechanisms that can sustain higher education by proposing charging student fees and privatization has some definite merit (Samoff and Carrol, 2003). It is encouraging to note that in 2010 the Ministry of Education, Government of Bangladesh (GoB), with the assistance of the World Bank (IDA), has undertaken, through the University Grants Commission (UGC) of Bangladesh, a higher education quality enhancement project (HEQEP) to improve the quality of teaching, learning and study capabilities of higher education institutions of the country. Activities involving the promotion of academic innovation, the building of institutional capacity of the universities and the raising of connectivity capacity in the higher education sector are considered to be critical for universities in Bangladesh for initiating positive impacts on developments.

6.   Conclusion

The phenomenal growth of universities indicates the significant role they play in imparting higher education in a low-income economy like Bangladesh. These universities produce much needed highly skilled manpower. Many of their graduates are employable both locally and internationally. The number of students that go to foreign countries for undergraduate studies has decreased. This saves a huge amount of foreign exchange remittance earnings. The graduates of these universities contribute substantially to national and international development. The demand for higher education will increase further in future. Without investment, national demand for higher education cannot be met. Both government, public private partnership (PPP) and International Development Association (IDA) of the World Bank Group must supplement and complement

each other. The main point drawn from this study is the importance of investment in education, particularly in the tertiary level. There is much evidence on the positive impact of education on productivity and development. Tertiary education should, therefore, be stressed particularly the present world of information technology and globalization. This is crucially important, the productivity growth being a key requirement to socio-economic development. The quality and relevance of such educational expansion to the economy and society in the low-income economies should also be taken into consideration.

This study indicates what lessons Bangladesh can learn to improve its strategy for economic growth and development. The lessons learnt would help the government to draw policy recommendations on measures of how to raise the level of human capital accumulation. Addressing the problem of investment in higher levels of education today through the suggested sustainable mechanism, will allow further accumulation, resulting in an increase in the economy's productivity, and its ability to adopt, adapt, or improve the technology update, and hence ensure sustainable economic growth.

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Appendix

Mincer (1974) show the basic earnings function is involves the fitting of a semi-log ordinary least square regression using the natural logarithm of earnings as the dependent variable, and the years of schooling, potential years of labor market experience and its square as independent variables. Data on these variables can be obtained from either household or firm surveys and used to estimate a human capital earnings function or wage equation like the following:

$$\ln E_i = \alpha + \beta_1 S_i + \beta_2 EXP_i + \beta_3 EXP_i^2 + \varepsilon_i \qquad (1)$$

where, In E_t is the natural logarithm of earnings of each individual, σ is constant, is individual's years of schooling completed, EXP_t is work experience, EXP^2_t is work experience squared. $\sigma\beta_1, \beta_2$ and β_3 parameters to be estimated, and ε_1 is an error term.

The above function can be modified to include regional dummies, sex, or different levels of educational attainment. For the purpose of this study, different levels of education attainment are used. Since we intend to calculate the private rate of returns to different levels of education, the basic earnings equation becomes:

$$\ln E_i = \alpha + \beta_1 PRIM + \beta_2 SEC + \beta_3 UNIV + \beta_4 EXP_i + \beta_5 EXP_i^2 + \varepsilon_i \qquad (2)$$

where, *PRIM, SEC, UNIV* stand for primary, secondary and university levels of education, respectively, and EXP_1 is work experience. From the above earnings function, one can calculate the rate of return of investment in education after acquiring an additional year of schooling. This is given as:

$$\beta_1 = \ln \frac{dE_i}{dS_i} \qquad (3)$$

This is the estimate of the average percent additional earnings resulting from an extra year of schooling. It is an estimate of how wages in an economy vary by education for the year in which the data are obtained. The term β_1 is also interpreted as the average annual private rate of return to one additional year of schooling, regardless of the level of schooling already attained. Estimates of β_1 vary widely. The way to compute the returns to an extra level of education is taking the antilog and using the formula:

$$Re\,turns = \{EXP_i(\ln E_i - \ln E) - 1\} \qquad (4)$$

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This rate can be divided by the numbers of years at each level to get annual returns. The estimates from equation 2 provide consistent estimates; but there may be correlations between education and unobservable variables such as family characteristics and background. This is taken care of by adjusting the model to account for the observables or that may not necessarily have a significant effect.

Development of Secondary Education Through Project Intervention: An Assessment

M. A. Mojid[*]

Executive Summary

Education sector is directed to expand the coverage of stratified system for the improvement of quality of education. Govt has recognized. that stipend have many dimensions and new innovative initiatives which will be required to meet real needs of the poor. The paper evaluates the performance of secondary education based on semi annual report of SEQAEP project.

1. Secondary Education Quality and Access Enhancement Project (SEQAEP

Secondary Education Quality and Access enhancement is a project of DSHE under the Ministry of Education with financial assistance of World Bank and launched its program in July, 2008.

Component 1: Improving Education Quality and the Capacity to Monitor Learning Levels

Sub-component1.1: Incentive award to students, teachers and institution. It focuses on the achievement of students, teachers and institution and provides additional monetary incentives: The Project has been improving Education Quality through the provision incentives award of incentives award to institution teachers and students based on academic performance.

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Sub-component 1.2: Support for English and Mathematics learning and Teaching: The component has provided support for the sub component of English language &mathematics learning and teaching as follows 8000 were trained, additional classes were implemented in 1500 institutions. Covering 1,12 millions classes., 9800 Hts and Ahts participatedin3 day orientation courses up to 2011

Sub-Component1.3: Developing reading habit. It started from May 2010. completed june 2014, targeting to implement book reading activities in 4500institutions of 122 upazilas. The project achieved 2500institutions who implemented reading habit program and enrolled 945656 in first phase (2010)284103readers in second phase (20110, Among them54% are girl

Sub-Component1.4: Assessment of Education Quality. The sub-component aims at measuring the quality learning by administering internationally comparable and national curriculum based numeracy and literacy testing on a sample basis. The work component of the project stared from December 2011. According to Mid. level review conducted July 2011SEQAEP would conduct two learning outcome assessment but not conducted as per schedule.

Component 2: Improving Equitable Access

The objective of the component is to increase access and retention of poor girl and boys and introduce a poverty–targeted stipend program to address large disparities across different groups in secondary school access and quality.

Sub-component 2.1: PMT Based Stipends and Tuition to the Poor Boys and girls The number of students receiving PMT based students up to January was 10.03lakh against target of 11.75 students

Sub-component 2.2: General Stipend and Tuition for Girls: a good number of students received stipend and tuition fees.

2.3: Improving School Facilities. The sub-component is intended to attract and retain girls and boys in schools through ensuring of safe drinking water and sanitation facilities. The component of the project established (up to Dec, 2011) a total number of 1348 twin latrine, 641 deep tube wells and 704 tube wells.

Component 3: Institutional Capacity Strengthening: The objectives of this component are to (a) strengthen the existing structure for managing and implementing the project, (b) develop and strengthen the capacity to implement programs aimed at increasing educational quality and to deliver financial support to targeted beneficiaries, (c) strengthen accountability at school and Upazila level etc.

Sub-Component 3.2: Institutional Capacity Building: The objective of this sub component is to strengthen the capacity of MOE, DSHE and SEQAEP unit, MEW to provide services at central, upazila and community levels. Training/orientation have been organized for USEO and other stakeholders on the implementation strategies

Sub-component 3.3: School Management Accountability: SEQAEP has completed PTA member training program in all institutions for the improvement of education quality and Management which relates its transparency and accountability.

Sub component 3.4. Education Awareness and Community Mobilization: The objective of this sub-component is to build and increase awareness all key Stakeholders. The project achieved following progress up to December 2011: provided orientation to PTA Member-Secretaries of 2600 Secondary level education out of 4000 and completed a total number of 800 cluster–wise cultural programs at institutions

Component 4: Monitoring: Monitoring & Evaluation wing monitors the Projects implemented by the Directorate of Secondary &Higher Education

M &E wing performs the following tasks:

- The wing monitored and evaluated all the stipend related activities of the projects including SEQAEP and Non-stipend activities of the projects of the DSHE.
- Prepared and published Monitoring Tools and distributed to the concerns.
- Prepared and published the three Semi-annual Monitoring reports on activities of SEQAEP, activities of other Project and on the regular activities of the DSHE.
- Prepared Manual of Monitoring and Evaluation wing published a brochure of MEW and conducted various studies to monitor additional class program etc.

   Evaluation
- Evaluated the implementation of the projects whether they are achievingthe target goals and objectives
- Conducted national level workshop on the baseline survey findings and prepared report.
- Performed other activities

2. Improving Teachers Quality Improvement in Secondary Education Project. The project organized a total number of 18workshops against 54 workshop for 2010-11. The Project completed training of a total number of 3, 12 lakh with relation to total provision for the component in DPP is 5,18 lakh.

3. Secondary Education Sector Development Project: The project achieved nearly 30% of Annual Development Program in 2010-11. Cumulative physical progress of stipends and tuition was 11.90 lakh girl and boys against total of 18.00lakhgirls and boys.

4. Secondary Education Stipend Education Stipend Project: The expenditure of the project was Tk 20249.73lakh against 31602.00 in 2010-11. The project provided tuition fees and stipends to a number of 11.00lakh out of 23.40 lakh in 2010-11.

5. Higher Secondary Female Stipend Project (phase-4): During period July 2010-December 2010, the project spent 0.91% (Tk 66.90lakh)of total allocation (Tk 7299.00lakh) in 2010-11. A total number of 2.00 lakh girls students received stipends and tuitions.against total target of 2,82 lakh.

6. Transformation of Existing Non–Government Schools into Model Schools in Selected 306 Upazilas Head Quarter: The Project had a provision to improve educational quality of selected non- govt. schools through creating physical facilities and teaching learning aid. The expenditure of the project till December 2010 stood at Tk. 3.32 lakh against the target of Tk 2000.00lakh in 2010-11.

7. Establishment of 11 Secondary Schools and 6 Colleges in Dhaka Metropolitan city project: In implementing ADP, during the financial year (2010-11) up to December -2010, the project managed to spend Taka 8.50 lakh only which was 0.017% of planned expenditure, the ADP was Taka 500.00 lakh.

8. Development of postgraduate govt colleges in district HQ: The project provides enhanced physical facilities and learning to cope up with increased students of the eminent post graduate college in HQ

9. Life Skill Based Reproductive Health Education for in School Youth and Adolescents through Peer Approach Project: The amount of the expenditure up to December2010 in comparison to ADP allocation for 2010-11 (Tk153.00 lakh) stands at only 6.52% (tk36.72 lakh) for 2011-12 which is around 92% of the ADP allocation.

Chapter 1

Monitoring and Evaluation Wing has analyzed the present activities of the projects to know Financial & Physical activities

Objectives of MEW

- To monitor and evaluat all the stipend related activities of the projects including SEQAEP and Non-stipend activities of the projects of the DSHE.
- To Prepare and publish Monitoring Tools and distributed to the concerns.
- To Prepare and publish the three Semi-annual Monitoring reports on activities of SEQAEP, activities of other Project and on the regular activities of the DSHE.

Evaluation: of M & E Wing
- Evaluate the implementation of the projects
- Conduct national level workshop on the baseline survey findings and prepared report.

Chapter 2

SEQAEP Activities : The project focused on the provision of stipends and tuition for both poor girls & boys to ensure their retention during the whole cycle.

2.1. Component wise physical progress SEQAEP

Key performance indicators intermediate MTR are discussed. Here some target values were revised and and number of intermediate indicators had been limited to improve efficiency monitoring overall progress. The project reviewed as achieved (Table 1)

Analysis of component- wise physical Progress:

Progress achieved in different of activities is discussed:

Best student Award

Cumulative Physical progress of the sub component up to December 2011 stood at 90202 numbers which is 36 % of the DPP provision. The progress remained low.

Ceremony in upazila level& other program: During 2008-December 2011, cumulative Progress of this item was 40% of the total target that demonstrates low progress.

SL	Component Activity	units	Oroject target(FY2 008-2013)	Cumulative December2011 progress	%	Cumulative achievement (FY2008-
1.1	Incentives					
1.1.1	Best students Awards	nos	249,664	90202	36%	
1.1.2	Project ceremonyin upazila leveland other programs	nos	605	243	40%	he cycleof the econdary s
1.13	S SC/dakhil pass Awards for pmt based	nos	137000	109988	80%	
1.1.4	S SC/dakhil pass Awards for english Teachers	nos	6850	2995	44%	
	S SC/dakhil pass Awards for Mathematics teachers	nos	6850	2995	44%	
	S SC/Dakhil pass Awards for institutions		8290	4148	50%	
1.1.7	Grade progression		1535	155	10%	
1.2	Additional classessupport for english language & mathematics learning & teaching					
1.2,1	Additional classes for english		2230000	549909	25%	
	Additional classes for Mathe		2230000	549909	25%	
	Classroom observation to eng teacher		81,000	17900	22%	
	Classroom observation to math		81,000	17900	22%	
1.3.	Books for reading habits		4500	2500	56%	

SSC/ Dakhil Pass Awards for PMT based students: 80% progress of the total provision that seems satisfactory:

SSC/ Dakhil Pass Awards for English Teachers The cumulative physical of this item up to December 2011 was 44%of the total target.

SSC/ Dakhil Pass Awards for Mathematics Teachers: it achieved 44%of the planned progress which shows good performance

SSC/ Dakhil Pass Awards for institution: The item's contribution was compared to other item, the achievement is satisfactory

Grade p**rogression**: Item of the component recorded an overall achievement of only 10%of the total target

2.2.1 Additional classes support for english language & mathematics learning & teaching:

Additional classes for **english Sub Component's** contribution was 25%of the planned progress which exihibits poor performance

Additional classes support for Math: Cumulative total progress up to December **2011** in relation total targetfor the item was 25which shows poor performance

Class room reservation to English& Math: Cumulative progress of the sub component up to December 2011 in comparison project target was 22%that seems to be to remaining low Regarding target

2.2.2 **Books for reading habits The sub component result shows that it achieved 56% of the total target that seems satisfactory.** In order to achieve the objectives all subcomponent need to be accelerated.

PMTA Progress: The SEQAEP entered into participation agreement with Local Government Engineering Department to serve PMT Administrator to implement PMT related activities in 122 upazillas**;** the progress is shown below (table 2)

The project faced some problems. the procurement of goods & services was delayed, therefore the activities of some subcomponents were not started and in some cases delayed.

subjects	2009phase 1	2010 both phase	2011	2012	Remarks
Enrolment	1189724	1482990	624957	651055	
%	54%	67%	55%	56%	
Female					
In enrolements					
2.Applicants female	776358	1149938	496056	492520	
Indegenous population	446252	641834	275631	275843	
	8474	5979	3325	4461	
3. Catetegory 1*stipend &Tutions					
Draft eligible students	392524	525976	336679	312340	
Draft eligible students Ip	5691	5966	3325	4461	
ACF Award (Ist Semister)	348519	Old students= 280781 New students=525976 Total806757	Old students = 518279 New students=275979 Total894258 total=894259	Not yet done up to Jan2012	
Actual Awardees	348519	Old students=280781 New students=525976 Total=806757	Old students=618279 New students=275979 total=894258	Not yet done up to Jan2012	

Actual IP Awardees	5691	Old students ip=4384 IpNew students=5966Total=10350	Old students=3983 ipNew students=3325 total=7380	Not yet done, information up to Jan2012	Information Up to December 2012
ACF Awardees (2nd Semister)	331758	847482	861317	Not yet done, information up to Jan2012	Information Up to December 2012
Actual ACF Awardees (2nd Semister)	331758	847482	861317		
ActualIP Awardees Category 11(tuition only)	5299	5900	3296		
Draft eligible students	129387	194572	48464	72216	
3.Appeal students	82151	23685	9804		
Success Appeals	58639	15543	5259		
4.Validation sample size	9350 24% 35%	45145 21.57%	35%		

Source: PMTA, PMTA reviewed Physical progress 2011based on the information of monthly quarterly reportprepared by SEQAEP unit PMTA Uit LGED

Chapter 3

Activity of Development Projects and Financial Analysis:

DSHE took number of development Projects included in the Annual Development Program. The Projects are being implemented with following objectives:

a)Improve quality of Secondary Education

b) Expand excess Secondary Education

c) Ensure Gender Parity in Secondary Education

Increase enrolment, attendance and completion rates of Secondary Schools

The activities following Projects are narrated below:

a) Project: Secondary Education Quality and Access Enhancement Project (SEQAEP

Objective of the project Improving the quality of education particularly, the teaching-learning process by arranging additional classes at the secondary level (grade 6-10), developing reading 1 reading habits and providing academic performance vased incentives.

Ensuring equitable access by providing stipend and incentives to the poor boys and girls, subvention against tuition fees to institutions at the rural and semi-urban Target and achievement of main components of Project:

- To reduce the population growth by motivating the stipend recipients (boys and girls) to refrain from marriage till the completion of Secondary School certificate Examination/ Dakil Examination
- To increase the involvement of men and women in socioeconomic development activities
- To increase self- employment to alleviate the poverty.

Financial Achievement

Tk in lakh

ADP Allocation for 2011-12	Achievement for 2010-2011 up to Dec.2011
31893.00	3858.25

Observation: The project spent only 12% of the allocation (2011-12) during July December 2011. The management may take initiative to increase fund utilization through addressing Procurement and sub component of school environment, institutional capacity building

b) Name of the project: Teaching quality improvement in Secondary Education project

Objectives: to improve theoverall qualityof secondary education system

Financial Achievement

ADP Allocation for 2011-12	Achievement for 2011-2012 up to Dec.2011
8000.00	872.44

Observation: The amount of expenditure up to December 2011stood at 872.44 lakh which is around 11% of the total allocation for 2011-12 and demonstrates low progress compared to allocationt

c) **Name of the project : Secondary Education Sector Development Project**

Objective of the project

a) To improve the efficiency by strengthening the management, accountability and transparency system at all levels and in every sphere of activity in secondary education;

b) To enhance the quality of secondary education by improving the curriculum, student assessment and school performance

Financial Achievement

ADP Allocation for 2011-12	Achievement for 2011-2012 up to Dec.2011
14000.00	3994.12

Observation : During July December 2011, The expenditure of the project was insignificant compared to allocation for 2011-12. The project provided a total number of 27000scholars for innovative research. The project achieved success regarding stipend tuition program during the period.

d) **Name of the project : Secondary Education Stipend project**

Objectives of the project
- To increase the enrollment of boys and girls in secondary level institutions through continued financial assistance with the aim of expanding boy's and girl's education

- To improve the quality of secondary education
- To reduce the population growth by motivating the stipend recipients (boys and girls) to refrain from marriage till the completion of Secondary School certificate Examination/ Dakil Examination
- To increase the involvement of men and women in socioeconomic development activities
- To increase self employment to alleviate the poverty.
- To render special assistance to the disable learners.
- To establish Upazilla Secondary Education Offices for the newly included upazillas and strengthen 305 selected upazillas Secondary Education

ADP Allocation for 2011-12	Achievement for 2011-2012 up to Dec.2011
22092.00	11982.47

offices by official equipments and accessories

Observation: During July December2011.the project was 11982.47which was around 51of the allocation for 2011-12.and demonstrates remarkable fund utilization for distribution of stipends to boys and girls

e) Name of the project: **Higher Secondary female stipend project**

objectives of the project: To encourage SSC pass the female student from poor families (40% of the total enrolled female students) to continue their study to higher Secondary level (grade 11 and 12 grade)

ADP Allocation for 2011-12	Achievement for 2011-2012 up to Dec.2011
9426.00	4640.749

:(Tk in lakh)

Observation: The Project utilized fund of tk4640.749 lakh against the target of 9426.00 for 2011-12 indicating satisfactory progress and achieved success regarding stipen program

f) Name of project**: Establishment of 11 Secondary Schools and 6 Colleges in Dhaka Metropolitan City project**

- Objectives: a) to create educational facilities for the students of Dhaka City
- b) To meet up demand of students for Dhaka Metropolitan City by creating infrastructure facilities, supplying modern equipments and accessories to

:(Tk in lakh)

ADP Allocation for 2011-12	Achievement for 2011-2012 up to Dec.2011
2080.00	26..90

Secondary schools and colleges grade 11 and 12 grade

Observation: Land purchase and construction of buildings purchase of equipments were the main components of the project the expenditure of the project till December 2011remained low compared to its allocation for 2011-12.It was expected that the project would expedite in achieving project objectives in quality and quantity.

g). Name of the project: Development of post graduate govt colleges in district HOl (2010-13)

cost 6552.00lakh

Objective of the project   upazila H.Q where there is no govt. school

:(Tk in lakh)

ADP Allocation for 2011-12	Achievement for 2011-2012 up to Dec.2011
4500.00	1183.61

Objectives To provide better education which will create demonstrative effect

Observation: only 26%expenditure of the project was utilized for 2011-12. The project needs to gear up its activities

h). Name of the project: Transformation of existing non government schools into model school in306 upazila HQ

Objective of the project: To provide better education in Upazila H.Q where there is no govt. school

:(Tk in lakh)

ADP Allocation for 2010-11	Achievement for 2010-2011 up to Dec.2010
4500.00	3146.45

Objectives To provide better education which will create demonstrative effect: Implementation period: 2010-13

Observation: The project implementation was 70%of t total allocation for 2011-12, progress was thus very dood

i) Name of the Project: Life skilled based Reproductive health Education for school youth& adolescents through peer approach

a) Objective of the project

To educate secondary and higher secondary level students with Life Skills Based Reproductive Health Education.

:(Tk in lakh)

ADP Allocation for 2010-11	Achievement for 2010-2011 up to Dec.2010
60.00	**55.33**

To educate the youth with knowledge of population control, safe maternity, reproductive health, STD, HIV/AIDS etc.

Gender parity: In order to show gender situation in secondary education, the following statistics are shown below(table 3)

Table 3: Gender parity in secondary education

Type of Institution	Sex	Grade 6	Grade 7	Grade 8	Grade 9				Grade 10				Total
					Human.	Science	Business	Voc.	Human.	Science	Business	Voc.	
School	Total	414,406	383,394	316,332	156,514	41,516	68,931	18,810	135,835	37,413	65,488	13,678	1,652,317
	Girls	225,104	210,208	172,164	97,355	15,773	29,375	6,792	86,810	14,101	28,257	4,900	890,839
	%	54	55	54	62	38	43	36	64	38	43	36	54
Madrasah	Total	123,527	110,939	88,999	79,700	7,824	441	1,098	64,394	6,323	366	625	484,236
	Girls	71,402	64,552	49,582	43,507	2,543	214	314	35,564	2,008	194	203	270,083
	%	58	58	56	55	33	49	29	55	32	53	32	56
Total	Total	537,933	494,333	405,331	236,214	49,340	69,372	19,908	200,229	43,736	65,854	14,303	2,136,553
	Girls	296,506	274,760	221,745	140,862	18,316	29,589	7,106	122,374	16,109	28,451	5,103	1,160,922
	%	55.12	55.58	54.71	59.63	37.12	42.65	35.69	61.12	36.83	43.20	35.68	54.34

Here is in the table, Number of total students = 2,136,553
Number of female students = 1,160,922
Number of male students = (2,136,553-1,160,922) = 975631
Gender parity   = Male /Female = 975631/1,160,922
         = .84

Source : BANBEIS census 21 10

Implementation period: 2006-11

Observation: The expenditure of the project up to December 2011 was tk 55.33 which is satisfactory as it showed utilization of 92%of the planned expenditure. The contribution of the project towards the physical progress is noticeable.

Chapter 4

Monitoring Report, Recommendations & Major findings, lesson learned

a) Monitoring report

Monitoring and Evaluation Wing has emphasized on co, there was ntinuous monitoring of project and regular feedback to the Directorate of Secondary and Higher Education and SEQAEP

The officials of MEW visited some of the upapzilas of SEQAEP where validation survey was conducted. It discussed in chapter iii Officers of MEW visited 35 institutions of 17 upazillas to monitor the overall conditions and maintenance of computer labs established by Bangladesh Computer Council (BCC) and other government agencies. Individual monitoring reports, were shown as follows:

a) some pro poor students are incorrectly included and some poor children are incorrectly excluded from the scheme

b) There are occasional delays in ACF processing and compliance with agreed disbursement schedule

Monitoring Report July 2010-December 2011) The official of Mew visited different places of the country to oversee the project activities submitted the their recommendation to management for corrective action. A total number of 13 Training centers were visited and monitored:

Observation

a)   83% Participants were present in the training program when visited.
b)   It was observed that there was a lack of coordination between TTC and District Education Officer
c)   pre Evaluation & Post Evaluation was conducted at the beginning and finishing except Narail DEO training Centre, Nilphamary DEO Training Centre rewarded the teachers who stood 1st and secon on the basis of their merit evaluated by the center and Institutes
d)   Course coordination Committee was formed in all areas following rules prepared by TQI-SEP
e)   Training Material was supplied to all participant TTC Pabna and DEO office

of Satkhira were to receive training manual from the participants after finishing the course

f)   during the monitoring visit training related display board was not found in TTC & DEO, Traininig Display board were found in the room of the principal TTC Rajshahi.

Recommendation : It needs to be ensured that all participants receive the training manual so that it can be utilized in future. a directive may be issued to all DEO that all participants will present in the training vanue. Training related display board may kept in the room of the principal orates tics head of the institutes. All information relating course name male district and Upazila –wise statistics may be preserved

- Different course coordinator is necessary for each subjects
- TTC may be preferred for organizing training course
- Budget for training should reach all training centres, a course report may be sent to respective PD & MEW after visiting the field
- Training activities should be monitored while training is going on
- As the training activities have been completed –non –MPO school but permanent teacher may be trained.

Observation

1. In 35 computer labs, there are 310 computers out of which 206 are from BCC and 104 from other sources. 49 computers are out of order which is about 15.80% of total number of computers in 35 labs.

2. Only the students of class 9 and 10 get the access to the computer lab for their computer class scheduled in the meeting. These labs are confined only for the computer classes

3. Some institutions have posts of computer teachers but those posts are vacant. In some cases other teacher of staff take computer classes

4. In institutions, teachers taking computer classes do not have that sufficient computer knowledge

5. Most of the computer labs are neat and clean but a few are found untidy

6. One or two labs are found very small in size

7. There is no air cooler in any computer lab

8. In almost all the computer labs internet connection and lane are found

9. Load shading problem is found in all the labs

10. There is no multimedia and scanner in the visited labs

11. In most of the institutions, school information and data are not preserved in the computer

12. Institutions have less interest to provide training to the local people

13. As per the staffing pattern of some institutions, computer teachers cannot be appointed.

14. In a few institutions, no student of class 9-10 has taken computer education subject.

15. One or two institutions are found where computer subject is not affiliated.

Recommendations

1. Computer subject for the students can be compulsory for 6-10 grade gradually.

2. Agriculture education and the computer education should not be replaced for each other. A proposal can be sent to the Education Board to take necessary measure in this regard.

3. The minimum qualification of the compute teacher should be 1/2 years diploma in computer science.

4. Head teachers should be directed to open e-mail account for their institutions and themselves.

5. Undisrupted power supply can be ensured.

6. All the class teachers, computer teachers and the head teachers can be provided orientation and training on computer basics and IT

7. Copy of all the correspondence about computer labs of the institutions should be given to the field level offices.

8. The head teachers of the institutions should be directed to ensure the tidiness of the computer labs.

9. Computer subject should be affiliated and the post of computer teacher can be created in those institutions where computer labs have been established.

10. There should be some provision to repair the out- of-order computers shortly. Some allocation can be provided to do some do-to-day repair. The institutions can be directed to create a fund to maintain the labs.

11. Monitoring by Uses, Does and the DSHE officers should be ensured.

Recommendations on validation survey organized by Proxy Means Testing Administration

1. The enumerators should be sufficiently trained

2. It is necessary to be careful of selecting time validation survey. For example, in the school off days and the seasonal work, validation should not be done.

3. The survey duration should be increased.

4. In the sample households datasheet provided by PMTA, the name of school and village should be incorporated.

Vigorous monitoring should be ensured during the validation survey, Official of PMTA visited some of the upazillas of SEQAEP where validation survey was done.

Summary report of monitoring of cluster training under TQI-SEP

Officers of MEW visited 8 of the cluster training courses as conducted by TQI-SEP of DSHE. They submitted their reports after observation and monitoring on overall situation of the training program.

The recommendations after close monitoring were placed before the authority for further improvement in implementing training program. These are as follows:

- Presence of all the registered participants should be ensured,
- Timely presence of all the resource persons and the regular trainers should be ensured
- It is necessary to develop the efficiency and the skill of the trainers more for conducting this kind of training,
- If possible presently or in future, at least one laptop, one Projector can be provided for each training centre,
- Close and vigorous monitoring should be ensured during the training period.

Critical issues facing implementation problems

- In some cases, it was difficult to maintain discipline because of heavy rush of applicants particularly for stipends where only one booth (application centre for applicants for stipend) was operated,
- Delayed supplying of books from BSK by Bishaya Sahitay Kendro. to SEQAEP

- Delay of the first phase program of Reading Habit program hampered the 2nd phase program
- A unified monitoring team could supervise the program for smooth monitoring to ensure additional classes on English & Mathematics before &after class hours.
- Guardians to assist institution for holding assist institutions for holding additional classessbefoe or after class hours
- Construction twin latrine, deep tube-well need to be completed within project period (2014)
- In cases of SEQAEP students, milking, distribution of hand bills & posters were adequate for participating the poor students,
- Daylong MTR presence was not observed in some cases
- Less motivation was observed for the students of Reading Habit program
- There was few discrepancies observed between DPP and financial agreement
- MEW officials need to be trained for the development of ME framework

Lesson learned

- SEQAEP is an innovative project, which represents poor groups, access resources through stipends so that poor people can send their children to secondary school The process under taken by SEQAEP is one of the examples of successful effort to offer stipends for poor people
- The creation of MEW is justified and will assist in addressing the implementation problems of the projects undertaken by DSHE
- A lot of progress can be made quickly if reading program in all schools is made available
- Members of MRT should observe class room teaching
- It was possible to strengthen activities of Reading habit program among the students
- Depth monitoring mechanism among all agencies are required to achieve the objectives
- Mew will judge Performance indicator of the projects. There may be some room for streamlining Key performance indicators
- The projects will follow accounting manual
- It needs the process of resolve auditing

b) *Major findings*

- Adequate Supply of ICT equipments for each training Centre for realizing goal of establishing Digital Bangladesh.

- Improve and strengthen Training programs for the Teachers and Improve skill for Trainers

- Evidence showed that the provision of stipends created educational attainment and also changed in attitudes of the beneficiaries.

- The provision of stipends would create indirect poverty alleviation impact.

- Facilitating cooperation and partnerships between UE and USEO can be a highly means of organizing training as well as enabling teachers to contribute to booth (application center for poor students) operation effectively.

- Institutional Partnerships between UE and USEO can represent opportunities to strengthen the stipends program.

- Since Ministry of Education or DSHE does not have the capacity and exposure to internal audit function of the projects, it needs to be conducted regularly.

Conclusion

The reports includes activities of SEQAEP and other projects incuded in annual Development program. The Government has taken number of initiatives for the development of Education Sector. It was not possible to examine sequencially the implementation status and trace out the outcomes, many of which were at implementation stages. Establishment of new Schools, College, Madrashas and training for teachers, offering stipends to poor, curriculum development, supply of educational equip, ICT are the Main activities which are being performed by DSHE. The Authority has provided stipends to poor families and female students. It is expected that these efforts will enhance the quality of education and increase excess to Secondary Education**.** The most remarkable aspect of the stipend program is to identify the poor children. The new challenge is to support to quality education. The present practices can be flourished that would yield for the society as a whole. The stipend and tuition amounts are being geared towards raise to access in project areas for the Poor .It is hoped that the interventions are designed to significantly improve the higher enrolment rates and allow more children to complete grade 10 and a higher proportion of the poor children will be enrolled

in the system. MEW reviewed the progress in respective areas and reviewed the regular activities of DSHE from July December 2011 and recommended to allocate more resources to strengthen M&E system Finally it was recommended that an efficient performance management framework was necessary to support project tasks.

Source

a)   Quarterly Report, April June 2011, Proxy Means Testing Administration, a pater organization of SEQAEP, Local Government Engineering Department 2011

b)   Data Processing Unit, SQAEP DSHE, 2011

c)   Mid Term Evaluation report, Evaluation Mission W. B. June 2011

d)   Semi -Annual Monitoring Report January – June 2011 MEW, DSHE, 2011

e)   Report of Reading habit Program Jan – June 2011, Bisshay Sahittya Kendra. 2011

f)   Project Appraisal Report. WB 2004

g)   Parajuly, Dilip & al.Impact Evaluation report July 2011   W. B

h)   PIACT Bangladesh: Education awareness and community Mobilization activities in brief 2011

Abbreviation

MEW	:	Monitoring Evaluation Wing
ACF	:	Award confirmation form
ADP	:	Annual Development Program
DPP	:	Development Project Proforma
DSHE	:	Directorate of secondary & Higher Education
H Q	:	Head quarter
MCQ	:	Multiple choice Question
PMT	:	Proxy means Testing
PTA	:	Parent Teacher Association
RHT	:	Reading Habit Program
SEQAEP	:	Secondary Education & Enhancement Project
TQI		Teacher Quality Improvement
TTC	:	Teacher Training Center
SEP	:	Secondary Education project
UEO	:	Upazila Education Officer
MTRT	:	Mobile Training Resources Team
USEO	:	Upazila Secondary Education officer
PIACT	:	Program for introduction & adaption of contraceptivetechnology
IP	:	Implementation Partner

বাংলাদেশ
অর্থনীতি
সমিতি
সামযিকী
২ ০ ১ ৪

Contribution of Factor Costs to Gross Return of Handloom Weaving Industry in Kumarkhali Upazila of Kushtia District, Bangladesh

Md. Khairul Islam*
Md. Elias Hossain**

Abstract

Handloom is the mainstay of weaving industry for supplying domestic cloth requirements in Bangladesh. It is a promising sector and plays a vital role in the economy of Bangladesh. The present study has been designed to examine the contribution of key input costs of production to the gross return from handloom weaving industry. The study is based on primary and collected from three villages of Kumarkhali Upazila of Kushtia District in Bangladesh. A total of 57 handloom units were randomly selected for the study. Cobb-Douglas production function model was employed to achieve the main objective of the present study. The analysis of the data is mainly done by employing a log-linear regression model, The which helps estimate the contribution of key input costs of production to the gross return. The estimation results confirmed that all the included explanatory variables had some positive effects on gross return except 'other input costs'. Therefore, handloom unit owners could have better income by increasing labor, capital and yarn inputs and by reducing other input costs. Finally, government and non-government agencies are urged to come forward for raising awareness of the handloom unit owners for the development of this sector.

Keywords: Handloom, Cobb-Douglas Production Function, Contribution of Key Inputs Cost.

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1. Introduction

Bangladesh is a least developing country in South Asia. Small and cottage industries, especially handloom industry has the potential to play an important role in the process of economic and social development of the country. In the early 17th century the products of handloom industry were highly praised throughout the world. Once 'Daccai Muslin' earned name and fame all over the world. Even today, handloom fabrics have great demand both at home and abroad. There are how 183512 handloom units and 505556 looms in the country, which produce nearly 173.7 million yards of cloth in a period of two months (BHB, 2003). Handloom is a family based and labor intensive industry and it needs limited capital to operate. It is widely dispersed and deep-rooted at the grass roots level in the rural areas of Bangladesh. Therefore, women can work in it without facing any problems. Sustenance of handloom industry in our country is extremely necessary because millions of people depend on this industry for earning their living and it is the largest single source of non-farm employment for 0.85 million rural workers. In Bangladesh, handloom industry contributes 48.04% of employment and 49.46% of the total production of cottage industries (Hossain & Mondal, 1983). Bangladesh imports 2-3 billion yards of fabric annually to meet its export requirements (World Bank, 1999). However, there are about 193705 (38% of total loom) non-operational handlooms in the country. According to the Handloom Census-2003, about 80% of the non-operational looms were inactive due to the dearth of working capital. Through taking some steps to operate those looms, it would be possible to create the opportunity of work for about 4 million labors and it would do away wilt need to offset the import fabric from others countries. At present, the total demand for fabric of the people of Bangladesh is around 1676 million meters out of which 800 million meters are still produced by handloom industries (Handloom Census, 2003). Handloom sector contributes more than 80% of the local production of fabrics, meeting more or less 75 percent of the demand for local fabrics (Hossain & Mondal, 1983). The present study has been conducted in Kumarkhali Upazila of Kushtia District in Bangladesh, because the area is one of the important centers for handloom industry. Out of total labor force of the Upazila about 10% labors are involved with the handloom industry. There are 5062 handloom units with 11426 looms and 1922480 meter cloth is produced in each month in this Upazila (Handloom Census-2003). But at present, many handloom industry owners are claiming that cloth production under handloom industry is not profitable and hence, they are closing down their handloom units. Therefore, it is necessary to investigate the factors responsible for decreasing the return of handloom weaving industries. Thus, the objectives of the present study are as follows:

a) To identify the key factors behind gross return of handloom industry in the study area
b) To estimate the contribution of inputs to the gross return in the study area
c) To draw the implication of the results and findings

2. Literature Review

Many studies have been done on different aspects and issues of handloom weaving industries. Chowdhury (1990) did cost-benefit analysis of weaving by handlooms, power looms, and mills in Bangladesh. He calculated financial and economic internal rates of return (IRRs) of these three alternative techniques of production. He found that handlooms are economically a more efficient technique in terms of IRR in border prices, than either power loom in cottage industries or large weaving mill for the weaving of every single type of fabric. Chowdhury (1981a) computed the relative measures of economic efficiency of handloom and powerloom industries. He concluded that handlooms are economically more efficient than powerlooms. Sobahn and Alamgir (1964) analyzed the productivity of different types of loom under different production systems. They found that productive efficiency of a handloom weaver was higher than that of others production systems. Jaforullah (1999) found that the technical efficiency of Handloom Industry of Bangladesh is only 41% and its technical efficiency might improve by increasing its male and female labor ratio and decreasing its hired/family labor ratio and labor/capital.

Raihan (2010) showed how rural poverty in Bangladesh can be reduced through developing the handloom industry. He also showed that the industry is on the decline due to a number of factors, including lack of education and skill, absence of organization of the weavers and smuggling of cloth from India. He showed that about 0.2 million looms are now closed due to lack of working capital. Chowdhury (1989) used time series data collected for the period 1960/61 to 1986/87 to estimate the trend growth rate of cloth supply in Bangladesh. He found that handloom output both cotton and non-cotton variety has grown at a trend rate of 2.48 percent from 1960/61 through 1986/87. Output of mill cloth grew at a trend rate of 1.38 percent and the output of power loom sector grew at a rate of 15.7 percent. Net import moved very slowly at a rate of 3 percent. Ahmed (1999) in his article tried to identify the problems of handloom industry in Bangladesh. He found that weavers in the country do hot get quality raw materials at right time and at right price. Latif (1998) also tried to find the weakness of handloom industry of Bangladesh. He concluded that the main problems of handloom

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industries are lack of technological knowledge and skills as well as financial stringency of the weavers.

3.   Methodology

3.1   The Empirical Model

The design of the empirical model is used to assess the actual contribution of the key cost factors to the gross return from cloth production by handlooms of the sample owners. It is seen in the field survey that gross return of the handloom units depends on four key cost factors, which are labor cost, yarn cost, capital cost and other inputs cost such as rice powder, maize, *kerosen,* starch etc. The function of gross return from cloth production of the sample owners is:

$$G_s = f(X_1, X_2, X_3, X_4) \cdots\cdots\cdots\cdots\cdots (1)$$

Where, G_S, X_1, X_2, X_3 and X_4 stand for gross return from cloth production (sale revenue), labor cost of production, yarn cost of production, capital cost of production, and other input costs (rice powder, maize, *kerosen*, starch etc.) of production.

3.2   Specification of the Empirical Model

Cobb-Douglas production function model was employed to estimate the effects of key inputs on gross return from handloom industry. The log-linear model proved to be superior on theoretical and econometric grounds. Finally, log-linear functional form has been chosen on the basis of better results obtained from it. The model specification was as follows:

$$G_s = \beta_0 X_1^{\beta_1} X_2^{\beta_2} X_3^{\beta_3} X_4^{\beta_4} e^{u_i} \cdots\cdots\cdots\cdots (2)$$

By taking log on both sides, the Cobb-Douglas production function was transformed into the following logarithmic form because it could be solved by the ordinary least squares (OLS) method.

$$\ln G_s = \ln \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 \ln X_4 + u_i \cdots\cdots (3)$$

Where, G_S = gross return from cloth production (Tk. Per year); X_1 = human labor cost of cloth production (Tk. per year); X_2 = yarn cost of cloth production (Tk. per year); X_3 = capital cost of production (Tk. per year); X_4 = other input costs (Tk. per year); u_i = stochastic error term; ln = natural logarithm; β_0 = Intercept; $\beta_1, \ldots, \beta_4$ indicate coefficients of the relevant input costs to be estimated.

4.   Study Area and Data

The present study is based mainly on primary data collected from the owners of handloom unit of three villages of Kumarkhali Upazila. For determining the contribution of key inputs to the gross return from handloom units, the sample has been selected in such a way that it covers all necessary data. Kumarkhali has 11 unions and the headquarter. First of all three unions from the 12 unions were selected purposively (the head quarter was also considered as a union) because all unions were not handloom concentrated. In the next stage one village from each union was selected randomly. The selected villages were *Khoddo Tarapur, Hasimpur*, and *Kundupara*. For selecting the respondents, first the list of total handloom owners of the study area has been collected from Bangladesh Handloom Board (BHB), Kumarkhali branch. Then the respondents were selected from the list randomly. They were interviewed during the period of data collection. For the present study data have been collected from 57 owners and all of the respondents were male. Among them 21 owners were interviewed from the village Khoddo Tarapur, 21 from Hasimpur and 15 from Kundupara. The collected data hour been used to estimate the model.

Table 1 presents the characteristics of the variables used in the model in terms of mean, standard deviation, and maximum and minimum values of each variable.

Table 1: Descriptive Statistics of Data (Per-year Cost and Return in Tk.)

Variable	Minimum	Maximum	Mean	Std. Deviation	Variance
Gross return (G_s)	264000	5760000	1750000	1530739.067	2.343E12
Labor cost (X_1)	61500	1156800	390000	312993.264	9.796E10
Yarn cost (X_2)	162000	3840000	1110000	986593.867	9.734E11
Capital cost (X_3)	6000	14000	9649.12	1141.603	1.303E6
Others input cost (X_4)	6000	180000	53800	42881.730	1.839E9

Source: *Author's own calculation*

From Table 1 it is observed that average gross return of the respondents is Tk. 1750000 per year with maximum gross return of Tk. 5760000 and minimum gross return of Tk. 264000 per year. The average labor cost is Tk. 390000 with maximum of Tk. 1156800 and minimum of Tk. 61500 per year. The yarn cost shows that the average yarn cost is Tk. 1110000 with maximum of Tk. 3840000 and minimum of Tk. 162000 per year. Table 1 also shows that the average capital cost is Tk. 9649.12 with maximum cost of Tk. 14000 and minimum cost of Tk. 6000 per year. The average of other inputs cost is Tk. 53800 with maximum cost Tk. 180000 and minimum cost Tk. 6000 per year.

5.   Discussion of Regression Result

In this section empirical results based on the econometric estimation have been discussed. Specially, estimation results on the basis of equation (3) are represented and analyzed here. To understand the contribution of key inputs to gross return, this analysis is done in three phases. Firstly, all the collected data are considered together and the regression equation is estimated. Secondly, all the handloom units are divided into large and small units with respect to the total looms containing the units and the regression is run separately for both groups. Thirdly, regression results of all, large and small units are taken together and comparison is made to view if any significant variation in the results arises.

5.1   Regression Results of All Units

The estimated coefficients of different inputs are presented in Table 2. Yarn is an important input for producing cloths by handloom. The value of coefficient of yarn cost (0.721) indicates that 1.0 percent increase in yarn cost, keeping other factors constant, would increase gross returns by 0.721 percent. Similarly, labor is another key input and plays a significant role to the gross return. The coefficient of labor (0.329) indicates that 1.0 percent increase in labor cost, keeping other factors constant, would increase gross return by 0.329 percent. From Table 2 it is also found that the value of coefficient of capital is 0.068 indicating that 1.0 percent increase in capital cost, keeping other factors constant, would increase gross return by 0.068 percent. So, the contribution of capital cost to gross return is nominal in case of cloth production by handloom unit. But other input cost has negative contribution to the gross return of handloom unit. It is observed that 1.0 percent increase in other input cost, keeping other factors constant, would decrease gross returns by 0.037 percent.

Table 2 : Regression Results of All Units

Explanatory variables(in terms of 'ln')	Coefficient	t-value	P-value
Intercept(β_0)	1.128***	3.237	.002
Labor cost (X_1)	0.329***	6.852	.000
Yarn cost (X_2)	0.721***	21.612	.000
Capital cost (X_3)	0.068*	1.830	.073
Other input cost (X_4)	-0.037**	-2.079	.043
Returns to scale (? b_i)	1.081		
Number of observation = 57; R-Square = 0.86; Durbin-Watson = 1.82			

Source: Author's own calculation.

(N.B: ***, ** and * indicate significance at 1%, 5% and 10%, respectively)

Table 2 showed that an estimated return to scale of handloom industry is 1.081, which is computed by the summation of the coefficients of all the included variables of the model. This implies that the estimated function is an increasing return to scale production function. Therefore, the handloom owners can have more return by increasing the included variable human labor cost, yarn cost, and capital cost except other input costs. These findings also support that three inputs are jointly contributing to increase the yield of cloth production under handloom weaving industry and one variable is contributing to reduce yield of handloom industry.

5.2   Regression Results of Small Units

Table 3 shows the regression results for small units. Like the earlier regression results (Table 2) labor cost and yarn cost are found significant and positively related to the gross return of small units and capital is found insignificant but positively related to the gross return. On the other hand, others input cost is insignificant and negatively related to gross return. The study indicates that the value of coefficient of yarn cost is 0.728 and the value of coefficient of labor cost is 0.259. Therefore, the handloom owner could have better return by increasing labor and yarn. Since, capital and other inputs are statistically insignificant, they do not bear any significant meaning to increase or decrease of the gross return of small units.

Table 3 : Regression Results of Small Units

Explanatory variables (in terms of' *ln*')	Coefficient	t-value	P-value
Intercept (β_0)	1.407**	2.271	.032
Labor cost (X_1)	0.259***	4.902	.000
Yarn cost (X_2)	0.728***	20.334	.000
Capital cost (X_3)	0.056	.970	.341
Others input cost (X_4)	-0.001	-.055	.957
Returns to scale (? b_i)	1.042		
Number of observation=30; R-Square=0.88; Durbin-Watson=2.01			

Source: *Author's own calculation.*
(N.B: ***, ** and * indicate significance at 1%, 5% and 10% respectively).

Table 3 also reveals that an estimated returns to scale of small handloom industries is 1.042. This indicates that the estimated function is increasing returns to scale production function. Therefore, the small handloom industry owners can have better income by increasing labor and yarn cost in the same production.

5.3   Regression Results of Large Units

It is suspected that the contribution of key inputs cost to the gross return for large units may be different from small units. Therefore, separate regression is run for large units and the results for large units are presented in Table 4. The value of coefficient of yarn cost, labor cost, capital cost, and other inputs cost are 0.645, 0.455, 0.192, -0.081 respectively. These results indicate that the handloom owners of large units can achieve more return by increasing labor, yarn and capital cost except other inputs cost. It is observed that 1.0 percent increase in yarn cost, keeping other factors constant, would increase gross returns by 0.645 percent and 1.0 percent increase in labor cost would increase gross return by 0.455 percent, and 1.0 percent increase in capital cost would increase gross return by 0.192 percent. However, 1.0 percent increase in other inputs cost would decrease gross return by 0.081 percent since the coefficient of other inputs cost is negative.

Table 4 : Regression Results of Large Units

Explanatory variables(in terms of 'ln')	coefficient	t-value	P-value
Intercept (β_0)	1.261**	2.746	.012
Human labor (X_1)	0.455***	4.191	.000
Yarn (X_2)	0.645***	8.441	.000
Capital (X_3)	0.192*	1.729	.098
Others input (X_4)	-.081**	-2.256	.034
Returns to scale (? b_i)	1.211		
Number of observation = 27; R-Square = 0.96; Durbin-Watson = 2.056			

***Source:** Author's own calculation.*

(N.B: ***, ** and * indicate significance at 1%, 5% and 10% respectively).

5.4   Comparison of Results of Small and Large Units

Comparison of results for all types of units is provided in Table 5. Considering the regression results with respect to all units, large units and small units, it is found that yarn cost plays very strong and significant role in determining gross return of handloom units. Similarly, labor has significant and positive role to gross return in all three cases and it is significant at 1% level. Again, capital is significant at 10% level for all units and large units but other inputs cost are significant at 5 % level of significance in case of all units and large units.

Capital and other inputs cost are insignificant in case of small units. The sign of coefficient of other inputs cost is negative for all cases. Therefore, it has negative contribution to gross return and an increase in other inputs cost would reduce the production and hence, the gross return may decrease. The sign of coefficient of

Table 5 : Comparison of Results of Ordinary Least Square Estimations

Explanatory Variables	Coefficient	Coefficient	Coefficient
(in terms of 'ln')	(All Units)	(Small Units)	(Large Units)
Intercept (β_0)	1.128***	1.407**	1.261**
Human labor (X_1)	0.329***	0.259***	0.455***
Yarn (X_2)	0.721***	0.728***	0.645***
Capital (X_3)	0.068*	0.056	0.192*
Others input (X_4)	-0.037**	-0.001	-0.081**
Returns to scale (? b_i)	1.081	1.042	1.211
	Observation = 57	Observation = 30	Observation = 27

Source: *Author's own calculation.*

(N.B: ***, ** and * indicate significance at 1%, 5% and 10% respectively).

labor and yarn cost are positive in both cases but in the case of small units the contribution of yarn cost is higher compared to large units and the contribution of labor cost is lower in the case of small units compared to large units. It might be that the small unit owners have enough family labor, and therefore, if they can use an extra unit of yarn it would increase the production of their units and hence, it would increase their gross return. However, the large owners have enough cash money to operate their unit and they have available stock of yarn. But they use hired labor, therefore, if they add an extra labor it would increase their gross return. From the result we also found that capital is significant in case of small units but it is insignificant in the case of large units. The significance of this result may be stated as follows: the large unit owners have sufficient looms in their unit but the small owners have 1, 2, or 3 looms in their unit. Therefore, if the small owners can add an extra loom in their unit, it would increase their production by using available family labor.

6. Conclusion

The present study analyzed the relationships between gross return and key inputs cost in order to examine the contribution of key inputs to the gross return. The study found that labor and yarn cost have significant and positive contribution to gross return. Capital and other inputs cost have insignificant impact on gross return in case of small units but the other inputs have negative contribution to gross return in case of all types of units. Therefore, the owners can have more return by increasing the use of yarn cost, labor cost, and capital cost except other inputs cost. From the estimation results it may be concluded that the key inputs of production are effective in generating return for the handloom units. Thus, the contribution helps the owners to make more return or profit by increasing or

decreasing the key inputs. This also implies that yarn and labor are the most important inputs of handloom industry. It can also be concluded that there are other factor such as capital and other inputs that contribute to the gross return of the handloom unit owners. However, the contributions of these inputs are nominal. So the owners can have not so much better return by increasing or decreasing these inputs. Finally, government and non-government agencies are urged to come forward for raising awareness of the handloom unit owners for the development of this sector.

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Empowerment and Development: An Overview in the Context of Bangladesh

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Abstract

Bangladesh is a poor country, a major portion of people live in the village and pre-dominantly agrarian society in the village, there is a power structure in the village.

Society can create a development base for the people, his freedom will be judged for individuals and will be helped by society then it achieves the progress of the society. It is a revolution that society will be benefited. Even minorities can enjoy the freedom, here we require equal distribution of wealth and. Equal opportunities will be established in every sphere of life. We desire to leave social barriers gradually. We will work together to enhance their bargaining position. it will achieve empowerment. It will examine right to choices and gain control over material and non- material resources as well as influencing the direction of changes. it is needless to say that government and different types of NGO'? are taking initiatives to achieve the empowerment of man & women . Generally it is a process where man and women can bring balance of power to change the society.lt is the challenge for Government to provide an understanding of how it is sustained and escaped from poverty which can be promoted or supported 5 poverty can be addressed by national policymakers and Leaders of civil society can play key positive process includes enhanced individual and a livelihood resilience, which may achieve

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through redistribution of resources and protection. It requres most of the important policy issues for private sector development today while informal work may provide a means of survival. It can also result in poor people engaging value added activities and taking secure jobs.

The Society will allow them to participate actively in their own development .It is essential for a people which defines the right to development in both its economic and political aspects. Even Participation creates a development base for the people, gradually man & women are empowered in the society: Participatory development can be an important elements to empower people and access to management and information resources, though there is a controversy but increasing farmer participation makes better use of scarce resources , to provide the basic needs participation may be expected to play a critical role by stim?ating peoples initiatives and mobilizing their resources creative talents to this end. The objectives study of the study: The paper presents that development can take place in the case of individual and society through various kinds of process of development. The paper finds the relationship between Empowerment & Development, it gives a conceptual framework for interpreting the empowerment as well as summarizing the initiative of the government for empowerment and takes an overview in the context of Bangladesh. This paper makes the point that poverty is deterrent factor for the development of poor. To remove it, employment is necessary and enhance their earning capacity, it was seen that development work can take place through participation lack of human capital has not only affected nature of participation of the village people but also participation NGos Work. Even community attitude particularly is not always favorable for the development of women.

Chapter 1

Introduction

We observe inequality in our society. Gender differences are considered based on the allocation of resources. Power and Authority. Democracy is not practiced properly. There are lack of freedom that people can not work for his livelihood when he wishes to do. Poor people are not empowered. Since people desire something when he feels that he has ability to perform for his/ her livelihood, but his/her position is not secured. Can the society give him /her social security and help to empower?

Definition: Empowerment is a process of awareness and capacity building leading to participation to greater decision making power and control and to transformative action- Karl (1995). Empowerment a cardinal principal in social work enhances and promotes clients in their active participation and their decision

making process – clients are visualized not just as passive recipients of services but as active participants in creating change - Sheafer et all,1991, Cranell-2000-321. Empowerment is a multi-dimensional social and political process that helps people gains control over their lives-(Ripon Kumar Bisas, freedom of expression access and empower -1995 New Delhi.)

The notion of empowerment Pronounced by Carline Moser(1983) is focused on the individual with control over resources seen as the central means for redistribution of power, Moser considers It emphasizes the right to choices and gain control mover material and non material resources as well as influencing the direction of changes.

Empowerment means enabling poor people who lack power to work together to enhance their bargaining position in relation to the existing power structures (Car.nell 200, 321). The people stayed out of poverty in different social and political and economic environment. This is achieved by some factors, people can participate active life of the community. This can bring and create a process for development, development depends on the empowerment. Development is not possible without empowerment.There is relationship between empowerment and development.

Table 1 : Empowerment Model

Psychological and Personnel Empowerment	Self-Confidence, Vision for future planning, Sense of saving, Self awareness, bargaining power, Sense of unity.
Community and political Empowerment	Participation in local government tiers and Community meeting
Forms of empowerment	Indicators /dimension
Economic Empowerment	Ability to make purchasing power for himself /herself, children and family
Empowerment at family level	Positive voice family's decision making
Empowerment within traditional perceptual level	Using contraceptive methods, decision of number of children, fixing age of daughter marriage
Empowerment through technology	Suitable technology, even mobile phone for business.

Naz, Farzana (2003) Pathways to women's Empowerment in Bangladesh –p-59

Empowerment is a process which enables individuals or groups into change balance of power through exchange of experience, expertise, technology and know –how as well as diffusing innovative technique for strengthening of self-reliance. Besides, we observe some forms of empowerment Table-1 Empowerment Model.

We shall discuss the nature and recommendation of Empowerment

a)   Poverty Alleviation: Poverty Govt, and NGO's are providing credit, training, technology, different kinds of social services but distribution of income needs to be increased at the lower level. Here labour intensive policy /programs may be implemented where economic emancipation of mass people can be achieved. Besides, sustainable pathways calls for global, national, local process which promotes equitable distribution and Vibrant economic growth. Poverty as a process component incorporates & designed to steadily reduce global national and local disparities (Ahmed, Q.K BEA2004, Poverty reduction strategy paper -repackaging old machine p-117 Poverty Alleviaton chapter 11)Micro credit is discussed in the Chapter -2

b)   Participation: It mplies Empowerment (chapter-3)

c)   Freedom: Freedom can be discussed from different aspects. Freedom relates to the substantive opportunities that people have the process that enable them to decide and maintain their life accordingly. Sen-(1999) has identified five types of institutional freedoms as are individually and collectively important for the people to enjoy in order that they improve their condition of living by overcoming constraints. These are – political, conomic facilities Power must be dispersed, the preservation of freedom is the protective reason for limiting and decentralizing Government power (Friedman Milton(2002)-Capitalism and Freedom p-3

4)   **Women Empowerment**: Necessary laws and its implementation are required for empowerment of the women. This can expedite empowerment process and create consciousness of the people. Besides, different types of government and NGO'S initiatives are required to achieve the empowerment of women. Generally it is a process where man and women can bring balance of power to change the social, economic and political power. It atmosphere is that powerful people can transfer power to powerless if the such situation prevails.

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Chapter 2

POVERTY AND EMPOWERMENT

Poverty is multi-Dimensional. Poverty not only means low income and consumption and low level of social development but it also includes feelings of powerlessness, vulnerability, scarce conviviality. According to some one, it comes from inequality, Malnutrition is central place in the concept of poverty. Arguments in favor of view ing poverty as inequality are presented powerfully by Muller and Rosy who conclude "Casting the issues of poverty in terms of stratification leads to regarding poverty. in the issue of inequality. we move away from efforts to measure poverty with present scientific accuracy. we look at the nature and size of differences between 20or10percent and the rest of the society. Our concern becomes of the narrowing the differences between those at bottom and better off in each stratification dimension (Sen, Amartya & Dreze-1999) Poverty and Famine, Hunger public action Indian Economic development action and social opportunity

A**) inquality**

Amartya Sen identifies seven types of inequality. These include

- Mortality inequality –inequality between women and men that involves matter of life and death.
- Natality inequality – inequality arising from exercising male preference as a result of cultural reinforcement of prejudice against women specially in male dominant society
- Basic facility inequality – inequality arising from differential access to literacy, education and health, and nutrition for individual to function effectively in society
- Special opportunity inequality-arising from differential access to tertiary education and training
- Professional inequality –inequality arising from differential access to employment opportunities
- Ownership inequality-inequality arising lack or limited control over assets and other resources.
- Household inequality – basic inequalities within families.

These types inequalities may already be operative in reproductive decisions where male are preferred over females for economic and cultural reasons, reinforced by social norms and expectation and entrenched in the different stages of the life

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Table 2 : Seven types of inequality

Sen's seven types of inequality	Selected indicators
Natality inequality	• Male- female population ratio. • Presence / absence of sex – selected abortion
Mortality inequality	• Male –female life expectancy • Male female infant mortality • Maternal mortality.
Basic facilities inequality	• Nutritional status by sex and age group • Nutritional status of pregnant women. • Literacy rate by sex • Percentage unmet family planning needs
Social opportunity inequality	• Post secondary and higher education graduates by sex • Percentage of college graduates by cluster by sex • Training opportunities by sex
Professional inequality	• Employment by sex l • Wage disparity • Women and men in bureaucracy, technical and managerialpositions and polical leadership
Ownership inequality	• Land ownership • House ownership • Ownership over other assets /resources
Household inequality	• No. of female – headed households • Prevalence of domestic violence • Time –use analysis

(Francisco, Josfa, S- 2007)

Now we can assess factors leading into poverty.

1)   sickness / charonic illness ,
2)   death of husband /loss of earning member
3)   loss of livelihood /Limited income /Many members
4)   Can not work hard
5)   money borrowing when somebody die family
6)   have to borrow due to flood or natural disaster

cycle. The disproportionate burdens of women systematically marginalize if not exclude them, from participating fully in economic and political life of society if not eradicating gender disparities, for the realization of the human rights women

as equals of men, to widen the life opportunities of women to the some extend as that of women, and generate positive externalities for the family, community. and society as a whole.

B) CHARACTERSTICS OF POVERTY

1.   When we feel about shortage money in house
2.   Inability to provide nutritional food to their children
3.   lack of enough food
4.   Women go to work
5.   Daily income Tk50 -70 Tk
6.   3- 4 children in house
7.   Buy necessary food daily
8.   Borrow money and hard to repay
9.   Attempt to suicide
10. Consumes 1kg flour a day

It is needless to say that when people feel that he has minimum food and lack of m shelter to maintain his life, he is said to be poor

c)   FACTORS THAT PEOPLE OUT OF POVERTY

1.   Support of relations
2.   Savings
3.   Borrow money and hard work to repay
4.   Overcoming superstitions
5.   Rituals and customs
6.   Sufficient of income
7.   Children start earning Less addition
8.   Secured livelihood

In recent literature, relative and absolute poverty is discussed. It provides a frame work for analysis but we can say that poverty is a mater deprivation. poverty and inequality relate closely to each other distinct concept (Sen & Drez 2002 page 22 23) poverty can be minimized on following hypothesis.

A)   Economic : Households have a higher probability to escape poverty on a permanent basis if they (a) live in a community with better infrastructure and Endowments that can help the poor (b) have higher assets and better access to markets and credit and more diversified income sources IT IS POSSIBLE TO.

d) THREE MAIN FORMS OF CHARONIC POVERTY

- **Long term poverty** – poverty that is experienced by individual or household for so many years that likely to change
- **Life -course poverty** – poverty that experienced over the entire length of person's life.
- **Intergenerational poverty** - poverty that is transmitted from parents to children via condition of childhood and youth, young adulthood and inheritance.

b)   Social: Households have a highest probability to escape poverty if they live in communities which has strong community organization they follow a norms and maintain minimum justice and there is good leadership, this leadership always not available in the villages. It is important that community organizations may be flexible to respond the communities when new situation occurs to develop rural community, it needs a institution (generous) commitment is required for them, it is to be implemented where community leaders must play active role

Political: household has higher probability to escape poverty on a permanent basis if they (a) live in a community with democratic system which exists a local government (b) are empowered and able to take a number of economic and political actions that increase the control over their lives (c) tn a wide range of freedoms s and have positive economic aspiration towards the future. Political power leads to the development structure, political machine will try to official for the welfare of the people district upazila and union leaders place his development proposal which are people oriented through a process the leader/ legislative, leader must access to official maintain possession of significant role which wiil be dynamics of social development (Narayan, Deepa presented lecture in World Bank office Dhaka, 2005)

In general sense, people believes that govt. will help them, they should not suffer for food. Govt. will be able to supply food. for the poor people. Here good policy needs to be maintained. The success of govt depends on some works for the poor a) distribution of food b) delivery of services. when disaster occurs other programs cut down, affected population will be taken consideration some opportunities can be created by the govt. Where local initiatives are needed by which affected people are affected we must take initiative since poverty remains the gravest of our problems although number of hard core poor has decreased and economic growth has not lead to equal distribution of wealth thereby establishing then in equations and social configuration. We should keep in mind that it has increased the regional disparity where incidence of poverty is most severe and

endemic in the northern districts of Bangladesh so we should emphasize to reduce inequality. (The Daily Star Sunday, 2 Sept, 2007)

e)   Social relations and poverty traps : The concept The concept of social exclusion does not capture the social and economic relationships that incorporate the majority of poor people living into the world economy and national and global society. People living in poverty may need to trade off opportunity for security through allying themselves with patrons of who in turn limit their options (Wood, 2000. Even credit is considered to bethe core of a poverty trap- is embedded in social relations for most of the poor people.

f)   Moving towards and policy narratives: the biggest challenge is to provide an understanding of how it is   sustained and escaped from poverty can be promoted or supported, how entries can be minimized and how the factors maintaining people in poverty over the long term, and leading in some cases to inter- generational reproduction of poverty can be addressed by national policy-makers and leaders of civil society leaders. key positive process includes enhanced individual and a livelihood resilience, which may be achieved through redistribution and protection.

g)   Revision of tax System: if low income countries revises their tax policy/ system, their financial administrations and strengthen abolish tax exemption for transnational investors so that the proportion of public revenue within GDP, government s income needs to be increased

- The tax income of developing countries needs to be increased by 285US$ billion per year if the informal economy could be integrated completely into the formal economy (Martens (2007) Public finance for poverty Eradication, Development june /2007)
- *Develop efficient and just tax system: taxa*tion should based on ability to pay, and rich individuals large and private companies
- *Strengthen tax authorities and financial administration*: a tax system is only as effective as administrative machinery that is responsible for implementing and collecting the taxes.
- *Effective taxation of transnational operation*.
- *Binding regulation on transparency of payment flaw* .
- *Combating corruption and* bribery : I n order to avoid the embezzlement of public fund and reduce revenue losses due to fraud due to fraud, corruption and bribery more decisive rules and procedures are necessary in affected counties and international level.
- *Strengthened international tax cooperation.*

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- *Stop the pressure in liberalize trade in international trade negotiations*
- *Abandoned flawed Cconditionalities with respect to fiscal policies.*
- *Mal*nutrition, hunger/ Starvation and poverty are affected by whole economic and social activities not only food production in agricultural activities, we must know there is economic social interrelation behind the hunger position

Infrastructure: Connecting poor people to growth: Water, electricity, communication are absent, the countries has great difficulty in achieving pro – poor growth On the other hand reliable affordable infrastructure reduces the production cost of doing business and help poor people to connect up to the growth process, by increasing increasing their access and mobility .

Private sector Development: Making the engine of growth, work better for the poor Most Developing countries are currently unable to create sufficient jobs to absorb the increase in the non- agricultural work force. as a result hundreds of poor million of poor women and men earn their livelihoods informally. I t is estimated that 72 % of the non- agricultural work force in Africa, 65per cent in Asia and 52 percent in Latine America earns its livelihood informally. IT requires most of the important policy issues for private sector development today while informal work may provide a means of survival. It can also result in poor people engaging low value added activities and taking insecure jobs where

h)   **Agriculture key for improving the livelihoods of the poor**: In developing countries increasing agricultural productivity plays important role in lifting people out of poverty. The average of real income of small farmers in south India rose by 90% between 1973 and 2994 and that of landless laborers by 125%inthrough Green Revolution. a 10% increase in crop yields may lead to a reduction of between 6and 10% of people living on less than US$ 1 a day in Africa Agriculture has not been able to contribute to pro poor growth as effectively as in Asia. To realize potential in the agriculture sector, policy needs to address a broad set of challenge including infrastructure development Research and development, education and land reforms

The following implication show challenges to gender equality,

- Land is predominantly owned by males. land titling is usually under fathers and sons name, as they carry the cultural tradition with them
- Access to credit
- Other social services

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Our task will be continuous process when we bring positive sense. Poverty may be reduced where indifferent social, political and economic environment are in existence

Three key messages may be applied:

- Rapid and sustained poverty reduction requires to pro- poor growth, that is a pace pattern of growth that enhances the ability of poor women and men to participate in contributing to and benefit from growth policies therefore need to promote both the pace of economic growth and its pattern, that is the extend which the poor participate in growth as both agents and beneficiaries, these are interlinked and both are critical for long term and sustained poverty reduction
- Policies to tackle the multiple-dimension of gender and environment are mutually reinforcing and should go hand –in-hand in tackling poverty perceptions of policy dichotomies have been misplaced. Policy Trade-off do exists but can be better managed.
- Empowering the poor is essential for bringing about the policies and investments needed to promote pro poor growth and address the multiple dimensions of poverty. Ti achieve this the state and policy making processes need to be open, transparent and accountable to the interests of the poor polcies and resources need to help expand the economic activities of the poor (,Manning, Pro-poor growth, 2007)
- Rural Urban linkages, poverty reduction and challenges for governance : in many cases, competition for resources results in an increase in social polarization and poverty in both rural and urban areas The mechanism that regulate access to and management of, such resources the government role is significant and plays safeguard the need of the most vulnerable groups while at the same time making provision for the requirements of economic and population growth. Small villages and people of remote areas are neglected in our country and local government faces shortage of fund to fullfil their demand ensuring that rural poor voice is heard in policy debate where they reside and difficult to manage resources a mechanism needs to be designed.
- Local control /empowerment: the sustainability component of poverty reduction is difficult. The concept of Sustainability Community, Economic development combines the principles of sustainable development and community economic development (Vodden, 2002). It emphasizes the limitation on the usage of the environment as a source of resources and as a means of assimilating human generated wastes. It does so local and cultural

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and realities in the development process through meaningful participation (details in next chapter).

- While there is an important need to link the economic, cultural and ecological imperatives,
- Gender balance: Education is the distinguishing factor and is a necessary variable in poverty reduction, mother's education is critical for ensuring daughter' education
- So need to female enrollment. Economic analysts are proposing a strategy that boost growth, reduces inequality and needs the formation of human capital (skills).

Chapter 3

Empowerment through Micro Credit

a)   Use of Micro credit

Research and policy makers find a model to reduce number of the poorest through the use of Micro-credit to enhance their incomes and livelihood. Most of the poorest in Bangladesh are not reached by the regular or mainstream micro -credit program due to various constraints But it is being implemented as instrument of poverty alleviation Micro -credit is an effective mechanism for poverty reduction appeared as a clear vision of commitment to empower the poor.It has created benefit the rural poor in various ways by increasing their income , reducing their risk and livelihood vulnerability and contributing to their social development. Microcredit facilities have created encourageous employment made provision for income generating activities and developed impetus for qualitative improvements in life style through investments (Ahmed, Salehuddin, Hakim M.A 2004 Attackinng poverty with micro –credit, UPL &PKSF)

b)   Microcredit has four objectives
1.   Reaching the poorest .
2.   Reaching and empowerment of institution.
3.   Ensuring a positive measurable impact on the lives of women building financially self sufficient the clients and their families.

Dr. yunus gave Microcredit an institutional shape in Bangladesh turned to adevelopment philoshophy, Nath, D.k. 2004 assessment Micro-credit in Bangladesh UPL Bangladesh. Grameen Bank PKSF, ASA and other NGO,s identified the problems that poorest are motivated to join the micro credit sustainable intervention may be made for the poorest.

c)   set criteria for beneficiary selection

- Mainly landless, but few with land holding of up to 0.30 decimals,
- Unemployed or earning less than a dollar dependent on temporary job having no asset no place to sleep,
- divorced or Separated women headed households,
- Disabled,
- Farmer child labour,
- Ex -Sex worker,
- Beggars,
- Seasonal Workers and day laborers,
- Without any skills and expertise,
- Success of deceased borrowers (Project profile (2003) Financial services for the poorest. PKSF).

d)   Social Development Substantial amount of Micro –credit is being provided for improvement in living condition of the hardcore poor. Income generating activitesforn self employment and wage employment are implemented for the poor. This is not enough for overall improvement of the ultra poor. Some NGO,s designed to provide a special package of Services program that would meet the critical needs of ultra hard core poor.

A)   Social development Services including health, nutrition, non formal education, awareness about safe drinking water and sanitation Income.

B)   Meeting households emergency needs.

Micro-credit has rightly come to be seen as the most visible of anti-poverty instruments (Unlocking the potential (2004), Planning Commission, Dhaka).

Successful outcome of microfinance program requires skill development, business development including market support to the beneficiaries,the following issues are examined to assess the effectiveness and impacts of skills development and support to enterprises development

- Strategies adapted by NGO,s for skill development .
- Strategies for business development and support based on experience NGO;s
- Outcomes of these interventions – in terms of increase in business activities at the households and micro enterprise level, market penetration of their product, increase in households income and assets, sustainability of their business development, opening their opportunities for the target beneficiaries (e,g, access to other business development services activities

promoted by other development agencies acceeaa to other sources of funds for meeting their increased funding requirement).

Some poor people were studied who received Microcredit and created visible impact on their economy and social developments. When I served in financial services for the poorest project. I expected to know the life of some sex-worker who resided at Dauladia Ghat received credit and created social development and other impacts and what was their reaction Since KKS is a national NGO,s were working to provide credit to sex workers under Financial services for the poorest. I took the opportunity to study on the sex-workers who lived in Dauladia Ghat under Rajbari District . For this ,I designed a questionnaire which was supplied to KKS authority, the field worker prepared an analytical report on sex worker on the basis of structural questionnaire urged the community to change their attitude. I observed a positive outcome for improving their life (Source: Case study by KKS. 22.3.05)

b)   Micro-Credit Programs : An Evaluation

PKSF, Grameen Bank, Plan and other organization have designed innovative Micr-credit programs for the extreme poor. An Impact Evaluation was undertaken to study the micro-credit programs of PKSF, BRAC and Plan. The impact study indicated that percentages of poor beneficiaries declined average monthly income of the beneficiaries during the peak and lean seasons slightly increased for the beneficiaries and control population, The average annual income for wage labor, agriculture and other activities primarily due to additional income from project which generated income, the study noted that women has received some assets, she has access to it .the asset are livestock assets, poultry, trees, houses and land etc. are important elements. The study assessed that percentage of women has effective access to this households assts for taking independent decisions. It is noted that after completion of the project (FSP) a large number of women who would take decisions on the assets immediately. Through training and motivation women increasingly attended more meeting during the project period they could not attend this type of meeting before. The, study indicated that participation of the women increased, non- beneficiaries felt interest to participate in the program. It is observed by the study that freedom of women to participation in the meeting is an important indicator of their Empowerment. The study found that the percentage of women taking independent decisions and represents in committees during the project has increased it is evident application of introducing micro-credit enhanced women empowerment.

A strong social base organization can empower the poor, which can enable them to interact equitable and informed and negotiate more effectively to improve their livelihoods In the absence of social capital, it will be difficult to acquire empowerment

c) **Learning from ASA experience:** poor people valued the services. ASA realized that ice is breaking slowly through the program, the major outcomes from ASA experience are Hardcore poor can pay back money savings regularly. open savings is very important to them to cope up with the uneven financial crisis in their lives.

- Hardcore poor can payback loans on time, if the system fits with their lifestyle and income pattern.
- Hardcore poor also adopting socially acceptable means to earn living using loan money in income generating activities and quitting undignified professions like begging door to door.
- Handicapped/ disable persons are engaging in dignifying income generating activities to earn a living.
- Poor communication system and lack of banking facilities in rural / remote areas where most hardcore poor concentrates, microfinance operation seems to expensive and risky.
- Flexible delivery mechanism is essential to cater hardcore poor where clients are one who may set the condition loan like fixing loan amount, set loan amortization, loan repayment mode, and whether to have group meetings and savings activities
- Special operational set up brings better results than convergence operation

Source : ASA project profile 2005 collected by Zahir, PKSF

The main social benefits manifested health condition increased, empowerment of women. there has been positive attitudinal change among the right women. The credit is not sufficient approach for improvement of hardcore poor other programe like social development program as pursued by the organization are necessary and beneficial for hardcore poor (Nath, Naryan Chandra, Evaluation Report submitted to PKSF, August 2005

Chapter 4

Participation

Participation implies an empowerment that allows them to participate actively in their own development. It is essential for a people which defines the right to

development in both its economic and political aspects (white – Participation : walk, the talk(1989P-24). Participatory development can be a important elements to empower people and access to management and information, resources, though there is a controversy but increasing farmer participation makes better use of scarce resources, to provide the basic needs participation may be expected to play a critical role by stimulating peoples initiatives and mobilizing their resources creative talents to this end .(Rahman, Md Anisur, 2000, participation of the rural poor in development Pathak Samabesh, Dhaka)

Human centered development is a means for enlarging people's capability in terms of skills, productivity and inventiveness. authentic participation of grass-roots people may still be more an ideal than reality based on inquiry and observation, there seems to be an ever-increasing over recognition of the need to be involved and disadvantaged people's in the flow of decision are required for development.

Participation is considered as one of the development strategy, people can be motivated by civil society, officials and consciousness will create among them, they can reduce poverty themselves, even they face poverty when they participate in development. They will be able to mobilize resources which can be supported by society or govt / NGO,s In the present context political, social, economic participation are required to know the present power structure.They will acquire to exercise the power, in this way society can be built.

Resources need to be distributed properly. Community can be developed and strengthened by participation. This type of participation involves the peoples which creates empowerment and influence even participatory development can help the poor women and expand their thinking would be helpful in their work.

a) **Participatory Learning:** It allows the people, how they will work and will share their knowledge in different situation.

- The notion of participation as an exercise of empowering rural people.

- People can gain better support.

In 1979, the world conference on agrarian Reform and rural development (WCARRD) emphasized the importance of a transfer of a power as implicit in Participation. it is needless to say participation creates the process of Empowerment, it is one kind of contribution of local people. some obstacles are observed in participation. communicator some socialists says that some incentives are required to participate for a rural poor /Man here materials benefits are required it needs to be understood that what kinds of benefits are required you

have choose for them, it is tangible benefits. the targeted people will be inclined to participate in the development process.

b)   **The participatory Communication idea**

Those who conceive of development as a process of social transformation is treated participatory communication as a necessary instrument and condition for change to take place. insight about the nature of participatory communication its ideological practical and functional dimensions is useful for everyone whose job whose it is to bring about participatory Development. Nair and white (1987) projected a definition of communication for development, which is adapted to reflect the role of a catalyst communicator: Participatory development is a two way, dynamic interaction, which through dialogue transform grass-roots people enable them to become fully engaged in the process of development and become self – reliant.

All people have a right to voice their role and they can participate in the development. peoples knowledge can create a basis for development action.

Participatory development helped the poor women and expand their thinking and would be helpful in their work. The form of participation often leads to a variety of political actions Development starts with mind. we feel it should work from head., mind and heart. It is a generous feeling. we need commitment to make development which can be achieved. It can be assessed through evaluation. For Empowering of poor man, it is recommended, a coordination committee supported by grass root leader needs to set -up that will review that real participation is taking place that can form economic integration and development. The development of rural people will depend real, they will try to improve their social, economic and political development. Technology is required that needs to be used for economic welfare of the people.

Chapter 5

Freedom and Development

Every man has some right but how he will exercise. It is grown in mind he can decide and feels he has freedom. Freedom is important for creating social and political opportunity. William Cowper points to this rich varience Freedom has a thousands charms to show that slaves, however contented never.

Freedom is discussed with different aspects like Political,Social and Philosophical literature and we can observe the peoples definitions of freedom

- The groups defined freedom as wish

- —- -As a choice of selecting work and salary both. Focus group of 10 man, Danilimda Guzrat. India –(1994) their idea of Freedom,

- Being independent self- reliance - - -

- Having peace — - -

- Being free from politics - - - - -

- free movements from one place another

- Having employment opportunities

Focus group of man, Gulete, Ethiopia . their idea , people desires opportunity that opportunity may be used by them accordingly decides .There are stories which can relate freedom.

a)   Freedom as wish

We desire to do something a man has some abilities to do some works he has chosen. He tries to perform these activities It is a positive thing but he failed to do due to some process. This is a negative aspect of Freedom

A man wishes to work, whether opportunity is available The areas which he develops, this has some prospects for improving livelihoods Even a man desires to win in the local and national level election He committed to the people. he will be able to bring a change in your locality. If he fails, he is disappointed.

1)   Another story of village level regarding freedom : a landlord residing in a village, he did not work for a society but he worked for some people who led the people for his victory.

Individuals who has failed to do something. His family and Society did not respond for his freedom when feels to activate his innovative ideas It is a negative aspects of his freedom. In the process, he did not receive social opportunities e.g., income opportunities, job opportunities and others. The people could take opportunities through socialization process. He has to think, which are the preferences for his improvement.

Arrow, (1955 a p-(23).) defined individual preference ordering as referring broadly to "the values of individuals rather than to their test. reflecting the values may have (the entire systems of value s) incorporating the persons, "general standards of equity and highly important socializing desires.

2)   Individuals have some preference but he could not show moral freedom to his family/ head of the family. A landlord residing in a village who had many sons.

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He thought that my elder son will take some initiatives for the welfare of the family He was ever interested and did not take some initiatives and responsibilities je was so lazy. he was not found to take any initiatives for the whole family. The farmer are found to be rich and has many lands one day he decided to offer two acre lands to his elder son and said to his sons that provided a pair of bull, you will maintain your family with this land. You have to cultivate the land in own way. He was separated from his family The son followed his fathers decision. He begun to cultivate the land received by his father he took initiatives. His two sons took part in the program within short time His father observed his son could do something for the welfare of his family and got self-suffiency. He showed his creativity. A philosophy is observed that the creativity can be created by his own freedom but in some cases, check and balance are required. Own philosophy needs to be applied. Society has created a deterrent his freedom which is to be removed here is a caution that freedom for individuals will not help the society unless it achieves the progress of the society. it is a revolution that society will benefited. Even minorities will enjoy the freedom here equal distribution of wealth and opportunities need tol be established. Equal opportunities will be established in every sphere of life. Social barriers need to established gradually. All kinds of discriminations will be abolished, individual right will be protected. (Bhadra M. Kanti (1998). Netaji and his concept of freedom)

Somebody claims that market system makes people free to choices (Friedman - 1980). the success and failure of competitive markets are judged by the achievement of individual welfare, for example in terms of utility based on Pareto optimality)rather than by accomplishments of improving individual freedom (Sen (2007) the rationality and freedom -502. Delhi, oxford.) We have to think that what is our actual capacity and capability. on the other hand, we shall achieve our capability here is procedure that there is free decision a week person has less capability on the other hand an able bodied person has capabilities and has command over the commodities (Sen 2007p523)

An individual freedom is like that what he likes, I.R. Green we do not mean merely freedom from restraint or compulsion when we speak of freedom as something to be so highly prized, we mean a positive power or capacity of doing or enjoying, something worth or doing enjoying

b)   Social Reality : We can understand the social reality of freedom (1) Economic (2)Technology Society realizes that we need development. In some cases choices are focused. the persons must command over resources. Even the society may follow some rules for achieving some degree of economic freedom (SN C .P-79)

c) **Economic Freedom** Economic freedom is the right choice for development. economic Freedom is defined as the absence of Govt coercion or constraints on the production, distribution or consumption of goods & services beyond the extend necessary for the citizen to protect and maintain liberty itself (Driscoll-2000.) According to Economist., here two important restrictions need to taken into account.

a) Economic freedom should be restricted in case where it harms others and

b) Individual must also be accountable to the society for their own action (Rowly and Peacock-1975) Economic freedom promotes not only individual development but also promotes the development of the society.

Economic freedom enhances economic growth: The findings of the released in index in different times about freedom suggests that high rates of economic development and prosperity can be attained by high level of economic freedom. Some Govt. specially could not move in shaping the structure of economic reforms. The Govt. must try to remove some distortion of the economy

d) **Socio-Political freedom :** Plato : A person is free when the parts of the soul rules, the other parts, Freedom is old concept which was based on political. H.C. explained. and defined the rights of a man before his government. The freedom is used in economic term. it desires the welfare of a man. How economic welfare can be established. The old one is defined for all men – Equality before law.

An individual has freedom who thinks **to** change the technology to meet the social demand, Technology can make the improvement of living standard .in some case it destroy the the human life and environment This should be used for mankind.

e) **Press :** Freedom of Expression also creates an environment in which Justice can promote a good role for a social role. In real sense freedom of expression is there, injustice is observed needs to be checked.

Chapter 6

Women Empowerment

Women represents 50%of the world population. Women Plays a crucial role and create positive impact on the social and economic development of rural societies. It is needed that effective policies and programs are required to facilitate their contribution. Million of women workin different sectors. They look after crops

animals, gather firewood, collect water, process, and market products. But importance their contribution to development process need to be assessed and recognized. women workers are marginalized in the process of development because their economic gains as wage workers, farmers are slightly compared to those of male workers. Policy efforts should be directed to address this problems. (Nison. Noff, wiegersma, Nalini Visuanthan, Dugger Lauree, UPL, 1977).

International women's year in 1075and the united nations decade for women that followed and noticed world attention to the critical role of women in development and gave the impetus needed for international organizations and many government to work for the elimination of discrimination against women in 1985. Upon the conclusion of Nairobi forward looking strategies Promoted specific actions for broadening Women's participation and equality in development.

a)   Some international organization s role for women: 1976the women decade for women

1979:**UN Convention** on the elimination of all forms of discrimination against women

1983:FAO expert consultation women in food production. Rome

198The FAO Plan of action on Women in development is adopted in FAO conference.

FAO's Strategy for improving civil status of women complies with the principles of UN convention on the elimination of all forms of discrimination against women. The convention specially addresses rural women's right to participate in development planning, to secure agricultural credit and health care; to join cooperatives and other rural organizations, FAO desires to provide assistance to government in identifying areas that require improved legislation for women particularly

*   Right to land and water
*   Access to credit ,
*   Right to new technologies
*   Full memberships and equal voting rights in cooperatives
*   Educating rural women on existing right
*   Women in agricultural development,

FAO Plan of action, Rome. 1990, P-6-13 women education is desirable from social, and national point of view. Have we can select the program seeks to maximize the access of women to be productive resources in order to expand their

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economic opportunities and ensure equal participation and benefits from rural development.

The strategies are –income control and economic adjustments, agricultural production, wage income generation activities.

b)   Points to women barriers for development.

1)   Women are poor and illiterate
2)   superstition & social prejudice
3)   Early marriage
4)   religious constraints

Women can not come out due to poverty, they are not considered as skilled labor but recently Garment industry has changed their position .women are turned into unskilled labor to skilled labor. their contribution is assessed.

The economy of south Asia is characterized with high unemployment. it is difficult to survive for the poor people. A large portion of women are unemployed and working with law payment. Siddiqui. -2004 comments the employment opportunities created by the RMG industry in Bangladesh have saved many families from starvation. Many families has (gained social access. The women who are working have broken down social customs, values and attitude created development (FAO Plan of action, Rome. 1990, P-6-13) women constitutes an important role in Bangladesh. Iwould like to write in subject in future.

It is difficult to narrate here all the Govt. policies which can help the people to be empowered. the priorities areas of empowerment are power and energy, transport and communication, ICT. Women participation and programs for poverty alleviation, health and social welfare.

Men and women will receive equal opportunities, Govt can encourage the participation of women in politics & business. In the realm of good governess Govt will implement regulatory and institutional measures to ensure effective and efficient delivery of services. Human capital needs to be formed to provide quality education, health services specialized knowledge (skills) so that people can be engaged in income generating activities with ability and sound health. The following activities need to gear up for empowerment of women. Ensure of social and political empowerment, eradicate violence against of women, ensure full participation of women in mainstream and social safety women economic activities etc.

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Political Economy of Development

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PART 1. PLANNING PROCESS

Section 1. Introduction and General Conclusions

In recent past, especially in less developed countries, "planning" has become 'Comprehensive' policy tool/ instrument equally with the traditional macro-policy instruments/tools to complement and supplement it, i.e. "to aid' in the execution of basic planning decisions to attain the goals and targets set. Since the primary objective of development planning policy is to bring about "structural break" in economy, as a result the nature, character, and dimension of the traditional policy instruments have also undergone modification both in their logical foundations (i.e. assumptions and relations concept, method and choice and their abstraction and in their actual operations.) Thus the theory of contemporary economic policy, especially its new development planning dimension, requires to be examined carefully not only from the angle of application and practice but also from the viewpoints of theory, viz. consistency, feasibility and optimality. This approach ensures examination of all the three aspects of "development planning", viz. (1) planning process inclusive of plan implementation, (2) Planning organization and procedures, and (3) planning techniques. Moreover, these various aspects are interacting and interdependent as well. Short of any one of them will give a myopic view of the whole. Albert Waterston's "Development Planning: Lessons

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of Experience" omits the third and discusses only the first two, as the most relevant considerations in a "comparative study of development Planning". In fact, the author plays down the role of model building in L.D.C.'s, and considers that the major unresolved Planning problems are primarily political and administrative instead of economic.[1]

The book attempts to generalize from the planning experiences of well over a hundred countries, Including Soviet Planning mainly from documentary evidence (except for a few countries) classified as (1) the advanced (2) the socialized, (3) the mixed economies with illustrations of specific country's experience from both the groups to support the conclusion. His basic contention is that partial planning seems to have borne more fruitful results than comprehensive planning, and as such some improvements in budgetary practice, "establishment of machinery to improve preparation and execution of projects and formulation of sectoral programs before the formulation of a comprehensive development plan and the setting up of a central planning office etc. have been the most important conclusions. These conclusions are the logical consequence of his major findings about failures of planning in a number of countries due to the lack of an appropriate administrative organization and the political will to develop. In case of the latter the only course is to build up gradually through partial planning technique.

The theory of development which is implicit in his analysis is constructed out of three basic elements, namely, economic potential/economic endowment ,administrative capacity and the political will to develop in which the last two are the major elements. For to him it is implementation which is more important than planning in isolation.

There is no doubt that planning should bear out the experiences of its detailed process, but without refining analytical techniques even to identify the key variables in the economic process cannot be done properly. This raises the issue of the relationship between theory and policy. It is perhaps reasonable to assure an inter-connectedness between the two through a feedback mechanism. In this sense the exclusion of one aspect has given less comprehensiveness and more skepticism about his conclusions.

The major deficiency of the book lies not only in its exclusion of the discussion of the experiences with planning techniques or its purely empirical approach but also its relatively little emphasis on the discussion of the relationship between

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[1] Albert Waterston, "Development Planning: Lessons of Experience," p. 3.

private sector and public-sector, private sector planning and the operation of market mechanism in the context of adoption of planning. Moreover, while his important finding bears an administrative bottleneck, his broad classification of countries such as the socialized, the advanced and the mixed economies for analytical purposes seems to have not fitted well enough. For example, classified on the basis of degree of administrative inadequacy, India and Pakistan and some other less developed nations cannot be put in the same category.[2] The latter basis of classification would have given adequate scope for testing his broad conclusion about administrative bottlenecks. He could have made more explicit his underlying theory of development.

However, the book covers a wealth of empirical materials, original research and contains a highly valuable generalization about experiences of planning.

The following is a brief summary and appraisal of the book. For convenience, it has been arranged in a number of sections: the first section (Section 2) deals with Chapters 2 and 3, the second (Section 3) with 4 and 5, the third (Section 4) with 6 and 7, and the fourth (Section 5) with 8. This completes the first part of the book which also forms the substantive foundation of the book describing the planning process. For the second part, the first section (Section 6) deals with Chapters 10 and 11, the second (Section 7) with 12, 13, 14 and 15 and the third (Section 8) with I6 and 17 chapters of the book. This completes the organizational aspect of the book.

Section 2. Definition of Planning and the Spread of development Planning

In the first two chapters (2 and 3 of the book attempts to give various meanings of planning and how the idea and practice of planning have spread throughout the capitalistic, the socialistic and the mixed economies.

From various definitions the author pinpoints the following elements as constituting the essentials of planning, viz., planning is (l) an organized, conscious and continual attempt to select the best available alternatives to achieve specific goals; (2) an economizing of scarce resources; (3) can be used for (a) variety of ends, (b) by different societies, and (c) in different ways.

It must be clear to anyone that this definition of planning does not cover the other two components, namely, (l) to accelerate the rate of economic and social progress, and (2) to alter the institutional arrangement given in his working definition. Alternatively If we accept his working definition, the definition is not

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[2]   J, K. Galbraith,. Economic Development in Perspective.

explicit enough as to what extent the alteration of institutional arrangement means centralization of reforms and hence almost silent as to the role of planning at the private sector level. According to the author development planning is different from anti-cyclical or stabilization planning to the extent that the former aims to accelerate the rate of economic and social progress by altering the institutional arrangement, while the latter is said to operate within the given socio-economic institutional framework, i.e. within the prevailing market mechanism. Also, development planning may be national, multi-national or sub-national.

The idea and practice of national development planning has now spread throughout the world due mostly to the following reasons: (1) the alleged belief that the great economic expansion of Europe after the war was due to national planning; (2) emphasis on planning by ECM and the European countries; (3) rapidly rising population in L.D.C's; (4) demonstration effect of Russian planning; (5) United Nations' interest in calling for international action toward the national planning activity; and (6) the worldwide acceptance of planning as a means of achieving national developmental objectives.

This, in a nutshell, is what the author has to say about (l) what planning is, and (2) how it was spread throughout the world. Here one can see the pitfalls of his raw empirical approach—one misses now-over the years the theory of economic policy has evolved. Moreover, even though he distinguishes developmental planning from the traditional macro policies, as pursued by various developed countries, his subsequent discussions embrace all countries irrespective of whether the country is advanced or less developed, engaged in transforming the structure of the. economy. The inconsistency is pronounced when one reads the chapter headings such as "Spread of Development planning", "Stages of Development Planning," and so on. In a descriptive fashion he has presumably discussed everything.

Section 3. Stages of Development Planning and Development Plan

The following two chapters (4 and 5) on stages of development planning and the role of development plan in the planning process constitute the analytical core of the first part of the book. Here the author observes that two factors, inter alia namely, institutional framework and the country's stage of development condition the form of development planning.

He notes that in the socialized countries, the classic centralized planning which administers resource allocation and production on the basis of a system of physical and monetary balances reaching down to every plant and collective farm has been tending toward decentralized pattern allowing greater role of prices,

profits and flexibility. Examples are Yugoslavia, Czechoslovakia and U.S.S.R. in recent years.

If one compares this study with such recent study as that of Mikhall Bon (1967) on Soviet planning theory and techniques in the mid-1960's, one finds that the decision process is not so simple as envisaged by Waterston. Even though the profit index is related to the volume of goods sold and the target for production of goods in physical terms, the preference function of the elite has binding norms and instruction.

In the mixed economies, planning has passed ad hoc project-by-project approach through integrated public investment planning to comprehensive planning. The author notes that while comprehensive planning is superior to partial planning, partial planning should precede owing to the difficulty of having reliable statistics, skilled technicians and less comprehensive planning. Comparing the experiences with development planning in the countries like United Kingdom, India, Pakistan, France and Mexico, the author favored staged approach to development planning.

While he notes that partial planning such as through project by project approach which has no unifying philosophy or public investment planning, where consistency is chalked and priority is established on the basis of available resources, costs and profits, etc., are deficient, his preference for it despite the neglect of private sector or lack of reconciliation therewith (despite limitations of data and skill), or the lack of an idealized plateau of goals as are ensured by comprehensive planning is not a well considered one. For once planning is accepted as a means to achieve certain goals, a makeshift arrangement may not bring in the largest gain. Here his discussion has remained deficient as nowhere he brings out why a country should plan at all. For example, nowhere does it make it clear that planning is required to replace the time preference function of individuals by social preference function or to account for external economies or diseconomies or lumpiness of investment or to supply some kind of social goods where social marginal cost is larger than private marginal cost or any dynamic criteria either, or the disadvantages from planning, As a result his discussion is vague as to the rejection of comprehensive planning in favor of partial planning because of the difficulties implicit in the use of cap-output ratio, to account for new technology, the degree of Information required, the need for reconciliation of "up-and-down procedure," and absence of soundly conceived projects, etc,

Thus he felt that instead of attempting to utilize' the techniques of comprehensive planning, rationalization of current public investment in the program on the basis

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of inventory analysis may be better than comprehensive planning. It is obvious that he does not want to hazard a guess— wants to assume progress with certainty in order to achieve uncertain dynamic goals of society. To him, then, a formal development plan is not a necessity for development planning. What is necessary is a public investment program. What, however is not emphasized in his discussion is that a public investment program can be improved by the use of various techniques utilized for comprehensive planning.

He rightly makes a distinction between capital budget which induces non-development expenditure and public investment programs, at the national level, embodying professed national aspirations.

Both national and comprehensive plans vary in detail between the mixed economies and the socialized economies. In the mixed economies comprehensive plans rely more on aggregates as indicators than as binding targets in the socialized economies. Moreover, comprehensive plans are detailed into sectoral and regional plan of more in the socialized economies than in the mixed economies.

As regards the formal status of plan it is not a critical factor in the execution. However, the socialized countries including some mixed economies get legislative approval of their plans. But the commitment of a country's government and people to execute the plan is the essential one.

Although development plans are prepared for a fixed period, these vary from one-half of a year to 15, 20, 25 years or more. However, short term, medium term and long term plans are considered to be done because of administrative and political reasons. It is noted that in the early stage of development short term planning is preferred, and as development proceeds, the difficulty to fit in an increasing number of projects into the short-run framework leads to the formulation of longer term plans with appraisals into future advantages. Usually this kind of perspective plan covers a period of 15 to 20 years length.

In this context one may raise the issue with the author that the genesis of perspective planning may be purely of logical necessity of planning to meet the expectations of the present generation participating in the development process itself. His generalization in this context seems rather informal.

As regards rendering some flexibility into the plan so as to make room for revisions, the problem of continuity through linking one medium term plan with another is still an unresolved problem. In order to ensure flexibility trough constant review, planning experts suggest adoption of rolling plan into which

regular review and revision is built for passing into an additional year. A simpler way to update a medium term plan is through annual plan which is nothing but a program of action of current development activities in detail more than the medium term plan.

A clear definition of development objectives is essential to determine and direct the national planning effort. When uncertainty prevails means are often confused for ends. Often conflicting objectives are included for political motive without clarifying priorities which may be self-defeating. Thus when objectives are concrete, these may act as guideposts to effective policy instruments quantifying targets.

One can also raise the issue here that a proper reconciliation of conflicting objectives leads to consideration of techniques and instruments that short of comprehensive planning analysis, would not give realistic results.

The size of a plan can be determined either with reference to the country's requirements or by the availability of resources or at a point somewhere between the points. While the requirements may be infinite, the availability of resources often limit the size of the plan to a low size. Planners thus have to aim a little higher size than this. On the other hand, the attempt to set targets may prove to be unrealistic— either too high or too low. Planners however should provide a series of alternatives to the political authorities who may select the approximate targets, policies and measures.

It is clear from the above summary and discussion that as the author left out from his consideration the analytical technique of development planning, he did not discuss the use of various planning tools which could be utilized to solve some of the issues raised ty him in these chapters. Such tools as (l) national income projections, (2) input-output analysis, (3) linear and non-linear programming, (4) statistical estimation of econometric parameters, and (5) computer simulation have been devised to deal with some of the issues raised by the author. This inclusion would have surely improved the content of the discussion. As a result his conclusion has been so to say against econometric model building, ignoring the improvements made in various aspects of analytical techniques applicable to various knotty questions of development planning in the under-developed and the socialized countries. In fact, a theoretical approach does enable the planners and the policy makers to pinpoint the subtle relations and interrelations among various parameters of the economy. Thus the enormous broadening of the concept of development planning is missing from his analysis, He could only come to grip with a few obvious trends as are empirically observable, and not the underlying

basic things such as the results following from the application of alternative planning techniques enumerated above. For once the theoretical framework is realistically drawn, then the policy makers come into the picture— "we have already become planners." As a result he did not discuss even the most important consideration about the characteristic of the mixed economies and the socialized economies where the crucial roles of the public vs. private sector are important to be dealt with, i.e. in one where the public sector is a residual and in another the private sector is a residual. Then he was not able to discuss clearly the considerations that give rise to the length of a perspective plan or the consideration of optimality and feasibility. As an empirical approach he did not bring out the relationship between policy instruments, economic theory, data and target varibles in a well-knity way.

Section 4. Function and Role of Data and Budgeting

In Chapter 6 the author shows how planning is very much dependent upon the supply of quantitative and qualitative facts about resources, economic and social activity. Accuracy, coverage, form and timeliness of data are some of his relevant considerations. Also stressed are coordination of statistical activities to ensure free flow of information, eliminate duplication and improve comparability. Moreover, priorities to improve statistics for planning are also to be set.

The question whether plans should or should not await improvement in data is resolved by setting preference to partial planning over comprehensive palnning, and in no case poor data to be used to support a complex plan.

He observed that most governments failed to improve data despite recommendations by both national and international experts. Waterston specifically suggests for inclusion of a program for investment of statistical and other data in each development plan so as to help formulate and implement the next plan according to the specific needs of each country.

In Chapter 7, he brings out the relationship between plan and budget. The process of planning or a development plan in the public sector is made of a program of action through a series of annual budgets. The budget provides for both capital and current expenditures, for revenue and other domestic financial resources. But an annual plan is said to form an ideal link between medium-term plan and an annual budget. In most mixed economies annual plans and budgets are required to be coordinated for putting medium-term plans into effect so as to conform to the restrictions of resources and ensure consistency between sectors, etc. In the Soviet type economies budget has to be consistent with an annual plan. Planning

and budgeting are said to be a sort of two-way process in which the data of each feed the other, requiring close collaboration.

The deficiencies of traditional budget are noted such as exclusion of certain public expenditures at various levels, over emphasis on on-going projects, lack of staff, etc. Suggestions to improve reused from making the budget more informative, improve intent in practices, separation of capital and current components to a combined functional economic classification.

Suggestion for introduction of program and performance budgeting based on governmental functions, programs and projects and activities and on measurement of results achieved in physical, as well as in financial terms are not favored by the author for its apparent complexity. Since budget systems may vary according to the needs of a country and its stage of development, the author feels that instead of a radical reform, priority to improving current budgetary presentation, management control would yield more gain.

It will appear that the author does not favor any radical change quickly but instead would like to see these changes worked out gradually step by step. This is true in regard to both improvement of data supply and budgeting.

But what is likely to be overlooked is the fact that his discussion tends to be of limited more sacrificing the long-run consideration to the immediate. This also acts against or inhibits any innovational undertaking. But it is not appreciated that it is innovational undertaking that makes transition possible. Gradual evolution may not reach the same goal as in radical change. The world of reality may not yield only single valued expectations.

Section 6. Obstacles to Implementation

In Chapter 8 the author lists some administrative obstacles to plan implementation as follows:

1.   Outmoded government in mixed economies.

2.   Lack of capacity to cope with unfamiliar development needs and situations.

3.   Low morale, incompetence, slackness and waste.

4.   Rigid personnel regulations,

5.   Red tape and the deadening hand of bureaucracy.

6.   Reluctance to take responsibility to delegate the same; over-centralization and delay in decision making.

7.   Archaic financial and accounting controls.

8.   Measures to prevent abuses becoming bottlenecks.

9.   Lack of unified leadership and coordination; excessive fragmentation of functions and diffusion of responsibility for executing projects and programs,

10.   Lack of coordination between regional, central, departments and ministries of governments.

11.   Creation of organization to overcome administrative deficiency further complicates this.

12.   Increase in cost due to corruption.

Differences of opinion exist as to whether administrative reform should precede, follow or accompany development. It is recognized that any reform takes time and that "planner should set a more limited goal than comprehensive reform-attempting to concentrate— administrative improvements around a nuclei working as springboards for further reform. Complex form of planning must be avoided if the countrys administration is not ready for them."

There is clear evidence how the gradualist approach has dominated the author's thinking about any reform whether of data or of budgeting or of removing obstacles to planning.

In the eleventh and the last chapter of part II of the book the author evaluates the implementation of plans and finds that in the postwar planning history failures are more than successes in implementation of development plans —"a great majority of countries failed to realize even modest income and output targets in their plans except for short periods." Examples cited are India, Morocco in 1964, etc. Failures have also been associated with sectoral shortfalls, e.g, agriculture. Failures were recognized in terms of (1) over-emphasis on financial targets, e.g. India, (2) chronic under-spending, (3) delays in execution, (4) inferior construction, (5) low yield, and (6) unused capacity, etc.

The measure of failure was done by comparing the first plan with no plan, and for the subsequent plans, the extent of achievement of targets was considered. It appears that this was a rule of thumb method, requiring refinements, especially by making allowance for various constraints, and the timely direct and indirect benefits over longer time horizons in respect of the production process. The author, however, catalogues the reasons for failures indicating such factors as (1) political instability and disorder, (2) droughts, excessive rainfall and other natural

calamities, (3) dispersal of resources, (4) lack of discipline of the plan, (5) inadequate preparatory work for tried project, (6) lack of engineering supervision, and (7) administrative and procedural delays. By analyzing these factors the author concludes that the major bottleneck in L.D.C's was the loan implementation and not plan formulation - "implementation is often partial, slow, inefficient." The reason was the consideration of plan formulation separately from plan execution leading to the exclusive consideration of economic factors to the virtual exclusion of organizational and management factors. The author therefore. concludes from available evidence that sustained commitment of a political stable government is a sine qua non for development. So the author tries to provide how to measure administrative and management inadequacy in order to bring about reform in this critical area. To tie the setting of realistic plan targets with administrative reform he suggests a quantitative measure of 'administrative inadequacy' and the lack of "political will" to develop –such as (1) administrative inefficiency to be measured by refering to the previous discrepancies between original estimates and actual performance for project in each sector,, and (2) the will to develop measures by requiring political decision makers to select, in each of a series of relevant policy areas, one of several practicable alternatives which collectively indicate the extent to which a government is prepared to take concrete measures for further development. What the author emphasizes is to take into account the three basic elements in the realistic plan formulation viz. economic potential, administrative capacity, and political will to develop.

It will appear that in this part of the book the author attempts to convey a lesson of modest aims, avoidance of comprehensive planning and acceptance of partial planning path, avoidance of separation of plan formulation from plan execution but to develop from project-to-project approach through an integrated public investment approach on the basis of public sector projects, avoidance of introduction of novel methods such as PPB but to rely more on improvement in existing budgetary practice and control. But above all improvement in the plan of implementation through removal of administrative inadequacies is the important element in the process of accelerating development. Only an inventory of sound conceived projects are required for this but also a periodic progress evaluation through satisfactory reporting of the operators—serving as a link for two-way communication system between a central planning agency and the operating organization. To achieve a better reporting system the another suggests some such measure as simplification of procedures, prior analysis of projects in physical and financial terms against realistic time schedules and cost estimates, etc .

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The conclusion of the book in this part is nothing but the logical consequence of the author's gradualist approach, and his emphasis on the analysis of planning processes and implementation to the virtual exclusion of planning techniques.

PART II. ORGANIZATION OF PLANNING

Section 7. Planning Machinery and Distribution of Functions

In the second part of the book the author (after pinpointing the administrative and political inadequacies in the first part) discusses the experiences of various countries in organizing the planning machinery at various levels – both organizationally and geographically. This covers (1) priorities to be attached to the setting up a planning machinery, (2) The distribution of planning functions throughout various tiers of planning levels, (3) specific functions and role of a central planning agency, (4) about the preferred location for a central planning agency including types of such agencies and difficulties of organizing them, and (5) the role of local and regional bodies and the institution and function of a programming unit in operating organization

In Chapter 10, the author points to the fact that in the socialistin economics, the setting up of a central planning agency is the first step to formulate a plan, and to coordinate all the major economic policies. The formulation of the national plan is one by the central agency whereas regional and local bodies formulate their own plans, taking national plan as a guide. In the nixed economies, the central planning agency has been established after a long-time of development activities. Often the setting up of such a central body for planning does not alter the existing practice of coordination of development plans through an annual financial budget. While this method has obvious shortcoming, the author notes that a high growth rate as maintained through well prepared projects coordinated through a budget (e.g. Mexico until 1955 and Israel until 1961),and hence he counsels for moderation especially in the face administrative corruption and political instability, in going ahead with a central planning agency.

Secondly, there is the need to set up Programming units in operating organizations. The author notes that although it is ideal to establish both planning and programming units simultaneously, shortage of technical personnel poses this as a problem of choice to be resolved on the basis of which of them should accelerate development more than the other.

Thirdly, until an advanced plan can be managed it is suggested that it would be better to improve budgetary procedures than to establish a central planning

agency prematurely. Fourthly, before a central planning is set up alternatives to this kind of planning have to be considered. For example, it is not clear from the experiences of the countries considered if the central planning agency should rationalize current public investment, prepare sectoral programs, regional plans, public sector investment plan or a comprehensive development plan or for one year, five year, or twenty year plan. Examples are France's indicative type of planning or ineffective use of planning machinery in many L.D.C's. Thus the author feels that there is a need for setting up such a machinery in a systematic way in accordance with the country's political, economic and social circumstances than by fiat.

In Chapter 11, the author brings out how confusion and uncertainty prevail among planning and operating bodies about proper and actual division of responsibility as to planning functions and their manner of execution being complicated by over-lapping functions.

In the Soviet type of economy, the central planning agency prepares the medium, long term and annual operational plan (an attempt to separate the two is said to have been failed in 1960/64 period). In the mixed economies the responsibility for executing plans rests with the central planning agency.

Although there is difference between an annual development or operational plan and public investment budget undertaken by the ministry of Finance the author notes that the tiers are in need for collaboration (especially in the preparation of plans, budgets, pressures for foreign aid and loans, progress or development programs for and projects) between the planning authority and the ministry of finance. The author contends that the making of capital budget if transferred to the central planning authority will reduce its time available for planning purposes.

The heavy dependence of planning on statistics raises the question whether the statistical office be part of the planning agency or not. While there is advantage in having this as part of the planning agency, it will curtail freedom. The author suggests that an autonomous statistical body with an inter-agency department to supply data would give satisfactory results.

As regards the function of coordinating the flow of foreign technical skill into L.D.C's, the author notes that the planning agency should have this as it is better informed of the needs than the foreign ministry of finance or economic affairs. Similarly, the responsibility for coordinating all foreign development financing operational aspect should rest with the government bodies, assisted by the central planning agency in respect of assessing requirement and distribution.

As regards preparing the regional plan by the central planning agency, the distribution responsibility will be subject to the character of the economy, type of planning and government, stage of development and the availability of technicians. For example, in the socialized economics, this is prepared by the region and in the mixed economics regional plans are sometimes prepared by a central planning agency, though the author contends where such regional bodies exit it should be prepared by these bodies. It is noted that in many countries regional planning preceded independently of national planning resulting in a series of uninterested regional plans based on regional aspirations inconsistent with available resources.

The operating agencies on the other hand are to be responsible for preparation of public investment projects, combining them into integrated sector or sub-sector programs, carrying out or supervising the execution of the projects and programs, and making periodic reports on their progress—all rest with the operating ministries, departments and agencies.

It is noted that as a temporary expedient, the central planning agency may operate to perform some of the functions of the operating agencies. But once undertaken it may be difficult to relinquish them the result of giving rise to inevitable conflict.

The function of training staffs in operating organizations should rest with semi-autonomous government institutes as the assumption of such functions by the central planning agency interferes with its own planning works.

In order to prepare good projects and ensure planning from below, there is a need for a body to review projects and programs to ensure their consistency with plan objectives, policies and targets, as involvement in it by the central planning agency may proude certifications. The author notes that experience demonstrate that better results are obtainable by setting up inter-ministry project review committees.

For coordination of periodic progress reports on individual projects and programs prepared by the operating agencies, the central planning agency has the important task. The author, however, notes that the central planning agency often lack objectivity about failures. Some suggest that the central planning agency should have executive functions, in addition to its advisory functions. But the author suggests that it is the responsibility of the heads of government, not the central planning agency, to enforce the discipline of a plan, However, the separation of operational tasks from the advisory task of plan formulation will lessen the danger of confusion.

It Is evidently clear that the author makes out a case for a gradual evaluation of planning machinery in accordance with the country's political, economic and social circumstances rather than creating a central planning machinery by as occurred in the socialized countries. But the analysis seem to be again favoring piece-meal adoption of the planning machinery by emphasizing the role of the ministry of finance and its efficacy in budget making. In the beginning, this may often be termed as conservative approach to setting up a planning machinery, and may lengthen the process of planning unduly.

In discussing the distribution of function as to the capital budget, the authors finds the ministry of finance as suitable—but the (capital saves= expenditure) budget can with profit be devised by programming unit in the light of annual plan.

As for the statistics function, the author favors an autonomous agency with an inter-agency department to supply data. But institution of intra-agency statistical unit in various plan-nine agencies nay provide satisfactory results.

In the matter of training staff a manpower section in the central planning agency can coordinate the supply and demand of technical personnel with the operating organization through a master register and training programs both technical and apprentice type.

Section 8. Central Planning Agency

In chapter 12, 13, 14 and 15, the author discusses the function and role, location, types and organization of the central planning agency respectively.

The formulation function are noted:

(1) Formulation and revision of national development plans and, in exceptional cases, regional development plans; (2) the preparation of annual operational plans (3) recommending projects measures and machinery required to implement plans (4) reporting and evaluation plan implementation, and (5) coordinating foreign technical assistance activities or preferably, be closely liked administratively to the unit responsible for this function.

There are ground for friction between planners and operating officials- due to (1) lack of properly defined responsibility, or (2) lack of understanding by officials of the purpose and role of planning (3) assumption by heads of planning of non-planning activates. However, the author notes that friction can be lessened by bringing the operating officials into the planning process.

The author further notes that with some standing by the planning agency friction with other ministries, especially the ministry of finance becomes inevitable in

respect of budgeting and other financial functions. If these work in harmony, it is possible to reconcile interests. However, if bureaucratic interests intervene, the ministry of finance is frequently at loggerheads with planning agency and the former being old and powerful largely determines the direction and amount of investment.

There is a need for a stable government, close and constant association between the planners and the chief executive or the appropriate representative of the legislatures. It is also noted that there is also a need for establishing. channels of communication between a planning agency and the operating organizations. To achieve objectives, information needed for plan preparations, execution and progress reporting are to be well coordinated. It is also suggested that inter ministry working parties drawn from various level of the government can assure coordination in respect to ensuring consistent approach to development in oreder to ensure public participation in the planning of public sector, mixed commissions emphasize also to give to business community a sense that it has participated in the plan formulation.

There are various ideas about the preferred location for a central planning agency such as within or attached to the office of the chief executive or situate in the ministry of finance or live resistance to new institutions in many governments, introduce planning offices into existing ministries, departments or clenches, an independent body in a separate ministry of planning outside the regular government administration or the location is not so important as its access to all ministries and agencies involved in development. The author notes that it is difficult to find one singular place as the one which meets the need of all countries at all times. It is, however, found that in a country where planning was accorded a priority its central planning agency had tended to be near the jurisdiction of the chief executive. In a place where the government is not deeply committed, the decision is conditioned by whether one takes the long or short run view. The author notes that while experiences do not provide a ready answer it provides such clues as to avoid locating it outside the regular government administration. If set up as an autonomous body it may cause confusion of responsibility and unnecessary rivalries. Nor locating this at a low level of administrative hierarchy will have effect. Nor is it desirable to place it in an operating ministry.

The author notes that the commonest location of a central planning agency is the ministry of finance which has quite a different approach to development. To create a new ministry of planning is beset with the difficulty of getting precedence over others. Corresponding to procedures for (a) approval of plan goals, and (b) the process by which a plan is prepared on the basis of the approved goals, a political

machinery such as the chief executive and cabinet or a committee in their behalf, and a technical planning agencies are required to be set up. The non-technical committee supervises most of the macro policies. The role of chief executive as chairman of this committee is very important to enable a country to develop rapidly. Committees with outlet members proved unsuccessful. The author notes that as experience suggests, a planning agency cannot be both. -. a.. autonomous and politically directed simultaneously, there is a need for clear division between the political and technical planning levels.

As regards the status of the head of technical planning agency, it is the attitude of the chief executive which matters— he need not be an economist or a planning technician but he is expected to know how the results obtained by economists are comprehensible and acceptable to the political authorities. The author suggests that as the heads of technical planning agencies are made to bear the brunt when things go wrong, the place of the technician should be next to the top one, leaving a buffer for the technicians in order to concentrate on the technical aspects of planning.

It is difficult to organize a central planning agency because of dearth of technicians, lack of suitable salary, archaic personnel policy or temporary status of the planning body Itself, Though part-time hands from civil service could at times be recruited, there is a need for a permanent nuclei. How the central planning agency has been created is not so important as it supported by the government. Even the alteration in planning agency's organizational set-up, the author stresses, is desirably left with administrative determination. However, it is true that the size end kind of planning organization a country has depends on fine kind of planning it does, the extent of executive functions al the requirements peculiar to the country concerned. Generally the number of staff varies from 25 to 100 persons but some have much more, and they are still greater in the socialized countries. About one-third to one-half of the staff is classified as professional with inadequate training.

Typically, a planning agency has basically the following functions: (l) planning, (2) progress reporting and plan evaluation, (3) coordination of plan formulation and execution, (4) technical assistance,, (5) public relations, and (6) administrations. The important part is the planning part which is divided into different sections dealing with specific sectors of the economy and functional sections dealing with macro-economic planning problems. In order to coordinate the work of various sectoral programs the author notes that planning staff can be organized into task forces (French example) A combination of technicians and specialists in

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the working parties, however, did not work well in the continent. The author notes that to operate effectively, a planning agency must make greater use of generalists and put less emphasis on hierarchical authority and more on group activity and mobility.

Section 9. Regional Planning

In Chapter 16, the author discusses types of regional planning bodies in various countries. Planning bodies for political region is generally found in the socialized countries whereas such bodies for economic region are exclusively the features of the mixed economy countries, in the socialist economies sub-national planning bodies often, though they have no direct link, supervised by the central planning authorities, with greater autonomy in the case of Yugoslavia. In the mixed economies the sharing of responsibility by federal planning agency with local bodies are not effective in practice as these are not an integral part of national planning.

Regional economic planning bodies are created to meet specific needs—say, to develop a single regional sector, multipurpose water and electric power facilities, promote comprehensive development of new regions, or help raise the economic level of backward regions. In the socialist countries these specific needs are met through planning bodies of existing central and regional administrative units while there are set up generally by national governments in the mixed economies or by agreement among sub-national states or provinces. It is noted that whatever is the legal farmwork, regional bodies will have representation both from the national as well as the region concerned. Where there are many concerned subdivisions, it is desirable, the author notes, to devise a formula which keeps the size of the board small.

Further in the mixed economies coordination of the work of planning bodies in economic regions with the activities of central planning agencies and central operating ministries and agencies have only a small beginning. Where there are more than two political subdivisions concerned, cooperation and coordination would be difficult. Moreover, lack of competent planners are said to be seriously limiting the effectiveness of sub-national regional planning bodies. The discussion on regional planning by the author is 'deficient especially in the context of a wide literature on this field.

In Chapter 17, which is also the final chapter of the book, the author discusses the role of a programming unit in the operating organization. This unit is like a small central planning agency in the operating department. Generally it has the following functions:

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1. Combining projects and proposals into medium and short period sector programs.

2. Submitting and defending them before the central planning and budgetary authorities.

3. Recommending policies, instruments, measures and machinery for their implementation.

4. Reviewing and evaluation.

5. Coordination of the supply and demand for technical skill including consulting firms, etc.

6. Preparation of periodic reports, programs, improving forms, procedures, methods, organization and techniques.

7. Channeling information on section/sub section program progress between the central planning agency and the operating units.

The author stresses that it is desirable that programming units participate in the process as part of the "planning-from-below procedure". There is therefore a need for a clear working relationship between programming units and a central planning agency. Inefficiencies of coordination however limit this. The programming units set up suitable forms and standards for operating units to allow. It should also supply (a) feasibility and engineering study and cost-benefit analysis; (b) the identification of major milestones in executing projects, (c) building into the project suitable means for determining physical progress, (d) assigning responsibility for each task, (e) training program to skilled personnel for supervision of completed projects, (f) the creation of a suitable organization and management cadre to run the finished project.

The programming unit be set up at such a level so that it enjoys confidence of the operating units, assisted by a programming committee composed of members from the operating units, to help formulate policy. The programming unit should act as the secretariat of the committee. The operating unit may have also advisory bodies to assist preparing and executing its organization program. These suggestions are also studied by the programming unit. The author suggests that the size of a programming unit can be kept small if it delegates major work to the operating units, and that it is also desirable to set up a programming unit having two loose sections—(1) one concerned with general analysis, research and statistics and (2) the other concerned with programming, coordination; progress reporting and evaluation.

The author notes that "economists make better central planners than specialists do." But as experience shows, "specialists , make better appraisal of projects and sector programming." The author then explains reasons for the lack of a viable programming unit in L,D,C's as (a) the low priority for planners, (b) mistaken belief that a planning agency should help establish programming units. The idea that the planning agency should undertake.

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Inappropriateness in Health Treatments and its Costs and Consequences: A Case Study on Caesarean Section Delivery in Bangladesh

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1. Introduction

The expected growth in public health expenditure constitutes a relevant policy problem in almost all developing countries. Not surprisingly, improving spending efficiency while guaranteeing (or even improving) citizens' health is becoming a key challenge for policy-makers. A common suggestion to reach this goal coming from the policy-oriented literature is to improve service appropriateness: delivery appropriate services (at the lowest possible cost) would produce cost savings, while assuring citizens' health. Evidence on these potential savings is provided for instance for Bangladesh which displays a significant variation in different health facilities in the degree of (in) appropriateness. Moreover, this (in) appropriateness is shown to be strongly correlated with the expenditure. Improving the appropriateness of medical treatments could then clearly contribute to the efforts of containing public health expenditure, without reducing or limiting the quantity or quality of services to be supplied to patients.

A Caesarean section, also known as C-section is a surgical procedure in which incisions are made through a mother's abdomen (Laparotomy) and uterus (Hysterotomy) to deliver one or more babies. C-section can be a life saving

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operation when either a mother or her baby or both face certain problems before or during labor and delivery, although in recent times it has also been performed upon request for childbirths that would otherwise have been natural.

The incidence of C-sections is an indicator of inappropriateness commonly considered in the literature, and by policy-makers. Being a surgical procedure, a C-section is characterized by a large cost differential with respect to the alternative classical vaginal delivery (a medical procedure). In the absence of any therapeutic reasons, this latter treatment is generally considered an appropriate way of delivery, which can clearly help in containing health care costs.

An upward trend in the incidence of C-section deliveries is a well documented stylized fact at the international level. Both developing and developed countries have witnessed a dramatic rise in the rate of Caesarian births during the last three decades.[1] In the United States, where C-section was rated as the most common hospital surgical procedure[2], it was estimated that half of the caesareans were medically unnecessary[3].

Similarly in Latin America, it was estimated that over 8,50,000 C-sections were unnecessarily performed on an annual basis[4]. Without doubt this exposes mothers and their infants to unnecessary health risks[5] with drastic implications for the health system and the economy.

In fact, a growing body of research suggests that high C-section rates represent increased probability of negative health consequences for mother and child[6] with probable adverse psychosocial impacts on the family[7]. In addition to these negative health consequences, caesarean childbirths incur higher financial burden than vaginal deliveries[8]. This creates an economic burden not only on developed countries but more acutely on poor developing economies given their everlasting struggle with scarcity of resources.

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[1]   Cai et al.,1998; Leung, Lam, Thach, Wan & Ho, 2001; Martin , Hamilton, Ventura, Menacker; & Park, 2002.

[2]   Burns, Geller & Wholey, 1995; Rutkow, 1986

[3]   Burns et al., 1995

[4]   Belizan, Althabe Barros,and Alexander, 1999;

[5]   Schuitemaker et al., 1997;

[6.]   Hemminki, 1991; Shearer, 1993;

[7]   Mutryn, 1993

[8]   Shearer, 1993; Burns et al. 1995.

For the lack of information and regulations to the appropriateness of C-section delivery in Bangladesh, the incidence rate appears to be on the rise. The physicians are often responsible for inducing inappropriate demand for C-section deliveries mainly to maximize the provider's income. On the other hand the patient is faced with high economic costs, including payments to obtain drugs, to improve access and services offered for transport and to cater for care giver's services.

The majority of C-section consenting mothers comes from non-poor socio-economic background where physicians are exploiting their ability-to-pay consideration. On the other hand the above mentioned cost can become extremly expensive for the poor patients and their families who face catastrophic health care cost. So now it is the need to take appropriate regulatory measures by the policy makers.

2.   Objectives of the paper

In this perspective the present paper intends to highlight some crucial issues with regard to concerning health situation in Bangladesh. The paper in general aims depicting the general scenario of health issues in the last few decades. Specifically in relationship with such changes the situation of this important health issues prevailing in Bangladesh concomitant with the global changes is highlighted in this paper. Specifically the present paper aims at touching upon the following issues.

i)   Analysis of the incidence rates of C-section deliveries in Bangladesh compared to different income group level countries.
ii) Analysis of the Global changes in the C-section rate.
iii) Identification of the reasons behind the high rate of C-section.
iii) Identification of the appropriateness in performing Caesarean delivery.
iv) Identification of the rate of variation in the C-section by economic status.
v)   Estimation of the economic costs and consequences of C-section delivery in Bangladesh.
vi) Policy implications (suggesting specific guidelines in Health Policy to make C-sections more restrictive and case specific).

3. Global Scenario of C-section Rates

An upward trend in the incidence of C-section deliveries is a well documented stylized fact at the international level. C-section rates have been progressively increasing ever since the 1970s in most of the countries in the world.

The WHO, which reviewed nearly 110,000 births across Asia in 2007-2008, found 27 percent were done under the knife, partially motivated by hospitals eager to make more money.

The Asian survey examined deliveries in 122 randomly selected public and private hospitals in 2007 and 2008 across Cambodia, China, India, Japan, Nepal, the Philippines, Sri Lanka, Thailand and Vietnam. The hospitals were located in capital cities and two other regions or provinces within each country, all logging more than 1000 births a year. China's 46 percent C-section rate was followed by Vietnam and Thailand with 36 percent and 34 percent, respectively. The lowest rates were in Cambodia with 15 percent and India with 18 percent. The most dramatic findings were in China where 46 percent of births reviewed were C-section but a quarter of them were not medically necessary.

That mirrors similar results reported by WHO in 2005 from Latin America, where 35 percent of pregnant women surveyed were delivering by C-section. In Latin America, C-section rates in all eight countries surveyed earlier by WHO were 30 percent or higher which has similar to the U.S. rate. In Paraguay, 42 percent of deliveries were by Caesarean, and in Ecuador the rate was 40 percent.

In the USA, where C-sections are at an all-time high of 31 percent, the surgery is often performed on older expectant mothers, during multiple births or simply because patients request it or doctors fear malpractice lawsuits. A government panel warned against elective C-section in 2006.

That compares to an earlier WHO survey of African countries, where C-section were performed in only about 9 percent of deliveries surveyed and where many medical centers were ill-equipped to perform emergency surgeries, leading to increased deaths.

The study did not discuss specific reasons for the high number of C-sections, but it is noted that more than 60 percent of the hospitals studied were motivated by financial incentives to perform surgeries. The U.S. studies have shown babies born by caesarean have greater chance of respiratory problems[9].

Reasons for elective C-sections vary globally, but increasing rates in many developing countries coincide with a rise in patients' wealth and improved medical facilities. Estimates from UNICEF, WHO and UNFPA suggest that a minimum of 5 percent of deliveries will likely to require a C-section in order preserve the life and health of mother or infant, which implies that countries reporting less than 5 percent of births by C-section typically have many life threatening complications that are not receiving the necessary care (Rates higher than 5 percent on the other hand, are suggestive of inappropriate use of C-section)[10].

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[9]   http: msnbc.msn.com/id/34826186/ns/health_pregnency

[10]   The World Bank's Reproductive Health Action Plan 2010-2015, April 2010.

Table 1 : Global C-section Rates

Group/ Country	Birth by C-section (%)	Average percentage of C-section	(Year)
Low Income Countries (LIC)		7.8	
Bangladesh	11.8		2009
India	7		1998-1999
Bhutan	15		2002
Vietnam	10		2002
Haiti	2		2002
Cambodia	1		2002
Lower Middle Income Countries (LMIC)		17.58	
Paraguay	18		1995-1996
Philippines	7		2003
Thailand	34		1996
Brazil	32		1995-1997
Bulgaria	17		2002
Peru	12.7		1995-1997
Ecuador	19		1999
Egypt Arab Rep.	11		2000
Upper Middle Income Countries (UMIC)	40	18.9	1995-1997
Chile	14		2002
Czech Republic	16		1998
South Africa	23		2002
Hungary	17		2002
Latvia	12		1987
Mexico	10.3		2000
Turkey		25.74	
High income Countries (HIC)	38		2000
South Korea	30.2		2005
USA	22.5		2002
Canada	23		2004
UK	35		2001
Italy	23		2000
Australia	38		2000
South Korea	18		2001
France	22		2001
Germany	17		2001
Sweden	19		1999
New Zealand	14		2001
Netherlands	35		2000-2003
Taiwan			

Source: 1. *The World Health Report 2005.*

    2. C-section rates around globe at "epidemic" levels- pregnancy- msnbc.com

    3. New media journalism, Map of World C-section rates created by Suzanne Taylor, spring 2007

[The present state of the global C-section rates according to the World Bank's classification based on GNI per capita are given below.]

The above data shows that the higher rates of C-section deliveries are in most of the developed countries. The C-section rates are low in most of the developing countries but some exceptional instances of high rates are known such as in Brazil and Chile. The average incidence rate of C-section in low income countries is 7.8, in lower middle income countries is 17.58, in upper middle income countries is 18.9 and in higher income countries is 25.74. In Bangladesh, one of the least developed countries of the world, the rate of C-section has risen from 3 percent in 1999 to 11.8 percent in 2009(Table 4). The C-section rates around the world are
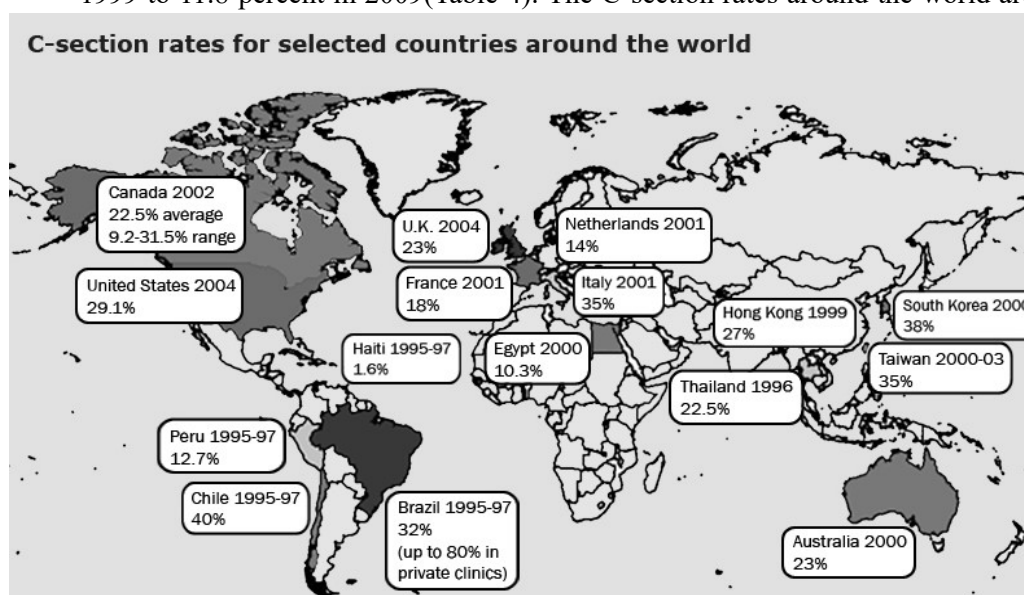
Source: *New Media Journalism, map of world C-section rates created by Suzanne Taylor, spring 2007.*

4.   C- section in Relation to the Socio- Economic Strata

C-section is an expensive medical procedure than the natural delivery.

A surgical operation costs money, which is barrier that the poor cannot overcome to avail this service. Data from home and abroad shows inequalities in access to Caesarean section by socio-economic groups. According to the study of Ronsmans, Holtzes, Sranton (2006), there is a significant variation in Caesarean prevalence rate by poorest, middle and richest quintiles in Bangladesh.

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Table 2 : Proportion of C-sections by socio- economic strata in selected countries

Country (Year)	Number of deliveries	C-sections as percentage of deliveries			
		Destitute, Ultra, poor and poor	Middle Class	Rich	All women
Nepal (2001)	4023	0.27	0.27	4.09	0.97
Pakistan (1990)	3871	0.00	0.48	8.44	2.37
India (1998)	32721	1.97	6.68	20.25	6.83
Indonesia (2002)	9749	1.08	1.71	13.70	4.49
Vietnam (2002)	1306	3.69	7.57	26.06	9.71
Bangladesh (2004) National	4059	0.15	1.98	18.04	4.37

Source: *Chudhury, R.H. and Z.Chudhury (2008): Achieving the Millennium Development Goal on maternal mortality: Gonoshasthaya Kendra's experience in rural Bangladesh, 2nd edition, January 2008.*

According to the report of recent Bangladesh Demographic and Health Survey (BDHS, 2004), there is a significant variation in Caesarean prevalence rate by poorest, middle and rich quintiles in Bangladesh. The prevalence rates are 0.15, 1.98 and 18.04, respectively, and the ratio between the richest and poorest is 120:1. This testifies to the gross inequality in access to C-section across different socio-economic groups in Bangladesh. The data show that nationally the rich have 120 times higher (18.04) incidence of C-sections than the poor. However, many Caesareans among rich women were unnecessary and financially exploitative due to the mushrooming of private clinics and the unhindered practice of government doctors. The unabated number of Caesarean of rich women may be related to the obstetrician's own convenience and profit.

5.   Probable causes of the high rate of C-section

The cause of the significant variation in the C-section rates by the poorest, middle and richest quintiles in Bangladesh along with other countries may be the physicians' exploitation. The doctors can induce the rich pregnant women more than the poor pregnant women to perform C-section deliveries. They are often responsible for inducing inappropriate demand for C-section deliveries mainly to maximize their income. The lack of affordability or the malpractices by the concerning doctors are creating this type of inappropriateness. In Bangladesh there is no regulation in the relevant health policy to control both inappropriate

and unnecessary C-section. The above probable causes are responsible for this high rate of C-section.

6. Assessment of Economic Costs and Consequences of C-section in Bangladesh

Child birth event is comparable to the effects of technological progress on nature. Child birth is a natural phenomenon. The pregnant woman has the potentiality to deliver a child in the natural way. But the doctors select the C-section or the mothers are motivated or often induced by the doctors to undergo C-sections in child birth without necessary causes in many cases. For the development of medical science, the doctors do not try the natural way of delivering babies; they choose the Caesarean delivery which is based on technology. The doctor treats the pregnancy as if it is a disease and when a mother becomes pregnant the doctor approaches her for treatment. At the end, during the time of delivery the doctor chooses C-section delivery instead of natural process. But it has many long term adverse effects on mothers and children, which are mentioned below.

Risk for Babies

i   **Premature birth**: If the due date was not accurately calculated, the baby could be delivered too early.

ii **Breathing problems**: Babies born by Caesarean are more likely to develop breathing problems such as transient tachypnea (abnormally fast breathing during the first few days after birth).

iii **Low apgar scores**: Babies born by Caesarean sometimes have low Apgar scores. The low score can be an effect of the anesthesia and Caesarean birth, or the baby may have been in distress to begin with. Or perhaps the baby was not stimulated as he or she would have been by vaginal birth.

iv **Fetal injury**: Although rare, the surgeon can accidentally nick the baby while making the uterine incision.

Risks for Mother

i   **Infection**: The uterus or nearby pelvic organs, such as the bladder or kidneys, can become infected.

ii **Increased blood loss**: Blood loss is Caesarean birth on the average is about twice as much as in vaginal birth. However, blood transfusions are rarely needed during a Caesarean.

iii **Decreased bowel function**: The bowel sometimes slows down for several days after surgery, resulting in distention, bloating and discomfort.

iv **Respiratory complications**: General anaesthesia can sometimes lead to pneumonia.

v **Reactions of anaesthesia**: The mother's health could be endangered by unexpected responses (Such as blood pressure that drops quickly) to anaesthesia or other medications during the surgery.

vi **Longer hospital stay and recovery time**: Three to five days in the hospital is the common length of stay, whereas it is less than one to three days for a vaginal birth.

vii **Risk of additional surgeries**: For example, hysterectomy, bladder repairs etc. For the above complications mothers lose the ability to hard work and the baby's health can be affected in the long run.

viii **Risk of further pregnancies**: Incremental risk of having a C-section with future pregnancies.

The consequences of the child birth through the invented technological process of medical service instead of natural process are that the mother and the child are both adversely affected in the long run. Irrespective of the cases where the life of the mother is threatened and unavoidable, the doctors induce the pregnant women to perform C-sections. The reason behind the selection of C-section may be adverse to the child bearing mothers and children. In essence, the prime motivation may be conjectured as maximization of the earnings of the doctors.

Information obtained from the Bangladesh Demographic and Health Survey (2007)**,** on the Caesarean incidence rate, place of delivery, birth order, residence of the mother, mother's education, age of the mother at birth etc. is presented in Table 3.

According to the 2007 BDHS, 8 Percent of babies were born by C- sections, which is approximately four percentage points higher than in the study report of BDHS for 2004.

C-section is more common among first births (13 Percent), births in urban areas (16 percent), and especially among births in the private sector (67 percent). Education and wealth are associated with Caesarean section deliveries. More than one-quarter of women who have completed secondary or higher education and women in the highest wealth quintile delivered by C- section, where the percentage is less than 2 percent for women with no education and women in the lowest quintile.

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Table 3 : Percentage delivered by C-section according to the background characteristics, Bangladesh 2007.

Background Characteristics	Percentage delivered by C-section	Number of birth
Mother's age of birth		
<20	6.1	2011
20-35	8.4	3728
35-49	6.0	318
Birth order		
1	12.7	2050
2-3	6.4	2577
4-5	2.6	1010
6+	1.1	420
Place of birth		
Public Sector	34.6	828
Private Sector/NGO Sector	67.3	459
Respondent mother	0.0	5148
Residence		
Urban	15.9	1249
Rural	5.4	4809
Mother's education		
No education	1.1	1658
Primary incomplete	2.2	1331
Primary complete	3.7	565
secondary incomplete	11.2	1730
secondary complete or higher	25.7	757
Wealth quintile		
Lowest	1.8	1367
Second	1.9	1312
middle	3.3	1173
fourth	6.5	1149
Highest	25.7	1056
Total =	7.5	6058

Source : *Bangladesh Demographic and Health Survey, 2007.*

The education rate and per capita income of urban area are higher than in the rural area. The urban pregnant women are more conscious than the rural pregnant women and different types of medical services are available for the urban pregnant women. They can take opportunity to take services after their pregnancy; hence their pregnancy related complications are minimum. So the C-section incidence rate in the urban areas should be less than in the rural area. But the data does not say so. What are the reasons behind it? The answer may be that the

doctor induces the urban pregnant rich women more than the rural poor pregnant and women. The cause of this inducement is that the doctors want to maximize their income to exploit the ability- to- pay of the rich mothers. Therefore we can say that doctors' income maximization is highly related to the inducement of the higher income holder C-section mother.

We can see that the percentage growth rate of C-section delivery has been increasing at an exponential rate over the years (Table 4).

Table 4 : Percentages of Caesarean delivery in Bangladesh

Year	% of Caesar ean delivery
1999	3[a]
2004	4.37[b]
2007	8[b]
2009	11.8[c]

Source :
(a) *World Health Report, 2005.*
(b) *Bangladesh Health and Demographic Survey, 2004, 2007.*
(c) *Health and Demographic Surveillance system- Matlab: Vol. 41. Registration of health and demographic events 2007 (SR 106, 2009), an ICDDRB Publication.*

Measurement of Social Costs of C-section

According to the Bangladesh Demographic and Health survey 2007,
Number of households in the survey area=10400
Number of child bearing women=6058
C-section percentages in public hospital=35 percent
C-section percentages in private hospital=65 percent
Number of households across the whole country=28644938 (Household survey, 2005)
The projected number of child bearing women based on BHDS, 2007=16685676

Now we consider that the C-section rate is 11.8 percent
Number of C-section performing mother =1968910
Number of C-section performing mother in Public Health Care =1968910×35 percent = 68911
Number of C-section performing mother in Private Health Care =1968910×65 percent =1279791
Total cost on C-section delivery based on HEU (2002) study = TK. 25.76 Billion
Total social cost of delivery =TK. (25.76×.85) Billion = TK. 21.90 Billion
                                                    = TK. 21900 Million
(85.5 percent of the child bearing pregnant women has no complication at the delivery period)

Table 5 : Average cost of C-section procedure in different Health Care

Study	In public health care (TK.)	In private health care (TK.)	NGO health care (TK.)
HEU(MOHFW)2002	8648	19764	4365
BRAC(2009)	15125	12100	

Per capita burden of pregnancy = TK. (21900÷14.18) = TK. 1544.43
Average social cost of C-section procedure= TK. 1544.43
Additional cost due to C-section = (1544.43÷47373) ×100 percent =3.26 percent of per capita income.

If it had been possible to perform natural delivery instead of C-section delivery among the pregnant women then the above-mentioned cost could be saved. This money could be easily diverted to train up a numbers of TBA's which could substantially reduce the MMR in Bangladesh to achieve MDGs or otherwise it could possibly be spent on essential medical services for the rural poor people in Bangladesh. So the opportunity cost of C-section delivery is very high. If the doctor's inducement to maximize their income is mainly responsible for the high C-section rates then one may claim that it is creating the misallocation of resources in the economy.

As per the calculation above, it is clear that about 3.26 percent of per capita income, on the average, is required as additional cost due to C-section deliveries. Even if we assume that there is fifty-fifty chance that a randomly performed C-section procedure is inappropriate or induced, and then a serious thinking remains due at the policy level to bring about efficiency in the allocation of scares economic resources through control and surveillance of such inappropriate practices by the health care providers in Bangladesh.

7.   Conclusion and Recommendation

Conclusion

Although the paper has made an attempt to discuss one of the important health issues prevailing throughout the whole world, nevertheless a number of important perspectives could not be elaborately mentioned the present paper because of the absence of relevant information needed to appropriately focus on the issue. Further research in the field will be needed for this purpose.

Recommendation

1. Removing the information gap between the C-section performed mothers and doctors about the appropriateness of C- section delivery.
2. Building awareness among general population of different side-effects of the C-section upon mothers and new born babies.
3. To introduce regulations to stop unnecessary C-section.
4. Charges for the Antenatal Check Up and C-section delivery are kept at an affordable level at the private hospital.
5. Introducing regular monitoring and accountability to curb the doctor's temptations to exploit the C-section mother.
6. Introduce litigation to stop doctor's malpractice for the C-section delivery.

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Socioeconomic Differentials in Health Population and Nutrition in Bangladesh

Khan A. Matin*

Abstract

The paper is an attempt to analyze the impact of health, population and nutrition programme inputs on different socieconomic groups of the population. The data obtained in various Bangladesh Demographic and Health Survey(BDHS), Utilization of Essential Service Delivery (UESD) Survey and. Bangladesh Maternal Mortality and Health Care Survey (BMMS) during the period 2004 to 2011 have been utilized. The findings suggest that considerable improvements in health outcomes appear to have been achieved during 2004 and 2011. The UESD survey 2010 and the Bangladesh Maternal Mortality Survey 2010 confirm the trend. The data also show that the very poor have achieved improvement for all the variables studied and have been able to narrow the gap with the richest. However, it is also important to note that the absolute gap between the two in health status is still very large for most of the indicators.

This calls for attention of the policy planners. On the contraceptive prevalence rate(CPR) front it will require commitment and leadership of policy makers, especially long lasting cooperation between Directorate General of Family Planning(DGFP) and Directorate General of Health Services(DGHS). Attention is required regarding contraceptive supply and stock outs and stagnating contraceptive use in recent years especially long

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acting and permanent methods(LAPM). Regarding reproductive health care, more efforts should be taken to reach the health services to the door steps of the poor people especially the women and children. These may include needed manpower to be posted in health centres, essential machines and equipment should be installed, regular supply of essential drug should be insured.

Key words : *Socioeconomic differentials, Fertility, CPR, Child mortality, Reproductive health care, Health Care Service Utilization, Bangladesh..*

Introduction

The paper is an attempt to analyze the impact of health, population and nutrition programme inputs on different socioeconomic groups of the population. The data obtained in various Bangladesh Demographic and Health Survey(BDHS), Utilization of Essential Service Delivery (UESD) Survey and Bangladesh Maternal Mortality and Health Care Survey (BMMS) during the period 2004 to 2011 have been utilized. In order to investigate the differentials of Health, Nutrition and Population programme outcomes, we have analyzed the output variables according to the wealth quintile of the women. Such information is available in Bangladesh Demographic and Health Survey(BDHS), Utilization of Essential Service Delivery (UESD) Survey and Bangladesh Maternal Mortality and Health Care Survey (BMMS). The definition of the variables adopted in the surveys is quite comparable. Considerable improvements in health outcomes appear to have been achieved between BDHS 2004 and BDHS 2011. The UESD 2010 and the Bangladesh Maternal Mortality Survey 2010 confirm the trend. The data also show that the very poor, represented by 1st (bottom) Quintile have achieved improvement for all the variables studied and have been able to narrow the gap with the richest i.e. those in 5th(top) quintile. However, it is also important to note that the absolute gap between the two in health status is still very large for most of the variables. This calls for attention of the policy planners.

Findings

Fertility and desired fertility

Several measures of behavioural and normative measures of fertility are available by wealth quintile of the women. For the BDHS2004, the highest value of TFR of 4.1 is found for the women in the poorest quintile which gradually decreases to 2.2 for women in the richest(5th) quintile. The TFR for women in all the

Table 1: Socioeconomic Differentials in Fertility and
Desired Fertility of the Women

Indicators	Period		
	BDHS 2004	BDHS 2007	BDHS 2011
Total Fertility Rate			
Poorest	4.1	3.2	3.1
Richest	2.2	2.2	1.9
Ratio(Poorest to Richest)	1.86	1.45	1.35
Wanted TFR			
Poorest	2.6	2.1	1.8
Richest	1.6	1.6	1.5
Ratio(Poorest to Richest)	1.62	1.31	1.20
Unwanted TFR			
Poorest	1.5	1.1	1.3
Richest	0.6	0.6	0.4
Ratio(Poorest to Richest)	2.50	1.83	3.25
Ideal Number of children			
Poorest	2.6	2.1	2.3
Richest	2.3	2.1	2.1
Ratio(Poorest to Richest)	1.13	1.00	1.09
Women who want no more Children(%)			
Poorest	61.2	68.9	69.6
Richest	56.3	59.4	60.8
Ratio(Poorest to Richest)	1.09	1.16	1.14

quintile is 3.0. During the period 2004-11, the TFR in the 1st, 2nd and 3rd quintile has decreased from the corresponding values. In the BDHS2007 and BDHS2011, declining values of TFR with the rise in wealth quintile has also been observed. However in the 1st, 2nd and 3rd quintile there has been decline in fertility in BDH2007 while compared to the corresponding values of 2004. The fertility of the 4th and 5th (richest) quintile has remained same in the two survey periods. The over all TFR for BDHS 2007 is 2.7 while compared to a value of 3.0 in 2004. The TFR in BMMS 2010 declined to 2.5. In the BDHS 2011, the value of TFR

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declined further to 2.3. The ratio of TFR for women in Bottom/Top quintile declined from 1.86 in 2004 to 1.35 in 2011. Table-1, Similar variations have also been observed for wanted TFR, unwanted TFR and Ideal number of children given in the table. The percentage of women who want no more children is higher, 61.2% in the Poorest (1st quintile) and 61.3% in the 2nd quintile, while compared to the higher quintiles in BDHS 2004. The over all percentage of women who want no more children is 59.3 per cent in BDHS 2004 which increased to 62.5 per cent in BDHS 2007 and in BDHS 2011 it further increased to 64.9 per cent. The mean ideal number of children suggested by the women declined form 2.4 in 2004 to 2.0 in 2011. The ratio of mean ideal number of children of women in bottom/top quintile decreased from 1.13 in 2004 to 1.09.in 2011. The findings suggest that for further reductions in fertility more and more eligible couples (ELCOs) from the lower quintiles have to be brought under the family planning programme.

Table 2: Socioeconmic Differentials in Infant and Child Mortality

Indicators	Period		
	BDHS 2004	BDHS 2007	BDHS 2011
Infant Mortality/1000 Live births			
Poorest	90	66	50
Richest	65	36	29
Ratio(Poorest to Richest)	1.38	1.83	1.72
Under 5 Mortality/1000 Live births			
Poorest	121	86	64
Richest	72	43	37
Ratio(Poorest to Richest)	1.68	2.00	1.73
Post Neonatal Mortality/1000 Live births			
Poorest	35	18	16
Richest	24	9	7
Ratio(Poorest to Richest)	1.46	2.00	2.28
Neonatal Mortality/1000 live births			
Poorest	55	48	34
Richest	42	27	23
Ratio(Poorest to Richest)	1.31	1.78	1.48

Infant and Child Mortality

There has been considerable decline in infant and child mortality in recent years. The Infant mortality rate per 1000 live births declined from 87 in 1993-94 to 43 in 2011 Table -2, The Under 5 mortality rate per 1000 live births declined from 133 in 1993-94 to 53 in 2011. It appears that Bangladesh is likely to achieve the MDG4: achieving IMR 33/1000 and Under 5 mortality rate 48/1000 live birth by the year 2015. The post neonatal mortality rate per 1000 live births decreased from 35 in 1993-94 to 10 in 2011. The neonatal mortality rate per 1000 live births decreased from 52 in 1993-94 to 32 in 2011 (NIPORT, 2012). But the gain in decline in mortality according to socioeconomic has been different. For the recent year 2011, the Infant mortality for the poorest is found to be 72 percent higher than the richest. The Under 5 mortality rate is also 73 percent higher in the poorest group while compared to the richest. The situation in post neonatal mortality is far worse, which is 128 percent higher in comparision to richest group. The neonatal mortality rate is also 48 per cent higher in the poorest group. Similar higher rates of mortality for the poorest have been found in the two previous years.

Contraceptive Prevalence Rate (CPR): Any method, Modern Method, Long acting method and Permanent method (LAPM)

The Contraceptive Prevalence Rate (CPR) for any method was 7.7 per cent in 1975 which gradually increased to 53.8 per cent in 1999-2000. In the BDHS 2004 CPR for any method was 58.1 per cent which decreased to 55.8 per cent in 2007. The CPR increased to 61.7 per cent in UESD2010. In the BDHS 2011, the CPR was found to be 61.2 per cent. In both 2004 and 2007, the CPR increased along with the increase in quintile groups of the women. In the UESD2010, the CPR in the lower four quintiles increased considerably while the value of the poorest to richest quintile was 0.86 in 2004 which increased to 1.01 in 2011. The Contraceptive Prevalence Rate for any Modern Method was 47.3 per cent in 2004, 47.5 per cent in 2007, 54.1 per cent in UESD2010 and 52.1 per cent in BDHS 2011. There were increase in the CPR of modern methods in the first four quintiles, while in the richest quintile it decreased slightly. The ratio of CPR for any modern poorest to richest quintile increased from 0.89 in 2004 to 1.03 in 2011 indicating that the gap in uses of any modern method in the extreme quintiles is being narrowed down. The CPR for long acting and permanent method (LAPM) is more or less stagnant 7.2-7.4 per cent during the period 2004-10. In the 1st and 2nd quintiles there has been slight increase in the CPR of LAPM while there has been decline in the richest quintile keeping the over all CPR of LAPM at about

Table 3: Socioeconomic Differentials in CPR, Unmet Need and Per cent

Indicators	Period		
	BDHS 2004	BDHS 2007	BDHS 2011
CPR(Any method)%			
Poorest	53.6	54.8	61.5
Richest	62.5	59.9	60.8
Ratio(Poorest to Richest)	0.86	0.91	1.01
CPR(Any modern method)%			
Poorest	47.7	46.9	52.9
Richest	50.0	49.6	51.1
Ratio(Poorest to Richest)	0.89	0.94	1.03
CPR(LAPM)%			
Poorest	8.5	10.0	11.1
Richest	5.9	5.1	5.4
Ratio(Poorest to Richest)	1.44	1.96	2.05
Unmet Need for Family Planning%			
Poorest	13.0	17.4	13.8
Richest	8.6	15.6	12.6
Ratio(Poorest to Richest)	1.51	1.11	1.09
Total Demand for Family Planning Met Need/Currently Using Any Method + Unmet Need %			
Poorest	68.7	72.2	75.6
Richest	73.0	75.5	73.5
Ratio(Poorest to Richest)	0.94	0.96	1.03
Percentage of demand satisfied			
Poorest	81.1	76.0	81.6
Richest	88.3	79.3	82.9
Ratio(Poorest to Richest)	0.92	0.96	0.99

the same level. The CPR however increased to 8.0 per cent in BDHS 2011. The ratio of CPR of LAPM of bottom/top quintile was 1.44 in 2004 which increased to 2.05 in BDHS2011.

Unmet Need and Total Demand for FP

The percentage of women with unmet need for family planning was 21.6 per cent in 1993-94. The unmet need for family planning decreased to 13.5 per cent in in BDHS 2011 The unmet need for family planning showed a decreasing trend along

with the rise in wealth quintile. The ratio of unmet need for poorest to richest quintile decreased from 1.51 in 2004 to 1.11 in 2007 and in 2011 in further decreased to 1.09. The total demand for family planning methods increased from 71.4 per cent in 2004 to 74.7 per cent in 2011. The ratio of percentage of total demand among women in bottom/top quintile increased from 0.94 in 2004, to 1.03 in 2011. The overall percentage of demand satisfied for family planning methods was 84.1 per cent in 2004, 76.5 per cent in 2007 and 82.0 per cent in 2011. The ratio of poorest to richest quintile having their demand fulfilled increased from 0.92 in 2004 to 0.99 in 2011.

Age at First Marriage: The median age at first marriage of the woman is somewhat similar in BDHS2004 and 2007 surveys in the poorest quintile but in BDHS2011 it increased by 0.8 years to 15.1 years. It is only in the richest wealth quintile where we find 2.3 years rise in the median age at marriage while compared to the poorest quintile. The median age at first marriage of the women has increased by 1.0 year during the period 2004-11. The ratio of median age at first marriage of women in bottom/top quintile was 0.87 in 2004, 0.85 in 2007 and 0.87 in 2011.

Reproductive Health Care

Antenatal Care (ANC): The pattern of antenatal care(ANC) exhibited positive relationship with the quintile groups. The per cent of women who had a live birth in the five years preceding the survey who had any antenatal care during pregnancy of the most recent birth from any provider increased with increase in their economic status of the women. The over all ANC from any source has increased from 55.9 per cent in 2004 to 67.7 per cent in 2011. Similar increase in the ANC has been found for women in all the quintile groups. The ratio of ANC of women in bottom/top quintile was 0.40 in 2004 which increased to 0.60 in BDHS2011. It thus appears that more efforts are in order to bring more and more women in the lower quintiles under the antenatal care Table-4. The overall percentage of women who received antenatal care from medically trained provider increased from 31.3 per cent in 2004 to 54.6 per cent in 2011. The ratio of women receiving antenatal care from medically trained provider in bottom/top quintile increased from 0.31 in 2004 to 0.38 in 2011.

Place of Delivery: The per cent of live births in the five years preceding the survey having any health facility (Public, Private & NGO) as the place of delivery was very low in bottom quintile while compared to upper quintiles. It showed a positive relationship with the economic status of the women. The per cent of live

birth having any health facility (Public, private or NGO) as the place of delivery increased from 9.3 per cent in 2004 to 28.8 per cent in 2011. The per cent of birth having any health facility as the place of delivery increased with the increase in wealth quintile of women. The ratio of the per cent of delivery of poorest to richest quintile is 0.07 in 2004 which increased to 0.14 in BDHS2011. Similar variations were observed having government health facilities as place of delivery. The per cent of live births having government health facilities as place of delivery increased from 6.1 per cent in 2004 to 11.8 per cent in 2011. The ratio of the per cent of births delivered by bottom/top quintile was 0.11 in BDHS2004, which increased to 0.36 in BDHS2011.

Assistance During Delivery: The per cent of live births in the five years preceding the survey having assistance at the time of delivery by medically trained provider increased from 13.4 per cent in 2004 to 31.7 per cent in 2011. Such percentage also increased with the increase in the quintile group of women. The ratio of parentages of deliveries having assistance of poorest to richest quintile was 0.08 in BDHS 2004, 0.09 in BDHS2007 and 0.14 in UESD2010, 0.16 in BMMS2010 and 0.16 in BDHS2011.

Delivery by C-Section: The per cent of birth delivered by C-section has increased from 3.5 per cent in 2004 to 17.1 per cent in 2011. Such increase has been observed in all quintile groups. The proportion of birth delivered by C-Section is very low in the poorest quintile and gradually increases to the richest quintile. The ratio of proportion births by C-Section of poorest/richest quintile is 0.01 BDHS 2004, 0.07 in BDHS2007, 0.09 in UESD2010 and 0.08 in BDHS2011.

Post natal Care(PNC): The per cent of mothers receiving postnatal care(PNC) from a trained provider slightly improved from 17.8 per cent in 2004 to 22.7 per cent in 2010. The per cent of mothers receiving post natal care was lowest in the poorest quintile which gradually reached the highest level in the richest quintile. The ratio of per cent of mothers receiving PNC of poorest to richest quintile increased from 0.11 in 2004 to 0.15 in 2011.

The level and trend of new born receiving PNC from medically trained provider was similar to that of the mothers. The percentage of children who received post-natal care increased from 17.5 percent in 2004 to 23.0 per cent in 2011. The poorest to richest quintile ratio increased slightly from 0.12 in 2004 to 0.13 in 2011.

Vaccination of Children: The percentage of children of age 12-23 months who received all vaccinations increased from 73.1 per cent in 2004 to 86.0 per cent in

Table 4: Socioeconomic Differentials in Reproductive Health Care

Indicators	Period			
	BDHS 2004	**BDHS 2007**	**UESD 2010**	**BDHS 2011**
Antenatal Care(ANC): Per cent women of who had any antenatal care(ANC) during pregnancy				
Poorest	33.7	41.6	45.9	54.6
Richest	84.1	86.4	92.6	90.9
Ratio(Poorest to Richest)	0.40	0.48	0.49	0.60
Per cent of Women who had any antennal care(ANC) by medically trained provider				
Poorest	24.9	30.8	35.4	31.2
Richest	81.1	83.5	91.2	81.9
Ratio(Poorest to Richest)	0.31	0.37	0.39	0.38
Place of Delivery				
Per cent of live birth having any health facility as the place of delivery				
Poorest	2.0	4.4	8.0	7.5
Richest	30.3	43.4	59.3	52.8
Ratio(Poorest to Richest)	0.07	0.10	0.13	0.14
Assistance During Delivery				
Per cent of live birth having assistance at the time of delivery by Medically trained provider				
Poorest	3.4	4.8	9.2	9.2
Richest	39.6	51.9	63.4	57.0
Ratio(Poorest to Richest)	0.08	0.09	0.14	0.16
Per cent of live birth delivered by Caesarean Section(C-Section)				
Poorest	0.1	1.8	3.2	2.6
Richest	14.4	25.7	36.6	32.2
Ratio(Poorest to Richest)	0.01	0.07	0.09	0.08
Post natal Care(PNC)				
Percentage of live births for which the mother received PNC from a trained provider.				
Poorest	5.1	7.6	8.2	9.6
Richest	46.9	52.0	57.6	60.9
Ratio(Poorest to Richest)	0.11	0.15	0.14	0.15

2011. The percentage of children vaccinated increased in all the wealth quintiles between the two surveys. The ratio of percentage of children vaccinated of poorest to richest quintile was found to be 0.66 in 2004, which increased to 0.82 in 2011.

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Tetanus Toxoid Vaccination of Pregnant Women. (TT Injections)

Pregnant Women Receiving 1 TT Injection: In BDHS2004, the percentage of pregnant women who received 1 TT Injection during pregnancy varied between 19.1 to 23.3 in different quintiles. The over all percentage being 21.2 per cent. In the UESD2010 survey, the over all percentage of pregnant women who received 1 TT Injections slightly increased to 21.6 per cent. The ratio of women receiving 1 TT injection by poorest to richest declined from 1.00 in 2004 to 0.65 in 2011.

Tetanus Toxoid Vaccination of Pregnant Women. (2 or more TT Injections):

The percentage of women who have received 2 or more TT Injections increased from 56.0 per cent in the poorest quintile to 70.7 per cent in the richest quintile in BDHS 2004. The over all mean percentage was 63.6 per cent. In the UESD2010, there appears to be some decline in the percentage of women having 2 or more TT injections. The over all percentage declined from 63.6 per cent in 2004 to 51.2 per cent in 2010. Higher declines occurred in the upper quintiles. The ratio of women receiving 2 or more TT Injections for Poorest to richest quintile increased from 0.79 in 2004 to 1.12 in 2010. It is worth elaborating here that TT injections are given during pregnancy for the prevention of neonatal tetanus. To achieve protection for herself and her new born baby, typically pregnant woman should receive at least two doses of TT. On the other hand, if a woman was fully vaccinated during a previous pregnancy, she may require one dose during her current pregnancy to achieve such protection. Five doses are considered adequate. Another point is that in the BDHS2004, the reference period of birth was 5 years and in the UESD2010, the reference period of birth was 3 years.

Complication Around Delivery: Percentage of births in the five years preceding the survey who had at least one complication around delivery by assistance sought from medically trained providers increased from 28.7 per cent in 2004 to 42.0 per cent in 2007. The ratio of such women in poorest to richest quintile increased from 0.25 in 2004 to 0.30 in 2007.

Treatment Seeking Behaviour for Childhood Diseases

Treatment of Acute Respiratory Infections (ARI): The percentage of children under 5 with ARI who were taken to health facility or medically trained provider increased from 20.3 per cent in 2004 to 30.2 per cent in 2007 and in 2011 it further increased to 35.2 per cent. The ratio of children under 5 of poorest to richest quintile increased from 0.24 in 2004 to 0.28 in 2007 and in 2011 it further

increased to 0.42 indicating an increasing access of the poorest women in ARI treatment of children by medically trained provider. Table 5.

Treatment of Fever: The percentage of children under 5 with fever who were taken for treatment at health facility/medically trained provider increased from 18.5 per cent in 2004 to 23.9 per cent in 2007 and in 2011 it was found to be 27.0 per cent. The ratio of poorest to richest in seeking treatment from health facility increased from 0.23 in 2004 to 0.34 in 2007 and in 2011 it further increased to 0.49.

Table 5: Scioeconomic Differentials in Treatment Seeking Behaviour for Childhood Diseases

Indicators	BDHS 2004	BDHS 2007	BDHS 2011
Treatment of Acute Respiratory Infections (ARI)			
Percentage of Children under 5 with ARI Taken to Health Facility or medically trained Provider			
Poorest	10.8	17.0	24.7
Richest	45.3	59.9	57.9
Ratio(Poorest to Richest)	0.24	0.28	0.42
Treatment Seeking for Children With Fever			
Percentage of Children under 5 years with who were Taken for treatment at Health Facility/Medically trained Provider			
Poorest	9.2	13.3	22.3
Richest	40.7	38.7	42.6
Ratio(Poorest to Richest)	0.23	0.34	0.49
Treatment of Diarrhea of children			
Percentage of children under 5 who had diarrhea who were taken to a health provider			
Poorest	6.9	10.8	19.5
Richest	30.6	30.8	49.4
Ratio(Poorest to Richest)	0.44	0.35	0.39

Treatment of Diarrhea: The percentage of children who were taken to health provider for the treatment of diarrhea was 15.7 per cent in 2004 which increased to 19.8 per cent in 2007 and it showed further increase to 24.8 per cent in 2011.

The ratio of poorest to richest quintile in the percentage of treatment sought from health provider was 0.44 in 2004, 0.35 in 2007 and in 2011 it is found to be 0.39

Micronutrient

Vitamin A Supplement(Children): The percentage of children of age 9-59 months who received Vitamin A supplements was found to be 81.8 per cent in 2004, 88.3 per cent in 2007 and 82.6 per cent in 2010. There was not much variation in Vitamin A supplement intake according to wealth quintile in recent years. Higher percentage of intake was found for the year 2007. The ratio of intake in poorest to richest quintile increased from 0.88 in 2004 to 0.98 in 2010.

Vitamin A Supplement(Mothers): The percentage of women with birth in five years preceding the survey who received a Vitamin A dose in the 1st two months after delivery increased from 14.5 per cent in 2004 to 19.5 per cent in 2010. The Vitamin A intake among mothers was found to be lowest in the poorest quintile and gradually increased to highest level in the richest quintile. The ratio of the percentage of mothers receiving Vitamin A supplements of poorest to richest quintile was 0.33 in 2004 which increased to 0.46 in 2007.

Nutritional Status of Children and Mother

Nutritional Status of Children

Height for Age (Stunting): Percentage below -2SD.   The over all percentage of stunting remains about 43.0 per cent in both 2004 and 2007 but in 2011 itdecreased to 41.3 per cent. The percentage of stunting is highest (about 54%) in the poorest quintile in all the survey years which gradually decreased to 25 per cent in richest quintile in 2004 and 26.3 per cent in 2007 and in 2011 it was found to be 25.7 per cent. The ratio of percentage of stunting of poorest to richest quintile is 2.18 in BDHS2004, 2.05 in BDHS2007 and 2.09 in BDHS2011. Table 6.

Weight for Height (Wasting): Percentage below -2SD. The over all percentage of wasting increased from 12.8 per cent in 2004 to 17.4 per cent in 2007 and in 2011 it again decreased to 15.6 per cent. Similar increase in the percentage of wasting has also been found in the respective quintiles in the three surveys. The ratio of percentage of wasting of poorest to richest quintiles is 1.65 in 2004 and 1.58 in 2007 and 1.44 in 2011. In the year 2011 the prevalence of wasting was 17.5 per cent in the poorest quintile which decreased to 12.1 per cent for children in the richest quintile

Table 6: Socioeconomic Differentials in Nutritional Status of
Children and Nutritional Status of Women

Indicators	Period		
	BDHS 2004	BDHS 2007	BDHS 2011
Nutritional Status of Children			
Height for Age(Stunting):Percentage Below -2SD			
Poorest	54.4	54.0	53.7
Richest	25.0	26.3	25.7
Ratio(Poorest to Richest)	2.18	2.05	2.09
Weight for Height(Wasting):Percentage below -2SD			
Poorest	13.5	17.8	17.5
Richest	9.4	13.2	12.1
Ratio(Poorest to Richest)	1.65	1.58	1.44
Weight for Age(Underweight):Percentage below -2SD			
Poorest	59.3	50.5	50.3
Richest	30.2	26.0	20.9
Ratio(Poorest to Richest)	1.96	1.94	2.41
Nutritional Status of Women			
Body Mass Index(BMI) < 18.5 (Thin)			
Poorest	47.1	43.4	40.1
Richest	17.2	13.4	8.4
Ratio(Poorest to Richest)	2.74	3.24	4.77
BMI 18.5-24.9 (Normal)			
Poorest	50.8	53.4	54.9
Richest	58.0	55.3	55.1
Ratio(Poorest to Richest)	0.87	0.96	0.99
BMI ? 25.0 (Over-weight)			
Poorest	2.1	3.2	5.0
Richest	24.8	31.4	36.5
Ratio(Poorest to Richest)	0.08	0.10	0.13

Weight for Age (Underweight): Percentage below -2SD. The over all percentage of underweight children has decreased from 47.5 per cent in 2004 to 36.4 per cent in 2011. The proportion of underweight children is highest in the poorest quintile

and lowest in the richest quintile in all the surveys. The ratio of percentage of underweight children of poorest to richest quintile is 1.96 in 2004 and 1.94 in 2007 and 2.41 in 2011.

Percentage of Women with BMI < 18.5(Thin): The percentage of thin (BMI< 18.5) women has decreased from 34.3 per cent in 2004 to 24.2 per cent in 2011. The highest proportion of thin women was found to be 43.4 per cent in the poorest quintile in 2004 which decreased to 13.4 per cent in the richest quintile. The ratio of the percentage of thin women of poorest to richest quintile was 2.74 in 2004 and 3.24 in 2007 and 4.77 in 2011.

Percentage of Women with BMI (18.5 – 24.9):**Normal:** The percentage of women with BMI 18.5-24.9 (Normal weight) was found to be 56.8 per cent in 2004 which increased by 2 percentage point to 58.5 per cent in 2007 and in 2011 it further increased to 59.3 percent. The ratio of the percentage of women having normal weight of poorest to richest quintile was 0.87 in 2004 which increased to 0.96 in 2007 and 0.99 in 2011 indicating that the composition of women of normal weight has remain same according to wealth quintile in recent years.

Percentage of Women with BMI > 25.0 (Overweight): The percentage of overweight women is very low (2-5%) in the poorest quintile which increased to 9.5-36.5% in the richest quintile in the survey periods. The percentage of overweight women was enormously high in the richest quintile. It was 24.8 per cent in 2004 increasing further to 31.4 per cent in 2007 and in 2011 it was 36.5 per cent. The over all percentage of overweight women increased from 8.9 per cent in 2004 to 11.8 per cent in 2007 and in 2011 it further increased to 16.5 per cent. The ratio of percentage of overweight women in the poorest to richest (bottom/top) quintile was 0.08 in 2004 and 0.10 in 2007 and 0.13 in 2011.

Conclusion

From the above analysis of the level and trend of indicators, it appears that the Programme inputs in health, population and nutrition have been quite successful in providing services in the field of reproductive health and nutrition of the women from the lower wealth quintiles and their children. However, it is also important to note that the absolute gap between the two in health status is still very large for most of the indicators. This calls for attention of the policy planners. More attempts should be taken to reach the health services to the door steps of the poor people especially the women and children. These may include needed manpower to be posted in health centres, essential machines and equipment should be installed, regular supply of essential drug should be insured.

On the CPR front it will require commitment and leadership of policy makers, especially long lasting cooperation between Directorate General of Family Planning and Directorate General of Health Services. Attention is required regarding contractive supply and stock outs and stagnating contraceptive use in recent years especially for long acting and permanent methods. It appears that Bangladesh is likely to achieve the MDG4: achieving IMR 33/1000 and Under 5 mortality rate 48/1000 live birth by the year 2015 The new HPNSDP 2011-16 has been launched. The priority of the program is to stimulate demand and improve access to and utilization of HPN services in order to reduce morbidity and mortality; reduce population growth rate and improve nutritional status, especially of women and children. Bangladesh policy makers have to express far more commitment and the implementers of the programme have to make vigorous effort to make the HPNSDP far more efficient.

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The Demographic Dividends in Bangladesh:
Time to Act Now

Khan A. Matin*

Abstract

Like many other developed and developing countries, Bangladesh has been experiencing demographic transition accompanied by the transition in age structure of its population. The paper aims at investigating the timing and transitions of demographic characteristics of Bangladesh and opportunities and challenges in reaping the benefits of demographic dividend. Using data from UN World population Prospects (2010 Revision), demographic dividend period and demographic support ratio have been computed an issue of secondary importance. The demographic dividend can be defined as the potential economic benefit offered by changes in the age structure of the population, during the demographic transition, when there is an increase in working age population and an associated decline in the dependent age population. Available information from the analysis suggests that the once in a life time window of opportunity will phase out in 2040. All the indicators support the view that the first demographic dividend period started in 1980 and continues for a period of 60 years up to 2040. The level and trend of important measures of fertility, mortality, dependency ratio and support ratio over the period 1950-2100 have been studied. The possibility of a second dividend arises because some of the gains in per capita income can be

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diverted to raising productivity and thereby raising standard of living for future generations. In order to reap the benefit of abundant supply of labor force, there is an urgent need to increase investment level in both physical and human capital. Needless to say that effective plan of action has to be adopted before the dividend period is over. Although the Sixth Five year plan is aimed at increasing the level of investment to 32.5 per cent of GDP in FY15, it has been stagnant at about 25 per cent in recent years. Bangladesh will have to play carefully to offset much more fundamental, possibly negative effects coming from demographic constraints turning the dividend into a huge burden.

Key words*: Demographic dividend, life cycle model, demographic transition, support ratio, human capital, labour supply, saving and investment, Bangladesh.*

Introduction

Social scientists, mainly economists and demographers, continue to argue whether population growth encourages, discourages or is independent of economic growth. The focus of this debate however has mainly remained confined to population size and growth, giving little consideration to the age structure of the population. Bringing age structure dynamics in this debate can be attributed to Coale and Hoover (1958), who argued that sustained high fertility and falling mortality make governments and households burdened with high youth dependency rates, lowering tax revenues and household savings. Economists have recently begun to focus on the impact of changing age structure of the population moving beyond the Malthusian emphasis on population growth (Mason 2007; Birdsall *et. al.,* 2001; Bloom and Freeman, 1998, Bloom and Canning, 2005, and Bloom and Williamson, 1998). The interest in studying the relation between population change and economic growth has got momentum because of the demographic transitions taking place in the developing countries are at varying stages in experiencing declining fertility and mortality rates. The paper aims at investigating the timing and transitions of demographic characteristics of Bangladesh and opportunities and challenges in reaping the benefit of demographic dividend. Data available from the UN World Population Prospects (2010 Revision) and various demographic and health surveys have been utilized.

The Life Cycle Consumption Model

The life cycle consumption model (Bloom et al, 2003) suggests that different age groups in a population have different economic implications. The young need investment in health and education; adults supply labour, income and savings. At

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old ages there is a need for retirement income and investment in health. As the relative size of each of these age groups changes in the population, similar is the impact of the economic behaviour associated with different ages. This relation is summarized in the life cycle income and consumption model, a schematic representation of which can be found in Figure 1.

As a result of declining population growth and consequent changes in age structure, the proportion of working-age population is increasing in most developing countries, offering a window of opportunity to these countries, referred to as the 'demographic dividend'.

Figure 1. Life Cycle Income and Consumption
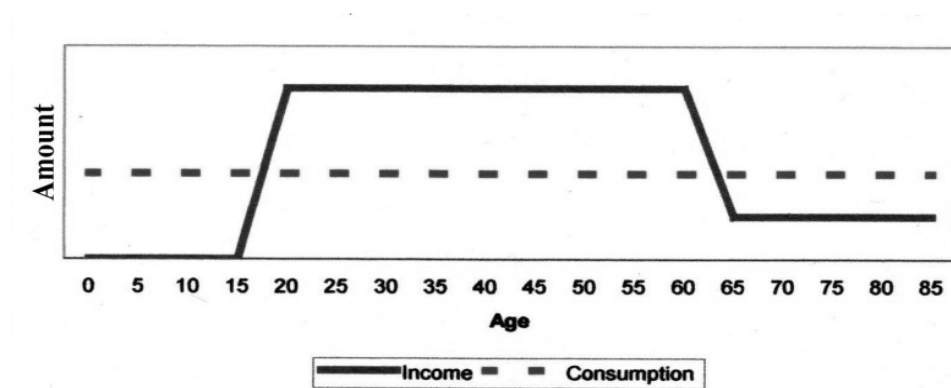
Source: *Bloom et al. (2001)*

The First Demographic Dividend

Dividend models are grounded in empirical observations about what had happened historically in (i) Europe (especially Sweden, where robust long-running time series data sets were available) and (ii) South, Southeast and East Asia over the recent decades. The age structure transitions (AST) unfold that demographic dividend is possible at the middle phase when proportion of population at the working ages peak. In the economic literature the parameters of dividend are measured by a support ratio defined by an index-the ratio of producers to consumers (weighted to allow for age specific variations in production and consumption). This measure captures how changes in age structure influence the concentration of the population in the relatively production ages (Mason and Lee, 2006).

Economic support ratio: The measure of economic support ratio has been advocated to find the extent of first demographic dividend. First, the age structure

of the population is summarized by the economic support ratio defined as the effective number of producers (L) divided by the effective number of Consumers (N). The effective number of producers is calculated using the population weighted by age-specific labour income values. Similarly, the effective number of consumers is calculated using age-specific consumption weights. Thus the economic support ratio (L/N) is:

Economic Support Ratio =   L/N   = $\Sigma W_y(x) P(x)/ \Sigma W_c (x) P(x)$

Where W_y are age specific labour income weights and W_c are age specific consumption weights, and P(x) is the population in age group x.

Income per effective consumer, a measure of per capita income adjusted for age variation in consumption, is the product of the support ratio and income per worker;

Y/N = (L/N)(Y/L)

In growth terms, the growth rate of income per effective consumer depends on age structure effect and a productivity effect that measures the income (or output)

g[Y/N) = g[L/N]   + g[Y/L].

Labour Income /Consumption Ratio for Some Countries

Information on annual per capita flows of labour income and consumption of few selected countries using data of National Transfer Accounts Project is given in table 1 (NTA, 2012). The data refer to varying periods. The labour income of Mexico, Brazil and Nigeria could support about 60 per cent of their consumption expenditure. The labour income of India in 2004 could support 78 per cent of the consumption expenditure. An U. S. labour in 2003 could support 81 per cent of its consumption expenditure. The highest value of ratio labour income to consumption expenditure of 1.31 is found for China in 2002 indicating that a Chinese labour income could provide support for an additional 31 per cent of consumption expenditure.

Demographic Support Ratio: Given the limitations of availability of age specific labour income and consumption data of Bangladesh, the present analysis uses the demographic support ratio which can be defined as ratio of working age (20-59) population to population in dependent ages (0-24 and ages 60 and above)

Demographic Support Ratio =   W20-59/[D0-24 + D60+).

Figure 2 shows the trend of support ratio for the period 1950-2100. The 1st demographic dividend starts when its value starts increasing and continues to the

Table 1: Annual per capita flows of labour income and
Consumption for some Countries

Country & Period	Currency	Labour Income	Consumption	Labor Income/ Consumption
India 2004	Rupee	13842	17687	0.78
China 2002	Yuan	5074	3845	1.31
Indonesia 2005	THB/a	6236313	8191452	0.76
Philipplines 1999	PHP	21058	30374	0.69
Thailand 2004	THB	50100	59183	0.84
South Korea 2000	KRW	6168521	6672474	0.92
Japan 2004	Yen	2112588	2650448	0.92
Mexico 2004	Peso	33117	55934	0.59
Brazil 1996	Real	2076	3443	0.60
Kenya 1994	KES	11000	11133	0.99
Nigeria 2004	Naira	37318	62715	0.59
U.S.A 2003	US$	25337	31377	0.81

Source and note : *National Transfer Accounts Project. Computation by author.*
URL/http://www.ntaccounts.org/web/nta/show/Consumption and Labor Income Profiles Release
a/Although the name of Indonesian Currency is Indonesian Rupiah(IDR),THB has been quoted.

period until it starts declining. The dividend period extends for about 60 years from 1980 to 2040.

In all the variants of UN population projections demographic dividend in Bangladesh started in 1980 and according to low variant it will end in 2035 and

Figure 2 : Demographic Support Ratio (Per cent):1950-2100
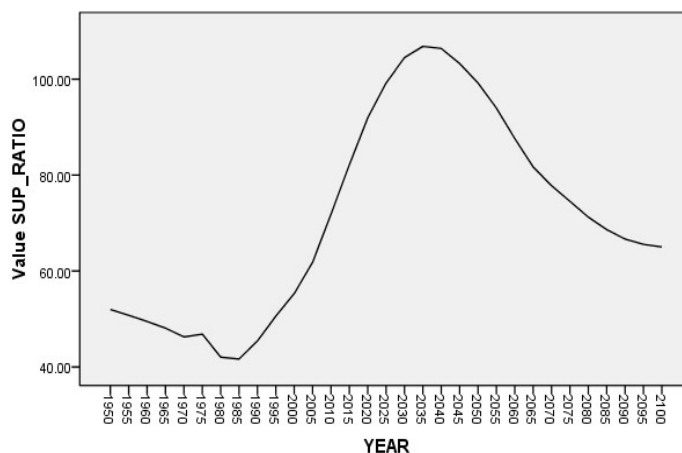
Source : UN(2010), Medium Variant.

according to medium and high variant it will draw to a close in 2040. So, Bangladesh has already experienced 35 years of demographic dividend. The country is in the midway of dividend period. There are 25 years more to work on.

The Second Demographic Dividend

The effect of age structure transitions (AST) on the economy would be captured entirely by the first dividend if all of the gains in the per capita income were used to increase the current consumption. Those alive during the dividend period would be able to achieve higher standard of living, but the gains would be lost to future generations. The possibility of a second dividend arises because some of the gains in per capita income can be diverted to raising productivity and thereby raising standard of living for future generations. This outcome can be generalized in a variety of ways. One important possibility is by increasing investment in human capital. Increasing investment in physical capital should also be emphasized.

Demographic Transition and Demographic Dividend in Bangladesh: 1950-2100.

Using the UN projections (2010 Revision), this section looks into what the future may hold for Bangladesh demographically. UN projections provide three variants—low, medium and high—and the present paper mainly uses the medium variant to analyze the demographic behaviour in Bangladesh.

Important Indicators

Crude Birth Rate and Crude Death Rate

From a very high crude birth rate and crude death rate in the past decades, the present time crude birth rate is estimated to be about 19 per thousand and crude death rate is estimated to be around 6 per thousand population. According to the medium variant projection the two rates are expected to be equal in the year 2050 producing zero rate of natural increase and, turning it to be stationary population. Beyond this period crude birth rate would keep falling while crude death rate would keep on increasing see Figure 3.

Total Fertility Rate and NRR. According to findings of the national level surveys conducted on health and demography, Bangladesh had a total fertility rate of 6.3 in 1975 which, over the last four decades or so, has deceased considerably and according to BDHS 2011, the value of TFR is found to be 2.3 per woman. According to medium variant projections, Bangladesh is expected to achieve

replacement level fertility (TFR=2.1) in about a decades (see figure 4). Bangladeshs current Health Population, and Nutrition Sector Development Programme (HPNSDP) aims at reducing TFR to 2.0 per woman by 2016. According to Sample Vital Registration System (SVRS) conducted by BBS, the value of NRR was 1.89 in 1981 which decreased to 1.04 in 2010.

Figure 3: Crude Birth and Death Rates:1950-2100
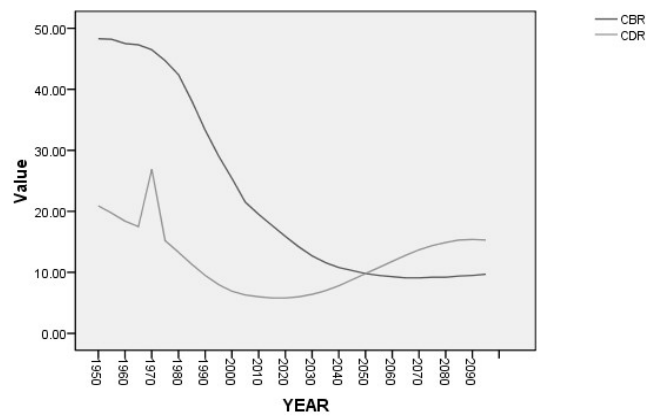
Source : UN(2010), Medium Variant.

Figure 4 : TFR and NRR Per Woman:1950-2100
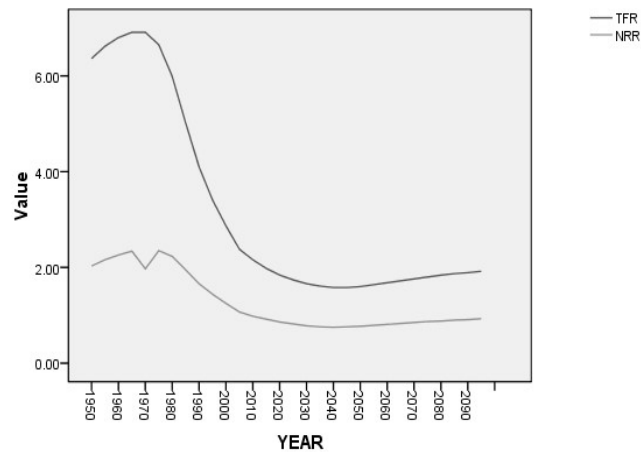
Source : UN(2010), Medium Variant.

Life Expectancy at birth

In the 1950s, Bangladesh obviously experienced low expectation of life at birth. This gradually started to improve owing to progress in public health and medical facilities. But the country again had a strong blow on the mortality situation during early seventies. The value of expectation of life at birth was found to be 46.6 for male, 45.8 for female and 46.2 for both in the 1974 Bangladesh Retrospective Survey of Fertility and Mortality. Such decline in the value of expectation of life at birth is depicted in the UN medium variant projections (see figure 5). This has been argued by many due to food shortage and famine like conditions prevailing in some of the post liberation years. While passing, we mention here that Bangladesh earned independence in 1971 after fighting a nine month long bloody war of liberation. The newly independent country had to face a lot of adverse situations in health, population and nutrition. Apart from the natural calamities like flood and cyclone, very severe droughts hit the war torn new republic in 1972 and 1975. But situations have spectacularly changed since

Life Expectancy at Birth(eo) by Sex: Bangladesh :1950 - 2100.
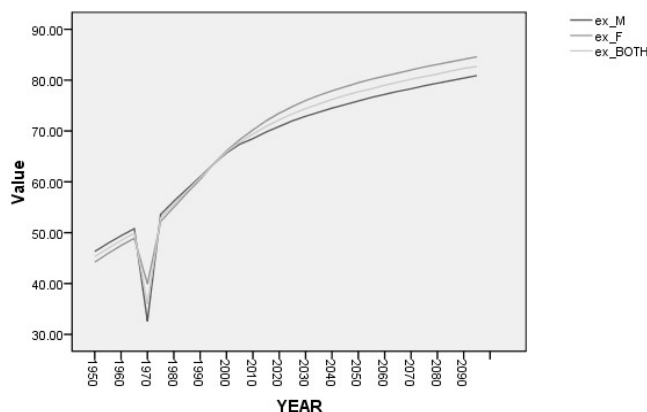
Source : UN(2010), Medium Variant.

then. Due to the implementation of various health, population and nutrition programmes, the value of expectation of life at birth has been on the rise. For the year 2010, the value of expectation of life at birth for male was found to be 66.6 years, for female it was 68.8 years and for both it was 67.7 years.

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Dependency Ratio: Child Old and Total

According to Population Census 2011, the total dependency ratio was 64, the child dependency ratio was 56 and the old dependency ratio was 8. There has been consierable improvement in the values of the dependency ratio while compared to earlier Censuses. But the medium variant projections indicate that the old age dependency ratio shall remain low at the same level up to the year 2020 after which it will keep on increasing (see figure 6). The child dependency ratio has been very high up to 1980 after which it will rapidly decrease up to 2050, after which it will remain steady at a low level. The total dependency ratio is the outcome of the sum of these two. Up to 1980 it exhibited increasing trend, will dcrease up to ~~~~ after which it will keep on increasing.

F Dependency Ratio(Child, Old and Total): Bangladesh :1950 - 2100.
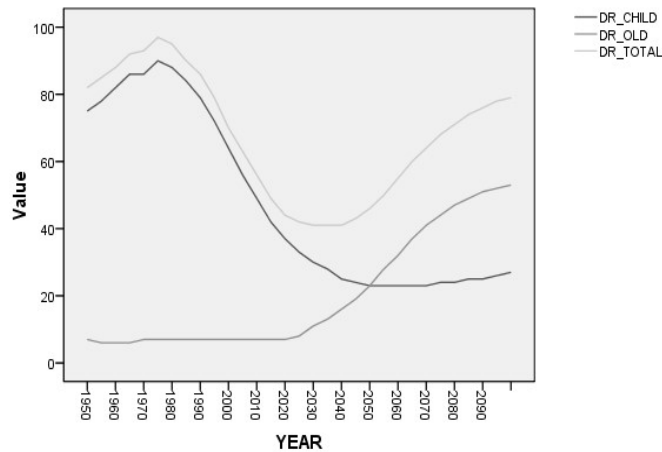
Source : UN(2010), Medium Variant.

Population Aged 60+ and 65+

The per cent of both population aged 60+ and 65+ have been at low level up to 2020 after which it exhibited exponential growth pattern. According to population census 2011, the per cent of population 60+ is 7.56, and the per cent of population 65+is 4.74. This shows increase in the number of aged population while compared the earlier censuses (see figure 7).

Old Age Security System in Bangladesh:

As with regards to the government's support, the pension system in Bangladesh is mainly available in government services. There is no provision of pension for

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private sector workers. They only receive some gratuity at retirement. The vast majority of 25.5 million labourers who work in agriculture sector remain outside the pension system. Bangladesh government has recently introduced 'Old Age Allowance Programme' under the social safety net programme for poverty alleviation which covers small fraction of elderly people in the country who are not covered by pension system. The Government of Bangladesh started this programme in consideration of the socio-economic condition of destitute, neglected and financially insolvent elderly citizens. Administered by the Ministry of Social Welfare, this programme disbursed an amount of Tk. 8920.4 million in FY 2011-12 and 2.5 million elderly people are receiving this allowance at a

Percent of Population 60+ and 65+ : 1950 - 2100.
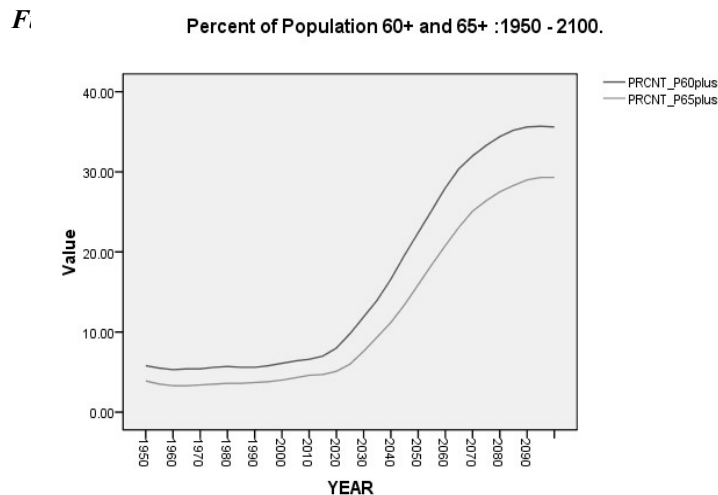
Source : UN(2010), Medium Variant.

monthly rate of Tk. 300. Family support is the basic security of most elderly people in Bangladesh. There is a felt need for evolving a retirement and pension system that will be fair and equitable to all segments of the society.

Population at different educational levels

Human Capital

Age structure transitions (AST) has significant effect on investment in human capital. Parents invest more in their children's human capital as the premium of higher education increases and lasts longer. Consequently, the labour force becomes more productive, gets higher wages and there is improvement in the standard of living. With shrinking of young population, pressure on the education system at early ages is reduced, which can help countries to invest more in

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improving the quality of education and in higher levels, rather than in making investment in basic education.

In the last 3 decades or so, Bangladesh has made considerable progress in the field of education. The adult literacy rate has increased from 25.8 per cent in 1974 to 58.6 per cent in 2010. The gross primary school enrolment rate is 108 per cent and the net primary enrolment rate is about 95 per cent. The gross secondary enrolment rate is 57 per cent and the net secondary enrolment rate is 50 per cent.

School Age Population: Bangladesh :1950 - 2100.
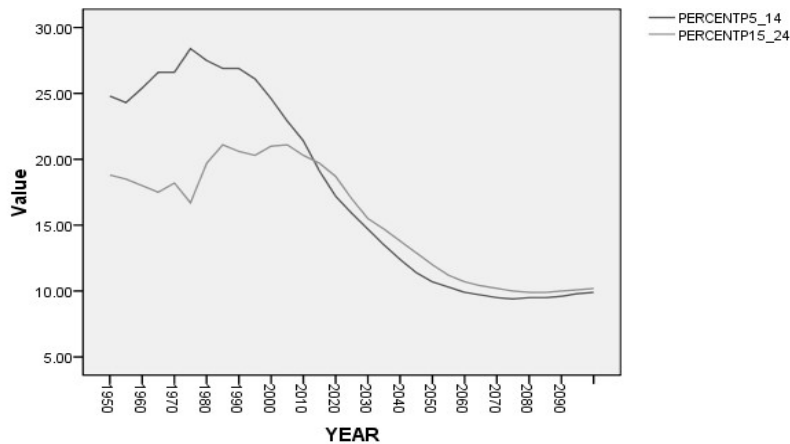
Source : UN(2010), Medium Variant.

The gross higher secondary enrolment rate is 20 per cent and the net enrolment rate is 14 per cent. Girls have outnumbered boys in enrolment in primary to higher secondary levels. At the university level, the proportion of girl students is 28.26 per cent. The gender parity target of the Millennium Development Goals (MDGs) has already been achieved both at primary and secondary education levels. These are all remarkable feats when compared to countries of similar level income in or outside the region. At the secondary level, the Ministry of Education oversees a unique system of public-private partnership. As high as 98 percent of the secondary level Institutions are managed and operated by the private sector with financial support from the government. Furthermore, the Government of Bangladesh with support from a series of Programmatic Education Sector Development Support Credits from the World Bank has launched a comprehensive policy reform agenda to ensure systemic improvement in governance, quality and relevance of secondary education.

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However, the higher education scenario is different. The Ministry of Education has the overall responsibility for policy formulation, strategic leadership and preparation of budget for public funding in higher education. In 1973, it commissioned the University Grants Commission (UGC), the oversight apex body for all universities, as the intermediary between the Government and the universities to regulate the university affairs. Now 82 universities-31 public and 51 private —provide four types of higher education in the country: (i) general education; (ii) science, technology and engineering education; (iii) agricultural education; and (iv) medical education. The public and private universities together cater for about 23 percent of total enrollments in higher education, National University having about 1500 affiliated colleges enroll 71 percent and the Open University another 6 percent. There are 1.6 million enrollments at the University level.

In order to improve the tertiary education, the Government prepared a Higher Education Strategic Plan 2006-26 which was fully home-grown with the participation of front-line academics from both public and private universities and representatives from think-tanks and the private sector. This Plan, widely recognized as a ground-breaking initiative signaling a strong commitment by the government to enhance investments in higher education, comprehensively identifies issues and challenges and recommends solutions to the problems to be tackled over a period of 20 years.

Labour Force and Population Growth Rate

According to UN medium variant projection, the annual growth rate of population was higher than the labour force (15-64) growth rate up to mid-sixties (see figure 9), after which both decreased sharply up to mid-seventies and the growth of both population and labour force then increased up to 1980 when they were equal. Since 1980, growth rate of labour force has been much higher than the annual growth rate of population. This is the beginning of the demographic dividend period. Both the population growth rate and labour force growth decrease over time and in 2040 they will become equal. The highest vertical distance between annual labour force growth and population growth occurs around the first two decades of the new millennium. However, beyond the year 2040, the country will have more and more dependent population.

Labour Supply

During the process of demographic transition labour force increases in two ways. First, the number of people in the working-ages gets larger, and second, women are more likely to enter into the labour market as fertility level declines. However,

it depends on the ability of the market and workers to make favourable use of this opportunity.

The information available from Population Cesuses, Labour Force Surveys and the UN medium variant projections all corroborate that during the period 2000 to 2010, the working age (15-64) population has increased by 1.8 million per year. According to Population Census 2001 the population in the working age group

Figure 9 :   *?100*

Annual growth rate of Population and Labor Force : Bangladesh :1950 - 2100.
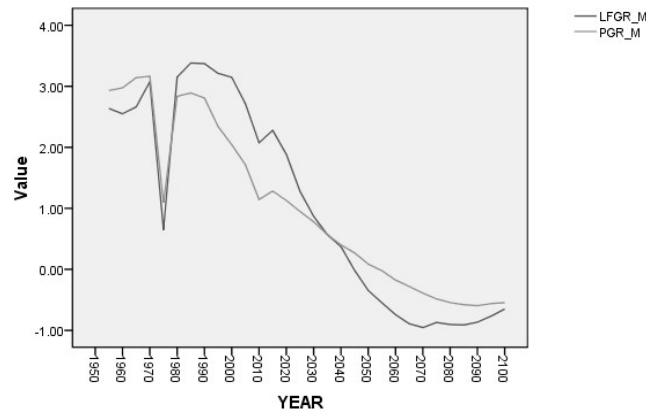
Source : UN(2010), Medium Variant.

was 57 percent which increased to 61 per cent in census year 2011. The UN medium variant projection estimates that working age population was to be 59 per cent in 2000 and 64 per cent in 2010. The largest difference in the annual growth of labour force and population growth rate is observed for the first two decades of the millenium, 2000-2020. The size of Labour force increased from 19.7 million in 1974 to 46 3 million in 2002-03 and 56.7 million in 2010 (see figure 9). This shows an annual increase of 1.3 million labour force during 2002-2010. The number of employed population increased from 44.3 million in 2002-03 to 54.1 million in 2010 yielding an annual increase of 1.2 million employed persons. Among the employed population, 37.9 million were male and 16.2 milion were female**.** As such, total unemployed persons were 2.6 million of which 1.6 million were male and 1.0 million were female. The official unemployment rate is quite low- being 4.5 per cent for total, 4.1 per cent for male and 5.8 per cent for female. The labor force participation rate has been increasing in recent years. The participation rates for both the sexes increased from 51.2 per cent in 1991 to 59.3

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per cent in 2010. For male, the rates have been about 86-87 per cent in the last two decades. There have been increase in the female participation rate, from 14.0 per cent in 1991 to 36 per cent in 2010. The age specific participation rates has been quite high for male reaching almost 99 per cent in the prime working age groups, the age specific participation rates for female has been quite low while compared to the males. But many of them are engaged in low productivity, low wage informal sector. According to LFS (2010), as high as 47.7 per cent of the employed labor force is in agriculture sector followed by service sector (35.3 per cent) and industrial sector (17.5 per cent).

Figure 9 : Labour Force and Employment (Million): 1974-2010

Source: Bangladesh Bureau of Statistics

Saving and Investment

The Life Cycle Consumption model provides choices for individuals to vary their saving over their life time in order to accommodate their consumption. Demographic transition thus encourages savings and country's ability for investment and growth.

Saving

The domestic saving rate in public sector has been very low at about 1.3 per cent of GDP in the last decade. The domestic saving rate in private sector has increased from 17.0 per cent in FY01 to 19.0 per cent in FY08 after which it decreased to 17.9 per cent in FY12. The total domestic saving rate increased from 18.0 per cent in FY01 to 20.3 per cent of GDP in FY08 and it decreased to 19.3 per cent in FY12. The foreign saving rate has increased from 4.6 per cent in FY01 to 10.0 per cent in FY12. The national saving rate increased from 22.4 per cent in FY01 to 30.2 per cent in FY08. For FY12 it slightly decreased to 29.4 per cent (see table

2). The information regarding saving and investment along with their trend lines for the period FY1981 to FY 2012 are also given in Figure 10.

Figure 10 : Saving and Investment Rate, Bangladesh FY 1981-FY2012.

Saving and Investment Rate,Bangladesh FY1981- FY2012.
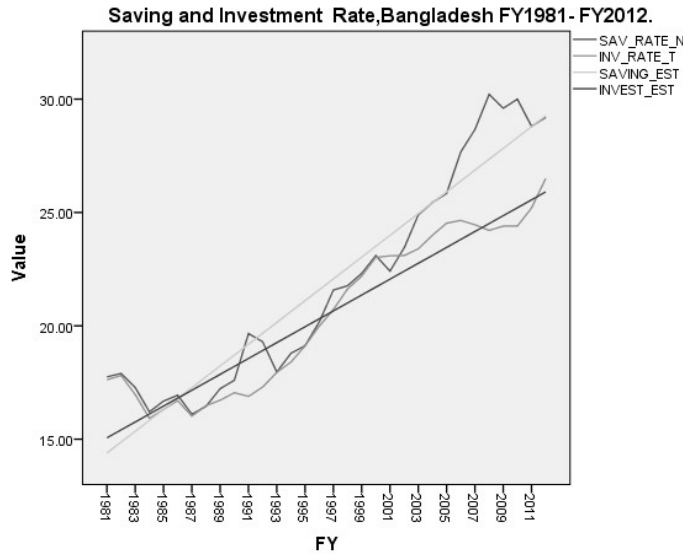
Bangladesh Economic Review, Author's Computation.

Investment

The investment in public sector decreased from 7.2 per cent in FY01 to 4.7 per cent in FY09 and again increased to 6.5 per cent in FY12. The investment rate in private sector has increased from 15.8 per cent in FY01 to 20.0 per cent in FY12. The total investment rate has increased from 23.1 per cent in FY01 to 26.5 per cent in FY12. The national Saving-Investment gap which was 1.0 per cent of GDP in FY01 increased to 6.0 per cent in FY08. For the FY12 it decreased to 2.7 per cent of GDP. The Sixth Five Year Plan on Saving and Investment observes:

'One of the major problems Bangladesh economy is facing is the stagnation of increasing at a pace slightly above the rate of growth of GDP, a secular decline in public investment in relation to GDP largely offsets that, keeping the total investment broadly stagnant in relation to GDP. This low level of investment significantly falls short of the investment rate needed to support the 8 per cent GDP growth target set for the end of the plan period (SFYP,. p 78)**'.**

The national saving-investment gap is 2.7 per cent of GDP in the FY 12 indicating a fair chance that the excess saving may be exported to other counties.

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Table 2 : Saving and Investment: FY01 to FY12

Types	FY01	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12
Public									
Investment	7.2	6.2	6.0	5.4	5.0	4.7	5.0	5.6	6.5
Domestic Saving	1.0	1.4	1.4	1.4	1.4	1.3	1.4	1.4	1.3
DS-I Gap	-6.2	-4.8	-4.6	-4.0	-3.6	-3.4	-3.6	-4.2	5.2
Private									
Investment	15.8	18.3	18.6	19.0	19.3	19.7	19.4	19.5	20.0
Domestic Saving	17.0	18.6	18.8	18.9	19.0	18.8	18.8	17.9	17.9
DS-I Gap	1.2	0.3	0.2	-0.1	-0.3	-0.9	-0.6	-1.6	-2.1
Total									
Investment	23.1	24.5	24.6	24.4	24.2	24.4	24.4	25.2	26.5
Domestic Saving	18.0	20.0	20.2	20.3	20.3	20.1	20.1	19.3	19.3
DS-I Gap	-5.1	-4.5	-4.4	-4.1	-3.9	-4.3	-4.3	-5.9	-7.2
National Savings	22.4	25.8	27.7	28.7	30.2	29.6	30.0	28.8	29.2
Foreign Saving	4.6	5.8	7.5	8.4	9.9	9.3	9.9	8.8	10.0
National S-I Gap	-1.0	1.3	3.1	4.3	6.0	5.2	5.6	3.6	2.7

Source: *Bangladesh Economic Review. Annual Report of Bangladesh Bank.*

The least squares trend line fitted to the saving and investment rate indicates that both saving rate and investment rate shall increase over time and the gap between saving and investment rate shall also keep widening.

The SFYP projected an investment rate of 32.5 per cent of GDP for achieving a growth rate of 8.0 per cent by the end of the plan period in 2015.

Conclusion

The demograhic dividends, a result of age structure transitions of the population does not materialize by default. In order to reap the benefit of opportunity during the first dividend period, the nation has to adopt policy for the absorption of bulging labour force. As regards Bangladesh the official unemployment rate is low. But we have lot of unemployed or underemployed working age population. In spite of adoption of several investment friendly policies for both local and foreign capital, the investment rate as per cent of GDP is quite stagnant in recent years. Consequently, it hampers employment and growth. Apart from the thought provoking deliberations of the

economists and policy makers, even business section of newspapers are overwhelmed with contributions regarding the constraints of investment in Bangladesh. But to no avail. We have noticed that the demographic dividend period has started in Bangladesh in 1980 and it is likely to end in about 2040. Creation of higher productivity jobs, intermediation of savings of the existing working-age population for investment in infrastructures and institutions, creation of greater opportunities for female labour force participation in high productivity decent jobs, etc., matter here. So Bangladeshi policy makers have to be more serious and commited about this. If the efforts for employment generation in domestic market does not bring desired result, the next complementary approach should be to give emphasis on exporting the labour force to labour importing countries. Bangladesh has long tradition of manpower export to middle eastern and south asian countries. The TVET institutions should be energised under the National Skill Development Policy. The competency based trining and assessment (CBT &A) with due regard to quality assurance (QA) is the need of the hour. Lessons learned from the East Asian Countries can be followed. Experiences of the East Asian Countries, especially the role of their science and technolgy institutes needs to be revisited. Presently, opportunities for skill training or vocational training provided by the government are limited to the country's small number of polytechnics and some programmes under the ministry of youth. But these are very inadequate compared to the requirement and calls for much expansion of such training facilities and programmes. The Government needs to formulate work programme under the National Skill Development Policy.

The most advantaged countries seem to be the newly industrialized ones which have definitely benefited from the first dividend , and seemingly from the second. For the poorer countries yet to receive a dividend phase a lot will depend on how they manage the economic constraints, which are situational-a mineral boom could change their fortunes overnight. But they will have to play carefully to offset much more fundamental, possibly negative effects coming from demographic constraints. Central to this is how they are able to mobilise the demographic mechanisms that will deliver the dividend: the labour force and human capital; and underpinning this might be how international civil society responds to the MDGs. (Pool, 2007).

The present opportunities will not last long and will not be repeated. The window shall begin to close in Bangladesh in next 25 years, and favorable policies take time to establish and ensure the benefitect. Investments in education, health, and job creation are vital, as are policies that favor the fertility declines that have created and sustained the window. This is the time to act.

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Maintenance of Health & Safety of Women Garment Employees: A Study of Chittagong Asian Apparels Ltd

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Abstract

The study was undertaken with the objective of analyzing the health and safety issues of the employees of Chittagong Asian Apparels Ltd. (CAAL). Data for the study were collected both from primary and secondary source. The study reveals that CAAL is the largest employer in the formal manufacturing sector where more than one thousand women employees are working. The health and safety issues included in the study are high temperature, dust, inadequate ventilation and lighting, excessive noise, shortage of fire fighting equipments, blocked exit, inadequate sanitation, unhygienic canteen, lack of pure drinking water, excess working hours, sub minimal wage and denial of wage rise. These have directly affected the health and safety of women garment employees of CAAL. The study suggests that promotional facility, promotional policy, upgrading economic situation, increased communication and ensured training facilities for various categories of staff should be increased for the effective growth of health and safety of garment employees.The study further suggests that the maternity leave with salary for the unconfirmed women employees should be given due weightage for their social and economic security.

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1. Introduction

1.1 Background of the Study

The women in Bangladesh have contributed substantially to their households as well as to the country's economy. Though women constitute half of the population, their contribution towards economic activities has not been duly assessed. It is not possible to bring out development by keeping the womenfolk outside the remit of overall development agenda. The government has adopted a range of programs to remove the gender disparity. In the Fifth Five Year Plan (1997-2002), emphasis was laid on women development and the plan aimed to achieve the agenda like (i) gender parity at all levels and equal partnership in decision making; (ii) rights of women and their control on economic assets like land, capital and technology, including their economic self-reliance; (iii) removing the gap between men and women in terms of development and maximum utilization of human resources in the sphere of agriculture, industry, commerce, modern technology and informal sectors; (iv) stopping all forms of persecution on women and preventing women and children trafficking; and (v) ensuring women participation in the process of establishing peace at the national and international level. Women Development Policy (1991) was formulated with a view to ensuring active participation of women in national development activities as well as ensuring their empowerment through building them up as skilled human resources.

As per the Govt. policy, the main issue of women development is to create employment opportunities for women in both formal and informal sectors. Accordingly, women quota has been introduced in the formal govt. service and arrangements have been made for the women entrepreneurs to initiate ventures in different sectors. The majority of women workers are involved primarily in the informal sector of the economy. Within the formal sector, a large number of women work in export-oriented industries (e. g, garments), the source of 70 percent of Bangladesh's foreign exchange. Significant number of women also work as teachers, lawyers, journalists, government employees, and for nongovernmental organizations (NGOs). Their activities, in turn, contribute to transformation of traditional values and gender roles of Bangladeshi women. The present study on Health and Safety of Women Garment Workers is a modest attempt to show how health and safety of garment workers could be improved. The study will benefit the garment sector, as the suggestions of the study are likely to persuade future planners to do plan for the health & safety issues of Bangladesh's garment workers.

The study is based on theoretical, practical and statistical analysis. It is hoped that this paper will prove to be a reliable source of secondary information for the people who will work in the similar field. It is expected that this report will be able to satisfy all the people for whom the report has been prepared.

1.2 Law Related to Health and Safety of Women Garment Employees

Labor Law regulates matters, such as, labor employment, remunerations, and conditions of work, trade unions, and labor management relations. There are also social law which regulates such aspects as compensation for accident caused to a worker at work, fixation of minimum wages, maternity benefits, sharing of the company's profit by the workers, and so on. Most of these legal instruments regulate rights and responsibilities of the working people.

With the growth and expansion of industries in the subcontinent beginning in the mid-nineteenth century, new avenues for employment were created, resulting in a gradual migration of the labour force from rural areas to mills and factories located primarily in urban areas. At that time, in the absence of any state control or organization of the workers, the employers were less concerned about needs of their employees; the work hours were too long, wages much below the subsistence level, and the worker's employment conditions were unsatisfactory. The situation led to the enactment of a number of legislations beginning from the year 1881. These include, inter alia, the Factories Act (1881), Workmen's Compensation Act (1923), Trade Unions Act (1926), Trade Disputes Act (1929), Payment of Wages Act (1936), Maternity Benefit Act (1939), and the Employment of Children Act (1938).

Establishments: The Factories Act 1881 is the basis of all labour and industrial laws of the country. It contains provisions even for hours of work of women and workers, including that of minimum age for employment of children. After the International Labour Organization (ILO) was formed in 1919, this Act was amended and thereafter repealed, resulting in the promulgation of the Factories Act 1934, which remained in force till 1965, when the Factories Act 1965 was promulgated incorporating some provisions of the ILO conventions. The Act of 1965 applies to manufacturing establishments employing ten or more person with or without the aid of any mechanical power. It makes provision for women and juvenile workers. It also prohibits child labour, it limits work of a child in factories, including the seasonal ones.

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Holidays: The Weekly Holidays Act of 1942 prescribes one paid holiday a week for persons employed in any shop, restaurant or theatre (excepting those employed in a confidential capacity or in a position of management). The government is empowered to grant additional half-day holiday with pay in a week.

Industrial relations: The Industrial Relations Ordinance of 1969, including the Industrial Relations Rules of 1977 framed thereunder, provides for formations of trade unions and regulation of relations between employers and workers. At the time of the promulgation of this ordinance, there were three separate laws regulating the relations between employees and employers, namely the East Pakistan Trade union Act of 1965, which provided for the formation and functioning of trade unions, the East Pakistan Labour Disputes Act of 1965, which provided for investigation and settlement of labour disputes, and the East Pakistan Employment of Labour (standing orders).

The first two of these above acts were repealed by the Ordinance of 1969. This ordinance provides for various ways of settlement of industrial disputes, which were defined in the Act of 1965, since public interest is involved in settlement of industrial dispute, and adjudication as such through labour courts bears much importance. The labour courts play an important role for maintenance of industrial peace through settlement of issues on labour management problems, and hence they enjoy the confidence of both the employers and the workers.

Development of adjudication system was conceptual, brought in by the Trade Dispute Act of 1929, which used to provide for investigation and settlement of trade disputes and for certain other connected matters. A court of enquiry consisted of an independent chairman and one or more independent persons appointed by the prescribed authority. To overcome the difficulties in the Act of 1929 some provisions were made in the Defense of India Rules, 1939 for adjudication of disputes between employers and their workers. This process continued till the expiry of the said Rules on 31 March 1947. The industrial Act, 1947 came into being on the 1st day of April 1947. The Act established full-ledged industrial tribunals for adjudication of industrial disputes for the first time. Thereafter the East Pakistan Labour Disputes Act, 1965 was promulgated with effect from September 1965. This law like the Industrial Disputes Ordinance, 1959 envisaged constitution of courts under the name of labour court by the government. It also provided for appeal procedure similar to what was included in the Industrial Disputes Ordinance, 1959, against an award of the labour court to the labour appellate tribunal by the aggrieved party.

The Employment of Labour (Standing Orders) Act 1965 provided for a grievance procedure for redress of individual grievance of any particular worker in respect of their employment or conditions of work or infringement thereof. This widened the scope of the Labour Court and its jurisdictions to look into the grievances of individual workers in respect of their rights arising out of any matter covered by the said Act.

Condition of service: Legislation concerning long-term policy, as a means of fostering economic stability and growth, is relatively a new concept in labour law. There was almost no legislative regulation on the terms and conditions of employment in shop, industrial or commercial establishment. The Industrial Employment (Standing Orders) Act, 1946 came into operation for the first time requiring employers in industrial establishments employing 100 or more workmen to define the terms of employment of workmen in the form of standing orders which should be in general conformity with the model standing orders incorporated in the Act.

Wages: The government of India set up an enquiry committee in 1926 to ascertain the loopholes for irregularity of payment of wages to industrial workers. The Royal Commission on Labour appointed in 1929 considered the reports and suggestions of the aforesaid enquiry committee and recommended for enactment for prevention of maladies relating to payment of wages, resulting in the promulgation of the Payment of Wages Act in 1939. It aimed, firstly, at disbursement of actual distributable wages to workers within the prescribed period and, secondly, to ensure that the employees get their full wages without any deduction. The Act was passed to regulate the payment of wages of certain classes of persons employed in industry.

Social security: Statutory provisions exist for only two contingencies, i.e. employment-related injuries and childbirth. The liability in both cases is entirely that for the employer. The Workmen's Compensation of taka 400 per month, including for all railway and other categories of workers was specified in the Act.

Women workers: The provisions regarding hours of work in the Factories Act 1965 apply to workers of both sexes. The Act stipulates that no women should be allowed to work in a factory except between 6 am and 7 pm. The government is empowered, in respect of any class or classes of factories, to vary these limits to any span of 13 hours between 5 am and 7-30 pm.

1.3 Objective of the study

The objectives of the study are as following:

1. To evaluate the status of occupational safety and health in Bangladesh;
2. To know the real pictures of the women Garment employees of CAAL.
3. To evaluate the health and safety practice regarding the women Garment employees of CAAL.
4. To recommend ways and means to face the challenges by the women Garment employees of CAAL.

1.4 Methods of Investigation

Sources of data

Data for the study were collected both from primary and secondary sources. The secondary sources were confined to the printed materials of the Chittagong Asian Apparels Ltd. Data from primary sources were collected by structured interview of 40 employees of Chittagong Asian Apparels Ltd, which constituted the study sample. In the study, no conventional system of sampling procedure has been followed. Rather a convenient sampling technique was used considering time and other logistic facilities available at the disposal of the researchers. The 40 respondents constituted 3.33 % of the total 1200 employees in the factory. It took eight days to complete the whole data collection.

Analysis & Processing of Data: The collected data were processed and analyzed by simple tabular technique, and averages.

1.5 Limitations of the study

Although the women garment employees were very much polite and quite friendly and cooperative enough, the researchers had to face some constraints while doing this study. These include.

- Time constraints available in the hands of the researcher;
- Miss-interpretation of data provided by the company;
- In CAAL secrecy posed a major problem since disclosure of information was restricted as per the policy of the company.
- The related information was pretty large as well as unstructured and it was a difficult task for the researchers to compile them.

2.   Status of Occupational Safety & Health in Bangladesh

2.1   Theoretical proposition

The occupational health and safety in Bangladesh is still in the developmental stage. Here, the occupational health & safety refers mainly to the workers of industries but does not completely cover all occupations of the country. The main laws related to occupational health and safety in this country are the Factory Act, 1965 and the Factory Rule of 1979. There are also a number of other laws and regulations that have some provisions related to occupational health and safety.

The constitution of Bangladesh recognizes productivity as the basic need for development and covers right to work and reasonable wages, medicare, and disease and disablement. This constitutional policy direction did not turn into a formal national occupational health and safety policy.

For certain work, environment factors, manufacturing process, machineries and toxic substances, and the levels of concentration of substances in the air have been recommended by various international organization and agencies.

Lack of work environment standards and exposure limits for different hazards and lack of requirement for periodic medical examination are the major deficiency of the legislations in terms of occupational health and safety. (OHS).

The laws in Bangladesh require employers to undertake corrective measures on occupational safety and health. But the lack of awareness, training, non-compliance of the OHS standards by the employers, and the negative involvement of the workers prevent achieving the goal of providing safety and health to the workers as intended by the laws. Labour legislations in Bangladesh were prepared in-conformity with ILO conventions but in most cases there is non-compliance of these laws. Non-compliance or non-implementations of labour laws have short-term and long-term effect on the economy of Bangladesh, as can be seen in the following:

1.   The work place environment in factories and mills will turn hazardous, which may cause accidents and incidents.
2.   All accidents and incidents create human sufferings, having direct or indirect costs on the productivity and profits.
3.   The hazards, which are prevailing in the industries e.g. electric short circuit and fire in the garment industry, are mostly the outcome of the absence of good working conditions, absence of protective and preventive measures, poor house keeping etc.
4.   The direct cost of preventing hazards is much smaller than the indirect costs

of accidents and illnesses. Cost benefit analysis of an accident may give a clear picture of various items of loss. The productivity as well as the profitability of any industry largely depends upon how far measures have been taken to prevent hazards in the industry.

5.   The lack of implementation of legal provision i.e. the non-compliance of the ILO conventions in the work places not only causes loss to the workers, it causes a huge loss to the employers and the nation as a whole.

2.2. The Concept of Employee's Health

The well being of the employee in an industrial establishment is affected by accidents and by ill health-physical as well as mental. In this section, we shall discuss the need for healthy workers and health services to be provided by the management to ensure the continuing good health of their employees. We propose to examine employee's health from the following angles-physical health, mental health, noise control, AIDS, drug abuse and violence in work place. The protection of the health of the workers is a legal requirement too. Section 11 to 20 of the Factories Act, 1948 deal with the health of workers, which are mentioned below:

> - Factory to be kept clean and free from effluvia and dirt (S.11).
> - Arrangements to be made for disposal of wastes and effluents (S.12)
> - Adequate ventilation and temperature to be provided (S.13)
> - Measures to be taken for prevention of accumulation of dust and fume (S.14).
> - Standards for artificial humidification to be fixed (S.15)
> - Overcrowding-related injuries to health of workers to be avoided. 9.9/14.2 cubic meters of space must be provided for each worker (S.16).
> - Sufficient and suitable lighting must be provided in every part of the factory (S.17).
> - Glazer windows to be kept clean. Measures need to be taken for presentation of glare and formation of shadows (S.17).
> - Suitable points for wholesome drinking water must be provided. Drinking points to be legibly marked and located away from urinals. Water needs to be cooled if the number of workers is 250 or more (S.18).
> - Latrines and urinals to be separately provided for male and female workers. They should be will lighted and ventilated (S.19).
> - Sufficient number of spittoons must be provided. Whoever spits outside the spittoons shall be punishable (S.20).

Source : *Chittagong Asian Apparels Ltd.*

2.2.1   A Physical Health

Ill health of employees results in reduced productivity, higher unsafe acts, and increased absenteeism. A health worker produces results opposite to these. The worker who is healthy is always cheerful, confident looking, and is an invaluable asset to the organization. A realization of the advantages, which flow from a healthy workforce, has impelled much management to provide health services to their employees, which vary from the simple provision of first-aid equipment to complete medical care.

2.2.2   A Mental Health

In recent years, mental health of employees, particularly that of executives, has engaged the attention of employees. Three reasons may be given for this development. First, mental breakdown is common in modern days because of pressures and tensions. Second, mental disturbances of various types result in reduced productivity and lower profits for the organization. Third, mental illness takes its toll through alcoholism, high employee turnover, and poor human relationships.

2.3   The Concept of Employee's Safety

Safety means freedom from the occurrence or risk of injury or loss. Industrial safety or employee safety refers to the protection of workers from the danger of industrial accidents. An accident is an unplanned and uncontrolled event in which an action or reaction of an object, a substance, a person, or a radiation results in personal injury. In this context, it is useful to recollect the provisions of the Factories Act. 1948 relating to safety. Sections 21 to 40 of the Act deal with safety. These provisions are absolute and obligatory and the occupier of every factory is bound to follow them. The relevance provisions of the Factory Act are mentioned below

- S.21 provides that dangerous part of every machinery must be securely fenced.
- S.22 stipulates that any young person or a woman should not handle a machinery which is in motion.
- S.23 states that young persons should not be allowed to work on dangerous machines.
- S.24 states that every factory must provide suitable striking gear.
- S.25 states that no traversing part to be allowed to run within a distance of 45 centimeters from any fixed structure.
- S.26 requires that casting should be done in such a way as to prevent danger.

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- S.27 stibulates that women and children should be prohibited from going near cotton openers.
- S.28 states that hoists and lifts should be in good condition and should be examined once in every six months.
- S.29 states that lifting machines, chain, ropes and lifting tackles must be in good construction and should be examined in every 12 months.
- S.30 requires that notice of maximum safe working speed of grindstone or abrasive wheel etc., to be kept near the machine.
- S.31 stipulates that safe working pressure should not be exceeded.
- S.32 requires that in every factory all floors, steps, stairs, passages and gangways shall be of sound construction and be properly maintained,
- S.33 states that pits, sumps and openings in floors must be covered or fended.
- S.34 states that no person shall be employed in any factory to lift or carry excess weight so as to cause him/her physical injury.
- S.35 mandates provision of goggles or serene to protect erosions working on machines, which cause damage to his/her eyesight.
- S.36 prohibits entry of any worker into any chamber, tank pit or pie where any gas or fume is resent.
- S.37 mandates that measures to be taken to prevent explosion on ignition at gas or fume.
- S.38 mandates that measures must be taken to prevent outbreak of fire and its spread.
- S.39 states that where unsafe condition is reported, the inspector may serve a notice on the occupier to initiate suitable measures to restore safety.
- S.40 states that where a factory employs 1000 or more warders, there must be a qualified safety officer to measure compliance of all the safety provisions.

Source: Chittagong Asian Apparels Ltd.

An accident-free plant enjoys certain benefits. Major ones are substantial savings in costs, increased productivity, and avoiding legal penalties.

2.3.1 A Cost Savings

The management incurs two types of costs when an accident occurs. More serious than the direct costs are the indirect or hidden costs, which the management cannot avoid. In fact, the indirect costs are three to four times higher than the direct costs. Hidden costs include loss on account of down-times of operators, slowed-up production rate of other workers, materials spoiled and labour for cleaning, and damages to equipment. A safety plant, by avoiding accidents, eliminates these direct and indirect costs.

2.3.2   Increased productivity

Safety plants are efficient plants. To a large extent, safety promotes productivity. Employees in safe plants can devote more time to improving the quality and quantity of their output and spend less time worrying about their safety and well being.

2.3.3   Legal

There are legal reasons too for undertaking safety measures. There are laws covering occupational health and safety, and penalties for non compliance have become quite severe. The responsibility extends to the safety and health of the surrounding community, too. Finally, financial losses, which accompany accidents, can be avoided if the plant is accident free

2.4   The Pre-Requisites of Women Garment Employee's Safety

When we take the same factories as example, it is management's duty to ensure "safety" in several areas such as:

- The structure itself
- Installations and fixtures (check electrical, plumbing, air conditioning and other installations)
- Furniture and work areas (e. g. slippery floor, hazardous obstacles in traffic areas), safety of furniture, equipment, appliances and utensils.
- Health safety (nontoxic cleaning material and detergents used), good quality air (what we breathe, dependent upon the type of equipment installations and fixtures used and regular repairs and maintenance)
- Food safety (a whole world in itself including sanitation, food spoilage, correct handling procedures, allowable and recommended temperatures. etc.), and checking and control procedures.

An important "preventive measure" is eliminating the possibility of communicating contagious diseases. Even if local regulations do not require it, it is recommended that soda food and beverage handlers undergo regular medical checkup. Another preventive measure is the formulation and implementation of policies and procedures related to employee accidents which may present a threat to food situation. Culinary staff who cut themselves accidentally at work, as often happens while sliding food products, have to immediately stop handling food, and report to their Executive Chef and to the person in charge. First Aid in the company (Security or Human Resources Department) for preliminary treatment and handling, healing and precautionary measures are to be taken before they are allowed back at their job.

There are also some basic "dress" requirements for staff involved in food and beverage preparations: e.g. Chefs' hats (to prevent hair and whatever hair contains to fall into food), discreet earring (non-dangling) or no earring for women, and long hair neatly and securely tied in a bun at the back of the head.

Of no lesser importance is the safety of work tools and work procedures covering all areas, such as stable judders, secure shelving, safety shoes, well-fitting work garments, clearly written and complete safety procedures and guidelines form management, safety training, and safety installations and equipment, wider traffic areas (to prevent accidents), adequate staffing, and last but not least, continuous effective training in work procedures.

All of this necessitates comprehensive planning, the creation of clear policies and work procedures, organization, training of supervisors and employees, supervision and control.

2.5 Garment Factory Workers

The majority of the workers in the Asian Apparels were young, belonging to the age group 16 to 29 years, of which 81.6 percent women and 80.0 percent men, compared to 73.03 per cent women and 60 per cent men in the rural garment factories. Workers in two of the rural garment factories had the same age profile as the workers in the Asian Apparels. The majority were also single, women and men, 83.4 per cent women and 70.0 per cent men in the Asian Apparels and 65.6 per cent men and 66.7 per cent women in the rural garment factories.

The women were part of the large labour reserve that have been moving in and out, or have been moved out of the factories. Their motives for seeking employment in these factories were: the need for a job and income and the absence of alternative employment opportunities. The spouse of married workers welcomed the economic participation of women as a contribution to family income. A small number of women workers had been previously employed, mainly in garment factories, while the men had been in a wide range of jobs.

Labour legislation provided for a nine hour working day, inclusive of a one hour interval but 40.8 per cent of women and 36.7 per cent of men in the Asian Apparels worked more than nine hours in compulsory overtime. And around 70 per cent women and 70 per-cent to 100 per cent men were employed in night shifts. Only the higher-level workers could leave the workplace during the lunch and tea breaks.

Trade unions could not operate in Asians Apparels and around half the workers were members of the organizations established by employers.

Wages were low but were in conformity with or above the minimum wages specified for garment workers. Around 90 per-cent received Rs 2,500 to Rs 5,000 a month, which is just above the 'poverty line.' In the Asian apparels minimum workers' benefits such as EPF, ETF, and overtime payments were given. They also got medical benefits and tea, but only half of them had meals and rest room facilities and few had transport facilities.

3. Motivation of the Women Garment Employees

For the purpose of analyzing the motivation of women garment employees, the researchers conducted a survey on workers of Asian Apparels by preparing a questionnaire. The respondents were selected through random sampling. The worker's opinion regarding different issues of Asian Apparels can be discussed in the response to the questionnaire as given below:

Questions	No of Respondent					
	Strongy Agree (SA)	Agree (A)	Neutral (N)	Disagree (D)	Strongly Disagree (SD)	Total
1. Is salary sufficient in relation to job?	15	10	10	5		40
2. Is labour-management relation favorable?	14	12	6	6	2	40
3. Is there any promotion facility?	16	14	10			40
4. Is salary paid in time?	20	10	8	2		40
5. Are environmental factors at work place congenial?	18	10	10	2		40
5. Is the company providing any reward or incentives for achieving target or personal achievement?	16	13	9	2		40

Source : *Field survey.*

Comments on the Survey

By considering the survey response of women garment workers, we can say that the motivational factors of workers are adequate and that's why all the workers are satisfied.

4. Recommend action to fight challenges faced by Women Garments Employees

Asian Apparels is the largest employer of women in the formal manufacturing sector. This article explores the social, political, and economic contexts of this class and how women's earnings affect household gender dynamics within a framework of exit and voice. It draws on interviews of the garment factory workers to explore how work has different meanings for workers of different classes and how these perceptions influence gender roles and practices within the household.

The work has different meaning for women of different classes and those perceptions influence gender roles and practice within the household. Women from various class backgrounds are employed because they can be molded into compliant workers. The multi-class character of the workforce combined with the threat of layoffs prevents solidarity and makes unionization difficult. Some single women feel empowered by their earnings. Most married women are unable to leverage their income into greater decision-making power. But the income is essential for household welfare, and women need these jobs. Policy recommendations involve national and international actors; they emphasize crèches (day care center), savings, and severance pay at the garment factory level as well as the institutions of global living wages and working standing by the International Labour Organization.

The health and safety issues covered in the study include excessively high temperatures – or very low temperatures in Bangladesh; dust; inadequate ventilation; inadequate lighting; excessive noise; lack of fire-fighting equipment; blocked exists; bad sanitation; unhygienic canteens; and lack of drinking water. Apart form specific illness brought on by these conditions, many workers find it very difficult, if not impossible to take time off due to illness.

Excessive working hours, or lack of work, sub-minimum wages and the denial of the right to organize and negotiate are all deeply interwoven. Increased flexibility leads to increased normalization and job insecurity. While workers are afraid to losing their jobs they are more willing to accept lower wages in order to keep their

jobs. When wages are low, workers have to work longer hours in an attempt to earn anything like a decent wage. Insecure jobs mean that workers are unable to organize, as they can lose their jobs for organizing.

To get an urgent remedy from the stated weak points, it is suggested-

- Promotion facility should be increased.
- The companies should develop adequate promotional policy.
- The companies should be upgraded with the economic situation which can motivate the women garment workers.
- There should be continuous contact between management and workers in order to increase communication.
- Training program for women garment workers, supervisors, quality checkers, quality controllers, production in-charge should be increased.
- To face the upcoming global challenge the organizations should build backward linkage factory.

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Trade of ICT Services and its Contribution to GDP in Bangladesh

Nesar Ahmed[*]

Abstract

The focus of the paper is on examining the long-run relationship between ICT services and economic growth of Bangladesh. The paper provides evidence of significant growth of the macro-economic indicators such as Gross Domestic Product (GDP), Exports and Imports over the past three decades. The percentage of GDP occupied by each of the EXPORT and IMPORT indicator is in significant level in recent time though their contribution were little in 1981-2010. The multiple regression analysis based on data from 1981 to 2010 indicates that the growth of Bangladesh economy. The trend of the series GDP, EXPORT and IMPORT are increasing and showed an inconceivable growth in every series over the years.

Key Words: *ICT, Growth, Trade Deficit*

1. Introduction

Services of Information & Communication Technology (ICT) in Bangladesh have become a common phenomenon in recent years. In the late 1990s, various technologies in communication services, misleading computers, mobile phone, land phone, internet etc which activities are electronic data interchange,

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interactive voice response, voice mail, email, on-line conferencing, and web service delivery emerged in Bangladesh. A time series analysis of the data shows that ICT services have long-run effects on the output per worker. ICT services are an indispensable resource for the socio-economic development of any country as it is needed and utilized by society for its development and prosperity.

The Gross Domestic Product (GDP), EXPORT and IMPORT are the most important macro-economic indicators for growth of all economies, including Bangladesh. The increased level of export of goods and services can play an important role in the development plan of Bangladesh where foreign exchange scarcity constitutes a critical bottleneck. The EXPORT can largely meet 'foreign exchange gap' and EXPORT growth would increase the IMPORT capacity of the country, which would boost up industrialization as well as overall economic activities. Despite the high pressure on IMPORT bills due to price hike of crude oil and other essential commodities in international market, Bangladesh's foreign trade remains at a satisfactory level (Bangladesh Economic Review, 2010). However, the balance of trade of Bangladesh remained in deficit. The objective of trade policy throughout the 1990s was to promote rapid export growth by reducing and eliminating the anti-export bias prevalent in the economy (Shahabuddin et al, 2004). ICT services (Information and Communication Technology) are effectively showing new dimensions to old institutional setups. There is a reinforced thrust for an informed and participatory citizenry for efficient e-governance. It goes without saying that the impact of ICT services on institutional changes is fast spreading across the boundaries of social and political arrangements of societies.

One of the traditional ways to test the relationship between two variables is to apply Ordinary Least Square Estimation. Pohjola (2001) found three knowledge related variables, education, openness to trade, and the availability of communications infrastructure, positively correlated to GDP growth. Bruinshoodf & Ter Weel (1998) used OLS and found results suggesting a positive correlation between the R&D intensity of a sector and the wage premium of white-collar to blue-collar workers. Morissette & Dolet (1998) found via OLS estimation that IT application users generate more income than non-users. However, it is important to identify whether these relationships are fundamental or 'spurious'. For this we need to consider the order of integration of the data and the potential for co-integration or spurious regression. As suggested by Lee & Gholami (2001), relying solely on OLS estimation sometimes creates the time series problem of 'spurious regression' which is often neglected or ignored. An approach, which removes the spurious regression problem, is co-integration estimation.

The paper attempts to show the growth of the macro-economic indicators GDP, EXPORT and IMPORT, to measure the contribution of EXPORT and IMPORT to the GDP from the existing data set and lastly to measure the future contribution of EXPORT and IMPORT to GDP from the our results. This article explores the major role ICT services indicator and its impact on the user communities in Bangladesh. Equal importance is also given to how the communities are getting the latest information facilities through ICT services and explores how ICT services can be strapped up to promote development of the rural communities in Bangladesh that is future directions for further development of ICT services in Bangladesh. Model specification, data and methodology are given in section II. Section III and IV show analytical analysis and discuss empirical results on developments in trade of ICT services and economic growth over the past thirty years, while the final section concludes the study is to examine the linkages between trade of ICT services and economic growth on the economy of Bangladesh.

2.   Data and Methodology

2.1   Data Sources

The paper outlines GDP determining by the asymmetric effects of ICT services trade policy. The time-series model is presented and an analysis of the difference in the asymmetric expansionary effects of ICT services trade policy on GDP within countries, Bangladesh, is presented. The paper used the data of the three indicators, GDP, EXPORT and IMPORT for the past three decades starting from year 1981 to 2010 from the "World Development Indicators (WDI-CD Rom), 2011" published on April, 2011 by The World Bank. The data are denominated in U.S dollars (U.S $) and come from the World Development Indicators (WDI) database of the World Bank. There is an approach to explain the factors determining the GDP. The elasticity approach focuses on the EXPORT and IMPORT as the major determinant of the GDP.

2.2   Analytical Framework

The regression equation as the test is applied to log-linear form for estimation:

$$ln(GDP) = \beta_0 + \beta_1 \, ln(EXPORT)_t - \beta_2 \, ln(IMPORT)_t + \mu_t \qquad (1)$$

Where ln is natural log, GDP is gross domestic product, EXPORT is Communications, computer, etc. (% of service exports) at current U.S $ price, IMPORT is Communications, computer, etc. (% of service imports) at current U.S

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$ price, μ is the error term, and t is the period of time from 1981 to 2010.

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ζξχϖβνμ,.

The expected signs are $\beta_0 > 0$, $\beta_1 > 0$ and $\beta_2 < 0$ respectively. We expect $\beta_1 > 0$. In general, increase in EXPORT will increase trade surplus if revenue is generated in the same proportion. We expect, again, $\beta_2 < 0$, the degree of which means trade deficit is an important factor that determines the ICT services trade position.

To estimate the model, a multiple regression analysis is used. To verify the validity of the model, two major evaluation criteria were used: (i) the a–priori expectation criteria which is based on the signs and magnitudes of the coefficients of the variables under investigation, (ii) Statistical criteria which is based on statistical theory, and referred to as the Least Square (LS) consisting of R-square (R^2), Adjusted R^2, Akaike info criterion (AIC), Schwarz criterion (SC), F–statistic and Durbin-Watson (D-W) test. A widely used multiple regression framework is taken to separate out the effects of key macroeconomic factors, EXPORT and IMPORT, on GDP.

3. Results and Discussion

The diagnostic check of stationarity, and considered series is carried out by Least Squares (OLS) test by multiple regression analysis. Given these stylized facts and despite the limitations in our analysis, it seems important to take into consideration the factors that may be driving open economy. The purpose of this paper is to determine the exogenous effect of trade policies on GDP in Bangladesh.

Regression equation, $ln(GDP) = \beta_0 + \beta_1 \, ln(EXPORT)_t - \beta_2 \, ln(IMPORT)_t + \mu_t$

$$ln(GDP) = 12.91938 + 3.152976 \, ln(EXPORT)_t - 0.833703 \, ln(IMPORT)_t + \mu_t$$

The regression results for dependent variable of GDP in Table 1 – whether EXPORT and IMPORT emphasize that data in long time series must be trended so that the estimated coefficients are founded by LS method. In the case of the LS with fixed effects analysis, a highly significant coefficient of EXPORT and IMPORT on GDP is obtained. The results reported in regression equation are generally satisfactory in the sense that signs of the coefficients are mostly as expected and they are statistically significant at the usual levels of confidence on economic growth in Bangladesh. We found a negative significant relationship between IMPORT and GDP growth, implying that the estimated coefficient - 0.833703 implies that a rise in IMPORT-GDP ratio by one percentage increases growth by - 0.833703 percent per annum. Similarly the positive significant relationship between EXPORT and GDP growth, implies that one percentage

Table 1 : Results of regression analysis Least Square Method for
Period 1981 to 2010 Dependent Variable: LN GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LN_EXPORT	3.152976	0.459236	6.865695	0.0000
LN_IMPORT	-0.833703	0.077767	-10.72054	0.0000
C	12.91938	2.058597	6.275816	0.0000
R-squared	0.868297	Mean dependent var		24.38888
Adjusted R-squared	0.858541	S.D. dependent var		0.415047
S.E. of regression	0.156104	Akaike info criterion		-0.781954
Sum squared resid	0.657945	Schwarz criterion		-0.641835
Log likelihood	14.72932	F-statistic		89.00320
Durbin-Watson stat	2.123015	Prob(F-statistic)		0.000000

increase EXPORT-GDP ratio leads to GDP growth by 3.152976 percent per annum.

The R-square (R^2), Adjusted R^2, Akaike info criterion (AIC), Schwarz criterion (SC), F–statistic and Durbin-Watson (D-W) test are concerned with the overall explanatory power of the regression analysis, used to test the significant contribution of each of the independent variables on the dependent. At 1%, 5% and 10% level of significance, F testing used to measure the goodness fit of model parameters estimated and as the p value of F statistics is very low i.e. zero. The model, therefore, is significant, because F and p-values for the relationships, GDP and EXPORT; GDP and IMPORT, are statistically significant and enabled a better fit of the model, as reflected in the higher within-R^2 and adjusted-R^2 statistic of 0.868297 and 0.858541. D-W statistic is greater than 2, i.e. there is negative serial correlation. It shows that of the two our explanatory factors, one, EXPORT, has a significantly positive impact on GDP and second, IMPORT, significantly negative impact on GDP.

The trends of GDP, EXPORT and IMPORT of ICT services in Bangladesh, FY 1981-2010, of a country are generally taken as an increase in the standard of living of its inhabitants. Bangladesh's economy has gone through a various stages of decline and high economic growth over the three decades (1981-2010). Average GDP from independent of Bangladesh and gradually increase till to date with significantly. Figure shows a tendency of GDP, EXPORT and IMPORT of ICT services over a period of 1981-2010 in the specific context of Bangladesh. The trend of GDP continued to show a rising in FY 1981-2010. The availability of foreign exchange is appreciated of Bangladesh's currency in achieving a reasonably high economic growth by reducing the current account deficit; it also

reduced its external borrowing as well as external debt burden. Thus, the sustainable level of foreign exchange is expected to be an important prerequisite for accelerating the trade balanced in Bangladesh.

5. Conclusion

GDP has increased over the last decade in Bangladesh, whereas the distribution of income has remained unevenly spread across geographical regions and between countries. Multiple regression analysis generally found evidence supporting of ICT services and economic growth in Bangladesh sharing a significant relationship and results have found minute hold for the relationship between the two variables across countries. The results presented here from Bangladesh suggest that, over a very short and limited time period, ICT services appear to cause GDP and not vice versa. The prime priority of Bangladesh government is to ICT services and ICT services led growth theorist suggests the use of power of Information and Communication Technology (ICT services) for poverty reduction, good governance, and development. However, it poses a serious challenge for the Government of Bangladesh to take the benefits of ICT services to the whole people who form the greater section of the population.

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An Estimation of the Consumption Pattern of the Rural People

Abdul Halim*

Introduction

In the national income model consumption is very important variable. Consumption plays an important role to determine GNP (national income). Consumption increases national income in the multiplier process.

We get the following four theories of consumption.

1. Absolute income hypothesis - J.M.Keynes.
2. Relative income hypothesis - Duesenbery.
3. Life cycle hypothesis - Modigliani.
4. Permanent income hypotheises - Friedman.

Consumption is a function of income. The Keynesian consumption function is written as :

C=a+by.

It is a linear short run consumption function

1. a is autonomous consumption. When Y= 0 then C=a.

2. b is MPC, which is positive but less than one (0<b<1). lt is the rate of changes in consumption due to income.

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Methodology and Objectives

In the estimation of consumption function of the rural people, an effort has been taken to see which factors determine consumption of the rural people. The aim of the present study is to estimate the autonomous consumption, MPC, and the co-efficients of different qualitative and quantitive variables.

Cross section data is use to estimate the models. The models are linear in both parameter and variable. Here we see that the rural people do not have the same type of asset. They engage in different activities. Their income and consumption are shown in taka per month.

For this study two villages were selected namely by, Govindar khil and Fatika, of Begumgonj Upazilla. For the collection of data a questionnaire was prepared. Direct interview was conducted for data collection of the rural people of the two villages.

ln the consumption function I have included 9 variables which determine the consumption pattern of the rural people.

OLS (Ordinary Least Square) method was used to estimate the models. The reason behind using this method is that OLS method provides Best Liner Unbiased Estimates (BLUE).

The computer program "SPSS" was used to estimate the models. And the co-efficients of variables, standard error, t ratio, F ratio, value of R^2 and R^{-2} were derived.

Durbin Watson (d- statistics), VIF, Eigen value and conditional index were used to detect Multicollinearity.And finally I detected Heteroscedasticity and removed it.

Objectives of the Study

1. Bangladesh is an agricultural country. About 70% people live in the village. Rural economy plays an important role in the total economy. Therefore, the main objective of the study is to estimate the consumption function of the rural people.

2. To see which factors determine the consumption pattern of the rural people and what relationship exists between consumption and different independent variables.

3. Finally to derive MPC,MPS,APC,APS and draw a conclusion upon the value of multiplier effect of different economic policies .

Theoretical Model

The theory of consumption shows that consumption depends on income and wealth. Besides, there are many determinants of consumption expenditure such as family size, age, sex, profession, season, choice, taste, and relative prices of the commodities.

The consumption function can be written as.

$$C = f(X_1, X_2)$$
Where
$C = $ Consumption expenditure.
$X_1 = $ Income.
$X_2 = $ Wealth.

Only two variables are included in this model other things remaining constant.

Empirical Model

In the theoretical model shown above consumption depends on income ,wealth and some other variables. In the empirical analysis of consumption two models are relevent.

In the first model consumption depends on family income and family size.

In the second model consumption depends on family income, family size and six dummy variables.

The following are the empirical specification of the consumption function to be estimated without dummy variable.

Model-l

$$C = B_1 + B_2 Y + B_3 N + U$$
Where,
$C = $ Consumption per family(per month in taka)
$B = $ Intercept term(Autonomous consumption)
$Y = $ Family income(per month)
$N = $ Family size.
$U = $ Error term.

Apriori expectations about the sign of the co-efficients are:

$B_1 = (+)$; $B_2 = (+)$ but greater than zero and less than one. $B_3 = (+)$; the error term is assumed to be random, serially independent having zero variance. Consumption function is linearly dependent on income and family size.

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Model=2

With dummy variable.

$$C = \alpha_1 + \alpha_2 Y + \alpha_3 N + \alpha_4 D_1 + \alpha_5 D_2 + \alpha_6 D_3 + \alpha_7 D_4 + \alpha_8 D_5 + \alpha_9 D_6 + V$$

C   =   Consumption expenditure.

Y   =   Family income.

N   =   Family size.

D_1 =   l if head of the family is male.

     =   0 Other wise.

D_2 =   1 Agriculture

     =   0 Other wise

D_3 =   l if lives abroad

     =   0 Other wise

D_4 =   1 Job

     =   0 Other wise

D_5 =   l Receive family planning

     =   0 Other wise

D_6 =   l lf the family is saver

     =   0 Other wise

V   =   Error term.

Dummy variable included in the model shows the effect of qualitative variabled. The co-efficient of the dummy variable will help us to test the hypothesis that consumption will differ according to six dummy variables. As for example, α_3 shows that the consumption of a family abroad is greater than any other family.

Results and Analysis

Model-l

The model fits very well. The adjusted R^2 was found .955. lt means about 96% of the variation in the consumption is explained by the regressors of the model. All slope co-efficients of the model are found highly significant. The co-efficient of income (MPC) was found 0.669. lt indicates if family income increases consumption also increases. lt is economically meaningful because MPC is greater than zero but less then one.

Estimation of model -1

$$C = B_1 + B_2 Y + B_3 N + U$$

Now applying OLS method, we get the following results:

C=330.371+.669Y+l23.497N
(308.435)   (.022) (60.631)
t=l.07l   30.625   2.037
R^2=.957 R^{-2}= .955   F=518.266
Durbin-Watson(DW)=1.927 df=47.

Figures in the parentheses are standard error.

On the other hand B_3 = 123.497 (the co-efficient of family size) indicates that if the member of family members increases then family consumption increases 123.497 taka. lntercept term was found B_1 =330.37l. If income and family size is assumed to be zero then family consumption is 330.371

Over all signilicance test

The F test

$$F= \frac{ESS/(K-1)}{RSS/(N-K)}$$

Where
ESS = Explain sum of squares
RSS = Residua1 sum of squares
N   = Number of observations
K   = Number of parameter.

Null hypothesis : H_0 : B_1=B_2=0 All slope co-efficients are simultaneously zero.

Alternative hypothesis : H_1 Not all slope co-efficients are simultaneously zero.

Therefore $F = \dfrac{500440479.150/2}{22691720.850/47}$

=518.266

The critical value of F is at 5% level of significance

As the calculated F value exceeds critical value, we can reject the null hypothesis. Obviously the computed F value is highly significant because P-value is .000

So the co-efficients of income and family size are statistically significant.

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Individual significance test.

$T (= t)$ test for B_1

$H_0 : B_1 = 0$

$H_1 : B_1 0$

$$T(= t) = \frac{B_1}{Se(B_1}$$

$$= \frac{330.371}{308.435}$$

$$= 1.07l$$

The critical value of t at 5% level of significance with 47 degrees of freedom is 2.021. As the calculated t value does not exceed the critical value. So we cannot reject the null hypothesis.Only at 5% level of significance we can reject null hypothesis.

$T (= t)$ test for B_2.

$H_0 : B_2 = 0$

$H_1: B_2 0$

$$T(= t) = \frac{B}{Se(B_2)}$$

$$= \frac{.669}{.022}$$

$$= 30.625$$

Here critical t value at 5% level of significance is 2.02l, which is less than calculated value. So we can reject the null hypothesis.

For B_3 calculated t value is 2.037 which exceed critical value. So we can reject null

hypothesis at 5% level.

On the basis of p- value we can say that B_2 and B_3 are highly significant.

Finally we can say that B_2 and B_3 are significant at 5% level but B_1 is insignificant. B_1 is significant only at 5% level.

Therefore it may be concluded that there is an important effect of family income and family size on consumption of the rural people at Govindarkhil and Fatika village. And there is a significant relationship of income and family size with consumption expenditure of the rural people of the two villages at Begumgonj Upazilla.

Model-2

We can get the following results after inclusion of dummy variables:

$C = 547.125 + 700Y + 106.589N - 236.525D_1 - 217.937D_2 + 116.306D_3 + 210.418D_4 + 195.183D_5$

$-775.126D_6$

(468.542) (.027) (60.711) (327.722) (252.027) (279.028) (236.999) (199.376) (244.225)

T(=t)=1.168,   26.360,   1.756,   -.722,   -.865,   .471,   .888,   .979,   -3.174

R^2=.967 R^2=.961 1   F=151.888   DW=1.986   df=41

The intercept term indicates that when all variables are zero then the family consumption is 547.125 taka. Here MPC is 0.7, which means that if the family income increases by 1 taka then the family consumption increases by 0.7 taka.

If family member increases 1 then the family consumption increases by 106.589 taka.

The dummy variable D_1, D_2 and D_6 are negatively related to the family consumption On the other hand D_3, D_4, and D_5, are positively related to the family consumption.

The model fits very well. The adjusted R^2 is 0.967 which implies that more than 96% of the variation of the consumption expenditure is explained by the regressors of the model.

Co-efficient of abroad 116.306 shows (all other factors constant) that the abroad family monthly consumption expenditure is expected to be higher by 116.306 taka than other people

The co-efficient of the family planning receiver indicates that family monthly consumption is expected to be higher by 195.183 taka than the people who did not receive family planning.

Over all significance text.

Calculated value of F=151.888.

The critical F value at 5% level of significance with 41 degrees of freedom is 2.18

The calculated F value can reject null hypothesis on the basis of p-value.

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Individual significance test

The critical value of t at 5% level of significance with 4l degrees of freedom is 2.02l. Here slope co-efficients d_2 and d_9 are statistically significant at 5% level and d_3 is significant at l0% level. And at 50% level all slope co-efficients are statistically significant excluding. On the basis of p-value we can draw the same conclusion.

All these results conclude that the consumption function has been specified correctly and appropriate estimation technique has been used.

Eleasticity Estimates

Elasticity indicates the percentage changes in the dependent variable for a percentage change in independent variable.

From the parameter estimates, elasticity has been calculated with respect of each independent variable (by using computer program 'SPSS'—l0.0l).

The elasticity of consumption with respect to family income was found0.856. This magnitude of income elasticity consumption implies that a l% increase in the family income will lead to an increase in family consumption by 0.854% on the other hand the elasticity of consumption with respect to family size was found 0.07022, which implies that if family member increases by 1% then family consumption increases by 0.0702%

ln general, we can say that there is a positive relationship between family income and family consumption.

Auto or Serial Correlation Test

The most celebrated test for detecting serial correlation is Durbin-Watson.lt is more formal and widely use d than any other test. It is popularly known as the Durbin-Watson d-statistics.

H_0 : No positive autocorrelation.

H_0 : No negative autocorrelation.

H_L = Lower limit of Durbin- Watson.

H_U = Upper limit of Durbin-Watson.

The testing procedure is as follows :

f(d)

Reject H Evidence of Positive autocorrelation	inconclusive or indecision Region		Do not reject H or H or both no autocorrelation	inconclusive or indecision Region		Reject H Evidence of negative autocorrelation	
0	dL	du	2	4-du	4-dl	d	
Model-l (5% level)							
0	1.462	1.628	1.927	2.372	2.538	4	
(1% level)							
0	1.285	1.446	1.927	2.664	2.716	4	
Model-2 (5% level)							
0	1.201	1.990	1.906	2.07	2.799	4	
(1% level)							
0	1.039	1.748	1.986	2.252	2.961	4	

null hypothesis.	decision rule.	If
No auto correlation	Reject .	$O<d < d$
No positive auto correlation	No- decision	$dL \leq d \leq du$
No negative auto correlation	Reject .	$4-dL< d<4$
No negative auto correlation	No decision.	$4-du \leq d \leq 4-dL$
No auto correlation positive or negative	Do not reject.	$du<d<4-du$

Durbin-Watson d test: decision rule

Modle-l

In model -1 sample size is 50 and K=2 at 5% level of significance d_L =l.462 and d_u =1.628.

And at 1% level of significance d_L =l .285 and d_u =l.446

Computed d value is l.927

Since "dU<d < 4-dU" both at 5% and 1% level [5% level : l.628<l.927<2.372 and 1% level (l.446<l .927<2.554), we cannot reject null hypothesis: no auto correlation positive or negative.

Finally we accept null hypothesis and say that there is no auto correlation (positive or negative) in this model.

Model-2

ln model-2 sample size 50 and k=8; at 5% level of significance d_L=l.20l and d_U=l.930

And 1% level dL=l .039 and dU=l .748

The computed d value is 1.986

Since "d_U<d < 4-d_U" both at 5% and 1% level [5% level l.930<1.986<2.07 and 1% level (1.748<1.906<2.252), so we cannot reject null hypothesis: no auto correlation positive or negative.

ln general, we can say that both models are free from autocorrelation.

Multi collinearity test

There are the following rules of thumb to detect multicollinearity.

1. High R^2 but few significant t ratio.
2. High pair-wise correlation among regressors.
3. Examination of partial correlations.
4. Auxi1iary regressions.
5. Eigen values and condition index.
6. Tolerence and variance inflation factor.

For model-1

With the help of Eigen value

If K is between 100 to 1000 there is moderate to strong multicollinearity.

lf k exceeds 1000 there is multicollinearity. `

lf k is less then 100 there is low multicollinearity.

$$K= \frac{Maximum\ Eigenevalue}{Minimum\ Eigevalue}$$

$$=\frac{2.581}{.05196}$$
$$= 49.67$$

lt indicates that there is no serious Multicollinearity problem.

Condition index

lf condition index (Cl) is between 10 to 30 then there is moderate to strong multicollinearity, if it exceeds 30 then there is severe multicollinearity.

$$CI = \checkmark K$$

$$= 7.078$$

Condition index shows there is no multicollinearity problem.

Variance inflation factor (VIF)

If the VIF of a variable exceeds l0 (this will happen if R exceeds .90) then that variablé is said to he highly collinear. In our model VIF is found 1.065 which does not exceed l0 .

So according to the VIF we can say that multicollinearity is not a serious problem in the model.

Tolerance

Tolerance as a detection of multi collinearity is defined as:

$$Tol = 1-R^2_J$$
$$= \frac{1}{VIF_J}$$

Clearly Tol_J =l if x_j is not correlated with the other regressors.

If Tol_J =0 then x_j perfectly collinear to the other regressor

lf Tolerance value tends to be between l to 0 then there is low to high multicollinearity.

In this model we found Tolerance value of 0.939 which indicates there is not serious multicollinearity problem.

The results of model-2 are nearly the same as of model-1.

Now we can conclude by considering all these rules of thumb that there is no serious multicollinearity problem in our models.

Heteroscedasticity Test

There are the following methods to detect Heteroscedasticity.

1.   Graphical method.
2.   Park test.
3.   Glejser test.

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4.   Spearmans rank correlation test.
5.   Goldfeld-Quandt test.
6.   Breusch-pagan-Godfrey test.
7.   White general heteroscedasticity test.

For Y

First let Y be responsible for heteroscedasticity. Then record the observations into ascending Y, omit 6 central observations, and divide the remaining 44 observations into two groups, each group containing 22 observations.Then run the usual OLS regression on each group separately .

We obtain the following result .

For Ist 22 observations

C=297.234+.844Y
(247.455) (.117)
r_2=.722 RSS_1 =793350.094
df=20

For last 22 observation.

C = 1417.647+.642Y
   (340.032) (.036)
r^2 = .94RSS_1 = 19655686.275
df = 20

Thus $\lambda = \dfrac{RSS/df}{ESS/df}$

$= \dfrac{19655686275/20}{793350.094/20}$

=24.7756

The critical F value for (20,20) degrees of freedom at 5% level is 2.12. Since the estimated F($=\lambda$) value exceeds the critical value, we may conclude that there is heteroscedasticity in the error variance.

For N

Now assume N is responsible for heteroscedasticity. Then we get the following result.

For the first 22 observations

$$C=18.919+791.892N$$
$$(1018.662) \ (287.299)$$
$$r^2=.275 \ RSS_1= 22257297.297$$
$$df =20$$

For the last 22 observations.

$$C=5272.185-51.325N$$
$$(5437.292) \ (830.057)$$
$$r^2=.00019 \ RSS_2=378320860.927$$
$$df =20$$

Thus $\lambda = \dfrac{RSS_2/df}{ESS_1/df}$

$$= \dfrac{378320860.927/20}{22257297.297/20}$$

$$= 16.9948$$

The critical F value for (20,20) degrees of freedom at 5% level is 2. 12.On the basis of estimated $F(=\lambda)$ value we conclude that there is heteroscedasticity in the error variance.

Remedial measures of heteroscedasticity

There are two approaches to remove heteroscedasticity.

1. When α^2 is known.
2. When α^2 is not known.

When α^2 is known then weighted least square (WLS) method is used to remove heteroscedasticity. But in this model α^2 is not known, so WLS method is not applicable in this model.

When α^2 is not known then we can consider several assumptions about the pattern of heteroscedasticity.

Assumption-l

The error variance is proportional to Y_i^2

$E(U_i^2)= \alpha^2 Y_i^2$

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Assumption -2

The error variance is proportional to Y_1

$E(U_i^2) = \alpha^2 Y_i^2$

Assumption-3

The error variance is proportional to the square of the mean value of C

$E(U_i^2) = \alpha^2 [E(C_i)]^2$

Assumption-4

A Log transformation such as.

$LnC = B_1 + B_2 LnY + B_3 LnN + U$

Very often reduces heteroscedasticity when compared with the regression.

Here we follow assumption-4 to remove heteroscedasticity.According to assumption -4 we get the following result:

Lnc= 1.018+.854LnY+.7022LnN
        (.215) .(029)   (.051)
        T(=t)=4.731 29.875 1.390
        R²=.959 R²=.957 f=549
        df =47

Here adjusted R^2 indicates that the model fitted very well, t ratio is highly significant excluding one and F value is also highly significant. Here consumption elasticity of income was found 0.854. And the elasticity of consumption with respect to family size was found .07022

Examination of removing heteroscedasticity

For Y

For lst 22 observations
        LnC=l.067+.858LnY
        (.868) (.114)
        r²=.74O RSS¹=.l7l
        df=20

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For last 22 observations

LnC=l.370+.828Y
(.498) (.057)
r^2=.913 RSS$_2$ =.475
df=20

Thus $\lambda = \dfrac{RSS_2/df}{ESS_1/df}$

$= \dfrac{.475/20}{.171//20}$

$= 2.78$

The critical F value for (20,20) degrees of freedom at the 1% level is 2.94. Since the estimated F(=λ) value does not exceed the critical value we can conclude that there is no heteroscedasticity in the error variance.

For N

For lst 22 observations
LnC=7.008+.63l LnN
(.363) (.238)
r^2=.260   RSS$_1$ =3.86l
df=20

For the last 22 observations
LnC=7.43l+.472LnN
(.662) (.409)
r^2 =.062 RSS$_2$ =8.478
df=20

Thus $\lambda = \dfrac{RSS_2/df}{ESS_1/df}$

$= \dfrac{8.478/20}{3.861/20}$

$=2.196$

The critical F value for (20,20) degrees of freedom at l% level of significance is 2.94. Since the estimated F(=λ) value does not exceed the critical value we can conclude that there is no heteroscedasticity in the error variance.

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Finally, in general, conclusion we can say that we have not found any auto correlation or multicallinearity problem in our model. We can only find heteroscedasticity problem in the model because it was found in the primary data. To removed heteroscedasticity problem we follow assumption -4 and successfully we removed heteroscedasticity problem.

Summary and conclusion

Bangladesh is a least developed country. About 80% people live in the village. So the study on factors affecting the consumption pattern of the rural people is very important for the country.

In model -1, MPC was found 0.669 so the MPS is (l-MPC)=(l-.669)=0.33l

This means that if there is one taka increase in family income then the family consumption increases by 0.66 taka. And the family saving increase by 0.331 taka.

And the multiplier indicates that if Government expenditure increases by 1 crore taka then national income increases by 3.02 crore taka. lt is likely the same for model -2. The aim of the study is to examine the income response of consumption of the rural people. Particularly the test of serial correlation, multicollinearity and heteroscedasticitry were made. Heteroscedasticity was removed by using assumption -4.

All variables of the model have expected signs and were found highly significant. Income elasticity of consumption was found 0.84

And family size elasticity of consumption was found .07022 at 95% confidence interval. MPC was found to be 0.625 to 0.713 for model -1. The result of the model -2 is likely to be the same.

I believe this study will be well representative of any other rural people of the country.

The finding of this study should be useful to policy makers of the government.

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Islamic Banking & Economic Welfare:
Some Ethical Issues

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Abstract

Three questions have been raised and answered on interest-free banking. The questions are: (i) Has Islam really prohibited interest?; (ii) Prohibition of interest: Does it make sense?; and (iii) Banks without interest: Is it conceivable? But the answers seem to be further analyzed for authenticity test of interest-free banking in the perspective of modern times when the conditions seem to have changed drastically from the Prophet's days. This paper, therefore, analyzed and found that Islam has really prohibited interest that was not intrinsic to paper money character and in-built mechanism of monetary system like modern times. The prohibited interest is not the interest rate of modern times which is being implemented in the developing economies. So prohibition of interest does not make sense and bank without interest is not conceivable in the developing countries.

Introduction

Three questions on interest-free banking *viz.,* (i) Has Islam really prohibited interest?; (ii) Prohibition of interest: Does it make sense?; and (iii) Banks without interest: Is it conceivable? have been attempted to make answer(Chapra,2001). It has been argued to answer the first question that *riba* is anything extra, as a condition, on any loan which is commonly understood to be interest. It has been mentioned that *riba* literally means increase, addition, expansion or growth. Profit

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also leads to an increase in the principal amount. Both the *riba (Nasiah* and *Fadle*), which are strictly prohibited, and profit, which is permitted in Islam, are returns on principal. The prohibition of *riba al-nasiah* essentially implies that the fixing in advance of a positive rate of return on a loan as a reward for waiting is not permitted by the *Shariah.* The point in question is the predetermined positiveness of the return. It is important to note that, according to the *Shariah,* the waiting involved in the repayment of a loan does not by itself justify a positive reward. If the return on principal can be either positive or negative, depending on the final outcome of the business, which is not known in advance, it is allowed provided that it is shared in accordance with the principles of justice laid down in the *Shariah*. Anything that is unjustifiably received as 'extra' by one of the two counterparties to a trade transaction is *riba al-fadle*. The prohibition of *riba al-fadle* is intended to ensure justice, to remove all forms of exploitation through 'unfair" exchanges, and to close all back doors to *riba.* Finally it has been mentioned that there is no room for arguing that interest is not prohibited in Islam.

As regards to the second question, answer has been made by a discussion on various humanitarian goals which cannot be achieved through financial intermediation on the basis of interest. Thus it has been justified that prohibition of interest makes a very good sense.

To answer the last question it has been mentioned that application of Profit and Loss Sharing (PLS) Modes of investment, like *Musharakah* and *Mudarabah* and the sales based modes of financing, like *Bai-Murabaha, Bai-Salam*, Leasing etc. in banking can make a bank without interest indeed. Answers of these three questions may be reviewed in the perspective of modern times when the conditions seem to have changed drastically from the Prophet's days.

This paper attempts to analyze the issues on interest of the Prophet's time as compared to the modern time which will help to Ensure the authenticity of the test of interest-free banking from practitioner's perspective.

Materials and Methods

In preparing the paper,the researcher collected information from secondary sources.The data are qualitative in nature and the approach of analysis is descriptive as well as exploratory.The internationally reputed referred journals and books on islamic banking were the basis of input for thought in the process of preparing the paper.It is hoped that the academecians and the practitioners of islamic economics as a new branch of knowledge will be benefitted from these academic exercises.

Results and Discussions

There is no doubt that Islam prohibited the *Riba (*interest), which was the excess of commodity money transacted as a loan. "During the time of Prophet Muhammad (Peace be upon him), money in circulation were *dinar* (gold coins) and *dirhams* (silver coins). Gold and silver are precious metals which are scarce commodities and limited in supply (Ahmed, 2006). *Riba Nasia,* which is the excess of commodity money loan, was prohibited by the *Qur'an* and to make the prohibition effective, subsequently *Riba Fadle,* which is the excess of other commodities, was prohibited by the Prophet Muhammad (Peace be upon him). So during the time of Prophet Muhammad (Peace be upon him), there was no scope for generating interest in any kinds or forms. Islam recognizes the transaction of interest as a grave sin.

Nothing was wrong with this prohibition upto December of 1913. During the time of Prophet, when interest was prohibited, commodity money in circulation was not issued by the central bank but by the government which continued up to the year 1913. But everything was changed when US Congress passed, on December of 1913, 'the Federal Reserve Act" which completely removed the right to issue money or to have any control over its issue from Congress and gave that function to the Federal Reserve Corporation, a private corporation controlled by bankers(Emry,2006) . It was claimed that this would "remove money from politics" and prevent "boom and bust" economic activity from hurting the citizens. Since then the issue of money has got the basis of lending on interest. Suppose, the government needs $1000 million more than it has taken taxes from its citizens. Since it does not have the money and authority to issue it, the Government must go to the Central Bank, the issuer of money, for $1000 million. But the Central Bank, a private corporation in USA and autonomous organization in other countries, does not just give its money away. The Central Banks are willing to deliver $1000 million money as a credit to the Government in exchange for the Government's agreement to pay it back – with interest. The Central Bank then issues the money in exchange of Bond. The Government then uses the money to pay its obligations. Central bank also acts, on 'bank rate', as a lender of the last resort to the commercial banks. Thus 'interest rate' has become the 'key factor' to control macroeconomics. The levels of money supply are mainly driven by the prevailing 'risk free rates'. Central banks use them conveniently for controlling inflationary effects which are the governing variables to determine foreign exchange parities of local currencies. On the other hand, the commercial banks 'create money' more than 9 times of the deposit, by dint of an opportunity of such money creation, to expand credit for business (Ahmed, et.al, 2006) . It is done on

the basis of interest because commercial banking hinges upon the debt. When money is deposited, a bank becomes a debtor to the depositors for the commitment to pay back the deposit with excess money except in current account. Upon lending the money, a borrower becomes a debtor to a bank for his commitment to pay back the principal amount of loan with excess money. Thus the monetary system has become 'debt based' and interest is an in-built mechanism of the system. There is no alternative of interest. If the monetary system is 'equity based', i.e., *Mudaraba and Musharaka* based under the commodity money circulated by the government, 'profit' could be the alternative of 'interest'.

In fact interest is intrinsic to paper money character but it is not same as intrinsic value of commodity money because the intrinsic value of commodity money does not increase or decrease which confirms the real/equal exchange between the commodity money and other goods and services but it is not true in case of paper money. A piece of paper of little value is printed as money so that it is worth for goods and services. With different figures it can buy the automobile or even the house. It has a 'medium of exchange' value which has been "created" in the truest sense of the word and this value is declining by loosing purchasing power due to inflation and devaluation. From the very beginning of circulation and loan transactions of paper money, imposed interest on it acts as a contributory factor to achieve the macroeconomic objectives of the issuing of paper money. So paper currency is issued and commercially transacted on interest (excess money upon money) basis i.e., debt basis. As a result, the borrower must try to earn the minimum rate of return on the borrowed fund (Cost of capital) which ensures increase of output and there is no benefit of keeping money idle because it has to be paid back with excess, which is called interest. This interest is the driving force of the transaction of paper currency. It is essential for getting maximum benefit from it because holding of cash is the cause of losing money by erosion of purchasing power which is not true in case of intrinsic value-loaded commodity money. Moreover erosion of purchasing power reduces 'store value' of the paper currency. It is the sharp distinction between paper money and commodity money in respect of their functions (a medium, a measure, a standard and a store) though it seems that paper money is similar to commodity money, implying that all functions applicable to the latter applies to the former.

The interest income of the central banks of Muslim countries goes to the Government Exchequer so that all citizens can share it. But in USA and other capitalist countries, where the central banks are owned and controlled privately, the interest incomes of the banks go to the owners' accounts (Emry, op.cit, and

pp14-15) . So interest is a "Tool of exploitation" in those countries and comes under the prohibition of Islam. The commercial banks and their stakeholders pay tax on their income received from interest earnings. Thus interest goes back to the people through government. In fact 'interest factor' has become a "Tool of Monetary Policy" of the central banks of the Muslim countries to carry out modern financial operations. Now it is not a "Tool of Exploitation" like before. In Iran and Sudan, where entire economy has been converted into 'interest-free', this tool is in function. The Iranian banks guarantee the principal amount of all types of deposits; reward, bonus or prizes can be given to *Qarz-e-Hasana* (savings and current) deposit holders; sale and purchase of debt instruments and discounting of bills is allowed, a return is paid on lending between independent borrower and lender and it is not considered as interest (*Riba)*. The Government, hence, could pay interest on its borrowing from the central bank as well as nationalised banks. Companies belonging to one group can also charge interest on lending to each other. The repayment of the principal in respect of all modes of financing, also including profit and loss sharing, is a legal obligation. The banks could turn all their financing contracts into trade transactions and earn fixed return. For example, in civil partnership (joint venture), banks sell their equity share in a project upon its completion without sharing in actual production or outcome (profit/loss) of the project financing. In leasing operation, the Iranian firms have to guarantee to take possession of the property being leased at the end of the lease period. The anticipated rate of return is included in the monetary policy instruments and banks charge it normally on *Mudaraba* and civil partnership and do not share the actual profit/loss of the project. In Sudan, the local banks are allowed to engage in interest-based transactions through offshore branches. Reviewing the banking practices in other Muslim countries, laws do not prohibit interest-based banking.

There was another change on 15 August, 1971 when President Nixon removed the gold convertibility of the US Dollar (USD) with a view to inflating the economy with printed dollars. This decision of the President shifted the gold backed paper currency to fiat currency (government mandated) having no intrinsic value. After the Vietnam War, the US economy suffered a severe recession, and the only choice was to inflate the US economy by inflating the money supply which was achieved by removing the gold standard on the USD. As the supply of USD increased, so did the price of commodities as the latter were priced in dollars, and more dollars chasing limited supply of things began to give rise of inflation. When the fiat money, also called high powered money, is printed faster than a sustainable growth, it leads to erosion of value of currency. There are other factors

that also affect a currency's value such as, trade imbalance, government budgetary surplus or deficit, credit rating of government and its bonds, future economic growth prospects, aging population etc.

Secondly, most economies' central banks in the world have been printing money or expanding credit as a rapid clip such that what is called 'hot money' has been flowing around the world from one country to another seeking ever higher returns, and in the process wrecking one currency after another in its wake. So much so that today about USD 1.9 trillion worth of currencies are traded around the world financial markets and that is in the order of magnitude larger than physical flow of goods/trade between countries. Besides, since the early 1980s many new developments have taken place in the field of finance. For example, innovations in finance have brought us plethora of financial products that have pooled loans at ever finer slices of structured products (Financial engineering) thus creating liquidity for the originators of the loans. Other innovations such as, derivatives whose original intent was to hedge against fluctuations in prices have been used as speculative instruments by banks to boost their trading return on investments. These new products have allowed investors to turn global financial market into massive gambling houses. In the 1990s this money flowed into South-East Asian "Tigers" (Thailand, Malaysia, Indonesia, Korea, Taiwan), and for many reasons the fund managers did not think that they would get the returns that were anticipated. When some large money managers decided to pull their money, others followed suit in a panic, and the central banks of those countries did not have enough foreign currency reserves to defend their currencies. The result was that these currencies were devalued overnight from 30% to 40% (Korean Won, Thai Bath, Taiwan Dollar, Malaysian *Ringgit*), and in the case of Indonesian *Rupiah* devaluation was by 80%.

It appears therefore that the fiat money has become the 'managed money' gradually and this management of paper currency (Financial management) hinges upon the pre-fixed lending rate which was *Riba Nasia* in case of lending commodity money (*Dinar* and *Dirham*) and gold convertible paper money upto August 15, 1971. But now the rate acts, equally for financial intermediation and individual loan transaction, as a protection to purchasing power of money against inflation and currency devaluation. Hence, it is not that interest which is prohibited in Islam although the OIC Fiqh Academy has ruled that fiat money is similar to commodity money, implying that all rules applicable to the latter applies to the former. If it is so, without a rate of interest, how modern financial system with paper currency shall be operated? How the need of the planning and mitigating risks of unknown tomorrow shall be fulfilled? Perhaps, "to be or not to

be" situation of interest in the capitalist countries and Muslim countries is misunderstood.

"The principal reason why the *Qur'an* has delivered a harsh verdict against interest is that Islam wishes to establish an economic system where all forms of exploitation are eliminated, and particularly the injustice perpetuated in the form of financier being assured of a positive return without doing any work or sharing in the risk, while the entrepreneur, in spite of his management and hard work, is not assured of such a positive return. Islam wishes to establish justice between the financier and the entrepreneur." But the modern interest rate, a 'tool' of Monetary Policy, cannot be related with the 'principal reason' for prohibiting interest in Prophet's time. Dr. Chapra proposed Profit and Loss sharing modes of finance *Mudaraba* and *Musharaka* that could not be applied in banks successfully and there is no possibility of it. Moreover application of the pre-fixed rate based Islamic modes of finance *Bai-Murabah*, *Bai-Muajjal*, Leasing etc., shows the same effects as those of the interest rate, being applied in banking, for the entrepreneurs and the economy. Islamic banks are alleged to be similar to interest-bearing lending by Traditional banks on the following grounds:

a. Fixed charges as a percentage increase with time as compensation for violation of agreement of repayment schedule for investment taken by the entrepreneur from the bank;
b. Dated payment obligations which may not synchronize with a firm's cash flow;
c. The borrower has to make payments whether or not he is succeeding in his business;
d. Security or mortgage is essential for investment;
e. Returns are practically calculated on the benchmark of an interest-based bank.

Realization of humanitarian goals, like need fulfillment, full employment, equitable distribution and economic stability, can not be achieved under Islamic banking with pre-fixed rate based Islamic modes of finance. So the answer of the second question (Prohibition of interest: Does it make sense?) appears that prohibition of interest seems make sense in USA and other capitalist countries where the money issuing authorities (Central banks) enjoy the interest on money issue alone. On the other hand, it does not make sense in Muslim countries. But it had made sense for all countries before December 1913 when money was issued by the government.

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To answer the last question (Banks without interest: Is it conceivable?) it may be mentioned here that the central idea in the concept of *Mudaraba* is: two parties, one with capital and the other with entrepreneurship, get together to carry out a project. The financier provides the capital and plays no further part in the project; specifically, he does not interfere in its execution, which is the exclusive area of the entrepreneur. If the project ends in profit they share the profit in a pre-arranged proportion. If it results in loss the entire loss is borne by the financier, and the entrepreneur gains no benefit out of his effort, which was his part of the investment. There are many variations of this simple model but this is the basic concept.

Musharaka is a mutual contract of partnership between two or more individuals or bodies in which all the partners contribute capital, participate in the management, and share the actual profit accrued to the business in proportion to their capital or as per pre-agreed ratio and bear the loss, if any, in proportion to their capital/equity ratio.

It follows that *Mudaraba* and *Musharaka* are profit sharing and loss bearing modes of investment. Loss means capital (Principal) loss, not profit loss. There is no guarantee of capital in *Mudaraba* and *Musharaka*. A bank cannot make investment in an equal chance of making profit or losing principal as it does business with the depositors' money which is payable on demand at any time and place and protected by 15 points banking safety-net: –

1. collateral securities,
2. profit waiver,
3. investment re-scheduling,
4. limit enhancement,
5. central bank's audit and control,
6. capital adequacy ratio,
7. cash reserve ratio,
8. statutory liquidity ratio,
9. provisioning,
10. fund raising from money market,
11. issue of right and bonus share,
12. enhancement of authorized capital,
13. tangible assets,
14. bank merger, and
15. Country law.

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But there is no as such banking mechanism to protect principal of investment under *Mudaraba* and *Musharaka*. Suppose the entrepreneur of *Mudaraba* and the partner of Musharaka may be made liable, through contract, for loss with a view to protecting the principal and sharing the profit only which may be called profit *musharaka*. Such attempt makes the *Mudaraba* and *Musharaka* modes parallel to fixed-rate based modes of investment *Bai- Murabaha, Bai-Muajjal,* and *Ijara* etc., and in that case the customers have freedom to prefer the advantageous latter modes as they are accustomed with those since inception of Islamic banking and before in Traditional banking in the form of 'Pledge' and 'Hypothecation'.

There is still need for further auxiliary legislation in order to fully realize the goals of Islamic banking. No law has been introduced to define modes of PLS financing, that is *Musharakah* and *Mudaraba*. It is observed that whenever there is a conflict between the Islamic banking framework and the existing law, the latter prevailed. In essence, therefore, the relationship between the bank and the client that of creditor and debtor is left unchanged as specified by the existing law. The existing banking law was developed to protect mainly the credit transactions and its application to other modes of financing results in the treatment of those modes as credit transactions also.

It is due to historical reasons that banks have evolved purely as a financial intermediary. The Bankers play role to attract money, keep it in safe custody, and invest/lend it safely & profitably. A banker has to maintain a balance between income, liquidity and flexibility. While allocating funds they have to be meticulously sensitive about the factors like capital position and rate of profitability of various types of investments/loans, stability of deposit, economic conditions, influence of monetary and fiscal policy, ability and experience of bank's personnel and investment/credit need of the area. So far the bankers try to thrive on a fixed rate of return a portion of which is passed on by them to the depositor. Thus the entire effort of a banker is directed towards money management and it is not geared to act as an entrepreneur, trader, industrialist, contractor or caterer.

But in case of *Musharaka* contract, bankers should have competence in trading or entrepreneurship so that they can bear unprotected risks and act as an owner of a large variety of heavy machinery, transport vehicles or real estate to take the position of a lessor or, a stockiest to buy and resell the entire stock of imports and exports that are needed by genuine traders in the perspective of three business situations viz. loss, break even point and profit. They must do detailed evaluation of a project with a view to determining the rates of return and their time schedule

to ensure 'cash inflow' to honour the cheques of the depositors, who maintain deposits on different time schedule, which needs the detailed accounting and necessary monitoring. It seems that there is every possibility of mismatch between the liquidity for satisfying the demand for cash and supply of cash from the *mudaraba* and *musharaka* projects. Both the unprecedented nature of the task as well as the huge amount of work that needs to be done indicate that hundreds of trained and special type of manpower, named Rapid Action Banker (RAB), will be needed to take ultimate business decisions, like entrepreneurs, in *Musharaka* projects. But it is impossible to run a bank without control of Head Office. Therefore 'pre-fixed rate' based Islamic modes of investment *Bai Murabaha*, *Bai Muajjal*, *Bai Salam*, Leasing etc., which are akin to interest, are being used by Islamic commercial banks all over the world. State Bank of Pakistan also agreed with the impracticality of *Mudraba* and *Musharaka* in banking.

It is said, "Islamic financial products are Islamic in form but conventional in every other sense and fulfill similar needs and address similar concerns." Why is it so? Is it the only difference of *Bismillah* (The name of Allah) between Islamic and conventional financial products? Meat is *halal* (Legitimate) to the Muslims if the animal is slaughtered in the name of Allah, the Almighty, but it is *haram* (Illegitimate) to them though the taste and quality do not differ for slaughtering the animal without uttering the name of Allah, The Creator. If formation of Islamic products differs from the conventional ones, why is it conventional in every other sens why does it fulfill similar needs and address similar concerns? The fact is that Islamic financial products cannot be applied as per their formations suitably in the modern financial system. So obviously these become conventional in every other sense and fulfill similar needs and address similar concerns in effect.

Suppose, Islamic banks in Bangladesh operate *Bai Murabaha* and *Bai Muajjal* modes of investment in the assets side, which covers about 80% investment of the banks, just in reverse way. Firstly, the banks 'sell' the commodity to the customer and then 'buy' it under an arranged game of documentation. For example, when a customer demands for money in Islamic banks, the Banker determines the mode of investment, *Bai Murabaha* or *Bai Muajjal*, in which investment will be made, collateral securities and the installments to be paid by the customer and then requests the customer to submit a 'quotation' in the name of the bank as if the bank intends to buy the goods whereas there happens no contact between the bank and the quotation supplier. If the bank and customer agree on all terms and conditions of investment to fulfill the demand for money of the customer then a set of charge documents of the bank dully filled in and another blank set of the

same like conventional banks to place in the court mentioning any liability figure of the customer at free wish and will of the banker as a default case, if necessary, be signed by the customer. The Islamic banker and customer never mind in this unethical documentation because 'necessity is the mother of invention' although *Shariah* Council of the banks discourages it. The Islamic bankers then issue a 'pay order' or 'draft' in the name of 'quotation' supplier, as if they purchased the goods, and hands over the instrument to the customer, as if goods were sold to the customer. Then the customer either takes delivery of the goods or receives money or receives partially both goods and money from the 'quotation supplier' as per earlier understanding whereas it could have been 'buy first and then sell', as per formations of these trade modes which cannot be followed by the banks due to their 'financial intermediary nature' although the banks propagate that they are engaged in buying and selling because "Allah has permitted trade and forbidden usury (2:275)." But to ensure the buying, banks money must be converted into goods and services by the banker first, which invites profitability with delivery risk, liquidity risk, maturity risk and inflation risk for the bank and these are quite unbearable for banks because they do banking with the depositors' money, not with the equity which only remains as a backup money to protect the deposits.

Again, there is a system in Islamic banks to recover only principal without any profit in case of genuine default but in case of willful default, there is no alternative to the Islamic bank except demanding compensation. However Islamic banks do not account the compensation as part of its income. So it leads to believe that the bank is Islamic. But there is an opportunity to make provisions against bad or classified investment from the compensation fund. Subsequent realization of those investments can be accounted to the income of the bank. There is another opportunity to distribute some money from the compensation fund to the poor. It may help increase the customers of Islamic banks and voters of the Directors who are leaders of political parties. Directors prefer distribution of money among the poor of their constituencies.

Moreover, Islamic banks pay *Zakat*, on Equity and Reserve Funds, from the profit of the bank that reduces taxable income of the bank. It does not pay tax on *Zakat* because *Zakat* is exempted from tax. Since inception, it also does not pay tax on Foreign Currency clearing income received from the central bank saying it is pure interest. Income from interest, which can not be avoided, is not included in the Profit and Loss Account rather it is transferred to the fund for the poor. It maintains 10% Statutory Liquidity Reserve (SLR) with the central bank, which is 18% for the conventional banks, on this ground that they cannot receive interest on the reserve fund maintained with the central bank. It increases the fund for

investment at 13% commercial rate and provides the opportunity for higher income than income from interest on SLR. It also shows higher liquidity of the Islamic banks, so the depositors feel safety, which attracts deposits, and the foreign banks to accept the L/C of Islamic banks. These extra facilities keep Islamic banks more competitive than conventional banks though they are 'level playing' player.

It is argued that the use of trade modes and leasing does carry an element of risk for the Islamic banks which makes them acceptable to the *Shariah*. For example, in the case of sale with cost-plus transactions, there must be a definite period during which the financier actually owns the commodity in question. This does not mean that he takes the physical possession of the commodity. He must be the legal owner for this period, bearing all risks, liabilities and benefits of this possession, which is called the 'constructive' possession. He is, therefore, the genuine seller of the commodity and is entitled thereby to make a profit on the sale. It is the risk in trading which makes it an acceptable way of making profit. Fixed interest, on the contrary, carries no such risk and is, therefore, against Islamic principles as a way of making money. Although in face value, a number of Islamic financing modes look similar to those of interest-based banking, we find that these are very different from each other in terms of justice, efficiency, stability and economic growth.

But the arranged game of the documentation of investment between the Islamic banks and the customers for buying and selling, discussed earlier, leads to believe that Islamic banking is involved indirectly with commodity trading, as a manager of funds based on the request of the client and the instruments of 'cost plus' and 'leasing' are not devoid of interest though they call it 'profit' instead of 'interest'; it is the same thing only the names differ, instead of touching the nose directly Islamic banks are trying to touch the nose around. These two instruments are criticized as being very similar to those of interest-based banking and it is argued that these instruments have not brought much real change to the banking system.

In the liability side, Islamic banks in Bangladesh follow Islamic principle of *mudaraba* in deposit accounts operations. They accept deposits at much lower provisional rates and offer the final rate, through a circular to the branch managers, twice in a year (Once in June closing and again in December closing). It provides an opportunity to transfer the banking risk (Result of non-performing assets) to the depositors, by offering the final rate suitably for achieving the target of profit of the bank. The arrangement of profit payment of Islamic banks maximizes the wealth of the Islamic banks at the cost of the depositors and it is propagated as the efficiency of the Islamic banking system though it is an

injustice. The depositors remain happy with the payment of provisional and final rates even if they get ultimately lower rates of return than conventional banks' deposits rates because firstly, they think it is Islamic as told by renowned *Ulemas* (Islamic Scholars) who are members of the *Shariah* councils of the Islamic banks and secondly, they feel more safety of their deposits as the bank is Islamic in which apparently honest section of the society is involved, Arabic terms are used and the office environments are Islamic. Due to this arrangement of payment, Islamic banks term rate on deposit as 'profit' though profit generates from uncovered risk undertaking. All risks of Islamic banks and conventional banks are protected by 15 point safety-net mentioned earlier. Therefore, profit distribution mechanism of Islamic banks on deposits seems a convincing technique to believe it as Islamic one. On the other hand, the conventional banks have no such technique so their pre-fixed final rates on deposit are called 'interest'.

The system of once provisional and again final rates on deposits is convincing to the Islamic minded depositors to believe that the system is Islamic but it could have been Islamic in true sense if the *mudaraba* deposits could have been invested on *mudaraba* or *musharaka* basis. Islamic banks accept deposits on *mudaraba* principle but cannot deploy it in the same principle rather it invests on fixed rate based Islamic modes like *Bai Murabaha* and Leasing etc. This distortion will never be removed as the profit sharing and loss bearing modes of investment like *mudaraba* and *musharaka* are not suitable at all, as mentioned above, to apply in Islamic banking because Islamic banks can never go beyond the system of financial intermediation though they might be multi product firm at best.

It appears therefore that use of Islamic financial products in Islamic form was possible in the intrinsic value loaded commodity money based financial system, where *Qur'anic* interest was in operation but now these are being used in the changed form in intrinsic valueless paper currency based modern financial system, where *Qur'anic* interest has become a "Tool of Monetary Policy and Non-Exploitative" in effect without sharing any risk with the entrepreneurs. Due to such a reversed use of Islamic financial products, it seems that Islamic financial products are Islamic in form but conventional in every other sense and fulfil similar needs and address similar concerns which further justifies that banks without interest is not conceivable. MacLean mentioned, "… an entire banking sector without debt would be far too unstable. Such a system had never to exist-medieval Islam had extensive regulations governing trade relations and individual contract law, but there was no banking, so there were no banking rules."

It may be mentioned here that there was a decade-old decision of the Federal *Shariah* Court of Pakistan that interest-based system of banking was un-Islamic

and should be replaced in a given time. The State Bank of Pakistan (The central bank) put, on June 11, 2002, its observations on the issue in an affidavit before the *Shariah* Appellate Bench of the Supreme Court by its Deputy Governor, *Tawfiq* A *Hussain*, in support of United Bank Limited's request for a review of the original judgment of the Supreme Court delivered in December, 1999. It was observed that there is no complete and successful banking system model that complies with the parameters prescribed by the Supreme Court to replace the current interest-based banking system in the country, and the transformation of the entire system will "destabilize the economy." Accordingly Supreme Court's Islamic Banking parameters were not implemented immediately by the verdict of the Court issued in June 2004. Nigerian government cancelled the license of Islamic bank having no difference between Islamic bank and conventional bank. Even then, there is a phenomenal growth of Islamic banking in Muslim and non-Muslim countries due to its extra operational facilities over conventional banking.

Conclusion

Islam has really prohibited interest which was not intrinsic to paper money character and in-built mechanism of monetary system like modern times. So the prohibited interest is not the interest rate of modern times that is being implemented in the developing economies. So prohibition of interest does not make sense and bank without interest is not conceivable in the developing countries.

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Financing Small and Medium Enterprise:
A Case Study of BASIC Bank Limited

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M.M. Liza[***]

Abstract

The study analyzes the present status of SME finance by Uttara branch of BASIC Bank Ltd. The study revealed that the concerned branch provided working capital of Tk.18.5. crore in the SME sector during the study period with 13 percent interest rate which was 77 percent of total loan fortfolio although purchasing fixed Term lones constituted only 23 percent of the same. Majority of the clients belonged to the age between 30 to 50 years & only 20 percent belonged to the age group of above 50 years. The profile of an enterprise as well as entrepreneur was studied as a test case for the study which generated sensation among the researchers.The study ended with some policy prescriptions namelys more promotional activities of product & services, arranging training for both loanees & officers, analyzing customer's behavior specially repayment, etc. The study concluded that by increasing number of branches, BASIC Bank could expand their SME service throughout the country.

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Introduction

1.1   Background of the study

Small and Medium Enterprises play an important role in the economic development of the country. They provide employment millions of men and women, sources of technological innovations and new product. Easy entry as well as exit of SMEs make economy more flexible and competitive. They also work as subcontractors of the large companies. Besides, they can produce exportable surplus and thereby helps to earn foreign exchange.

Bangladesh is mainly an agro-based country and her economy has undergone rapid structural transformation towards manufacturing and services. SMEs have been considered as the principal driving force of Bangladesh economy. SMEs in Bangladesh, along with stimulating private ownership and entrepreneurial skills, are flexible, and can adapt quickly to changing market demand and supply, generate employment, help diversify economic activity and make significant contribution to the exports and trade of the country. The contribution of the agricultural sector to GDP has declined from 50 percent in 1999-73 to around 20 percent in 1999-2000 and 15 percent in 2008-2009 (BER, 2009). So, now boosting the SME sector, the thrust sector of the economy, should be an imperative. Along with growth of industrial sector which include large industry as well as SMEs, the micro finance sector in also contributing to the GDP silently by playing a significant role in the rural economy. The member- based MFIs constitute a rapid growing segment of Rural Financial market in Bangladesh. To provide financial service to the people, Grameen Bank (GB) and other nearly 1000 MFIs are operating mostly in the rural sector of the country. These institutions have an explicit social agenda to cater to the needs of the poorer sections of the population and have a focus towards women clients.

In the industrial sector, the SMEs are widely believed to the potential engine of economic growth of Bangladesh. According to the 2003 National Private Sector survey of enterprises of Bangladesh, the SME sector accounts for around 40% of the gross manufacturing outputs, 80% of the industrial employment and 25% of the total labour force in the economy. Although SME foundation and IFC- SEDF's efforts to create awareness among the banks and non- banking financial. Institutions are more focused and SME in Bangladesh, the sector still needs greater support from both financial institutions and the government.

In a recent source, it is observed that there are 4-5 lac SME in Bangladesh. According BER (2009), around 6% of the countries a total of US$ 90 billion economy comes from SME and it is the largest sector in terms of employment

generation and almost 30% of Bangladesh's economy is believed to be SME driven. The financing of Small & Medium Enterprises has attracted much attention in recent years (de la Torre et. al., 2010). This is attributed to a number of reasons: (1) SMEs represent the majority of firms in an economy (de la Torre et.al., 2010), (2) SMEs are important customers that offer the greatest profit opportunity for bank (Zineldin, 1995), and (3) most large companies start as small businesses (de la Torre et.al., 2010). It, therefore, follows that banks should invest in building and enhancing the relationship with their SME customers. Such relational efforts would be largely driven by the acknowledgement of the benefits that accrue from relationship building (Wilson, 1995; Christopher et.al., 2002). Moreover so, banking is considered conducive to relationship development (Lovelock et.al., 1999) and relationship banking can yield considerable benefits for both the financial institution and the SME. It should therefore not be surprising that banks perceive SMEs as a core and strategic business and seem well positioned to expand their involvement with them (de la Torre et.al., 2010).

In particular, financial institutions can reach a competitive advantage through relationship development since relationship ease the collection of customer information.This is specially important since reliable information on SMEs is both rare and costly for banks, and as such relationship banking is often considered as the appropriate lending technique (Baas and Schrooten, 2005). This can in turn lead, on the one hand, to improved customer understanding and loyalty building and on the other, holding a strong portfolio of SMEs can help in achieving scale and scope of economies, ultimately enhancing long term profitability (Reichhed Sasser, 1990). Similarly, relationships are desirable for the SMEs since they are more financially constrained than large firms (Schiffer and weder, 2001; IAD, 2004; Beck et.al., 2005, 2006) and a positive relationship with their financial institution can reduce perceived risk & uncertainity (Sheth & Parvartiyar, 1995) & provide greater assurance that funding will be available when needed (Holland, 1994).

Nevertheless, it appears that in practice, SMEs are given marginal importance: as Vegholm and Silver (2008) and Silver & Vegholm (2009) argue that there is little evidence that banks adopt to the needs of the SME customers. This is also clearly evident from the banks' reaction to the financial crisis, whereby, instead of increasing attention on SMEs as a means of coping with the crisis, many banks wanted to keep corporate customers and get rid of the subprime portfolio and /or looked for capital injection, bailouts or restructuring or even sold part of their units.

In such a situation, the banking industry has increased focus on financing to exhibit poor performance in SME credit disbursement despite the central bank's

continuous efforts to boost it. In fact, the average SME loan portfolio of PCBs is 13.45%, considering the above context, the issue of financing in SME is getting due importance by the central bank of the country. The Bangladesh Small Industries and Commerce Bank Ltd. registered under the companies Act 1913 on the 2nd August 1988 started its operation from the 21st of January 1989. It is governed by Banking Companies Act 1991.The main mandate of BASIC Bank Limited is to provide financial services to the small enterprises spread throughout the country. The proposed study on "Financing Small and Medium Enterprises: A case of BASIC Bank Limited, Uttara Branch" is a modest attempt by the researchers. It is hoped the study will help bank management to handle their financing program more efficiently. The future researchers in this line will find a new way of their thinking, especially the financial aspects and add to knowledge in the existing reservoir.

2.2 Objectives of the study

The broad objective of the study was to analyse the financial aspects of SMEs of BASIC Bank Limited, Uttara Branch, Dhaka.

The specific objectives of the study were as follows:

- To know the genesis and present status of SME finance in Uttara Branch, BASIC Bank Ltd.
- To analyse a case history of a small business enterprise financed by the branch.
- To explore the problem of SME financing.
- To suggest policy implication arising out of the study.

2.3 Scope of the study

The study was based on a case study of SME financing. The entrepreneur of the KONA Fashion was interviewed to find out his ongoing process of implementing a SME enterprise under the financial support of BASIC Bank Ltd., Uttara Branch.

2.4 Methodology

Data sources

The data were obtained basically from two sources-
- Secondary Sources.
- Primary Sources.

Secondary sources
- Operation manuals of the bank.
- Annual Report of BASIC Bank Ltd.
- Policy manual of Small and Medium Enterprise financing of BASIC Bank Ltd.
- Periodical published by Bangladesh Bank.
- Uttara Branch, BASIC Bank total Portfolio which is divided by SSI and SMI.
- Various manuscripts, articles, assemblies.
- Website information.

Primary sources

The study was based on case study method and the methods of investigation employed in this study are given below:

Study area

Basic Bank Limited (Uttara Branch) 67/A (1st Floor) Rabindra Sarani, Sector-7, Uttara Model Town, Uttara, Dhaka-1230 was the study area of this research.

Study sample

As a case study, a single unit of small enterprise as well as twenty clients of the branch were selected purposely for the study.

Sampling Unit

KONA Fashion was selected as a sampling unit for the case study because the entrepreneur is one of the SME loans holders, provided by BASIC Bank, Uttara Branch.

Sample Size

The size of the sample was limited to only one unit of small enterprise and twenty clients. In spite of that much concentration was given to make it as objective as possible. It is hoped that this will fulfill the requirement of efficiency, reliability and flexibility.

Methods of Data Collection

Mini questionnaire, personal interview, focused group discussions etc were employed to collect data for the case study.

Data processing Method

Data were processed using Ms Word, Ms Excel.

2.5 Financing Small and Medium Enterprises in BASIC Bank Limited, Uttara Branch

The very word entrepreneurship conjures up the thought of a developing society. Along with other areas that are necessary for an economy to get the thrust, entrepreneurship has been chalked out as a factor that combines the elements of completion, betterment of living standards and a motivation to stay on with the ideas of the rest of the world Entrepreneurship is the dynamic process of creating incremental wealth by individuals/groups through the use of resources. The individual or groups who perform these activities are called entrepreneurs. The entrepreneurial activities create incremental wealth which is a precondition to economic growth. The existence of entrepreneurs and its accelerated growth is a precondition to continuous and sustainable economic growth.

A small business is a business that is independently owned and operated, with a small number of employees and relatively low volume of sales. A small business can be started at a very low cost and even on part –time basis. Small business owners tend to be associate with their customers and clients very closely which results in greater accountability and responsiveness. However BASIC Bank would recognize and accept only those as enterprise which have valid trade license/ registration from competent authority and unquestionable business background.

Bangladesh Bank in its several circulars has instructed all banks / financial institutions to put their maximum effort on SME and also chalk out some Small Enterprise related guidelines for all. They have also instructed all banks and financial institutions to set their respective Small Enterprise Finance policy in line with the guideline provided. The policy guidelines have been established to shape and define the acceptable risk profile of BASIC Bank Ltd and to provide guidance in responding business opportunities as they arise.

Bangladesh bank in its ACSPD circular # 8 dated 26.05.2008 declared unified definition for different size of enterprise. BASIC Bank will follow such definition, its amendment if any for financing small enterprise.

Definition of Small Enterprise
- A service concern with total assets at cost excluding land and building from TK: 50,000 to TK: 50 lac and total manpower not more than 25.

- A trading concern with total assets at cost excluding land and building from TK: 50,000 to TK: 50 lac and total manpower not more than 25.
- A manufacturing concern with total assets at cost excluding land and building from TK: 50,000 to TK: 1.50 lac and total manpower not more than 50.

Definition of Medium Enterprise
- A service concern with total assets at cost excluding land and building from TK: 50 lac to TK: 10 crore and total manpower not more than 50.
- A trading concern with total assets at cost excluding land and building from TK: 50 lac to TK: 10 crore and total manpower not more than 50.
- A manufacturing concern with total assets at cost excluding land and building from TK: 1.50 crore to TK: 20 crore and total manpower not more than 150.

2.6 Customer Eligibility to apply for SME Loan

Credit, whether secured or unsecured, must not be made available to a customer whether is a lack an understanding of the customer or the customer or the customer's business. The Bank will not extend credit products/ facilities which are inappropriate to the nature and scale of the customer's business. The customer should:

- Have the age of 18 years or above.
- Must be a national of Bangladesh.
- Must have business aptitude and an account with valid trade license.
- Understand the facilities and the associated risks.
- Have the authority to enter into the facility.
- The facility should be suitable for the customer needs.
- The facility should not be speculative.
- The size and structure of facilities is such that up-streaming or down-streaming of funds to the owners or associate companies are not facilitated.

2.7 Appraisal Selection of Bborrowers
- Before giving the SME loan BASIC Bank for fulfilling requirements of Know Your Customer (KYC) to Verify of the individual or corporate entity.
- Identification of the individual or corporate entity must be formally established through legal documentation.

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- The borrower must be legally capable of entering a contractual credit relationship and providing a charge over any asset in any from taken as security for a loan.
- BASIC Bank must focus and priority that sectors of Small enterprises which are supposed to create employment opportunities and contribution to economic and social uplift as a whole.
- The owner must have entrepreneurship quality.
- The owner must be of integrity.

2.8 Various Products Related to the SME Finance

- BASIC Bank Limited, Uttara Branch is now involved in financing in various products as per their Credit Policy and Procedural Guideline.
- Term Loan (Industrial Fixed Asset –Long & Midterm)
- Capitalized Expenditure (Long &Mid Term)
- Converted (Long & Mid Term)
- Short/Mid Term Loan (Work Order)
- Short Term Loan (Import)
- Short Term loan (Procurement of Merchandise)
- Short/Mid Term Loan(Micro Credit)
- Short/Mid Term Loan (Purchase of Office Appliances/Office renovation)
- Short/Mid Term Loan (Financial Obligation)
- Short Term Loan (Delivery Order)
- Short Term Loan (Converted)
- Cash Credit (CC) Hypo
- CC Pledge
- Export Cash Credit(Hypothecation)
- Export Cash Credit (pledge)
- SOD (Industrial)
- SOD (Contractors &Suppliers)
- SOD (CDR)
- SOD (Cheques & Pay Order)
- Loan against Import Merchandise(LIM)
- Loan against Trust Receipt (LTR)
- Packing Credit (PC)
- Payment against Documents (PAD)
- Forced LIM
- Forced Loan (Acceptance)
- Forced Loan (Other Guarantees)

- Loan against Documentary Bills (Local)
- Loan against Documentary Bills (Foreign)
- Letter of Credit (L/C)
- Acceptance
- Bank Guarantee
- Bills Purchase and Discount

2.9 Area of Financing of BASIC Bank Ltd, Uttara Branch

BASIC Bank Ltd, Uttara Branch prioritizes various sectors for financing. The management of the bank from time to time ascertains projection on facilities toward various sectors as well as demand from the existing clients of the Bank. The sectors are given below:

1. Finance on small Food & Allied manufacturing and trading.
2. Finance on small Printing, Publication & Packaging Industry.
3. Finance on small Engineering, Electrical & Electronics Industry.
4. Various Service Industries (small scale)
5. Small Handloom Industry
6. Silkworm and Silk Industry.
7. Tourism Industry.
8. Local Readymade Garment Traders.
9. Boutique Shop.
10. Photo Lab & Studio.
11. Handicrafts
12. Grocery Shop.
13. Fast Food.
14. Electronic (i.e. T.V, Fridge etc) Repairing shop.
15. Departmental Shop.
16. Poultry & Fisheries.
17. Pottery.
18. Any type of Coaching Centre or Training Institute.
19. Nursery.
20. Beauty Parlor.
21. Small Scale Furniture Factory.
22. Cosmetics and toiletries manufacturer & trader.
23. Computer software and related Goods trading (shop)
24. Artificial Flower Production & Trading.

2.10   Various units and organs for Small Enterprise Finance

Broadly, the bank will provide credit to its clients through following windows:
- Small and Medium Enterprise Finance (i.e. SME Finance) unit.
- Dedicated Women Desk.
- Other agencies like NGOs, NBFI etc.
- SME Service centre.

SME Unit: Establishment of SE cell/Dedicated Desk is an essential requirements per Bangladesh Bank guidelines. Hence, SE Cell/Dedicated Desk have to be established at Head office as well as in all branches of BASIC Bank.

SME Service Center: Not started yet.

NGOs and other agencies for SME purpose: Not necessary that the whole SME would be financed by the bank. NGOs and other agencies are involves in this regard they are work in favor of the bank.

Women Entrepreneurs: The management of the BASIC Bank will introduce different loans schemes with different brand names for women entrepreneurs in order tom encourage and develop women participation in business. The management will take steps necessary for proper publicity of the schemes. Women entrepreneurs can easily apply for loan through branches.

2.11   Approval Authority and Procedure of SME lone of BASIC Bank

Approval authority of all SME loans rests on the Board of Directors and the Managing Director. But considering the time factor for sanction of loans and to ensure proper and orderly conduct of credit business of the Bank the authority to sanction loans may be delegated to senior executives of the bank by the Board/Managing Director up to certain amount under certain terms and conditions.

Table 1.1 : Approval Authority by Different Tiers of Management

SL.	Designation	With Collateral (in lac TK.)	Without Collateral (in lac TK.)
1	Board of Director	30 and above	30 and above
2	Managing Director	*30	___
3	Deputy Managing Director	*20	___
4	General Manager	*5	___

Source: *SME Manual of BASIC Bank, year*

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All approvals must be evidenced in writing under signature of the approving authority. Records of approval shall have to be fild with the Credit Application at the respective desks and SE Finance Unit and reported to the management on periodical basis.

2.12 Amount of loan Provide by The BASIC Bank, Uttara Branch

Table 1.2 : Working Capital Finance (Tk)

SSI	102012594
MSI	78916139
Total	180928733

Term Loans

Sector of Loan Area	Amount	Interest Rate
Small Scale Industries (SSI)	TK. 51551108	12.50%
Medium Scale Industries (MSI)	TK. 36006673	13.00%

Source: Monthly Progress Report on 31.03.2010 of BASIC Bank Limited, Uttara Branch

2.13 Different categories of business

In studies of survey analysis, it was found that 55% of the clients are involved on trading business on the basis of banks enterprise scenario. Almost 30% sample clients are carrying out manufacturing business in our country and few are engaged in service business
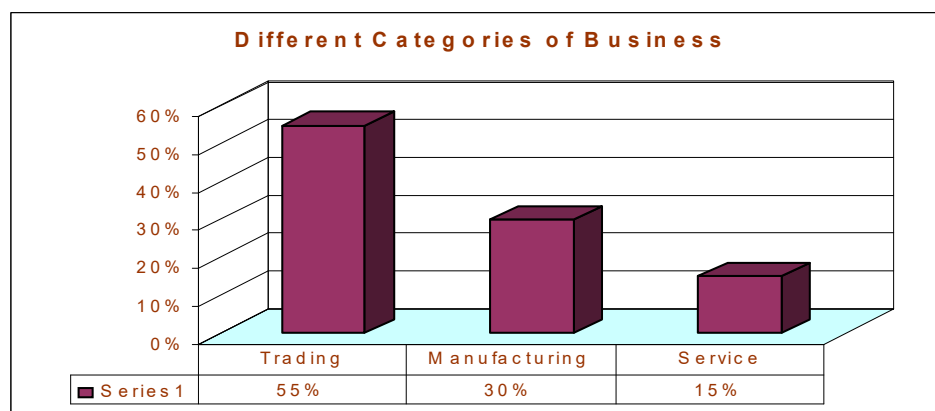
Figure: 1

2.14 Age limit of the client

According to the survey, most of the clients are carrying out business whose ages are among 30 to 50. It has been found that few clients are on above 50. SME believes that in studies of our age limit in this country it will be very risky to provide loans above 60 aged clients.

Age of Clients

	Below 30	Between 30 to 50	Above 50
Series1	33%	47%	20%
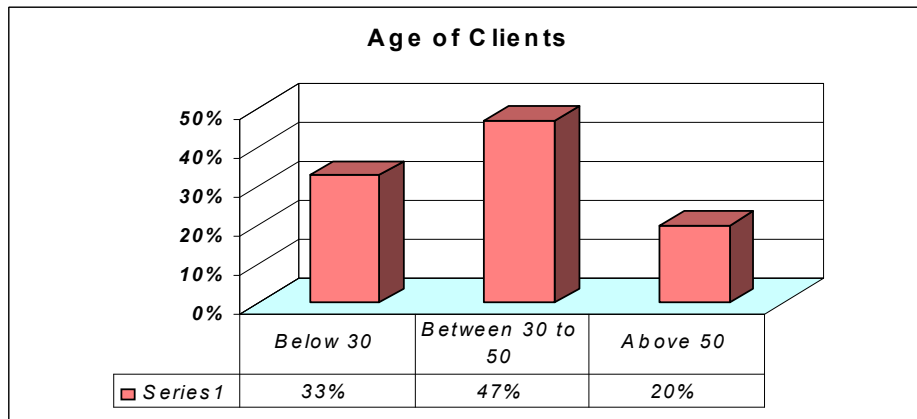
Figure: 2

2.15 Business requireing loans

78% clients demand small loans whether it can develop their own business, which found in the survey. Few clients think that to take loan might be risky to carry out the business.

Business Required Loan

No, 22%

Yes, 78%

Yes
No

Figure: 3

12
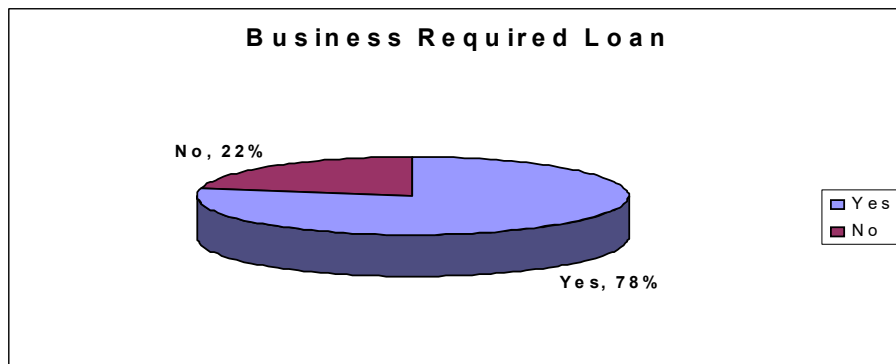
2.16 Purpose of loans

According to the survey, it can analyze that most clients want loan to meet their working capital requirements. In our country most clients carry out trading business rather than manufacturing business. Few clients demand manufacturing loans to purchase of fixed assets. In this case clients require medium loans like 15-30 lacs for purchasing fixed assets.

Purpose of Loan
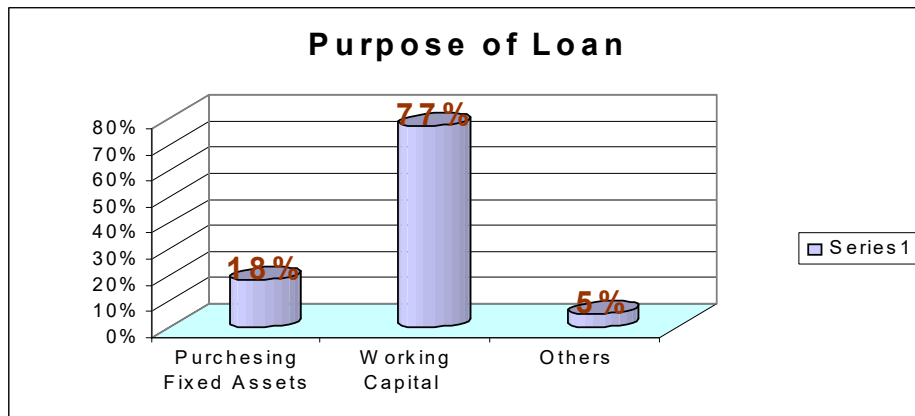
Figure: 4

2.17 Rate of interest

52% clients are satisfied on existing interest rate by comparing with other banks. Most clients prefer reducing balance method that BASIC Bank proportion in favor of clients. 43% clients are not happy to get this loan with charged interest rate. They think interest rate should be reduced. 5% clients disagreed to comment on this regard. SME believe that they do not have any hidden costs and free from bribes. It is a fresh organization whether clients can have for loans.

Interest Rate Satisfactory Level

	Satisfactory	Dissatisfactory	No Comments
Series1	52%	43%	5%
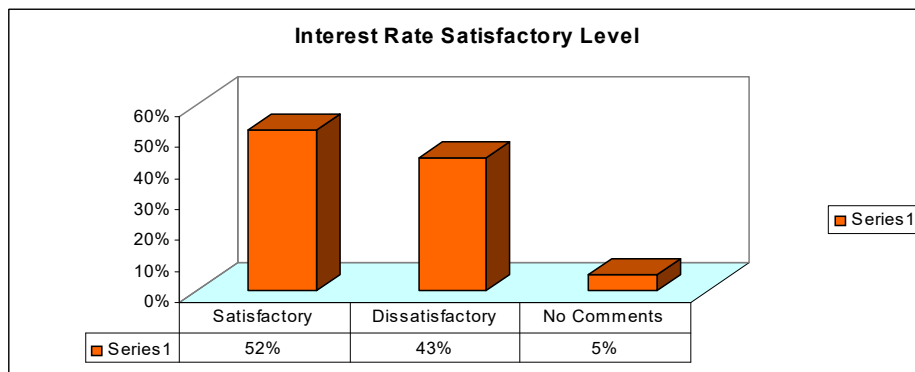
Figure: 5

2.18 Duration of loans

In spite of analysis, most clients want more duration or time to repay the SME loan. More time means less amount of money to repay the loan whether clients think beneficial of it. Very few clients demand short study or single payment loan to repay.

2.19 Security preference

According to the survey, it can imply that 75% of the clients want to provide deposit hypothecation of business assets against loan which also they feel less risky. If the clients go for big amount then they have to deposit registered or equitable mortgage against loan which they feel too much risky. But land property sometimes carry triples amount of security from loan amount. So they fail then they might sell their property.
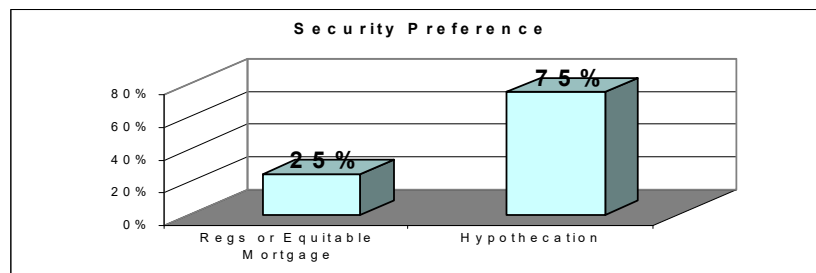
Figure: 6

2.20 Clients want fast service

According to the survey, it can be said that 55% of the clients avail the loan within 15 days. In studies of getting the loan clients buy the raw materials or order suppliers. A good number of sample clients will be satisfied if they get loan with 20-23 days. They are general clients and they do not have hurry to carry out

Figure: 7

14
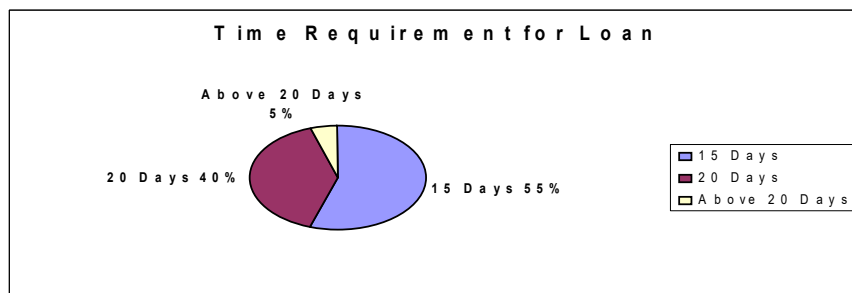
business. Very few clients opine more than 25 days because in this case clients deposits land security. So automatically it takes more time to avail the loan.

2.21 Repay monthly installment

Majorities of clients are happy to repay the loan by equal monthly installment. Clients know when where and how they will repay the money. So there is not botheration between clients and CRO.

Client Repay Monthly Installment

	Yes	No
Series1	75%	25%
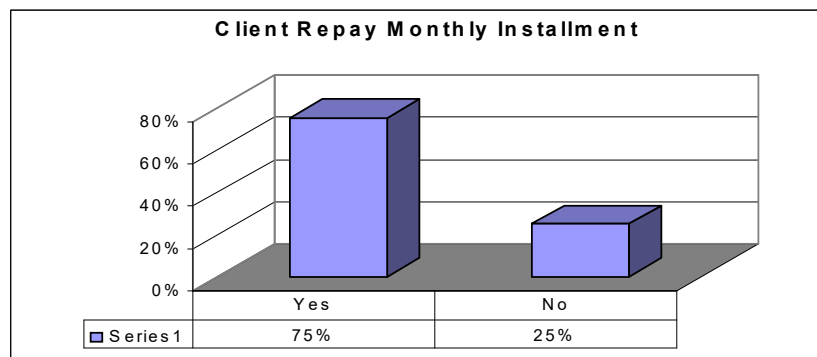
Figure: 8

2.22 Business expansion from trading to manufacturing

In studies of survey, it has found that almost 55% of clients interested to expand the business from trading to manufacturing. Purpose of the loan is economic development in our country, which might divert the clients mind after having the loan expansion. 30 clients are not interested to expand their business from trading to manufacturing. 15% did not answer this question.

Business Expansion From Trading to Manufacturing

No Comment 15%
No 30%
Yes 55%

Yes   No   No Comment
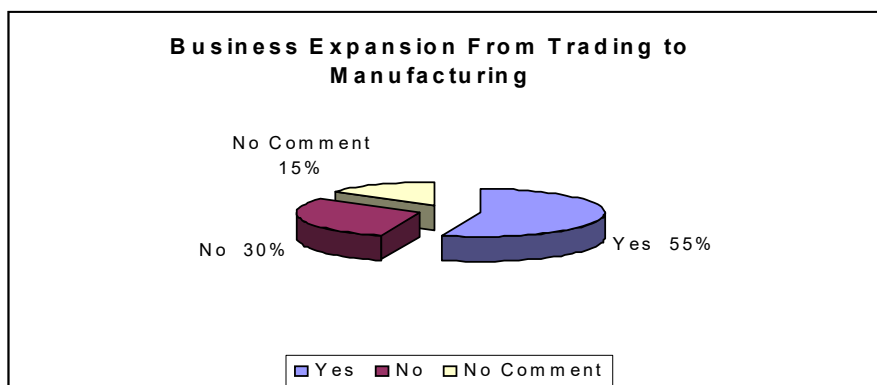
Figure: 9

3.1   Profile of The Entrepreneur & Enterprise

Every SME client of BASIC Bank Ltd, Uttara Branch had to fulfill certain criteria before getting the approval of SME facilities. Mr. Md. Kamrul Islam also had to fulfill those criteria before getting his loan. The following are a snapshot of his personal and professional profile.

3.2   The Motivational forces behind the success

Mr. Kamrul Islam brought up lower middle class family where all family members were fight to the poverty. His father Mr. Abdul Kuddus was a farmer. His father was always being in extreme exhaustion for fulfilled of his family's basis needs. That time Mr. kamrul Islam and and his family were stay in the Netrokona. Mr. kamrul Islam was a elder brother among five brother and sister. So automatically he had a lot of responsibility from childhood period. He always saw his father and mother were tolerating lots of privation. Kamrul Islam was always thought he must do something for his family. In that situation it was difficult to continue of his study. For helped his family and continued his study he was teaching to the village school students, that time he was only 15 years old. Then after a long hardship Mr. Kamrul Islam passed S.S.C in 1990 and H.S.C in 1993. He was thinking about his family father, mother his sisters and little brother also their previous privation situation. All practical through was work as a real motivation for him to do great things in life. The whole negative situation changed into a positive force and it was his fortitude and self-esteem that he accepted the challenge thrown to him from time with a smile.

Name of Entrepreneur	Mr. Md. Kamrul Islam
Father's Name	Md. Abdul Kuddus
Mother's Name	Sufia Begum
Present Address	Arichapur, Tongi, Gagipur
Permanent Address	Village:Raghunathpur,P.S.Kendua,Dis.Netrokona
Name of Business Organization	M/S KONA Fashion
	House# 43, Road# 18, Sector# 03, Uttara, Dhaka
Type of Business	Block Print, Embroidery and Tailoring
Date of Established	25.11.2004
Constitution	Proprietorship
Accounting Opening Date	11.09.2006
Introduce by	Md. Mokhlesur Rahman
	Prop. Siam Offset Press
Starting Capital	5 lac
Present Capital	108.55 lac

Source: *BASIC Bank, Uttara, Branch*

3.3   The Struggles Towards Success

Once upon a time he felt he should do something new which is much better and given more money to his family. Then in middle of the 1993 he came to the Dhaka. In Dhaka he was get in to his so called village relative uncle's house. His uncle's name was Mr. Rahman. He had a Sawmill and a shop of the wood. He proposed to Kamrul Islam for in his shop. Kamrul Islam was instantly agreed in his proposal. But that time was not talked about Kamul Islam's salary. Kamrul Islam also decided he continued his study because nothing is possible without study. For this reason he was admitted in Titumir College in B.A. So he continued both in same time. He was always done hardworking. After one month when he was get salary he felt he was happiest person in the world. Whatever he was get a little amount money only TK. 2000. In this amount of money Tk.1000 he was sends to Netrokona for his family. He felt he needs lots of money for maintaining his family properly. In this reason after closing the shop he was teaches students. He tried to deposit some money from his salary and his tuition's salary. He always did hardworking because one side must send money for his family and other side he deposited money for future. One day he heard about share business in Dhaka Stock Exchange, where possible to earn huge amount of profit. In early 1995 he decided he will buy share from share market. For this reason he borrows TK.50000 from his friend and also his deposited money both are invested in share market. He brought two companies shares. That time he always thought how he could free off his debt. After three months his share rate was up and he was sells his share. In his first business he was gainer and he earned profitTk.50000 that means he earned TK.120000. Firstly he paid off his friend's loan then he decided he brought much share from previous time. That time he also continued his job and teaching. One day he felt so lonely and missed his family. He decided he bring his family from Netrokona to Dhaka. He discussed with his boss or so called relative. His boss said, "It is so expensive to live in Dhaka City and also difficult to bear expense for you. Because here house rent is high. If you have a land or house then you can bring your parents." After that conversation he decided he buy a land if he earn profit his current share. After six months he was sell his share and that time he also earned profit. He earned total TK.200000. Then he talked his boss and other people for buy a land within a cheapest rate. One day one of the client of his work place that person said to Kamrul Islam he find out a land which was situated Chanpare, Dist- Gagipur, 8.25 decimel land and little bit inside of the main road. Kamrul Islam visited and brought the land TK. 150000. The rest of TK. 50000 he was investing in share market. In 1996 when share market indicator was fall and time huge amount of Share price was fall. Kamrul Islam loss TK. 50000 and that time he was impoverished and passed a difficult time. Mr. Kamrul Islam was in total distress at that time and didn't know what step he should take. Should he set out to

catch his dream? But he didn't get back. He continued his job. After a few months Mr. Kamrul Islam decided to take a short leave from his job to go to his village.

He was quite happy while he was returning home. It was such a long time that he didn't see his mother and little sisters. He couldn't wait any further to meet them, hug them and talk to them. Finally he reached his village. It was one of the most beautiful and emotional moments in his life. He could see the unselfish love in his mother's and sisters' eye flowing in the form of tears. After a few days he came back to Dhaka before came his father said they need more money for his sisters and brother's study. All journey time he was only think which is the way of earn more money. After a few days he was borrow TK.100000 from his boss and also mortgage his land paper to his boss. In that money he rented a shop in Tongi market and he decided he started business. He was bring shares from Islampur after a few months his shop was most popular in Tongi for varieties share and one year later he paid off his previous boss loan and get back his land paper. Then he decided he was brining his family from Netrokona.

3.4 The Beginning of his Business

One day when he went to the Islampur by bus he heard two young men talked about a new business. They said today's women are more fashionable he wants to try new dresses like block, tidry, spray printing, embroidery so this types more profitable and less investment. Mr. Kamrul Islam was interested about their topic and he asks them detailed about the business. They said it is a profitable business but must needed struggles and hardworking. He was also know after starting the business must need training on this business subject and Bangladesh JOBO UNNOON are provide training to the all young people. They talked each other until he was not reached. MR. Kamrul Islam took their address because this type was really a new business for him. One day he went to the Jobo Unnoon and admitted for 6 months training on Block, Spray printing, Embroidery. After a successful training he got a TK. 100000 loan from his training center without mortgage anything. Then he closed his previous business and sells all things there from got TK.200000 and also sells their Netrokona's land which was from get TK. 200000. Total TK.500000 he started his business. Firstly he rented a shop which was House# 43, Road# 18, Sector# 03, Uttara, Dhaka monthly rent was TK. 50000. Then he started his business 2004 November. Name of his shop was KONA FASHION. Firstly he started with 5 workers in his shop. Day by day his shop was most popular in Uttara and Tongi and he got lots of order. Mr. Kamrul Islam mainly engaged in Tailoring, Block and Embroidery business like Shree, Three pieces, Bed Sheet, Pant, Shirt, and Fotua etc.

3.5   Introduction with BASIC Banks SME loan

Mr. Kamrul Islam decided he expend But he was being extreme exhaustion to delivery all order for deficiency of money. One day he talked with Md. Mokhlesur Rahman about his problem he is owner of Siam Offset Press which is nearest shop of the Kona Fashion. In that time Md. Mokhlesur Rahman said him about the BASIC Bank's SME loan. Which maily created for helping the entrepreneur. Mr. Kamrul Islam had absolutely no idea about the matter and he thought if he wants to know about the matter he should personally visit the bank which is providing the scheme. He took the suggestion seriously and visited BASIC Bank and firstly he opened his own account and then spoke about the offer which they are providing (SME Loan). Bank's officer told him which paper will be submitted for loan and which types of requirement are should be fulfill. Then he applies for loan with an application. Then in 2007 March sanction his first SME loan.

3.6   Amount of SME loan

Table 1.3 : Amount of SME loan

Particulars	Date of sanction/ Renewal	Sanctioned Facility	Sanctioned amount	Rate of Interest	Date of Expiry
Sanction	05.03. 2007	CC (H)	TK.3.00 lac	13.00% P.a. which may be changed at the discretion of the bank.	27.03.200
Sanction	19.05. 2009	CC(H)	TK.8.00 lac	13.00% P.a. which may be changed at the discretion of the bank.	31.05.20.
Sanction	28.07. 2009	Ad-hoc	TK.4.00 lac	13.00% P.a. which may be changed at the discretion of the bank.	28.10.200
Sanction	11.03. 2010	STL	TK.3.00 lac		31.05.201
Security/Registered Mortgage **Total Value: Tk. 19.80 lac**	Primary: Hypothecation of stock – in trade of trading items duly insured with Secondary: (i) Hypothecation existing machineries and stock of raw materials like Sharee, Three pieces, Bed Sheet, Panjabi, Shirt, Pant, Fotuya favor of our bank, valuing TK. 34.10 lac. (ii) Existing registered mortgage of 8.25 decimal vacant land demarc Mouza- Chanpara, P.S-Gazipur, Dist-Gazipur demarked by p 9.90 lac. (ii) 8.25 decimal vacant lands demarcated by pillar under Mou Gazipur, Dist-Gazipur demarked by pillar valued at TK. 9.90 lac				

Source: BASIC Bank, Uttara Branch

3.7   Particulars of Proposed

Table 1.4

Facility	Enhance of cash credit (Hypothecation) limit from Tk.8.00 lac to Tk.20.00 lac.
Purpose	To maintain sufficient stocks for smooth supply to the customs.
Margin	50% minimum on invoice value or smooth supply to the customers.
Rate of Interest	13.00 % p.a. which may be changed at the discretion of the bank.
Mode of Repayment / Adjustment	Daily sale proceeds to be deposited in the C.C.(H) A/c.

Source: BASIC Bank, Uttara Branch

3.8   Present Status

Table 1.5 : Present Business Statues

Starting investment TK. 5.00 lac	
Asset Worth	TK.108.55 lac
Number of Shop /Factories	One shop and Five boutiques and one screen print factories all are situated in Uttara.
Business Type	Tailoring, Block Print, Spray Print, Screen Print, Embroidery.
Industry Type	It is a labour intensive industry.
Target Market	Middle and upper class people.
Business position/Coverage Area	Uttara, Tongi, Banani.
Business process	Kona Fashion sell their products their own shop and also supply or sell Uttara, Banani and Tongi's different types of boutique shop.

Source: Mr. Kamrul Islam

3.9   Future Plan

The future plan of Mr. Kamrul Hasan about the "Kona Fashion" is very much organized. Firstly he wants to expand his business area all over the Dhaka City. Then he will open his own showroom in Jamuna Future Park Shopping Mall with a large size. Kona Fashion also get order of screen print from different types of garments, so Mr. Kamrul Islam will also wants to expand his garments customers. Only from Tk.5.00 lac investment money today Mr. kamrul Islam total asset increased to TK.108.55 lac, so it is possible for hardworking for this reason Kamrul Islam also wants to continued his hardworking in future.

3.10 Problem of the Entreneur Regarding of The Bank

- Bank interest rate is high.
- Duration time of the pay off the loan is very short. So limited time is the very much burden for the entrepreneur.
- Loan amount is very low against securities.
- Without reputed introducer not possible to open the account and also not get the loan.
- Getting the loan is really extensive after applying the loan.

3.11 Bjectively anlysis the Entrepreneur's Problem

After talking the bank manager about the Mr. Kamrul Islam Problems find out some reasons which are work behind the problems.

- BASIC Bank Limited is a 100% government owned bank. So it is strictly maintain some rules about all matters.
- BASIC Bank follow the Bangladesh Bank's SME policy manual which contains the core principles for identifying, measuring, approving and managing credit risk revolving around the small enterprise financed by the bank.
- As a government bank sanction of any kind of loan pass a lengthy process because when any loan proposal submitted in branch then branch send it to the Head office. Head office takes 7 days and then Head office process the proposal with due diligence and take decision by the Board of Directors meeting.
- Not possible to maintain the loan amount and the securities values. Because most of the time it's involve different types risk. Like, Mr. Kamrul Islam's bank security values against loan its most of the portion of his business's raw materials and machineries. So any type of mishap or accident creates a high risk for bank.
- It is not really that, the BASIC Bank loan interest rate is high. Because of comparatively other banks which are providing the SME loan their interest rate is high rather than BASIC Bank.
- For maintaining Bangladesh Bank rules and for safety BASIC Bank want to a reputed introducer because if any of reason client are not able to pay off the loan that time introducer bear the loan.

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3.12 Findings from the case study

Explain below some Entrepreneur characteristic which are found in Mr. Kamrul Islam

- **Confidence:** MR. Kamrul Islam is a confidence person. He never acknowledges defeat to his poverty. For this reason from a poor farmer's son he makes him billionaires. He never compromises anything and he continued his study and also when he faced loss in business that time he handles everything with his confidence.

- **Independence:** He had always independence mentality. For this reason he started teaching and sells man profession for helping his family and continued his study.

- **Honesty:** Mr. Kamrul Islam always paid off his loan in on time its carry his honesty characteristic.

- **Energy and Diligence:** Mr. Kamrul Islam is every energetic person. This made him a successful entrepreneur. From first to till he done hard working. He continued his study also continued his sells man profession and teaching to the students. Mr. Kamrul Islam started Kona Fashion only one shop but his diligence and energy possible to establish six factories and shop.

- **Risk Taking Capacity:** One of the most important characteristic of entrepreneur is risk taking capacity. This is most related to the Mr. Kamrul Islam. In his whole life he was always taking different types of risk for gained his business.

- **Intelligence:** Mr. Kamrul Islam is very intelligent person. For this reason, very begging of his age he understood education has great value and it can make a successful life and early of the age he felt that to eliminated his poverty he was must be independent and done hard work.

Whether Md. Kamrul Islam Comparable to a Successful Entrepreneur

Mr. Kamrul is definitely comparable to a successful entrepreneur. He has all the qualities of an entrepreneur and is always optimistic to achieve good things. He is always looking forward to take up new challenges and is a good risk calculator. He has systematically arranged his business and driven it to a successful path with healthy profit. Mr. Kamrul Islam also has future plans and always has the hunger to succeed.

The Implied Reasons behind Md. Kamrul Islam for Becoming a Successful Entrepreneur

Mr. Kamrul was in a very difficult position. Maintaining the family is difficult for his father. For continued his study he passed an intricate time. At last he came to Dhaka for helping his family change their situation. At a very young age he took the decision to fight against his faith and succeeded. The untimely catastrophe with his family urged him to become an entrepreneur.

The Lessons from Mr. Kamrul Islam And How It Can Influence a Man to be an Entrepreneur

The story of Mr. Kamrul Islam, a Bangladeshi citizen, is a prime example of someone who has succeeded through determination, by asking for information and guidance and by making use of intellectual property. It shows also that cases of success are not confined to America or Europe alone, but that Bangladesh business or individual can just as well achieve success through development and help provided by various financial institutions. Mr. Kamrul Islam set an example not only for the people like him but for the whole nation that determination, hard work, willpower, risk taking mentality, self confidence, never acknowledge defeat mentality, achieve more money and self-control can lead anyone to achieve the impossible. The lesson which we learned from all his experience is; "Necessity is the father of all Inventions".

Md. Kamrul Islam- An Opportunity Seeker With Examples

Mr. Kamrul Islam is an opportunity seeker and has always grabbed the opportunity to go ahead in life. He initially grabbed the opportunity and to fully trained up about his business from JOBO ONNON. Then after gaining sufficient experience made the full use of it by opening his own business and finally grabbing the opportunity provided by BASIC Bank Ltd. He made full utilization of the SME loan that brought him to this position today.

What Made Mr. Kamrul Islam a Great Businessman

The determination, the dedication, the ability to motivate himself and others and the intelligence and integrity of Mr. Kamrul Islam has made him a great businessman. Even in the most difficult situations he has been able to find out the best solutions with good results to show for it.

3.13 Policy Implication & Conclusion

Policy Implication

- Most of the people don't know BASIC Bank is a government owned Bank and also don't know about its SME loan. So BASIC Bank Limited needs more promotional activities of their products and service.

- Start SME service center as soon as possible. The main aim of the SME service should be motivate the prospective entrepreneurs and finance them according to their requirement.

- BASIC has no customer relationship officer. So it is necessary to recruit customer relationship officer and by providing training should be make them more comprehensively and realistically by that customers may not face any trouble while getting and repaying the loan.

- The Bank should work on that, which SME loan they are provided those loans have properly utilized and for the same propose for they were acquired.

- Analyze customers' behavior that what type of customer makes default and stop giving them SME loan.

- Risk Management department's audit report should be more strict and reliable so that possible defaulter may not get the loan.

- By arranging various workshop, seminar, Training program etc for the new entrepreneurs.

- Find out the potentiality of the business, understand the needs of the customers and cooperate the new entrepreneurs with their ideas, experience and thoughts.

Conclusion

This is a well established statement that practical situations always differ from theoretical explanation As a government bank BASIC Bank is trying it's best to extend their service to the public. A very working environment was remaining in the BASIC Bank, Uttara Branch. During the study period, it was found that the Uttara Branch provided all kinds of commercial banking services to its customers. Foreign Exchange Department rendering all the services related to international trade and remittance. Loans and advances analyses credit proposal and disburse credit if proposal is sound .General banking is engaged in cash receipt and payment, cheque clearing, local remittance etc.The present SME dealing of BASIC Bank LTD is comparatively satisfied.& by increasing their branches BASIC Bank can expend their SME service all over the country.

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Acronyms

BASIC	Bangladesh Small Industries & Commerce
CC	Cash Credit
CRO	Customer Relation Officer
MSI	Medium Scale Industries
SSI	Small-scale Industries
SOD	Secured Overdraft
TOD	Temporary Overdraft

Measuring Customer Satisfaction of Textile Chemical By Using Servqual Approach : A Case Study

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Abstract

In the recent world business has become more competitive where customer satisfaction plays an important role to survive in the market. To gain a higher level of customer satisfaction servqual factor is a must. Customer satisfaction, a business term, is a measure of how products and services supplied by a company meet or surpass customer expectation. It is seen as a key performance indicator within business and is part of the four of a Balanced Scorecard. In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. Service quality is very important for customer satisfaction. In managing service quality, one can start by trying to analyze the range of options available such as development of service quality dimensions as well as the existing models of service quality. The researcher discussed at the service quality. Fifteen corporate clients were selected through convenience sampling techniques due to the time and cost constraints. Self- administered questionnaire was the instrument for collection of primary data. The findings of the study provides a broad based framework for the researchers in the years to come.

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1. Introduction

Textile chemical is an essential part of textile industry. Textile chemical manufacturers and suppliers deal in textile chemical wholesale. At the same time the textile chemical wholesaler as well as retailer look forwhat. This textile chemical directory is a good platform for all the traders to find each other. The categories in the directory include all types of chemicals and other relative products such as textile enzymes, leather enzymes, textile pretreatment chemical, textile finishing chemicals, dyeing chemicals and printing chemicals.

1.1 Statement of the problem

In the recent world business has become more competitive where customer satisfaction plays an important role to survive in the market. To gain a higher level of customer satisfaction servqual factor is a must. Customer satisfaction, a business term, is a measure of how products and services supplied by a company meet or surpass customer expectation. It is seen as a key performance indicator within business and is part of the four of a Balanced Scorecard. In a competitive market place where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. This study explores overall customer satisfaction of overall service quality in AUXILINE BD. LTD. by using SERVQUAL Model.

2 Literature Review

This section explores and summaries the related research on customer satisfaction, service quality, the conceptual framework and the SERVQUAL Model. This literature review provided the basis for the AUXILINE BD. LTD service quality of the research instruments and its final analysis.

2.1 Customer Satisfaction Research

Both public and private sectors have given much attention to the concept of customer satisfaction in the past couple of decades. Naturally, administrators have requested their staff to do customer satisfaction studies for their own organizations. In this section, the researcher elaborates on the importance of the customer that is the access control user and its perception towards the service provided by the access control service provider and their satisfaction on the service received. Consumer satisfaction provides the basis for the marketing concept and has been shown to be a good predictor of future purchase behavior. As a reflection of its importance, consumer satisfaction is a popular topic in the

marketing literature. Most models of consumer satisfaction and service quality maintain that discrepancies between ex ante expectations of a good or service and the product's ex post performance are the best predictors of the satisfaction or quality perceived by the customer (e.g., Oliver 1977, 1980; Parasuraman, et al. 1985, 1988).

2.2   Customer Satisfaction

The concept of customer satisfaction has drawn the interest of academics and practitioners for more than three decades in the light of the fact that customers are the primary source of firm's revenue without the emergence of the consensual definition of concept. Churchill and Suprenant (1992) define customer satisfaction as an outcome of purchase and use resulting from buyers' comparison of the rewards and costs of the purchase in relation to the anticipated consequences. It also has been viewed as an emotional state that occurs in response to the evaluation of a service (Westbrook, 1981). The former conceptualization recognizes that satisfaction is determined by a cognitive process of comparing what customers receive (rewards) against what they give up to acquire the service (costs), whereas the latter views satisfaction as an emotional feeling resulting from evaluation process. Consistent with this view, customer satisfaction is defined as an emotional response, which results from a cognitive process of evaluating the service received against the cost of obtaining the service (Woodruff et al., 1991; Rust & Oliver, 1994). Satisfaction is an emotional or feeling reaction. Moormann (2000) defines satisfaction as a positive feeling about a particular entity. Rust et al. (1996) define satisfaction as how customer perceives service and how they feel about it. This is because customer decisions take place in the customers mind. Oliver (1991) defines consumer satisfaction as the overall attitude towards a good or service after they have acquired and used it. It is post choice evaluative judgment resulting from a specific purchase selection and the experience of using/consuming it. Customer satisfaction measure is useful for assessing the effectiveness of efforts to redesign elements of the service delivery system (Chase & Bowen, 1991)

2.3   Service Quality Research

Delivering high quality services has been recognized as the most effective means by which a service company can create a competitive edge from the competitors (Parasuraman et al, 1991). Studies have also demonstrated the strategic advantage of delivering superior quality to market share as well as profits (Gronross, 1988). Research on services has grown correspondingly. In particular, academics and

practitioners alike have exhibited considerable interest in the issues that surround the measurement of service quality. Service quality is one of the major issues facing operations managers (Gupta & Chen, 1995) but it is an area characterized by debate concerning the need for assessing customer expectations and service quality assessment (Parasuraman et al., 1994). Service marketing literature in general and service quality in particular is still evolving and has not reached the maturity stage yet. Thus, this study is aimed at exploring the service quality in the AUXILINE BD. LTD management services which is still lacking behind and need further explaration.

2.4 Relationship between Satisfaction and Service Quality

Satisfaction is defined as a customer's perception of a single service experience, whereas quality is the accumulation of the satisfaction for many customers over many service experiences. Such post-evaluation experiences perhaps lead over time to a more general attitude. Moreover, service is equal to the perception of a single service as received and measured against the expected service received. The difference in the degree, direction and discrepancy between perceptions and expectations of a customer result in a level of satisfaction or dissatisfaction (Hill, 1992).

The relationship between customer satisfaction and quality can be explored by using Gronroos (1984) quality dimensions. In his work, Gronroos determines the technical quality of the service process that the customer is left with when the service production process and its buyer-seller interactions are over. Customers can often measure this dimension relatively objectively because of its technical nature.

The service dimension is another quality dimension, which has been used in literature as a functional or process quality of the process. The customer is also influenced by how she receives the service and how she experiences the simultaneous production and consumption process.

However, in the literature three theoretical conclusions can be found regarding the relationship between satisfaction and service quality. First, service quality is understood as an antecedent of customer satisfaction (Peyrot et al.; 1993 Woodside et al, 1989). According to this interpretation, service quality is equated with the customer's appraisal of a concrete product or service experience (Gotlieb et al., 1994). Consequently, it does not include expectation aspects, whereas satisfaction is based on the (dis-) confirmation of expectations associated with the service or product experience.

Second, both constructs are treated as one and the same. According to this approach no significant theoretical difference exists between satisfaction and service quality (Gummesson, 1987; Spreng & Singh, 1993). As with the first interpretation, the aforementioned divergences concerning the higher stability of quality perception and the emotional dominance of satisfaction are ignored by this approach.

The third approach is where customer satisfaction is modeled as an antecedent of quality. Following this interpretation, the product and/or service related quality perception is seen the higher order and more stable variable, which is built mainly on previous experiences of (dis-) satisfaction related to discrete transactional episodes (Bitner, 1990; Bitner & Hubber, 1994; Bolton & Drew, 1991, 1994). Thus, satisfaction is regarded as a short term emotional state that results from an intrapersonal comparison of the customer's expectations with the evaluation of a single product or service encounter. This emotional state of satisfaction leads to an overall, global attitude about (service) quality (Dabholkar, 1993) which is only implicitly based on some kind of internal expectation standard. Because quality is a dynamic construct, additional consumption experiences influence and modify the existing quality perception and cause changes in this perception (Thompson & Getty, 1994). In other words, multiple satisfaction evaluations contribute to an overall quality evaluation.

In this research, it follows what Rust et al. (1996) has clearly illustrated in the relationship between perceived quality and satisfaction. It has pointed out in two different situations. As illustrated in Figure 2.2 the perceived quality is higher than expected. This situation will usually result in satisfaction. Oppositely in Figure 2.3, perceived quality is not as good as expected. In this situation will result in dissatisfaction. This disconfirmation (gaps) forms the conceptual basis for the SERVQUAL model for the service quality and satisfaction.

2.5 Conceptual Framework

The framework will provide the researcher with a guide on how to develop the service quality instrument to be implemented in this study. The development of framework has to start from an initial idea and concept. In this case of managing service quality, one can start by trying to analyze the range of options available such as development of service quality dimensions as well as the existing models of service quality. The researcher will discuss at the service quality dimensions from various studies. Service quality is multidimensional (Parasuraman et al. 1985) and a very complex phenomenon (Gronroos, 1998). Thus, this section is to

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identify the most suitable construct and dimensions for highway management services. The framework is illustrated as Figure 1 below.

The model proposes that the service quality consists of technical and functional dimensions. The model also proposes that there are direct relationships between
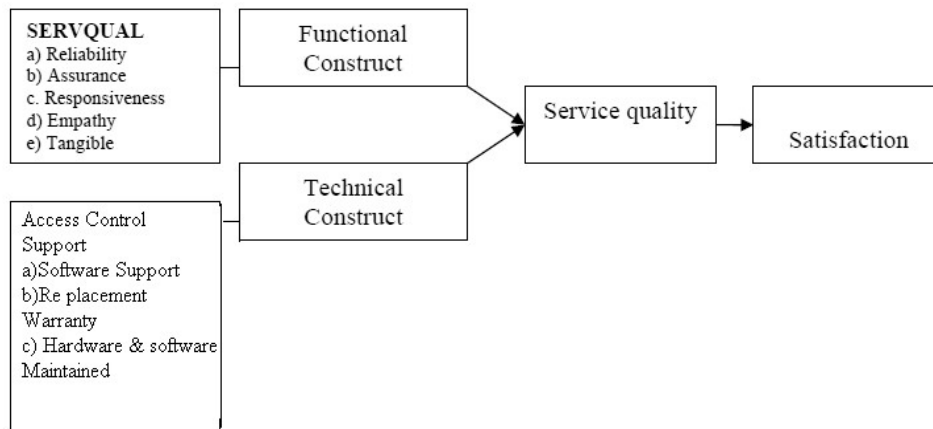
Figure .1: Proposed Conceptual Framework
Source: Web site

service quality perception and the technical construct and the quality dimensions, in addition to the indirect effects of technical and functional quality on service quality perception. The model also suggests that the service quality leads to customer satisfactions. There is theoretical support for a multi dimensional, multi level model of service quality (Dabholkar et al., 1996), but little effort has been taken to conceptualize and empirically test such structure.

SERVQUAL was modified in the present study to reflect the nature of AUXILINE BD. LTD management services. Parasuraman et al., (1988) indicated that such modifications were appropriate and do not represent difficulties related to the reliability and validity of the instruments.

2.6 The SERVQUAL Model

Given the growth of services in the last decades, many researchers have recognised the need to develop measures of service quality. One of the most often used measures is the SERVQUAL based on extensive research in generic determinants of perceived service quality (Parasuraman et al., 1985; Parasuraman et al., 1988; Zeithaml et al., 1990; Parasuraman et al., 1991; Parasuraman et al.,

1993; Parasuraman, Berry et al. 1994). The model measures the difference between customers' expectations about general quality of a certain group of service providers and their perceptions about the actual performance of a service provider from that group. It uses a set of service quality determinants measured by a 22 item scale. The model defines customer satisfaction as perceived service quality, which is the gap between expected service and perception of service actually received (refer to Figure 2.1) Many studies in different service industries use the model as a basis for developing surveys to evaluate customer satisfaction, which was the ambition of the authors.

2.6.1 Dimension in SERVQUAL Model

Boulding et al. (1993) perceived the dimensions of service quality as a function of a customer's prior expectations of what should transpired during a service encounters as well as the customer's most recent contact with the service quality delivery system. These perceptions of quality dimensions form the basis for a person's intended behavior. Their findings suggest that the two different types of expectations have opposing effects on perceptions of service quality and that the service quality perceptions positively affect the intended behavior.

Starting with the ten dimensions, Parasuraman et al (1988) conducted studies in several sectors to developed and refined SERVQUAL, and using factor analysis reduced the ten dimensions to five. These five new dimensions were defined as below and summarized in Table 2.3.

Tangibles

According to Kotler (1999) and Bitner & Zeithaml (2003), the appearance of physical facilities, equipments, personnel and communication materials of an organization is the tangibles. Churchill and Peter (1999) added that customer look for quantity in the equipment, facilities and communication used to provide the service.

Reliability

According to Kotler (1999) and Bitner & Zeithaml (2003), the ability to perform the promised sevice dependably and accurately is the reliability. Churchill and Peter (1999) added that customers want performance to be consistent and dependable.

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Responsiveness

According to Kotler (1999) and Bitner & Zeithaml (2003), responsiveness is the willingness to help customers and provide prompt service. Churchill & Peter (1999) added that customer must see service provider as ready and willing to perform.

Assurance

According to Kotler (1999), and Bitner & Zeithaml (2003), assurance means the knowledge and courtesy of employees and their ability to convey trust and confidence.

Empathy

According to Kotler (1999), Bitner and Zeithaml (2003), empathy means the provision of caring, individualised attention to the customer. Key dimensions used in this study can be summarised as Table 1 below:

Table 1: Dimensions in SERVQUAL Model

Tangible	Appearance of physical facilities, equipments, personnel. and communication materials
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and prompt service
Assurance	Knowledge and courtesy of employees
Empathy	The firm provides care and individualised attention to its customers

While being widely applied, the SERVQUAL model has also received criticism for not including prices in the assessment or for the inclusion of expectations as a variable in measuring service quality (Boulding, Kalra et al. 1993). Perhaps the most often heard criticism pertains to the lack of a clear linkage between satisfaction and perceived service quality identified by some research (Duffy & Ketchard 1998). An alternative model (SERVPERF) was later developed for these reasons, based on the findings that service quality does not depend on expectations and can be directly measured by simple performance based measures of service quality (Cronin & Taylor 1994).

2.6.2 Service Quality Model

According to Grönroos (1982), the quality of a service perceived by customers will differ depends on what strategy the company chooses to deliver and promote

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that service. The service quality model by Grönroos holds that the quality of a service, as it is perceived by the customer, can be divided into technical quality and functional quality dimensions. The former denotes what the customer receives as the output of a service production process and the latter how the technical quality is produced and transferred to the customer during buyer-seller interactions.

Grönroos (1988) posits that the technical quality is the "basic condition for a positively perceived total quality, but the functional quality is the one that adds competitive edge" (Gummesson & Grönroos, 1987). Furthermore, in the relationship marketing, the growth of the 31 importance of functional quality in comparison to technical quality becomes a strategic one (Grönroos, 1993). The distinction is also made in the model between perceived and expected service quality and it is suggested that the quality is perceived subjectively. Grönroos, (1988) further developed the model by positing that in the case of a company, which extends product offer with services, it is more appropriate to talk about total perceived quality. According to him, a high perceived quality is obtained when the experienced quality meets customer expectations, i.e. the expected quality. However, if the expectations are unrealistic, the total perceived quality will be low, even if high quality was experienced (Grönroos, 1988). Grönroos urged that the total perceived quality is not only defined by the level of technical and functional dimensions, but also by the gap between the expected and the experienced quality.

2.6.3 Discussion on the Proposed Researched Model

Based on the Parasuraman et al., (1988) gaps model, this research will focus on the gaps 5, where it measures the perceived service against the expected service provided by the highway service provider to measure their service quality. According to Parasuraman et al., (1988) the smaller the gap between adequate service and perceived service, the higher the perceived adequacy of the service. The gap 5 is simplifies as Figure 2 below.
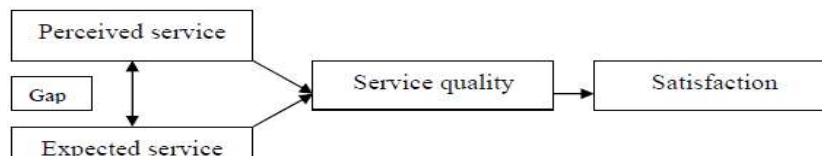
Figure 2.: Service Quality FRAME WORK 1
Source: Web site

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According to Gronroos (1988), in order to make a list of determinant or factors of good quality useful for managerial purposes, it has to be short enough, but still provide a comprehensive list of aspects of good quality. Therefore, for the purpose of this study the researcher has chosen Parasuraman et al., (1988), ie the five service quality dimensions as the most relevant study because it fits with the suggestion made by Gronroos (1988) the quality dimensions have been developed specifically for services, and the dimensions are derived from empirical studies and statistical analysis. Zarita (2006) demonstrates that these five dimensions will be one aspect of service quality construct that is the *functional/process construct*. Thus the suggestion of the conceptual model based on the above discussion is illustrated as table 3 below
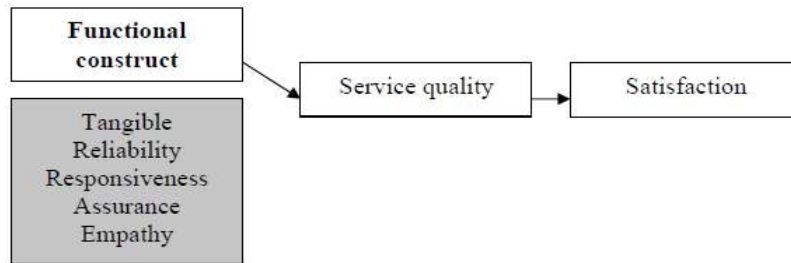
Figure 3: Service Quality FRAMEWORK 2
Source: *Web site*

As Parasuraman et al. (1988) suggest that the five (5) dimensions above are generic dimensions which are appropriate to apply in measuring Service Quality for all service sector. However, Taylor & Baker (1994) urged that the relationship of service quality is different from industry to another industry of services as mentioned by Carmen (1990). New factors should be added and taken into account based on generic and appropriateness of the services sectors.

Gronroos (1988) urged that the quality of a service, as it is perceived by the customer, can be divided into technical quality and functional quality dimensions. The technical quality is the basic condition for a positively perceived total quality. In the AUXILINE BD LTD. management and services, the AUXILINE BD LTD. and the facilities used by the access control users represent the *technical/outcome quality* dimensions. On the other hand, the highway service provider/ concessionaires who provide the management and maintenance of the services and facilities represent the functional or process dimensions. Operational highway management and services consist of two main task (1) the management and (2) maintenance. The management involves all the coordination of work, toll collections, supervision and other management task, whereas maintenance

involves the outcome of the physical aspect which is the road and its facilities. Figure 4 below illustrate the framework and conceptual model based on the conclusion made.
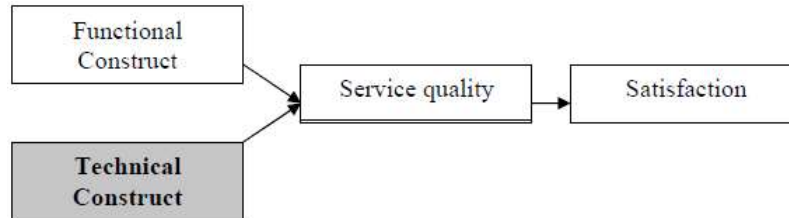
Figure 4: Service quality FRAMEWORK 3
Source: *Web side*

The technical or Outcome quality of the physical aspects is the second part of the framework which is the maintenance of the access control and facilities. However, in the marketing terms, it is known as the physical evidence. Zeithaml & Bitner (2003), customers often rely on tangible cues, or physical evidence, to evaluate the service before its purchase and to assess their satisfaction with the service during and after consumption.

2.6.4 Service Quality Foundations:

There are many factors regarding a products or services which have a direct impact on customer satisfaction, service quality is one of them. If the quality of service is not good, the customer will not be satisfied. So as a consequence it will be very difficult for that product or services to survive in the market any longer. So it has been chosen service quality as an important factor to assess customer satisfaction on access control AUXILINE BD LTD.

Besides, access control is also a services oriented product. So, to know the customers satisfaction level on access control service quality is must. Otherwise the study would not satisfy the objective taken in this report.

3.   Methods of investigation

The study is based on quantitative approach and it was tried to discuss about the service quality of AUXILINE BD LTD.

3.1 Sources of data

To prepare this report, both primary and secondary data were collected although the dominance of secondary data were higher to complete this study.

3.1.1 Primary sources:

(a) Target population: Corporate clients were considered to collect relevant data of the study.

(b) Sample size and sampling technique: 15 corporate clients were selected through convenience sampling techniques due to the time and cost constraints. Self- administered questionnaire was the instrument for collection of primary data. The questionnaire was close-ended where 5 points linker scale was used from I= strongly disagree to V = strongly agree. Face to face personal interview was the data collection techniques since the rate of refusal is usually low under these methods.

3.1.2 Secondary Sources: Data collected from secondary sources were based mainly on journals, research reports, organizational documents etc., as well as web sites

3.2 Analytical Technique:

Descriptive analysis had been conducted and means analysis was done in order to find respondents perception towards Tangible, Reliability, Responsiveness, Assurance, Empathy and Service quality.

4. Findings & Data Analysis

4.1 Overview

In this part, the findings of data have been analyzed on service quality of AUXILINE BD LTD. through quantitative method and different graphical presentation.

Here it has been tried to find out the satisfaction level by calculating mean value of customer response on SERVQUAL Factors.

Table 2 Shows satisfaction level by calculating mean value of customer response on SERVQUAL Factors.

4**.2 Graphical Representation of Data:** In this part, the analyzed data on perception have been described on the basis of organization's Tangibility, reliability, responsiveness, assurance, empathy; service quality. Here is the explanation of the collected data one by one by diagram

4.2.1 Tangibility

We had asked our valued clients about the organization physical facility. But it is seen that most of the clients were less than agree in the case of organization

Table 2: Shows satisfaction level by calculating mean value of customer response on SERVQUAL Factors.

Section	Question	Mean
Tangibility	1. The physical facilities at AUXILINE BD LTD. are visually appealing.	3.3
	2. Materials associated with the service are visually likable at AUXILINE BD LTD.	3.6
Reliability	3. The products/services provided were represented accurately by the company.	3.5
	4. The product is delivered on the promised time by the company.	4.3
Responsiveness	5. Employees of AUXILINE BD LTD. give prompt service to customers.	3.1
	6. The company shows a sincere interest in solving the problem.	3.1
	7. Employees of AUXILINE BD LTD. always willing to help customers.	3.1
Assurance	8. Service time provided by the company is enough for the product.	3.5
	9. Replacement service that assured is given properly in warranty time.	4.5
Empathy	10. The employees of AUXILINE BD LTD. Understand the specific needs of their customers.	3.0
Service Quality	11. Access to overall services is satisfactory.	3.5
	12. Communication style and information provision is at satisfactory level.	2.9
	13. Security of your care is satisfied with Access control solution.	3.4
	14. Competence in overall service delivery is satisfactory level.	3.3
	15. Customers are satisfied with the up-to-date range of physical facilities of access control.	3.4

Physical facility. Out of 15 sample sizes, 2 were strongly agree, 5 were agree, 5 were Neutral, 2 were disagree and rest 1 were strongly disagree about the Physical Facility. So it would not play any bad impact.

On the other hand, we also asked about the material associated. Our question was " Materials associated with the service are visually likable at AUXILINE BD LTD. "In this case out of 15 sample sizes, 1 were strongly agree, 9 were agree, 3 were Neutral

Fig. - 5

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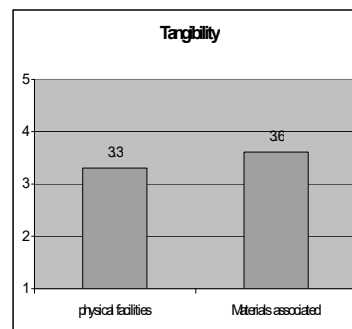
and 2 were disagree. But nobody claimed strongly disagree about this option. So it can conclude that most of the clients are agreeing. So it would not play any bad impact.

4.2.2 Reliability

We asked to the clients that the company represent all the products / services accurately or not. In this case out of 15 sample sizes, 2 was strongly agree, 6 were agree, 5 were Neutral, 2 were disagree and 0 were strongly disagree that the products/services that came were represented accurately by the company. It is seen that on average the clients are between neutral and agree position. So it is quite alright and does not play any bad impact on customer product/service.

When we asked about the delivery process which the customer ordered, the clients agree that they got the products what they ordered. In this case Out of 15 sample sizes, 6 were strongly agree, 3 were agree, 3 were Neutral, 3 was disagree. But nobody claimed strongly disagree about this option. So it is seen that on average the clients are in agree position about they got the product what they ordered.
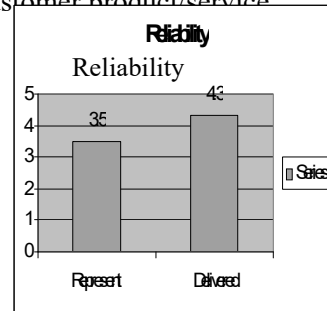
Fig. - 6

4.2.3 Responsibility

We have tried to find out the employee prompt service to customer. Out of 15 sample sizes, 2 were strongly agreed, 4 were agreed, 4 were Neutral, 3 were disagree and 2 were strongly disagreed about employee prompt service to customer. In the conclusion it is seen that the ratio is between neutral and agree. So it is quite alright. But they situation is not enough strong.

One of our questions was about the sincere interest in solving the problem. Out of 15 sample sizes, 3 were strongly agreed, 3 were agreed and 1 was Neutral, 8 disagree. Nobody strongly disagree it. In the conclusion it is seen that the ratio is neutral position. So it can play bad impact for the company to get potential customer.

When we asked the clients about the willingness to help customer Out of 15 sample sizes, 2 were

Fig. - 7

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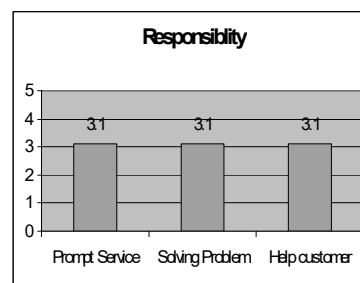
strongly agreed, 2 were agreed, 7 were Neutral, 3 were disagreed and 1 strongly disagree it. In the conclusion it is seen that the ratio is between neutral and agree. So it is not good position for willing to help customer.

4.2.4 Assurance

When we asked the clients about the time period give by the company for the product. After completing the analysis that it is seen that Out of 15 sample sizes, 2 were strongly agreed, 6 were agreed, 4 were Neutral and 5 were disagreed and 1 was strongly disagreed. Nobody strongly disagree it. But In the conclusion it is seen that the ratio is between neutral and agree. So it is also alright and does not play any bad impact on service quality.

We asked to the clients that "Replacement service that assured is given properly in warranty time". Out of 15 sample sizes, 7 were strongly agreed and 8 were agreed. Nobody Neutral, disagreed, strongly disagree it. In the conclusion it is seen that the ratio is between agree and strongly agree. So it is seem that most of the clients were satisfaction in this stage. And they had no claim against the question. It is also good point to get more potential clients.
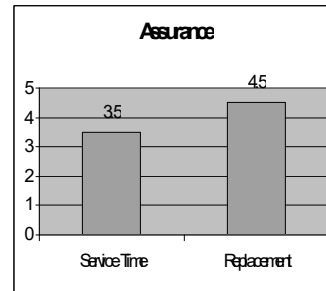
Fig:8

4.2.5 Empathy

We are trying to find out The employees of AUXILINE BD. LTD Understand the specific needs of their customers. Depending on this issue, out of 15 sample sizes, 2 were strongly agreed, 5 were agreed, 1 were Neutral, 5 were disagreed and 1 was strongly disagreed. In the conclusion it is seen that the ratio is between neutral. So it is quite alright and it may play bad impact on looking the potential customer.
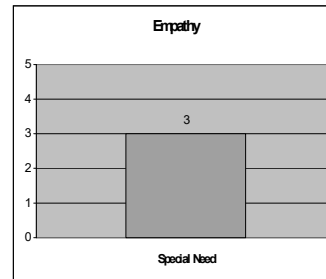
Fig. - 8

4.2.6 Service Quality

To find out the Service quality level we asked clients against Access control. The question was. "Access to overall services is satisfactory." Out of 15 sample sizes, 3 were strongly agreed, 5 were agreed, 5 were Neutral, 1 was disagreed and 1 were strongly disagreed. In the conclusion it is seen that the ratio is between Neutral and agree. So it is also alright and does not play any bad impact on service quality.

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We also asked the customers that are they getting everything from AUXILINE BD LTD. what they need. Out of 15 sample sizes, 6.67% was strongly agreed, 26.67% were agreed, 26.67% were Neutral, 33.33% were disagreed and 6.65% was strongly disagreed. In the conclusion it is seen that the ratio is between neutral and disagree. So this factor may play bad impact on customer service quality.

On the survey it is seen that Out of 15 sample sizes, 3 were strongly agreed, 5 were agreed, 3 were Neutral, 3 was disagreed and 1 was strongly disagreed against the argument " Security of your care is satisfied with Access control solution." In the conclusion it is seen that the ratio is between neutral and agree. So this factor does not play any bad impact on service quality.

When we asked a question on Competence in overall service delivery is satisfactory level, out of 15 sample sizes, 1 was strongly agreed, 7 were agreed, 3 were Neutral and 4 were disagreed .Nobody strongly disagreed with the statement. In the conclusion it is seen that the ratio is neutral position. So this factor may play bad impact on service quality.

And finally when we went to know about the customers are satisfied with the up-to-date range of physical facilities of access control, out of 15 sample sizes, 4 were strongly agreed, 5 were agreed, 0 were Neutral, 5 were disagreed and 1 were strongly disagreed about their quality of services. In the conclusion it is seen that the ratio is between neutral and agree. So this factor does not play any bad impact on service quality.

5.   Recommendation, Managerial Implications & Conclusion

In this section, recommendations, managerial implications and conclusions are made on the bases of the findings of the study.

Fig. - 9

5.1 Recommendations

From the findings as we have seen that the responsiveness is not enough strong because of the employees are not willing to help and they are not sincere in solving the problem. So, they should increase the responsiveness by recruiting skilled, knowledgeable, expert, educated and energetic employe.

Most of the respondents complained that they are not responded when they get a problem from a client. So they should take it seriously. If they have not enough human resource, they may hire some more engineers from other organization.

In case of the service, most of the clients were not pleased. They should develop their service quality by training.

One bigger thing is the promise which the company may breaks as per the clients view. So the company should keep their promise. Otherwise they will fail to satisfy their customers.

5.2 Managerial Implications

Most of the case it is seen that the clients were unhappy because of the product and employee in AUXILINE BD LTD. Not only that but also customers are not well satisfied regarding the after sales services. So the managing director should take special action on behalf of this issue. For every organization service quality is like a vehicle. Without the best service quality the company may fall down and lost from the competitions market. There are lots of competitors in the market. The managing director should survey to other competitors to find out their service quality or working procedure which will add extra benefits for the organization. The MD always should be dated about the information of the competitors. An organization should be ready to provide the latest customer service.

A customer always wants quick service. So, in this case the organization should keep more service provider because they solve the problem within short period of time. If the company fails to response any query within very short time, the customer will be dissatisfied. Moreover the organization should guarantee to the customer to keep the information confidential.

From the above discussion we have to provide some curative keys for the development of the company. After evaluating the objectives, it is seem that most of the clients are dissatisfied with the products, service and finally the customer services. They should be sincere about the above three items to increase their sales and brand value.

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5.3   Conclusion

AUXILINE BD LTD. is one of the most potential Access control product supplies in Bangladesh. The employees of this firm are very much expert and they have the knowledge how to capture the market and provide the necessary support. But the firm needs more employees for its substantial growth.

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Appendix

Questionnaire

Please, evaluate service quality, perception and satisfaction level based on how well, you think, it performs on the listed below items. Please, indicate your opinion by marking the appropriate box on the five (V) point scale where, (I) equal to strongly disagree and (V) equals to strongly agree.

-- -I- ---	--- -II- ---	--- - III- -	--- --- - IV- -	--- --- - V- -
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

PART A

Part A

Name: ——————————————————————

Designation: ———————————— cell phone: ————————

Organization name: ——————————————————

Part B

Section	Question	I	II	III	IV	V
Tangibility	1. The physical facilities at AUXILINE BD. LTD are visually appealing. 2. Materials associated with the service are visually likable at AUXILINE BD. LTD.					
Reliability	3. The products/services provided were represented accurately by the company. 4. The product is delivered on the promised time by the company.					
Responsiveness	5. Employees of AUXILINE BD.LTD give prompt service to customers. 6. The company shows a sincere interest in solving the problem. 7. Employees of AUXILINE BD. LTD always willing to help customers.					
Assurance	8. Service time provided by the company is enough for the product. 9. Replacement service that assured is given properly in warranty time.					
Empathy	10. The employees of AUXILINE BD. LTD Understand the specific needs of their customers.					

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Section	Question	I	II	III	IV	V
Service Quality	11. Access to overall services is satisfactory. 12. Communication style and information provision is at satisfactory level. 13. Security of your care is satisfied with Access control solution. 14. Competence in overall service delivery is satisfactory level. 15. Customers are satisfied with the up-to-date range of physical facilities of access control.					

বাংলাদেশ
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Economics of Solar Irrigation in an Energy Deficient Society: Bangladesh Perspective[1]

Antara Zareen[*]

Agriculture plays a key role in Bangladesh economy by contributing 5.59 percent to total export, 23.50 percent to its GDP and employing more than 48.1 percent of its labor force (MOA 2011). The country is now on the way to achieve food security and such progress has been possible due to Government efforts through the introduction of high yielding varieties, quality inputs and mechanized irrigation. Especially, modernization of irrigation has contributed remarkably in pushing the sector.

In irrigation, the producers basically rely on the application of groundwater using mechanized options like deep tube well pumps, shallow tube well pumps and low lift pumps, which covers the 93% of total irrigated area of Bangladesh. For the pumps the major energy sources are diesel and electricity which are inadequate in supply and costly. Moreover electric water pumps as well as the diesel driven water pump emit a huge amount of carbon to the immediate atmosphere. In this circumstance, using renewable energy could prove to be environment friendly and cost effective. This research tests the feasibility of using renewable energy in place of traditional energy sources considering its impact on production cost as well as the opportunities towards carbon reduction and how this reduced pollution can be converted to potential business opportunity using the carbon financing platform in the long run.

The data analyses of the study revealed that as compared to the traditional option, solar photovoltaic (SPV) based irrigation is much more cost effective and environment friendly. High establishment cost of using SPV based irrigation may be handled through financing and subsidy support of government and central bank. The study also suggests a suitable institutional arrangement to support both the financing and its nationwide extension where the central banks of Bangladesh, commercial banks, NGOs and farmers groups are to work together.

Context

Bangladesh is an agrarian country. Agriculture plays a key role in Bangladesh economy by contributing 5.59 percent to total export, 23.50 percent to its GDP and employing more than 48.1 percent of its labor force (MOA 2011). The dominance of agriculture will continue well into the 21st century as the nation fights against poverty and strives to raise standard of living of its people through sustained economic growth. The performance of this sector has an overwhelming impact on major macroeconomic objectives like employment generation, poverty alleviation, human resources development and food security. As food for all is the prime commitment of the present government, agriculture sector is given as top priority sector to achieve self sufficiency in food by 2013 through increased production (UNB connect, 2011). Bangladesh is predominantly an agricultural country with 14.845 million hectares of land of which 8.44 million hector is cultivable. But total cropped area is 13.742 million hectare of which single cropped, double cropped, triple cropped and net cropped area are respectively 2.851, 3.984, 0.974 and 7.809 million hectare (MOA, 2011) . At present our cropping intensity is 175.97%. Now the contribution of the crop sector to GDP is 16.03% (Bangladeshtalks, 2011). The present population of Bangladesh is 162 million with an average density of more than 1,100 people per sq.km. 82% of total population lives in the rural areas and most of them are directly or indirectly dependent on agriculture. Rice, Jute, Sugarcane, Potato, Pulses, Wheat, Tea and Tobacco are the principal crops of Bangladesh. The crop sub-sector dominates the agriculture sector contributing about 72% of total production. Fisheries, livestock and forestry sub-sectors are 10.33%, 10.11% and 7.33% respectively (MOA, 2011). So agriculture especially the crop subsector is acting as the dominant factor to our economy.

In Bangladesh the major cereal crops are rice and wheat although the main focus is on rice production, with 79.4 percent of the total cultivatable land area under rice crop. Our per hectare food production is lower in comparison with many other food exporting countries. Production of rice in metric tons per hectare is in

US-7.37, China-6.19, Japan-5.85, Vietnam-4.63, Indonesia-4.54, and Bnagladesh-3.49 (IWMI, 2011). This shows that among the countries considered here Bangladesh's yield is the lowest. There are mainly three aspects behind the fastest yield – irrigation, seed and fertilizer. Irrigation is an integral part of crop production and as a result of climate change and the need to produce high yield varieties for food security, its significance to agriculture has increased in recent years. Irrigation accounts for the 1/4th of total production cost and lack of timely irrigation leads to a 37% average decrease in yields of rice, maize, potato and vegetables (SANDEE, 2010). Conversely, efficient irrigation can increase both the productivity and profitability of these and other crops. Irrigation in Bangladesh accounts for 28 per cent of the total costs of rice cultivation. The cost is 13 per cent in Punjab-India, 8 per cent in Thailand and 6 per cent in Vietnam. Moreover, the cost of irrigation is increasing over time. In Bangladesh there are mainly two options for irrigation, one is from surface water and another is ground water. But using surface water is much more uncertain because of the instability of the nature of the rivers over the year. So dependency on groundwater is growing in the irrigation field. In using groundwater the deep tube well pump, shallow tube well pump and low lifting pump are the major option, which cover the 93% of total irrigated area of Bangladesh (MOA, 2010). For running the mechanized options, the major energy sources are diesel and electricity. Due to less availability of electricity and increasing cost of fossil fuel, the farmers are in a real difficult situation to irrigate their lands in Boro. The present scenario coupled with the future uncertainties of the energy price and availability makes it a high time for Bangladesh to diversify with alternative energy sources for irrigation. The alternative sources can be furnished with the renewable energy source. The most effective renewable sources for irrigation are Wind and solar energy. For Bangladesh the viability of wind energy in irrigation may be viable for coastal areas. So the next turn is on the solar energy.

Unlike conventional diesel or electric pump, solar pumps are powered by an array of solar panels. Solar pumps are designed to operate on DC power produced by solar panels. These pumps are gaining popularity all over the world wherever the electricity is unavailable or unreliable. Solar pumps are becoming a preferred choice in remote area to replace the diesel irrigation pump. In such places solar pumps are even viable economically in comparison in extension of grid or running the pump on diesel. On the other hand it has a great positive externality on the environment. Now the world is in the dilemma of environmental degradation. This opens up the path of risks as well as opportunities for the global population. One major hot cake of this opportunity is carbon financing market.

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The potentiality of solar irrigation pump in carbon market is much lucrative to invest. In this study the superiority of solar irrigation pump over diesel and electricity driven pump is analyzed. On the other hand the institutional financing arrangement as well as the potentiality in the carbon market is also discussed in this study which enhances the overall viability of solar irrigation pump in Bangladesh.

Objectives

- To assess the present irrigation status of Bangladesh both in terms of requirement and availability
- To analyze the comparative advantages of the present irrigation and solar irrigation system
- To identify the institutional arrangement for financing the solar irrigation pump
- To find out the potential business opportunity using the carbon financing platform.

Methodology

Qualitative and quantitative data were collected to assess how irrigation has affected the lives of farmers as well as the total economy. Documents closely related to agriculture and rural developments have been studied. A range of data collection methods including semi-structured interviews, case study observation and other informal appraisal methods are used. Here key personal interview is done in different institutional bodies including Department of Environment, Department of Agriculture Extension, Bangladesh Bank, Schedule Banks, and different NGOs. The research here tried to find out the socio economic benefit of the solar irrigation system as well as the cost competitiveness of solar pump with the traditional one. To conduct the research, data is collected based on the stakeholder's features. And all data are harmonized to analyze the ultimate goal of the report. Mainly there are four broad groups of stakeholders and data collection method, source etc, are varied based on the characteristics of stakeholder.

- Farmer Group: farmers are the center stakeholder in this analysis. The irrigation scenario is trying to cover here. For this both primary and secondary data are collected here. The irrigation survey (2010) by BADC

is used as secondary data to portray the picture of irrigation in Bangladesh. And this survey also helps to identify the potentials for solar irrigation system. On the other hand, the cost benefit analysis for the farmer is done through primary survey. Here questionnaire survey is used in some villages basically from Sylhet, Dhaka and Khulna region. The main focus is here to identify the use of different modes of irrigation based on the criteria of the irrigation system. And on the other hand the energy source used to run the mechanized irrigation pump is also analyzed by using the questionnaire. The main focus of the subjective questionnaire was on the source of energy and the price of different energy used in mechanized irrigation. Through this the availability and opportunity cost is also tried to find out.

- Banking industry: The potentiality of banking sector as the financing mechanism for facilitating the solar irrigation system is trying to analyze here. Here the secondary data from Bangladesh bank is collected and primary data are collected from visiting the relevant banks.

- NGO: the NGO acts as one of the major linkage support between the farmer group and donor group. So primary data are collected from different NGOs like Grameen shakti, CNRS, RDS ect. Here the focus is to identity there capacity to facilitate the financing channel as well as the farmer group to organize the process of solar irrigation.

- Carbon Credit Market: the potential of carbon credit market is tried to analyze here. But there is no project from Bangladesh on solar irrigation pump that has access to carbon credit market. So secondary data on carbon financing market is collected for the analyses. And the information on the acceptability of carbon financing is gathered from the Designated National Authority of Bangladesh by using questionnaire.

- Supplier of Solar irrigation Pump: the viability of the solar irrigation system mainly depends on the quality guarantee and the costing package of the system. And both of these are linked with the supplier. For this a number of suppliers are interviewed. Here questionnaire is open ended. And their pricing as well as costing packages are emphasized in the interview.

Development of irrigation

The development history of irrigation system is not that much old in this soil. The earliest approach to irrigation facilities was through constructing large-scale

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multipurpose irrigation, flood control and drainage projects during 1960-70. These projects were successful to some extent for flood control and protecting coastal areas from tidal bores and saltwater intrusion. But they played a minor role in irrigation development of the country and only about 7 percent of the total irrigable area of the country was covered by those very costly projects (MOA, 2010). Though the country has abundant surface water resources, particularly in the monsoon season, its flat deltaic topography and the instability of major rivers make large gravity irrigation systems both technically difficult and costly. On the other hand, during the dry season irrigation using surface water has become difficult or practically impossible due to limited availability of surface water. Therefore the use of groundwater for irrigation has become increasingly important. In this situation the expansion of minor (small-scale) irrigation is a vital component of the Government's agriculture strategy. Minor irrigation consists of low lift pumps (LLP: power operated centrifugal pumps drawing water from rivers, creeks and ponds), shallow tube wells (STW: with a motorized suction mode pumping unit) and deep tube wells (DTW: with a power operated force mode pumping unit) and on the other side hand tube wells treadle pump artesian wells, doings swing baskets etc come under the purview of traditional system.

More than 90% of the irrigated land of the country is covered by minor irrigation. In addition, surface water irrigation also sharply declined, losing its importance due to lack of new surface irrigation project and the ineffectiveness of earlier project. Groundwater was used for 77 percent of total irrigated area and major (62%) extractions occurred through Shallow Tube Wells (STWs). The rapid expansion of ground water irrigation in respect to STWs irrigation was due to government's withdrawal on restrictions on tube well setting rule, encouraging private sector and the cost effectiveness of Chinese engine which have been affordable to the small and medium farmers. Irrigated area thus, increased by about three times and cropping intensity also increased from 154 to 176 percent (MOA, 2010).

About 97% of irrigation is now done with mechanized power driven irrigation equipment. The main source of power of the mechanized irrigation pump is electricity and diesel. The revolution in the agriculture is backed by the power driven irrigation pump. Over 74% of total mechanized irrigation system is served by diesel and rest 25.95% by electricity power. Generally, farmers experience a shortfall in electricity supply in the Boro season. So the government paid special attention to the electricity supply for irrigation pumps during the Boro season diverting electricity from commercial and industrial use in urban areas. Consumption of electricity by irrigation pumps was 24.6 per cent higher than the

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previous year. Power division has pledged to supply 1,365 megawatts electricity against a demand for 1,600 MW for Boro irrigation (ASIAN-POWER , 2011). Government carried out some special measures to ensure the supply of required electricity for irrigation. It strictly enforced the rule of closing all shops and shopping malls (except pharmacies, food stores and restaurants) by 8:00 pm. Thus, it was able to divert the electricity for irrigation.

BADC records for 2010 show that the costs of electricity for irrigation using DTWs and STWs were Tk 1,873 and Tk 1,940 respectively per hectare of irrigated land, whereas for diesel pump the cost varies from Tk 6,517 to Tk 9,139 (MOA, 2010). The electric pump is very cost effective but there is a question of efficient availability of electricity. The demand of electricity in irrigation is growing since the cost of electric power driven pump is lower compared to the diesel driven pump. But due to electricity shortage, the Rural Electrification Board could not meet the demand. The cost effectiveness of electric irrigation water pump alone cannot make it viable to depend on electricity for running irrigation pump.

The other available source is diesel to run the irrigation pumps. Around 74.05% of total irrigated land is covered by the diesel pump. The main reason behind the scenario is, around 60% of our population is out of the accessibility of grid connectivity .To achieve the 'food for all' mandate the government needs to run the diesel pump smoothly specially in boro season. Around 1,100 million liter of diesel is used in a year for irrigation purposes. The total cost of diesel in irrigation at price of 2011 year is around 5,060 crore (energybangla, 2011). This is visible but Bangladesh Petroleum Corporation, the country's sole oil importer and distributor, is currently paying 11.39 taka a liter as a subsidy for diesel. The total subsidy in diesel price for 1,100 million liter is 12529 million which is a huge burden for the government (The Daily Star, December 2011). On the other hand the global diesel price is not certain besides it has rising trend in price hike. The

Table 1: Diesel Price for the last 7 years

Year	Diesel Price	Year	Diesel Price
May 2004	20	December, 2008	46
December 2004	23	January, 2009	44
May 2005	26	May, 2011	46
September 2005	30	September, 2011	51
June 2006	33	November, 2011	56
April 2007	40	December, 2011	61
July, 2008	55		

Source: *The Daily Star, 2011*

domestic diesel price is also increasing over the last few years due to rising global diesel price.

The higher cost of diesel has a negative impact on the production cost of food grains, as irrigation consists one fourth of the total production cost. In this scenario, the higher cost may negatively affect the total production as well as the mandate 'food for all' will be in stake. So this higher cost of irrigation especially for the higher price of diesel is the major concerns for achieving the ultimate goal.

In addition to the higher costs regarding the price of diesel, the farmers are facing many hazards in operating of diesel pumps and these invisible costs are not often calculated in total production cost. Water requirement as well as timing of the available water is a major concern in case of irrigation. Therefore, timely availability of required diesel is the prerequisite for smooth irrigation and production. On the other hand diesel irrigated pumps are usually used in the remotest areas, where the transportation costs are much higher which makes the farmers to face some negative price speculation for diesel, which are not reflected in the cost of production as well as the price of crops.

Alternative energy sources for irrigation

Due to less availability of electricity and increasing cost of fossil fuel, the farmers are in a real difficult situation to irrigate their lands in Boro. The present scenario coupled with the future uncertainties of the energy price and availability makes it a high time for Bangladesh to diversify with alternative energy sources for irrigation. The alternative sources can be furnished with the renewable energy source. The most effective renewable sources for irrigation are Wind and solar energy.

Wind as source of irrigation

Wind is often used as an energy source to operate pumps and supply water to livestock. The long term wind flow of Bangladesh (especially in islands and the southern coastal belt of the country) indicate that the average wind speed remains between 3 to 4.5 m/s for the month of March to September and 1.7 to 2.3 m/s for remaining period of the year (UNESCAP, 2009). There is a wide opportunity in island and coastal areas for the application of windmills for pumping and electricity generation. But during the summer and monsoon seasons, March to October, there can be very low pressure areas and storm wind speeds of 200 to 300 kmph can be expected. Wind turbine must be strong enough to withstand these high wind speeds (UNESCAP, 2009). Wind resources appear to indicate the

potential for wind energy use in the coastal areas of Bangladesh for both grid applications and for isolated village electrification. Bangladesh is strongly influenced by the southwest monsoon winds that blow from about March to October. These winds are further strengthened as they pass through the V-shaped coastline of Bangladesh. It is these monsoon winds that have made possible extensive wind farm developments in India, where, for example, more than 200 MW are operating in Tamil Nadu (M. Ershad Ali, 2002). Wind speeds are expected to be high enough for economic grid power generation to feed the main grid or for isolated grids in wind-diesel hybrid configurations. Patenga of Chittagong district is a potential location. The technology of wind energy is relatively complicated machinery. There is a need for training for understanding and operating this machinery. Moreover, as the wind power machinery is exposed for long times (at least 10 years) in open air and in all seasons, its spare parts might be oxidized and hence damaged. Another important constraint for wind power technology is that it needs land. In Bangladesh land is scarce. But it is evident that the land used for windmill might also be used for other uses, for example, crop production. So the renewable resource wind has potential to cover up the irrigation facility in coastal area basically. But for gross scenario and especially for Boro season, replacement of traditional power source, electricity and diesel, by wind energy may not be viable.

Solar as source of irrigation

Unlike conventional diesel or electric pump, solar pumps are powered by an array of solar panels. Solar pumps are designed to operate on DC power produced by solar panels. These pumps are gaining popularity all over the world wherever the electricity is unavailable or unreliable. Solar pump are becoming a preferred choice in remote area to replace the diesel irrigation pump. In such places solar pumps are even viable economically in comparison in extension of grid or running the pump on diesel. The Solar Photovoltaic Pumping (PVP), being technically a much matured technology, has been tested around the world in a number of countries - both developed and developing, including the neighboring country India (GTZ, 2006). The Solar Photovoltaic Pumping is unique for their application in lifting water for irrigation purpose, given by its complementarity between the intensity of solar irradiance and requirement of irrigation water for the crops/plants irrigated. The more intensively the sun is shining (for example, during the period of no rain or draught seasons), the higher is the power and the connected water output from the PVP, while during the rainy days, it neither possible, nor required, for example, during the monsoons. As per expert opinions, the water demand of the plants at night is also much less than during the day time,

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as the evapo-transpiration activities of plants increase a few folds more during the day than at night.

The second unique aspect of the PVP is that they do not need Storage Batteries. The Motor-pump sets (which may be direct DC or AC type, the latter requiring inverters) may be run directly by the DC power outputs from the solar PV panels and energy can be stored in the form of potential energy of water lifted to elevated water tanks, which can buffer the night requirements and/or act as reserves for rural drinking water and/or for irrigation. The above-mentioned technical uniqueness of the PVP, when compared to the decentralized stand-alone type off-grid SHS, is a definite technical and cost advantage, as the storage batteries are the "weakest links" in a whole PV system(GTZ, 2006).

The Global Perspective on Photovoltaic Pumps (PVP)

While the experience of India deserves some dedicated observations, where it is being greatly promoted by the Ministry of Non-Conventional Energy Sources (MNES) and Indian Renewable Energy Development Agency (IREDA), the GTZ works, especially with ten Pilots on PVP in Chile, Ethiopia and Jordan (conducted between 1998 -2002), as this was one of the largest pilot field demonstrations on PVP from which experiences need to be drawn (AURORE, 2002). First, it deserves to be mentioned here that over 50,000 PVP are already in operation around the world and technically speaking, the studies and practical pilot tests have indicated that the PVPs are quite well-suited to work under the harsh field conditions of developing countries, requiring very little attention and almost no operating and maintenance costs, excepting that the PV Panel surfaces need to be kept clean and the pump-motor systems may need to be occasionally serviced (such as changes of brushes, if it is a DC motor system every 3-5 years, depending on the intensivity of use(GTZ, 2006). In arid and semi-arid areas where water is the life-line both for drinking purpose and irrigation, the PVP have been found to provide most viable, reliable and almost uninterrupted services. In this Section, the global experience of GTZ and also that of India will be discussed to obtain feedback from the lessons learnt. The past and on-going activities on PVP done in Bangladesh, although at the very initial stage, would naturally constitute good opportunity for the irrigation sector of agriculture.

Comparative Advantages

In the literatures and global experiences, it is viewed the Solar irrigation system as one of the major viable option for defending the current energy crisis in

irrigation system. Now the study will go through the explanation of the comparative advantages of solar irrigation system over other traditional energy sources available in Bangladesh.

Cost Effectiveness of solar irrigation pump (comparing with diesel and electric pump)

Very often investment decisions are based only on the cost of purchasing a technology, neglecting the operational, maintenance and replacement costs. Almost every aspect of an irrigation pumping system consists of compromises, or trade-offs, between the capital (or first) cost of the system and the running (or recurrent) costs. Farmers tend to purchase cheaper systems with higher running costs, resulting in the widespread use of other than the most efficient and cost-effective systems. No doubt this is because farmers are generally short of capital and often in any case regard large capital investments as being inherently more risky than incurring regular running costs, (which in time may mount up to a large sum).

The cost of a system is mainly divided in three parts – initial cost, maintenance cost and operating cost. For solar irrigated pump the major cost is covered by initial costing. Normally per panel charge varies from Tk. 1.4 lac to Tk. 1.8 lac but with this 10 bighas can be irrigated for 15 to 25 years. The establishment cost of solar pump has negative relationship with the area coverage. That means as long as the area for irrigation is increasing the establishment cost will be lower. The maintenance cost for solar irrigation pump is also very low. Without batteries, the solar irrigation system is very simple. It consists of just 3 components: the solar array, a pump controller and the pump. The only moving part is the pump. The 80% of total solar pump is covered for solar panels. Normally the solar modules are warranted to produce for 20-25 years. The expected life of most controllers is 10 years. Pump life can vary from 8 -10+ years (and many are designed to be repaired in the field). For smoothness of the solar energy make the pump and inverter to operate efficiently. That why the chance of major repairing is very low for pump and inverter. Unless the pump or controller fails, the only maintenance normally required is cleaning the solar modules every 2- 4 weeks. This task obviously can be done cheaply by non-skilled local labor.

In contrast to the minimal needs for PVPs, the operation and maintenance needs for diesel engines are both extensive and expensive. Normally the initial establishment cost is very low compared to solar powered irrigation pump. The price diesel irrigation pump varies from tk. 1800 to tk. 2500. But the main operating cost is energy here and that is diesel. The price of diesel is increasing as well as the maintenance cost of the pump is also high. Maintenance cost varies

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from Tk. 2000 to 5000 for per machine in a year. Maintenance cost comprises all minor, major and overhauling.

Now for a fixed time period and a certain land area, the cost of diesel and solar pump can be compared. As the minimum life of a solar pump is 15 year, so the comparison is done for 15 year and 300 bigha. For the 300 bigha, a solar pump, consisting minimum 40 solar panel, is required and the price is 60 lac. So for the solar panel the initial cost is 60 lac (table-2).

But the maintenance cost is very low. And the operating cost is nil, as the source of energy is sun light. On the other hand minimum 10 diesel STW pumps are required to serve 300 bigha. The minimum price for these 10 pumps is 200000. Initial cost is very low compared to solar pump but the operational cost is very significant. Normally the requirement of diesel differs but for triple crop area the costing of diesel varies from tk. 3220 to tk. 5500 for per bigha, so for 300 bigha the lowest operating cost per year is tk. 9.66 lac. And the minimum maintenance cost is 20000 for 10 machines per year.

For first five year the total cost of solar pump is greater than diesel pump and in year six the costs come on equal platform. But after that cost of diesel pump

Table 2: comparison of solar irrigation system with diesel
(with or without subsidy) irrigation system

Year	Diesel pump (with subsidy)	Diesel pump (without subsidy)	Diesel cost	Solar pump
1	1166000	1740190	1520190	6000000
2	2132000	3260380	1520190	6012000
3	3098000	4780570	1520190	6024000
4	4084000	6300760	1520190	6036000
5	5070000	7820950	1520190	6048000
6	6056000	9341140	1520190	6060000
7	7042000	10861330	1520190	6072000
8	8228000	12381520	1520190	6284000
9	9214000	13901710	1520190	6296000
10	10200000	15421900	1520190	6308000
11	11186000	16942090	1520190	6320000
12	12172000	18462280	1520190	6332000
13	13158000	19982470	1520190	6344000
14	14144000	21502660	1520190	6356000
15	15130000	23022850	1520190	6368000

Source: *Author's computation*

increases very significantly because of high operating cost. But here many other uncertainties are not reflected. Here the price of diesel is fixed for the whole time period. But we all know that the price and availability of diesel is not only uncertain in Bangladesh but for the whole world it becomes the issue. On the other hand here the cost of solar pump for the time period is certain and flat.

In the above explanation the cost of diesel price does not reflect the subsidy cost of the Bangladesh government on diesel. Bangladesh Petroleum Corporation, the country's sole oil importer and distributor, is currently paying 11.39 taka a liter as a subsidy for diesel. The true cost is now tk. 72.39 per liter. Now the comparison is done with solar pump using the true cost of diesel (the area and other assumption is same as before).

From the table-2 and figure-1 the cost of diesel pump is clearer. When the subsidy is not added the cost of diesel pump is lower only for three years. In fourth year

Figure 1: Comparison of solar pump with diesel cost (including subsidy)
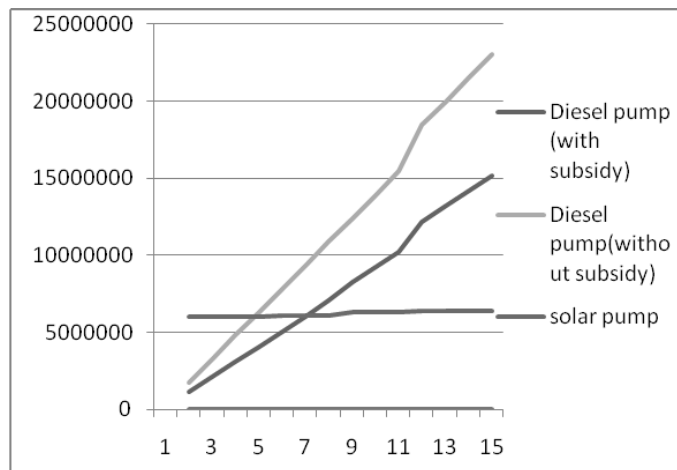
the price becomes same. And now from the comparison it is seen that even though the solar irrigation system is not under any subsidized program, it is very much cost effective in comparison with diesel irrigation pump.

On the other hand the cost of electric pump is much lower than the cost of diesel pump. The maintenance hazard is lower for electric pump. But the main uncertainty occurs on the availability and accessibility to electricity. Though in boro season the govt. tries to supply smooth electricity for bumper production but the opportunity cost may be higher, which is not calculated in the production cost. On the other hand, after boro season the supply of electricity becomes uncertain.

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So for electric pump the ultimate cost comparison with solar pump occurs on the availability and present as well as future accessibility to grid connected water pump.

Environment platform

Now in the world the aspect of environmental viability has the same importance with the economic viability for establishing any project. Solar water pumps are environmentally friendly because they do not use nonrenewable resources. The water pumps create energy powered by the sun, and, therefore, do not release harmful carbon emissions into the atmosphere. Additionally, no energy is used to transport fuel to the pumps, which is necessary if diesel pumps are used. Now the world is in the race to reduce the green house gas emission specially carbon emission. So using of solar energy makes the solar irrigation system carbon emission free. On the other hand per liter diesel consumption emits at least 0.003 ton carbon in the environment which directly affects the global climate negatively. So on the ground of environmental segment the solar irrigation system has comparative advantage.

Institutional mechanism

Now the cost comparison of solar pump shows viable result on diesel as well as electric water pump. But the establishment cost of solar pump is really high. For farmers, especially for sharecropper, marginal and small farmer, the higher establishment cost may not be possible for shortage of capital. Moreover the farmer community may not accumulate the investment cost due to ownership crisis. So here needs an institutional arrangement for boost up the solar irrigation pump in our cropping segment. The viable institution for financing may be government, NGO and banks. For government can play both direct and indirect role to enhance the investment in solar pump. Govt. itself can establish the solar pump to facilitate the farmer. But the bureaucratic procedure may delay the program to get the benefit immediately. On the other hand govt. can reduce the import duty on the panels to reduce the price of solar pump. As panels carry the 80% cost of total production cost, the reduction in import tax automatically will be reflected in the price of solar pump. But still the price of solar pump is out of the farmer's reach.

Now bank and NGO can come forward to facilitate the farmer in case of solar irrigation system. NGOs helps the national development by serving the disadvantageous people in different aspect through mobilizing funds from government, both domestic and international donor agencies, banks etc. That

means NGO facilitate their goal by mobilizing funds from different institutions. Whereas bank is the most effective funding option in the society. Actually Bank acts as an intermediary to deploy fund from surplus unit to deficit unit. But as bank deals with depositor's money, bank has to hedge the investment risk as well as to minimize the maintenance cost of investment which includes monitoring and recovery cost. As a business organization, the main motive of a bank is profit maximization as well as cost minimization. Now if bank come forward to facilitate the farmer with solar irrigation system, the major obstacles will be the moral hazard risk as well as recovery risk. On the other hand to minimize these risks, bank needs to incur a huge maintenance cost to establish an effective monitoring infrastructure. Now in this scenario bank and NGO can come together to serve the people. If the bank and NGO come forward to facilitate in this segment, both the bank and NGO can be benefited. Now NGO can minimize the cost of mobilizing fund and bank can reduce the monitoring cost. And both together can serve the people with a noble cause. On the other hand, bank can reduce the cost of fund by utilizing the opportunity of refinancing scheme provided by Bangladesh bank.

A Financing Arrangement on Solar Irrigation Loan

In this financing model the major stakeholders are banking industry, NGO and farmer group. Here bank may deploy fund to serve the need of the farmer through the channel of NGO. That means bank provides loan NGO to buy the technology and NGO may serve the farmer. For this service the NGO may collect the loan installment including their service charge. And the accumulated payment may further repay the installment of bank. This is the nutshell of the model. The explanation of the stakeholders in model can enlarge the viability of the model (Figure-2).

In banking industry both schedule banks and Bangladesh bank are included. Here Bangladesh bank enhances the facility by providing a refinancing scheme for solar energy, biogas, brick line and effluent treatment plant. Schedule banks can use this refinancing fund at the 5% interest rate and they can use the fund at 9% (BB circular, 2010). Now schedule bank has low cost fund to invest in solar irrigation system. The investment in solar irrigation is an environment friendly investment and it has a positive externality. So the investment in this field serves the motive of CSR also. Moreover the monitoring cost is reduced as the NGO is serving the purpose. Here banks need to monitor the NGO only. On the other hand NGO, prime motive is to serve the disadvantageous group, serve the people in exchange of service charge. They act both as the trainer and the supervisor. They

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Figure 2: Financing Arrangement
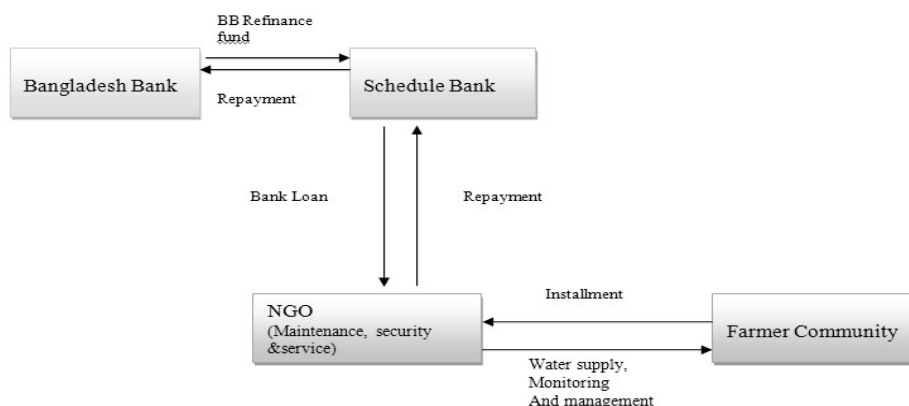
are with the farmer to answer their frequently asked quarries. And the farmers, who are the ultimate beneficiary, enjoy the facility with a yearly installment.

A Financial Analysis

As before (Table-2) for financing 300 bighas the bank needs to make a loan of around 60 lac with an interest rate 9% for 10 years. Here for solar energy the yearly installment for per bigha is tk. 3040 whereas the average diesel cost to irrigate a bigha is tk. 3220 (table-30. But here the cost of monitoring is not

Table 3: Yearly Comparison between installment and diesel cost

Total amount	Per Installment for per bigha	Per Installment for 300 bigha	Installment yearly for per bigha	Installment yearly for 300 bigha	Yearly Cost of diesel per bigha	Yearly Cost of diesel for 300 bigha
6000000	1540	462000	3080	924000	3220	966000

Source: *Author's Computation*

included.

To maintain the monitoring cost in a certain level, bank needs to work with NGO. Where bank may give loan to NGO to buy and operate the technology. And NGO gives support to the farmers in exchange of installment which includes the loan repayment amount and service charge. Normally NGO collects 7% as their service charge. Now for 60 lac, the NGO charge 4.20 lac for providing the service. Here the NGO play the role as bridge to satisfy their ultimate goal as well as the technology will be in their ownership after 10 years. Now the ultimate installment is tk. 4480 for per bigha (table-4). But for diesel the cost is tk. 3220. Apparently it is lower than the installment for solar system. But here the only the operating

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cost of diesel pump is compared. The initial investment and maintenance cost for using diesel pump are not considered here. On the other hand, the installment charge is certain for the ten years but the price of diesel as well as the availability

Table 4: yearly comparison between installment including service charge and diesel cost

Total amount	Yearly Service charge per bigha	yearly Installment and service charge for per bigha	yearly Installment and SC for 300 bigha	Cost of diesel per bigha	Cost of diesel for 300 bigha
6000000	1400	4480	1374000	3220	966000

Source: *Author's Computation*

of diesel at required time is not that much certain. And the opportunity cost of this certainty is not included here. Moreover the hassle regarding transportation and

Table 5: comparison between installment and diesel cost for 15 years

Total amount	Per Installment for per bigha	Per Installment for 300 bigha	Installment yearly for per bigha	Installment yearly for 300 bigha	Yearly Cost of diesel per bigha	Yearly Cost of diesel for 300 bigha
6000000	1161	348350	2322	696700	3220	966000

Source: *Author's Computation*

carrying of diesel to the irrigated area are not quantified here.

Now same comparison is done for 15 years. Then the burden of installment on the farmer comes to tk. 3220 yearly.

Potentials of Solar irrigation pump in Carbon Trading Market

The alternative of traditional irrigation system, solar irrigation system, has further potentials in the growing carbon trading market. Carbon trading facilitates the financial reward through carbon credits for the reduction of greenhouse gas emissions (carbon die oxide) by emitters in developing countries. The amount of CO_2 emissions saved by a SPV pump would essentially depend upon the amount(s) of fuel(s) saved by its use, which, in turn, depend upon the annual useful energy provided by the SPV pump. To enter into the carbon trading market, a carbon certificate, certified by the Designated Operating Entity is needed. The carbon certificate contains the amount of carbon emission reduced. And then after getting the registration from UNFCC, the reduced carbon emission is bargained in the carbon market for price setting. The price of per ton carbon trading depends on the bargaining power of the typical seller and buyer. Normally most developing country like Bangladesh deals in retail market and so their

bargaining power is not that much strong. But it may be a very potential option for Bangladesh. Already Bangladesh is in an energy crisis and so transformation in new option especially to renewable energy is required. Now in present time this carbon efficient technology will open another option that is carbon financing.

Estimates of carbon trading opportunities

There are different calculations regarding carbon emission for per liter diesel used in irrigation. According to the Intergovernmental Panel on Climate Change (IPCC) guideline, 0.003 ton carbon is emitted from one liter of diesel (IPCC, 2006). But to operate in carbon market first carbon certificate is needed and to prepare the carbon certificate, the inspection of the authorized organization is needed. The cost may vary with the coverage of area. After getting the Carbon Emission Certificate, the registration from UNFCC is required. Once the UNFCC registered the methodology of carbon emission reduction, the trading is opened and the price of this carbon emission normally varies from $12 to $20 for per ton

Table 6: Cost Benefit analysis of solar pump and diesel pump (with carbon trading)

	Area Under PVP Coverage				
	10%	**20%**	**30%**	**40%**	**50%**
Area in Bigha	2493760.8	4987521.67	7841282.51	9975043.34	12468804.18
Cost on solar system (tk in mil & for 15 years	51217.72	102543.44	161216.77	20508322410.796.89	256358.61
Cost on diesel system (tk	122111.15	244189.061	383909.19	488378.12	610472.65
Amount of diesel (liter in	174.563	349.126	548.889	698.25	872.816
Total carbon emission (mil. ton & 15 years)	7.845	15.710	24.700	31.421	39.276
carbon emission per	0.523	1.047	1.647	2.094	2.618
Total price in dollar (15 years and $ in mil)	117.825	235.660	370.500	471.320	589.150
Total price in taka (15 years and taka in mil)	**9779.475**	**19559.78**	**30751.5**	**39119.56**	**48899.45**
Savings in 15 years (in	**80672.855**	**161205.40**	**253443.92**	**322410.79**	**403013.49**

Source: *Author's Computation*

of carbon (Point carbon, 2009). Here $15 is used to estimate the carbon trading opportunity for the irrigation sector in Bangladesh. Solar irrigation pump is normally most compatible with the shallow irrigation pump. So if we are looking for a market in carbon trading, the most suitable area for starting will be the area covered by STW. Here a study is done on the area covered by STW.

The above analysis shows the cost benefit portion for entering in the carbon market. The cost of entering in carbon market has an inverse relationship with the enhancement of coverage area. But the carbon earnings become more sustainable with the growth of irrigated land. If we cover at least 10% of total area irrigated by STW, then we can save on an average 80672.855 million taka. On the other hand if we enter in the carbon trading market we can trade on an average 7.845 million ton carbon and the trading benefit will be $117.825 million. As we increase our coverage area, the benefit is also increasing. So when 50% of the area is covered, then we can save on an average 403013.49million taka and on the other hand we can earn $589.150 million in 15 years.

By introducing solar irrigation system we can reduce cost of irrigation as well as it opens up a new trading market. But the major problem of the success of the carbon trading depends on the successful establishment of the project as well as on the issuance of carbon certificate. Both of these require a sustainable financing. And with financing the smooth monitoring structure is also the prerequisite. In this segment the role of bank is highly demanding.

Banks in Carbon Financing

Now in the global economy, banking financial institution becomes one of the major stakeholders in the field of carbon trading. As bank has fund to facilitate the carbon trading project as well as the credibility to negotiate in global carbon market. Now if the banks of Bangladesh come forward to facilitate the farmer with solar irrigation system, they will get the facility of refinancing scheme of Bangladesh Bank, which provides fund at 5% interest rate. On the other hand,
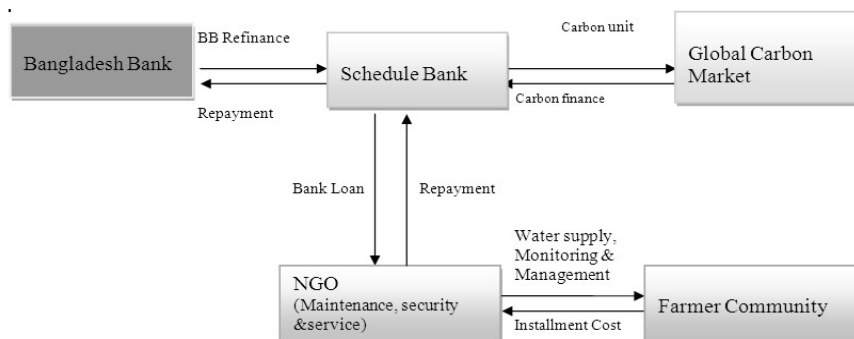
Figure 5: Financial arrangement with Carbon Financing

farmers will be benefited both in absolute terms of cost and in invisible opportunity cost. So the banks investment in this segment will be counted as good environment friendly investment, which will enhance bank's CSR fund to the

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society. Now with this investment if bank comes in the carbon trading they can earn extra finance. The financing arrangement can be enhanced in following way.

In this arrangement schedule bank can utilize the refinancing fund of Bangladesh Bank and after establishing the system, they can move to the carbon market. Here they have to get the carbon certificate. To enter in the carbon market, the size of carbon emission from the traditional system is important. For a bank it is viable because bank has that much financial stability to enhance the number of the system. And to cover up the monitoring aspect bank can linked with NGO. After establishing the system the bank can move to global carbon market for further carbon financing. And it will enhance the earnings of bank with a positive view of good investment.

Concluding remarks

Our estimates indicate that, there is a vast theoretical potential of CO2 mitigation by the use of SPV pumps for irrigation water pumping in Bangladesh. But to introduce solar irrigation system in the mass level, lack of awareness will be the major obstacle. Root level will be more resistant to change the existing irrigation system. On the other hand the initial establishment cost is making the system less lucrative. On the other hand the external benefit and external cost are not that much clear to that level farmer. Moreover it is a very new technology to our country and all success stories are from different geographical areas, which is in the dark space of farmer's knowledge. So lacking of a project, running smoothly 15 years, makes questions regarding the technical feasibility and socio-economic viability of solar irrigation system. So to build the confidence on solar irrigation system, all the stakeholders need to work together to increase the awareness of the society as well as to increase the technical feasibility.

On the other hand this study has a positive indication to the government's policy makers. Now it is the time for Bangladesh to earn the sufficiency in the food sector as well as to move towards industrialization. For both sectors, energy sufficiency is the major prerequisite. At this moment government has to trade off between these sectors in the aspect of energy distribution. So it is a high time to find out other energy sources. And in this respect solar energy will be the best renewable solution. But it will be more effective in agriculture sector. As in boro season Bangladesh government face a lot of trouble regarding the distribution of electricity as well as diesel, only to facilitate smooth irrigation, solar irrigation system can be the best alternative. Though government is encouraging the solar system by reducing the import tax on panel but it is not enough to reduce the

establishment cost in a more comfortable zone. In this segment the government should move a step ahead. Already a huge subsidy is allocated in diesel price in a motive to reduce the production cost of irrigation. Now if the policy maker takes a step to subsidize the solar irrigation system, it can offset the major unpopular feature, high establishment cost, of solar irrigation system. Though Bangladesh Bank takes a step to facilitate the finance by introducing a refinancing scheme for schedule banks, but this scheme is used very little. As theoretically the external benefit of the solar irrigation system has itself a potential in the carbon trading market, the institutional arrangement, basically the commercial banks, can penetrate in the market.

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Biophysical Characterization and Economic Evaluation of Wetland Natural Resources to Help Informed Decision Support System for Its Management

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Summary of Conclusions

The wetland (*haor*) system provides a wide range of economic and non-economic benefits to the local people as well as to the people of Bangladesh and the world at large. These include benefits in terms of fish production, rice production, cattle and buffalo rearing, duck rearing, collection of reeds and grasses, and collection of aquatic and other plants. The haor system also protects the lower floodplains from flash floods occurring in the months of April-May, recharges the water tables, maintains the supply of fish in other lower riparian water bodies, provides habitat for migratory and local waterfowl, and generates important carbon sequestration services. At the same time, the unique haor system is a natural beauty both during the monsoon months and the dry season. In monsoon, its unique physical characteristics make it a huge natural bowl of water and in the dry season it is natural grassland with pockets of beels serving as the resting place for migratory birds. Such a unique natural system, if appropriately marketed, could

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be a major attraction for tourists. However, as of today, there is little evidence of this.

Calculating the economic value of wetlands is a means and not an end in itself. It was evident during the discussions and from various reports that a bio-economic model highlighting the interlinkages between the man and nature in the haor basin would be very useful to develop a proper management strategy. Consequently a schematic bio-economic model was developed as a means of providing information which can be used to make better and more informed choices about how resources are managed, used and allocated. Such a model would help the decision-making processes as it can be used to trace the economic implications of changes in the stock of wetland resources, flows of wetland services, or attributes of wetland systems that result from following a particular course of action, and factor them into measures of its economic desirability.

It incorporates four management options i.e. silt control, establishment of a sanctuary, construction of embankments, and afforestation, each of which has different implications for wetland costs and benefits — for example, those associated with changes in the area or stocks available for different resource uses, and with changes in the quality or quantity of ecosystem services generated by the wetland.

Result of the bio-economic model is analyzed using four management perspectives viz., benefit for the fishing folks, benefit for the farmers, benefit to the poor, and benefit to the environment. Management options are, therefore, weighted in terms of these four benefits to understand the pros and cons for the management of Hakaluki *haor*.

This study is not expected to provide a value for its resources. It simply provides a glimpse in terms of changes that would take place if the resources are not conserved properly. Consequently, the NPV estimates are also indicative of the amount of maximum feasible investment for conservation of haor in the next 30 year time.

1. Introduction

The issues

Wetlands in Bangladesh have long been facing serious degradation and loss, due to many natural and anthropogenic factors. Besides natural causes, factors like overuse of resources, lack of property rights, human encroachment, conversion to other uses and also absence of effective enforcement of laws are some of the most

important factors for the decline in wetland biodiversity of the country (Islam, Irfanullah 2005).

Hakaluki haor is one of the major wetlands of Bangladesh. With a land area of 18,386 hectares, it supports a rich biodiversity and provides direct and indirect livelihood benefits to nearly 190,000 people. Because of the critical conditions of the haor ecology, the Government of Bangladesh declared Hakaluki as an Ecologically Critical Area (ECA) in April 1999. There are 8 ECAs in the country, which are considered to be under severe threat. The government has designated these as ECAs to bring them under a management strategy, which will ensure their conservation and sustainable use.

1.2 Aims of the evaluation

This evaluation aims to provide information on the values of conserving Hakaluki haor in terms of its economic, ecological and social benefits for local communities and for the nation at large. It has the following objectives:

- To understand the inter-linkages between economic and ecological functions of the haor system and to understand the pros and cons with respect to changes in the quality of the environment.
- To find a 'value' for measuring change in the quality of the environment.
- To develop a bio-economic model describing and illustrating the interactions between the people, resources and economic activities.
- To contribute towards developing a strategic policy for management of the haor so that it is used as a decision-support tool for wetland management.
- To determine a feasible set of economic and financial instruments to ensure wise use of the resources of the Haor basin.

2.   Description of the Site

2.1 Agricultural production

There are three major rice crops in Bangladesh: *Aus*, *Aman* and *Boro*. Of them, *Boro* is the main form of production in the haor area, while *Aus* and transplanted *Aman* are almost universally found on highland and medium highland floodplain ridge soils. *Aus* are widely transplanted in this wet region; elsewhere, sprouted seeds are sown on wet puddle soils. Most such land remains fallow in the dry season. With irrigation, HYV *Boro* is followed by rain fed transplanted *Aman*.

On lower land, mixed *Aus* and *Aman* or deepwater Aman are the traditional practices on basin margins, with local *Boro* paddy or grass land (used for dry

season cattle grazing) in basin sites. With LLP irrigation, the area under *Boro* paddy — mainly early maturing local varieties — has greatly expanded in the past 30 years, thus considerably reducing the area formerly under grassland and reed swamp. Rabi crops such as vegetable, spices, sweet potato, potato, pulses and mustard are mainly grown on loamy-bank soils.

2.2 Natural resources

Fisheries: Haors and Floodplains in Bangladesh are important sources of fisheries resources for the country. *Kalibaus, Boal, Rui, Ghagot, Pabda* and *Chapila* are the main fish species of the Haor. From the Kushiyara there are frequent upstream movements of fish towards the *beel*s and tributaries of Hakaluki. *Beel*s in Hakaluki haor are important for fisheries. They provide the winter shelter for the mother fisheries, and in early monsoon these mother fisheries produce millions of fries for the entire downstream fishing communities. Consequently, protection of these fisheries not only benefits local people, but also all the people in the lower floodplains. Floodplains are also an important source of fisheries resources within the ECA.

At the same time it is important to note that each of these *beels* also provides a natural habitat for different species of fishes. However, many of the *beels* have lost their capacity to provide shelter as mother fisheries, and hence are subjected to severe degradation due to a) sand deposits from upstream rivers and canals, b) using complete dewatering technique for fishing activities and c) absence of aquatic plants to provide feed and shelter for parent fish. Chatla *Beel* has come under threat of sedimentation from the Juri River. To counteract this threat, an embankment was constructed to deflect river sediments away from the *beel*.

Most of these *beel*s are leased out by government for fishing activities for at least a period of three years, with provision for renewals. Each *beel* has a surrounding land area known as *kanda* where reeds and swamp forests used to exist in the past. Over time, human pressure, encroachment and also land allocations by the government to the landless reduced the reed and the swamp forest area, which used to provide shelter and feed for fish during the monsoon. There are claims that under the current practice of land leasing, Hakaluki haor are in danger of losing nearly 32 fish species out of 107 because of overfishing by the lessee. This is a serious threat to fish stocks in the haor.

Waterfowl: Hakaluki haor is a very important resting place for migratory waterfowls flying in from the north. The most interesting species is the Barheaded Goose, which is now very rare in fresh water wetlands. Other important species

include Adjutant Stork, Bear's Pochard, Falcated Teal, Broadbill Sandpiper, Spotted Redshank, Nordmann's Greenshank, Temmiinck's Stint, Steppe Eagle and Osprey. In a survey conducted under FAP 6 in 1994, 64,000 waterfowl were counted in Haorkhal and 15,000 waterfowl were counted in Chatla *beel*. Illegal poaching has been a threat to the waterfowl population.

Vegetation: Ecological characteristics, particularly vegetation patterns, differ sharply between the permanent and seasonal water bodies in Hakaluki haor. Within the permanent water bodies, vegetation is less dense in the monsoon than in winter, since the vegetation becomes submerged and does not thrive without light. However, the aquatic vegetation that exists begins germinating with the onslaught of the monsoon floods. Aquatic vegetation occurs mainly in the shallower parts of the Haor. Other than the shorelines (*kanda)*, most of the open water areas are weed-free.

Livestock: Hakaluki haor is known as good grazing land. People from villages around the haor and also from distant areas send their herds for grazing in winter. During this time, herders make permanent shelters near the *beels* and graze their animals for a period of 4-5 months. During monsoon, many keep their herds in-house or send them to nearby hills for grazing.

Forests: Hakaluki haor contained a very dense swamp forest in the past, but deforestation and the lack of conservation practices virtually destroyed this unique forest in the last two decades. Two small patches of swamp forest remain in the Hakaluki haor. One is in Chatla *beel and* another is near the village of Kalikrishnapur. The plants which are common in this type of forest are also found in homestead groves. With the exception of these two swamp forest patches, the vegetation surrounding Hakaluki haor is unique since it includes both swamp forest as well as mixed evergreen rain forest.

Thatching material is the most useful natural wetland product of the area. The people in the vicinity use this material in various ways: for example as roofing, wall or wall panel material for their houses and for making mats. The utilization of wetland products is now less intensive, because in recent years the vegetation has decreased considerably. Another important use of the resources from this wetland is for fuel wood. Due to the scarcity of fuel wood around homesteads, the people are becoming increasingly dependent on this source of fuel. Swamp forest trees, except for *hijol*, are the most popular fuel wood in these areas. However, all woody shrubs, including grasses, are also used for this purpose. The naturally regenerating saplings in the swamp forests are being harvested at a non-sustainable rate because of the scarcity of fuel. Wetland products are also used as

bio-fertilizer or green manure. All the small herbs and grasses grown in the Haor are used as green manure. Farmers living around the Haor use these materials instead of chemical fertilizer. The soft aquatic plants are gathered immediately after the monsoon and placed in piles in the fields, to allow them to decompose. There are many aquatic plants which are grown in the Haor area, and are used as food, medicinal plants, duck feed, or for fuel. These common property resources are of considerable importance to the poor.

2.3   Wetland goods, services and economic values

The haor system provides a wide range of economic and non-economic benefits to the local people as well as to the people of Bangladesh and the world at large. These include benefits in terms of fish production, rice production, cattle and buffalo rearing, duck rearing, collection of reeds and grasses, and collection of aquatic and other plants. The haor system also protects the lower floodplains from flash floods occurring in the months of April-May, recharges the water tables, maintains the supply of fish in other lower riparian water bodies, provides habitat for migratory and local waterfowl, and generates important carbon sequestration services. At the same time, the unique haor system is a natural beauty both during the monsoon months and the dry season. In monsoon, its unique physical characteristics make it a huge natural bowl of water and in the dry season it becomes natural grassland with pockets of *beel*s serving as the resting place for migratory birds. Such a unique natural system, if appropriately marketed, could be a major attraction for tourists. However, as of today, there is little evidence of this.

The property rights regime of the haor is complex. Most of the agricultural lands in the haor basin are private land. While the majority of the water bodies are owned by the government and are generally leased out for fishing activities, smaller water bodies are sometimes owned by local villages or by a few families. The banks of the water bodies, which were once tracts of swamp forests, are public land.

The cycle of economic activities in the haor region also varies significantly with changes in the seasons. During the monsoon months, most of the land is under water and so fishing is the major economic activity. However, during this time leaseholders have no control over fish, because they are spread over a large area and people are able to catch them freely.

During the dry season, a large number of activities take place. Agricultural land under private ownership is often put under *Boro* rice production. The banks of the

wetland provide grazing grounds, and herds of cattle and buffaloes are brought in. Water bodies are more organized and defined, and leaseholders take full control of their fish harvests. Local people collect building materials such as reeds for fences, various plants and fuel wood for personal and commercial use, and sometimes are engaged in hunting and poaching of migratory birds.

Step	Involves	Results
Identifying wetland goods, services and values	Identifying and listing different wetland goods and services, their economic benefits, and determining the methods to be used to value benefits	List of wetland goods, services, benefits and valuation methods
Conducting a household survey	Administering a questionnaire to local community members	Information on the local use of wetland resources, and their value
Constructing a wetland bio-economic model	Establishing a model which describes the inter-linkages between biophysical and socio-economic aspects of wetland status and management	Information on wetland ecological - economic relationships
Estimating the economic value of wetland goods and services	Quantification of the monetary value of wetland goods and services	Estimate of the value of the wetland
Assessing the economic impacts of wetland management options	Simulating the economic impacts of different wetland management options in terms of their effects on key goods and services	Estimates of the economic impacts of planned wetland management strategies

3.   Methodology

3.1   Steps in undertaking the study

The valuation exercise involved several steps and stages, as outlined in the table below.

Each component of the study also provides information which feeds into other aspects. As illustrated in, Figure 1, household surveys on the value of wetland goods and benefit transfer analysis of the value of wetland services provide the basic information, which is fed into the bioeconomic model that describes the
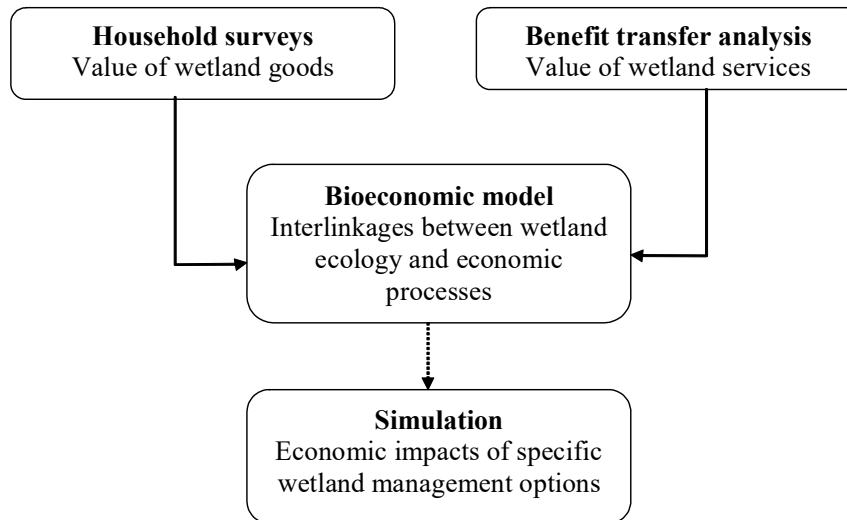
Figure 1: How different aspects of the study link together

links between wetland ecology and economic processes. Using these data and this model, it is then possible to simulate the economic effects of alternative wetland management options for Hakaluki haor.

3.2   Identifying wetland goods, services and values

To value the haor resources one needs to have an in-depth assessment of all environmental goods and services produced. Field trips and key informant
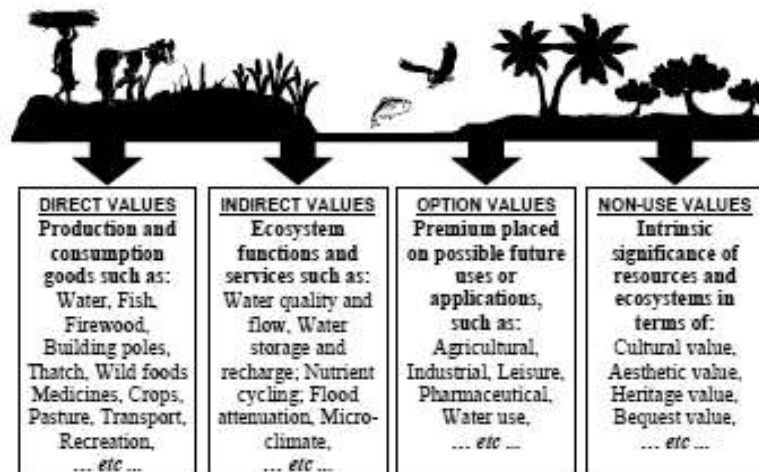
Figure 2: Total economic value of wetlands

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interviews using unstructured questionnaires were used to assess and identify the resources of the haor. This provided actual information on the beneficiaries, property rights, conflicts for resource management, marginalization and institutional success/failures. Once the environmental goods and services associated with Hakaluki haor had been identified, it was necessary to assess how these benefits had economic value. The benefits of wetland goods, services and economic values are summarized in Table 1. A total economic value (TEV) framework was used to do this. TEV is composed of both use and non-use values, and use values can come in the form of direct and indirect uses (Figure 2).

Table 1 : Summary of wetland goods, services and economic values

	Benefits	**Valuation method used**
Direct values	Fish harvest	Market values (through
	Fish hatchling supplies	household
	Fish trading	survey)
	Rice production	
	Non Fish Non Rice Products	
	Duck rearing	
	Cattle and buffalo rearing	
	Other benefits	
Indirect values	Watershed benefits	Benefit transfer
	Flood control benefits	
	Biodiversity benefits	
	Carbon sink	Not valued
Existence values	Aesthetic benefits	Benefit transfer

Having identified the key economic benefits associated with Hakaluki haor, different methods were identified, which could be used to value these wetland goods and services. These were:

- Conducting a household survey
- Estimating the economic value of wetland goods and services
- Constructing a wetland bio-economic model
- Assessing the economic impacts of wetland management options

3.3   Conducting a household survey

To determine the nature of dependence of the people on the haor resources and to estimate the use value of haor resources, household level survey of 837 randomly chosen households were conducted between Jan-April 2006. A modular questionnaire was developed to elicit information from these households. To value the productivity value of the Hakaluki haor, a structured questionnaire was used.

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3.4   Estimating the economic value of wetland goods and services

This brings together the information gained from the household survey about the economic value of wetland resource use with an analysis of the economic value of wetland services. The benefit transfer method was used to value wetland services such as watershed, flood control, biodiversity, carbon sink and aesthetic benefits. This involved extrapolating the results of a valuation exercise carried out in a similar wetland elsewhere in Bangladesh, which had established values for wetland services. The resulting values are expressed per hectare.

3.5   Constructing a wetland bio-economic model

Calculating the economic value of wetlands is a means and not an end in itself. It was evident during the discussions and from various reports that a bio-economic model highlighting the interlinkages between the man and nature in the haor basin would be very useful to develop a proper management strategy. Consequently a schematic bio-economic model was developed as a means of providing information which can be used to make better and more informed choices about how resources are managed, used and allocated. Such a model would help the decision-making processes as it can be used to trace the economic implications of changes in the stock of wetland resources, flows of wetland services, or attributes of wetland systems that result from following a particular course of action, and factor them into measures of its economic desirability.

In the context of this study (as a first phase), it is particularly important to be able to trace the likely and actual impacts of development activities on wetland economic value, and to relate changes in environmental status to economic indicators. This type of model involved a number of iterative steps ? establishing an economic baseline from which to measure wetland changes, linking physical changes in wetland status and integrity to changes in these economic values, and expressing the results as indicators or measures that can be integrated into broader economic appraisal or analysis processes (see Figure 3).

3.6   Assessing the economic impacts of wetland management options

The bioeconomic model assesses the economic impact in terms of changes in the supply of key wetland goods and services. It compares the present value of future flows of wetland goods and services under different management options.

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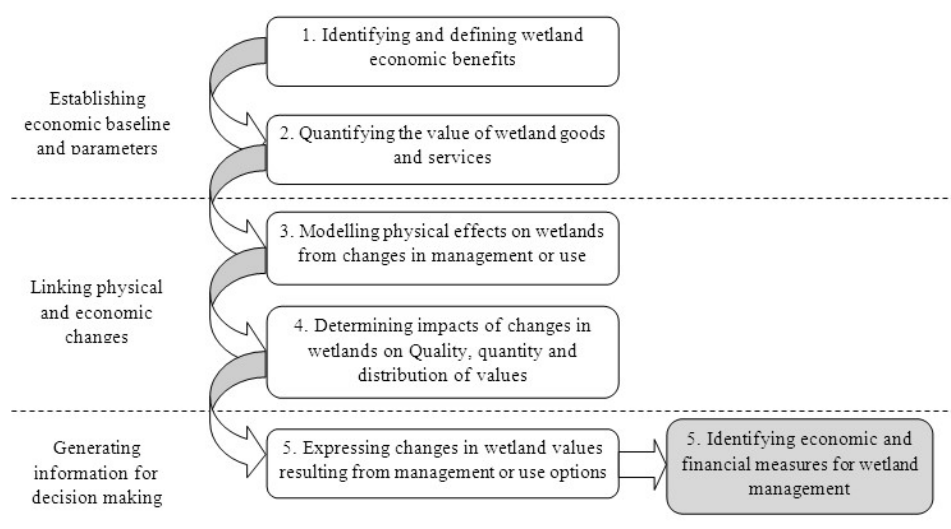
Figure 3: Steps in generating a wetland bio-economic model

4.   Socio-Economic Profile & Wetland Resource USE

4.1   Profile of households living around Hakaluki

Occupation and social identity: the primary occupation of households living around Hakaluki haor is agriculture, closely followed by fishing. Just under half of the population is engaged in other activities, many of them wetland-based, including manual labourers, boatmen, small traders and remittances from abroad. In terms of the social identity of the people in the area, the occupation of head of the households was used for this survey. There is variation in average monthly income between households. Approximately half of the population earns between 1,500 and 5,000 BDT, and half above 5,000 BDT a month. (1 US$? 70 BDT)

4.2   Average Income of the Households

The majority of the people living in the haor basin are absentee landlords, and most of the land is used only for one crop. This means that land is not tilled as intensively as in other regions, a positive sign for the environment. Consequently, the questionnaire included questions regarding the source of income.

A large majority of local residents receive their income from crops (reflecting a dependency on haor land for rice cultivation); the next important source is remittance received from abroad (people in this region have a high migration rate to Europe and the US); the third important source of income is river or

waterbodies. Average income from crop selling (agriculture) was BDT 20,793 and 45.28% of the respondents earned this amount. The second main source of income is share cropping and annual income was BDT 13,419. Remittance from the expatriate Bangladeshis is the third source of income for 27.72% (1 US$? 70 BDT).

4.3 Quality of life

Quality of life is an important element of decision – making in conservation efforts. Types of toilet used, source of electricity and source of fuel are considered good proxy variables for quality of life. In terms of toilet facilities 54% of the households use ring slab, 26% uses sanitary latrine. In terms of source of lighting, only 32% uses electricity (or had access to electricity) and the large majority uses kerosene. In terms of source of water, people use multiple sources: 95% uses tube-wells and another 70% uses ponds and rivers. Overall these indicators are above the national average for most of these variables. For the source of fuel for cooking, data shows that timber residue and cow-dung are the two major sources of fuel for cooking purposes. Over a quarter of respondents' state that they collect these fuel sources from the haor.

4.4 Ownership of Properties

Nearly all respondents own their houses in the Hakaluki haor area. This reinforces the observations that people in the Hakaluki haor basin are comparatively well-off in terms of property ownership, compared to other parts of Bangladesh.

Dependence on the Haor Resources

The property rights regime in the haor has several dimensions. First, agricultural land is privately owned and operated; second, the leased out beels are also private property for the period of lease while government regulates operations through its district administration; and third, the kanda land is government land with no private claims on it. These lands are the rural commons where grazing activities, collection of reeds, duck rearing activities take place. Various Departments of the Government of Bangladesh, including the Ministry of Environment and Forests, have claims on this land or on part of this land. To implement a management strategy for the haor resources, it is important to understand the connectivity of people with this land.

4.5　Who collects haor resources from the commons and the private lands?

About two thirds of the households living in the region regularly visit the haor in order to collect wetland resources. However, they face the threats from private operators. Survey reveals that 46% of them face such obstructions during collection of resources. 90.8% of them said that the barriers come while fishing in the beels (although big beels are leased out there are many small beels inside the haors which are part of the rural commons but the leaseholders often encroach into their rights as common people do not have legal papers to defend their access to these commons); 29.48% have reported resistance during bird hunting (which shows that government campaigns to protect birds in the haors have found its footage); 19.3% faced hindrance during fuel wood collection and 13.9% faced difficulties while grazing herds in the commons. In terms of who the players are in creating such obstacles, the survey shows that nearly 75% of the people found the obstacles coming from the lease-holders, government officials were next in the line and then the land owners. Local influential people, interestingly, do not violate the rights of the common people on the beels/haor resources.

Only 25% of beel lease holders and cooperatives have legal fishing rights. Nearly 50% of the beels are 'open access' resources, 22% are under private ownership, in 1.2% of beels villagers have common rights, and in some beels rights are not well defined (0.5%). This provides a picture of the potential for conflicts if there is an initiative to unify or to redefine their rights without appropriate consultation or participation and without amending legal regimes in the haor area.

4.6　Economic Activities in the Haor

Other than fishing and rice cultivation, there are various economic activities from which people benefit. The survey shows that fishing and fish related activities is the major source of livelihood for the people. Nearly 83% of people are involved in activities related to fish production from the haor. Cattle grazing and duck rearing is also very common in the haor and nearly 97 and 87 percent of the people are involved in it respectively. Fuel wood collection is also an important economic activity while poaching of birds is also crucial for nearly 16% of the people. About 9% people are involved in sand extraction while about 6% are engaged in reed collection. Only 9.8% of the jobs are initiated by the Lessee of the beels. Similarly, local Member of the Parliament, or members of the elected local government institutions are responsible for nearly 5% of the economic activities.

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4.7   Income Generated from Economic Activities

Table 2 shows that average income from capture fisheries is over 16,000 BDT per household, and that nearly half of households are engaged in this. However, culture fishing is also a growing industry in the area, providing an average income of 14,440 Taka for participating households. Just under half of the population is engaged in collecting other wetland products for their residential use, and about 6% in direct income-generation from haor resources.

Table 2 : Annual Income of Households from Haor related Economic Activities

	Percent	Annual Income /hectar in BDT
Involved in Capture fisheries	48.39	16,307.27
Involved in Culture Fisheries	2.99	14,440.00
Fish trading	8.96	31,826.67
Poultry farming (snail/Jhinuk)	0.48	1,400.00
All Aquatic resources (fisheries+fish trading+poultry)	52.09	21,463.41
Involved in other productive goods from haor	42.05	3,755.96
Earning reported in Animal Husbandry	19.83	8,513.43
Involved in other income-generating activities	6.33	14,318.87
Rice Production	66.31	7,050.00 /hectare

Table 3 summarises information on participation in wetland activities, and income arising there from, in order to express earnings per hectare of wetland. It shows that a high proportion of households are engaged in wetland activities, generating substantial income. Fishing, rice production and cattle rearing cater high incomes in terms of income generated per hectare.

Table 3 : Income per hectare from Hakaluki haor

IG Activities	Income in BDT per hectare	Percent of household	Area in ha in Hakaluki haor
Fish harvest	13,586.43	48%	13,595
Fish hatchlings supplies	761.69	3%	13,595
Fish trading	5,010.90	9%	13,595
Rice cultivation	7,050.00	66%	13,418
Other productive goods	5,330.37	42%	7,116
Duck rearing	11.89	0.5%	13,595
Cattle rearing	5,466.82	19%	7,116
Other productive services	3,063.27	6%	7,116

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4.8   Local support for wetland conservation

In addition to collecting information on the economic value of wetland resource use, the study also investigated local perceptions of and participation in wetland conservation. As gathred from the survey, 687 out of 837 or 82% of households are engaged in economic activities in the haor area. Among them, 83% of them are 'friends' of the ECA and are likely to strengthen the efforts of the DoE. The other 17% are still not 'the friends' of the ECA. They can either be persuaded with a strong 'campaign' to become friends of the ECA or else kept disengaged from the ECA management related activities so that they cannot be the 'power brokers' at the ECA groups. Finally the other 18% of the people are currently not engaged in any type of economic activities inside the haor (despite the fact that they live in the villages surrounding the haor). However, it was also observed that 81% of these 'disengaged' households are 'friends' of the haor. Consequently, they are likely to derive 'existence value from the haor'. We have not valued them in this study.

5.   The Economic Value of Wetland Goods and Services

It is evident from the preceding discussion that the Hakaluki haor ecosystem generates a set of economically valuable goods and services. These serve over 80% of the people living in the haor basin. These economic values arise from: a) fisheries production, b) rice production and c) Non Ffish Non Rice Products (NFNRPs).

Besides these direct use values, the wetland ecosystem also provides several other streams of indirect values. These include the economic benefit of a) watershed services - maintaining the waterflow and supplies by recharging, storing and regulating water flows, b) flood control services - through storing waters during flash floods, so the downstream people in the river basins are protected from flash floods and crop damages, c) biodiversity benefits – by conserving rich and diverse wetland biodiversity, d) carbon sink services - wetland ecosystems also serve as carbon sinks and therefore benefit the global community and e) recreational and knowledge benefits for tourists, academics and researchers.

Although direct uses can be valued through the information collected via the household questionnaire, this survey instrument did not provide data which would enable indirect values to be calculated. In order to express these values in monetary terms, the benefit transfer method was used. This relies on detailed recent work carried out by the MACH project in Hail haor, located in Mouvibazar. As many of the conditions and services provided by Hail haor and Hakaluki haor

are extremely similar, the results of valuation carried out for Hail haor were considered suitable for extrapolation to the Hakaluki haor case. It should however be noted that three significant wetland services have been omitted from valuation: water quality improvements, aquifer recharge and carbon sequestration. This underlines the fact that the values specified for Hakaluki haor are very conservative, and represent a minimum estimate.

Collating the information on wetland goods (direct values) and services (indirect values), it is evident that Hakaluki Haor is worth an average of Tk 48 thousand per hectare, or almost Tk 585.75 million in total. Of this total, wetland goods comprise the major amount (84%), and fisheries and rice production are of particular importance.

Table 4 : Value of wetland goods and services in Hakaluki haor

	Land Area in Hectar	BDT per Hectare	Total value (Tk mill) per year	% total
Wetland goods				
Fish harvest	13,595.10	13,586.43+	184.71	28%
Fish hatchlings supplies	13,595.10	761.69+	10.36	2%
Fish trading	13,595.10	5,010.90+	68.12	10%
Rice Production	16,102.19	7,050.00+	113.52	15%
Non Fish and Non Rice Products	7,115.87	5,330.37+	37.93	11%
Duck rearing	13,595.10	11.89+	0.16	0%
Cattle and buffalo rearing	7,115.87	5,466.82+	38.90	11%
Other benefits	7,115.87	3,063.27+	21.80	6%
Wetland services				
Watershed benefits	13,595.10	1,020.93*	13.88	2%
Flood control benefits	13,595.10	2,242.04*	30.48	5%
Biodiversity benefits	13,595.10	4,174.63*	56.75	9%
Aesthetic benefits	13,595.00	671.91*	9.13	1%
Total		**48,390.89**	**585.75**	**100%**

Source: *IUCN Report 2006; values adjusted for 2006 using CPI.*

6.   Ecological-Economic Linkages

Biological process models designed to depict agro-ecological processes can be used to simulate the impact of changes in biological and anthropogenic processes on an ecosystem. These models are quite useful to understand the process of inter-linkages and determine impacts of policy changes as well as rationalize policy decisions.
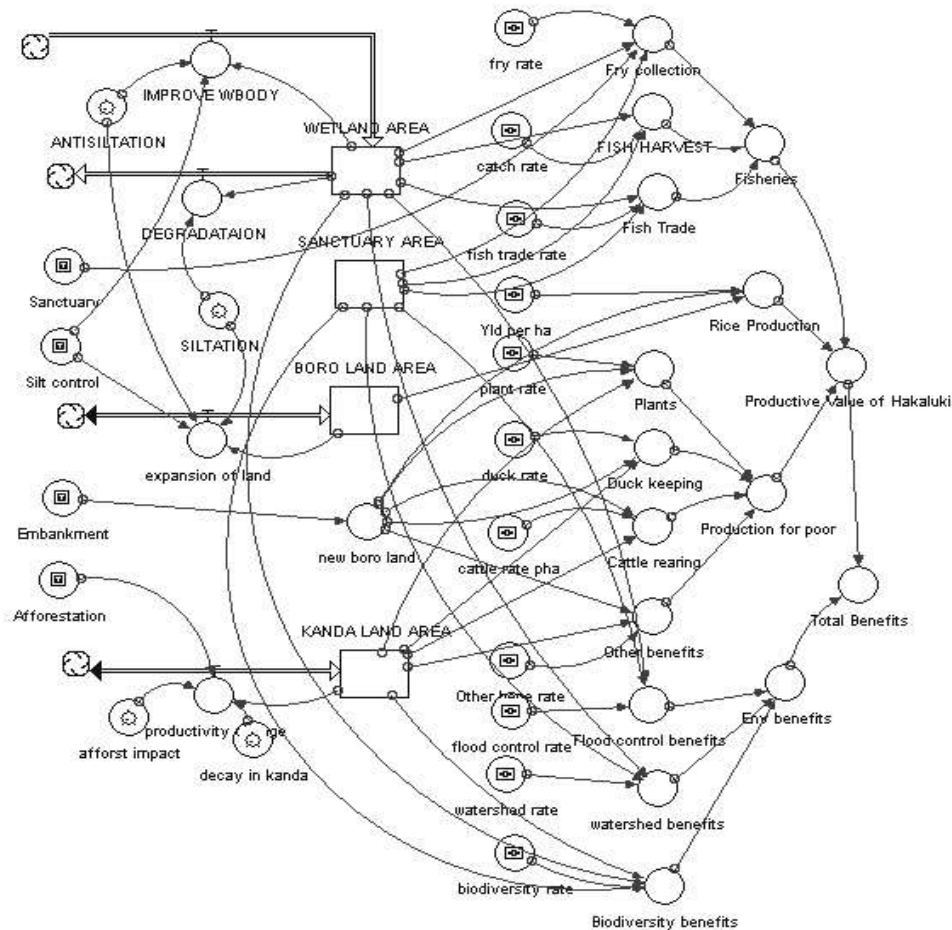
Figure 4: Bio-economic Model for Haor Resources (adopted from IUCN Report, 2006)

Most of the bioeconomic models uses 'mechanistic' or 'theory driven' relationships to model the 'biological processes' and determines the impacts of changes in the nature. Very few of these models include human components explicitly in the model specification beyond the part played in specifying the

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management regime for the scenario under simulation. However, these models use a set of accounting equations to determine benefits and costs (economic and biological) associated with various strategies or scenarios. These models do not explicitly optimize any variables but they do provide an analysis from which it is possible to take decisions which are welfare maximizing.

In Bangladesh, no bio-economic models were ever developed that links the economy and the bio-physical world of haor area to understand the impact of changes. From the discussion above, it is clear that there is a strong economic tie between people living in the area and the changes in the quality of the ecosystem that prevails in the Hakaluki haor.

Based on the survey data, and discussions with various individuals and stakeholders we developed the schematic bio-economic model for understanding the choices that lie ahead in developing a management strategy for Hakaluki haor. The model has three distinct components. Component 1 shows the biological processes and exchanges between the nature and human actions, component 2, shows the economic activities based on the natural resources in the haor basin, and component 3 shows the policy options for developing a management strategy for the the Hakaluki haor.

Component 1: Biological Processes

Water Resources: It has been assumed in the model that Hakaluki haor area consists of the ECA as demarcated by the Department of Environment. Biologically, the ecosystem is under threat from sand deposits flowing into the beels through some of the rivers and canals during monsoon months. It reduces the productivity of the beels. Total area of floodplains, beels, rivers and canals in the ECA is 13,395 hectare (GIS information from CNRS). Fish catch, fry production and also fish trading are the major economic activities based on this resource.

Paddy Land: Most of the land used for agriculture in the Hakaluki haor is Boro crop land and our survey has shown that nearly 90% of the Boro land of 66% of the people living in the haor area is located inside the haor. Compared to this, only 6-10% people have aus and aman crop land inside the haor area and that too is less than 50 percent. In our model we are ignoring the aus-aman crops from the analysis. Paddy land is also threatened by sand deposits from the rivers.

Kanda Land or Banks of the Beels: Banks of the beels are the commons, which serve multiple purposes. During the dry season, these are the grass lands used for cattle grazing, whereas during monsoon, the reeds provide shelter to young fish,

providing them with feed. It helps growth of fisheries output. Area of Kanda land is used to produce goods and services other than fish and rice in the haor area. They are usually encroached by farmers who use these lands if better irrigation facilities are made available and if embankments can be erected for expanding Boro cultivation.

Component 2: Economic Activities

Fisheries activities: There are three major activities based on water resources in the haor. These are fish catch from the beels, fish trading, and fish fry supplies and related trades. Returns on these activities depend on a) the quality of water resources (both land area and water quality), b) type of fishing gears used by the people, c) road networks that exist in the region and d) efforts given by the people involved in various economic activities

Rice Production: A total of 13,418 ha of land is currently under Boro cultivation. Boro production depends on a) irrigation facilities, b) labor supply, c) soil quality and d) the possibility of flash floods during early monsoon months.

Other goods and services production: The kanda land area is used as the launching ground for a) cattle grazing, b) duck keeping, c) collection of fuelwood, food plants, other plants, and d) other goods and services using the haor resources. This production is a function of a) the area of kanda land, b) the quality of water bodies and c) time used to collect resources (effort). Major threats in this production are a) expansion of Boro crop land, and b) decay in the quality of vegetation.

Component 3: Management Options

Option 1: Sedimentation control - During the field trips to the area it was evident from discussions with local people, DoE officials and local elected representatives that sedimentation control is a major issue both for fisheries group and rice producers. As a result, any effort to bring local people in the fold of management of Hakaluki haor would require a well designed policy to control silt deposits on the beels and the paddy land. The general demand is to construct barrages (temporary) to avoid sedimentation.

Option 2: Sanctuary - Fishing is the life-blood of the people of the haor area. Most of the fishermen are quite aware of the consequences of overfishing, but due to leasing of major beels, there is a growing pressure on the stock of fish. In the recent months, the pressure is more intense because some leaseholders use

dewatering techniques in beels to catch fish. As a result the entire fish stock is depleting. It was also clear during field trips, focus group discussions and interviews that there exists a popular demand for establishment of sanctuaries in various parts of the haor basin. The local elected officials expressed their strong desire to establish at least one sanctuary per union.

Option 3: Submergible Embankments - Boro crops are often threatened by early monsoon flash floods. Consequently, the probability of crop damage is very high in the haor basin. In fact, it is the major problem in the area. This has resulted in another popular demand for construction of submergible embankments so that rice can be salvaged from the onslaught of early monsoon floods. Although popular, this proposition runs in conflict with environmental interests for two reasons a) such construction will lead to expansion of Boro land and so a reduction of kanda land will occur and b) it might prohibit fish migration during crucial periods of fish movement and will therefore reduce fish stock.

Option 4: Afforestation - Hakaluki haor like other haors in Bangladesh provides fuelwood, medicinal plants, reeds and grass for the people. The swamp forests in the haor basin are unique forests that survive deep flooding during monsoon months. However, due to human pressure these forests are virtually non-existent. As a result, the poor groups of people suffer the most. The ecology also suffers as fish stocks decline and erosion occurs. Considering these, there has been also popular demand for continuing with afforestation programs. This is also the most pro - poor effort because much of the benefit from such programs (if designed properly) would directly benefit the poor people in the haor area who would collect fuelwood, construction materials and also medicinal herbs from these new plantations.

Using the above three components, it is possible to develop an elaborate bio-economic model where all the relationships are well developed and the policy options are weighed in terms of maximum returns.

7.   Economic Impacts of Wetland Management Options

7.1   Economic simulation

The following simulation of the economic impacts of different wetland management options is based on the goals of the Hakaluki haor development, as well as on the information gathered during the course of field surveys conducted as part of this study. The study presents below a summary of benefits to be derived from Hakaluki haor if various management options are introduced in order to improve the condition of the wetland. In other words it looks at different

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conservation and sustainable use scenarios, not at scenarios which involve further degradation of the wetland. For the purpose of this study a 30 year lifetime of the project is assumed.

It incorporates the four interventions for developing a management strategy: silt control, establishment of a sanctuary, construction of embankments, and afforestation. Each of these management options has different implications for wetland costs and benefits — for example, those associated with changes in the area or stocks available for different resource uses, and with changes in the quality or quantity of ecosystem services generated by the wetland.

Result of the bio-economic model is analyzed using four management perspectives. First, benefit for the fishing folks – accrued to the people who are directly or indirectly linked with fishing or related activities in the haor area. Second benefit for the farmers – accrued to the people involved in rice farming. Third, benefit to the poor – for the people involved in duckkeeping, cattle-rearing, collection of fuelwood, medicinal herbs, and other construction materials for houses. Fourth, benefit to the environment – in terms of watershed benefits, biodiversity benefits, aesthetic benefits and flood control benefits. Management options are, therefore, weighted in terms of these four benefits to understand the pros and cons for the management of Hakaluki haor.

Using the results of the valuation exercise, and the relationships specified in the bio-economic model, the simulation looks at the economic impacts of these different management options, both individually and as aggregates. The results are presented as follows.

The results of the simulation exercise were judged using the following criteria: a) the business as usual scenario presents what would happen if nothing is done in terms of conservation efforts in the haor; b) different management options were simulated using the dynamic bioeconomic model and simulation results in terms of total economic value and compared with business as usual scenario; c) the NPV of benefits were calculated from the stream of predicted benefits and the higher differences between the values, greater is the net gain in welfare; d) the flow of TEV is also examined to determine if the effort is sustainable implying that future flow of benefits cannot go down in case of sustainable conservation effort. In Table 5 we present a) Total Benefits – implying TEV over time, b) Fisheries benefits – implying benefits accrue due to fishing and fishing related activities, c) rice benefits – meaning benefits related to rice and rice production related benefits, d) environmental benefits – implying environmental benefits in terms of flood control, biodiversity, recreational and watershed benefits, and e) production

for poor – implying portion of benefits accrue directly to poor due to their use of kanda land.

Construction of an embankment will not bring in net additional benefits. Although there are gains in rice production, loss in kanda land would outweigh the gains.

Table 5 : Present Value of Benefits and its Distribution from Various Management Policies

| | PV of Productive Goods and Services from Hakaluki haor in BDT millions (for 30 year life time with a 5% rate of discount) | | | |
	Total Benefits	Economic Benefits	Env. Benefits	Poors' Benefit
Business As Usual	7,019.25	6,381.71	637.54	1,379.60
Silt control	7,671.15	6,959.91	711.24	1,379.60
Sanctuary	7,874.20	7,209.56	664.65	1,379.60
Afforestation	7,367.02	6,729.47	637.54	1,727.36
Embankment	6,788.78	6,151.24	637.54	910.91
Sedi. Control + Sanc.	8,342.55	7,631.32	711.24	1,379.60
Sedimentation control + Sanc + afforest.	8,690.32	7,979.08	711.24	1,727.36
Sedi. control + Sanc + afforest + embankment	8,459.85	7,748.61	711.24	1,258.67

Overall, the total benefits are declining and so the option is unsustainable. Similarly, sedimentation control, establishment of sanctuary, afforestation and embankment construction are all unsustainable if adopted as a standalone activity of the development interventions.

As long as the total productive value of the haor declined, we assumed that the management regime is unsustainable. Consequently, the simulation exercise using a combination of policies was used to determine the sustainability of the Hakaluki haor ecosystem. Summary of wetland benefits under different management options have differing economic implications. However, both the sustainability and present value of productive goods and services from Hakaluki haor is highest under a management regime which combines sedimentation control, establishment of a sanctuary and afforestation.

Table 6 : Comparative Analysis of Benefits from Hakaluki haor
Management Policies and its impact

	Changes in the PV of Benefits from Hakaluki haor in BDT millions (for 30 year life time with a 5% rate of discount)			
	Total Benefits	Economic Benefits	Envi Benefits	Poors' Benefi
Sediment control	651.90	578.20	73.69	-
Sanctuary	854.95	827.85	27.10	-
Afforestation	362.09	347.76	14.32	347.76
Embankment	(230.47)	(230.47)	-	(468.69)
Sediment Control + Sanctuary	1,323.30	1,249.61	73.69	-
Sed con. + Sanct. + afforestation	1,685.39	1,597.37	88.02	347.76
Sed. Con. + Sanct. + Affor. + Embankment	1,454.92	1,366.90	88.02	(120.93)

Note: "-" means no change, numbers in parenthesis means negative effect.

Three types of benefits are included in Table 6. In terms of total benefits the highest benefit is accrued when the management policy includes sedimentation control, establishment of sanctuary, including dry season beel area, which is the refuse for parent fish and continuation of afforestation activities in the haor area. In terms of distribution of benefits, poor receive most of the benefit from the afforestation activities provided that the afforestation activities take care of the following aspects during its implementation: a) involvement of the poor during plantation and its protection, b) selection of plants, herbs and trees that would provide fuelwood supplies, herbs and materials for home constructions, c) ensuring the rights of the poor to collect these materials from the haor, d) guaranteeing their rights for using kanda for cattle-buffalo rearing and duck keeping during winter months. Sedimentation control provides the maximum benefit for fishers and farmers. However, there are some environmental benefits too.

7.2   Management Option 1: Sedimentation Control

In terms of impacts, the simulation result shows that this option would generate nearly 651 million taka in terms of additional benefits in 30 years time (at 5% rate of discount). Of these, 88.7% will be economic benefits and 11.3% will be environmental services benefits. All the economic benefits will accrue to people

related to fishing and the farming. In the simulation exercise we assumed that the level of sedimentation control will not exceed the rate of sedimentation in the beels of the haor. As such we assumed that the area of wetland will remain the same over time.

7.3   Management Intervention 2: Establishment of Sanctuary

Establishment of sanctuary is seen as a crucial element to conserve freshwater fishes. Our model shows that nearly 854 million taka would be received in terms of additional benefits if this policy is pursued for 30 years time. 96% of these benefits will be in terms of increased fishing output and the rest in terms of biodiversity benefits. During the simulation exercise we assumed that about 2000 ha of land (less than 50% of the beel area) will come under sanctuary. Sanctuaries will have a 5 year delay in increasing the fish production and it would eventually come under production after the fifth year. However, there will be a rotation to ensure that 50% of the total water body remains as temporary sanctuary. This implies that after every fifth year the particular sanctuary can be harvested while a new area will become sanctuary for the next 5 years. Such conservation effort is expected to double the fish production from the beels in the five years time.

7.4   Management Intervention 3: Afforestation

Afforestation activities are an ongoing activity of the current management regime. Pursuing this activity would generate an additional income for the poor if they have access to such forest products and services. It was assumed that Kanda land will continue to be used by local poor people under a prescribed guidelines so that they continue to enjoy the services of nature in terms of a) cattle rearing, duck rearing, buffalo rearing, b) collection of fuelwood, medicinal herbs, and c) collection of housing materials for roof and wall. It was also assumed that such efforts by the development official will consider these aspects while planting saplings in the kanda land.

7.5   Limitation of the bio-economic model

The bio-economic model developed above represents a stylized fact and it is designed to elicit the outcome of conservation effort in terms of economic values. Results of the simulation exercises could be improved using an interdisciplinary team to improve the parameters and assumptions used in this model. At the same time, it would be fair to conclude that the results of this model are indicative in terms of the benefits from conservation effort. They are never assumed to be the

actual values but the true value will follow the trend presented by this model. The model helps us determine the impact of conservation using tables and diagrams and it provides an authentic estimate of the gesture that we often use to argue for conservation.

Hakaluki haor is an important biological resource in Bangladesh. This study is not expected to provide a value for its resources. It simply provides a glimpse in terms of changes that would take place if the resources are not conserved properly. Consequently, the NPV estimates are also indicative of the amount of maximum feasible investment for conservation of haor in the next 30 years time.

8.   Concluding Observations

The fact that Hakaluki haor has been designated as an Ecologically Critical Area signifies its importance as a reservoir of disappearing natural resources. This study underscores the reality that Hakaluki also constitutes an important source of natural capital, which yields high economic and livelihood values to surrounding populations and the country as a whole.

Survey findings show that more than 80% of local households depend on wetland resources, and that the bulk of income-earning and livelihood opportunities in the area are wetland-based. The wetland also generates a series of economically important ecosystem services, which function to underpin, support and safeguard essential production and consumption processes. In total, it has been estimated that Hakaluki haor is worth at least BDT 585 million, or an average of BDT 48,000/hectare. The study describes the complex inter-linkages between wetland ecology and economic processes. In addition to confirming the economic value attached to wetland conservation, it highlights the costs associated with the loss or degradation of wetland goods and services in terms of losses to livelihoods and the economy.

By modelling and simulating the economic effects of alternative management options for the wetland, the study points to important conclusions with regards to the costs and benefits of conservation. Although achieving conservation goals remains a priority for Hakaluki haor, there is an additional need to factor in consideration of the economic implications of different conservation actions and alternatives. Study findings confirm that the most economically sustainable policies for sustainable management of the Hakaluki haor are:

–   Silt control to ensure that no new beels are damaged by it

–   Sanctuary creation in 2000 ha of wetlands in all unions and the effect of such conservation activities are felt after at least 5 years and

–   Afforestation activities continued as has been started by the haor development project. The objective of such afforestation activities shall be to improve the livelihood of the people.

The NPV of benefits from the new activities indicates the maximum sustainable investment for conservation of this haor for the next 30 years time period with a 5% rate of discount. One of the major objectives of this study was to recommend best practices in applying economic and financial instruments for management of Hakaluki haor, which are mentioned above. Using the bioeconomic model developed in this study it has been shown that construction of submergible emabankments will act against sustainable use of the haor system.

It also shows that sanctuary development is a major step to be adopted by the haor development projects, which will ensure sustainable use of haor resources. Furthermore, result also concludes that sediment control in the haor is the most important step which must be adopted to ensure sustainable use of haor resources. In fact, the model concludes that without sediment control the total resource base in the Hakaluki haor will become unsustainable. At the same time, it reveals that afforestation activities must be planned to ensure that the poor can appropriate the benefits. This is the most poor-friendly component of haor development. However, it is also important that afforestation activities guarantee access to and also participation of the poor. Finally, cattle rearing are also poor friendly and to manage the haor resources sustainably, policies should concentrate on these aspects of the haor management.

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Present Education in Establishing Peace at Different Strata of the Society in Bangladesh

M Azizur Rahman*

Abstract

Education is very essential to establish peace in the society. In Bangladesh literacy rate is rising gradually. Literacy rate of population (11+ years) was 49.1 in 2008 and 56.7% in 2010 for population (7+ years). With the rise of literacy rate it is expected that the peace in different strata of the society would be enhanced. This aspiration comes from the fundamental objective of education. But the result is different. Peace at different stages of human life in the society is declining with the passage of time. The result of opinion survey shows that peace of life is declining with the rise of education rate and amenities of livelihood. Education is enhancing human skill, developing scientific knowledge and technology and narrowing down distances of the world. Horizon of consumer commodities is expanding rapidly. At the same period, the time and good for heart's content is declining. As a result an imbalance arises between physical and mental contents of human life. Due to diversities of physical consumer goods growth of human faculty of the society is hindered. Consequently the crimes and abuses are increasing which Contribute to the rise of restlessness in different strata of the society. Education for maximizing material gain has been accelerated. But education for optimizing inner gains has been decelerated. As a result imbalance is generated. The created imbalance has been producing stress, strain and hypertension. Similarly the gap between haves and have nots is widening at a high rate. These are the causes of increase of frequent peace breaking occurrences at different stages of social life. Direct peace education with a view to building peace in the minds of the children is thus advocated.

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Introduction

Bangladesh is advancing towards prosperity. Economic prosperity is the outcome of rapid GDP growth rate. Accelerated economic development produces higher growth rate. Higher economic growth rate is accompanied by accumulation of wealth that is inequitable distribution of income and invisible transfer of resources from the poor to the rich. It is also accompanied by dynamics of market mechanism. Market mechanism is highly efficient when it becomes perfectly competitive. But inefficiency arises with the rise of imperfect market. Efficiency is a negative function of monopoly power. In reality market is not perfectly competitive. It is monopoly in nature and tends to higher monopoly power with the time path. This trends commercialize lives and makes people opportunists and individualists. As a result demoralisation and inhumanity in every sphere of life rise. The present study is an enquiry to collect views of teachers and researchers about the peace status of social lives and makes comments on causes, consequences and remedies.

Statement of the Problem

A positive correlation between literacy rate and peace at different strata of social lives is expected. But the real situation of the society reveals that there is a negative correlation between education and peace. Here the education and literacy are considered as synonymous. Society expects that education will raise morality, humanity and tolerance which ultimately will increase peace in the different strata of the society. The real picture is different. Peace breaking occurrences are rising with the increase of literacy rate.

Rationale of the Study

The study will be valuable to evaluate achievement of the social objectives of education. Different organs of the society are investing huge resources for education. The macro objective of these investment is to maximize social benefit. The achievement of this goal is essential for the justification of investment. The study will be worthwhile to highlight on the returns of investment in education. Moreover investment in education has a long-run impact. This impact needs to be positive for the country. The study will be needful to suggest changes to make better future for the nation by expanding appropriate education.

Objectives of the Study

The main objective of the study is to find out the causes of negative correlation between the rate of literacy and peace at different strata of lives. The secondary

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objective is to suggest changes those are required to establish positive relation between education and peace.

Methodology

The study is based on primary and secondary data sources. The sources of secondary data was BANBEIS, Bureau of Statistics, House hold Survey, Ministry of Planning and Ministry of Finance. Primary data was collected through a pre-prepared questionnaire. For primary data the population was the participants of NAEM Training Course on Educational Research Methodology, BPDM Advanced Training Course on Research Methodology and NAEM Training Course on Educational Administration and Management for headmasters and principals. Two hundred fifteen participants were interviewed. The male and female ratio was 3:1. This was so because female participants was 30% of the total.

Data Presentation, Analysis and Interpretation

The literacy rate of Bangladesh has been increasing over period of time. It was 49.1 in 2008 (for 11+ years), 54.8% in 2009 and 56.7 (for 7 years) in 2010. It was 17% in 1971 and 23% in 1975. With this increase in literacy rate it is expected that peace in different strata in the society has risen. Under this purview the first question in the questionnaire was about whether peace at different strata of society is declining with the passage of time or not.

Table 1.1: This table shows the opinion of the interviewees about the trends of peace in the society. The question was close ended

Items	Frequency	Percentage
Peace is increasing with time	Nil	Nil
Peace is remaining constant with time	5	2.32
Peace is declining with time	200	93.02
No answer	10	4.65
Total	215	

Among the participants about 93.02% felt that peace is declining with time. Whereas 2.32% felt that it is remaining constant. 4.65% did not answer the question. Probably they could not understand the question.

The interviewees were asked whether they do agree that the amenities of life have increased in the society. Their views are shown in Table 1.2

Table 1.2 : Views about the trends of amenities in society

Items	Frequency	Percentage
Amenities has increased	153	71.16
Amenities are remaining constant	23	10.70
Amenities has declined	49	22.79
Total	215	

From table 1.2 it is shown that 71.16% of participants felt that amenities of life has increased,10.7% opined that it was constant and 22.79% hold the views that it has declined. Amenities consist of two types viz. artificial and natural. Most of interviewees opined that artificial amenities have increased but natural amenities have declined. Focused group discussion with interviewees highlighted some important points that artificial inputs of life have increased vis-à-vis the natural inputs have decreased. The interviewees were asked to mention the factors responsible for declining peace in the society. It was an open ended question. The answers are shown in table 1.3.

Table 1.3 : shows the views of the respondents about the factors
responsible for decline of peace.

Items	Frequency	Percentage
Declining Social Security	53	12.89
Expanding injustice in society	70	17.03
Economic hardship	63	15.34
Emergence of crimes	77	18.73
Expanding corruption	83	20.19
Moral degradation	50	12.16
Commercialization of life	45	10.94
Development of individualistic attitude	40	9.73
Unsustainability in Development	35	8.51
Reduction of natural inputs	30	7.29
Total =	546	

Respondens were given option to mention not more than three items. From the table 1.3 it is found that according to priority the following items were mentioned as factors responsible for peace breaking occurances:

1.	Expanding corruption	
2.	Emergence of crimes	
3.	Augmentation of injustice in the society	
4.	Economic hardship	
5.	Declining social security	
6.	Moral degradation	
7.	Commercialisation of life	
8.	Development of Individualistic attitude	
9.	Unsustainable Development	
10.	Reduction of natural inputs	

Table 1.4 : This table shows the expression of interviewees about relationship between education and peace

Items	Frequency	Percentage
There is positive co-relation between education and peace	00	00
No relation between education and peace	48	22.33
There is negative co-relation between education and peace	167	77.67
Total =	215	

One burning component has not been raised among the issues mentioned above is impatience. A sub-editorial writing of the daily Ittefaq on July 11, 2012 invites all to keep patient. UNESCO has published a book titled Tolerance the Threshold of Peace. This book aims at educating for tolerance.

The interviewees were asked to express their opinions about the relationship between education and peace. The results are furnished in table 1.4.

No respondent holds the view that there is positive correlation between education and peace. 22.33% opined that there is no relation between education and peace. Majority of the respondents stated that there is negative correlation between education and peace. Focussed Group Discussion with the respondents shows that they expect positive correlation between education and peace. Because they consider that the prime objective of education should be to develop humanity, morality and tolerance. But the reality is quite different in the society.

The respondents were asked to suggest measures how to develop positive correlation between education and peace. The views expressed by respondents are shown in Table : 1.5.

Table 1.5 : The measures suggested to build positive corelation between education and peace by respondents are shown below

Measures suggested	Frequency	Percentage
Peace education is to be included in all schools in all classes	205	27.28
Moral Education be introduced	105	14.23
Education for Tolerance be introduced	110	14.90
Education on Sustainable Development and Environment be included	105	14.23
Education on Fair Social Justice be encouraged	110	14.90
Peace education should be encouraged at all social institutions	103	13.95
Total =	738	

To establish positive correlation between education and peace the measures suggested are as follows on priority basis :

01.	Peace education be included in all classes in all schools
02.	Education for tolerance be introduced
03.	Education for fair social justice be encouraged
04.	Moral education be introduced
05.	Education on sustainable development and environment be included
06.	Peace education should be encouraged at all social institutions

Findings

From the above analysis it is found that society's expectation about positive correlation between education and peace does not exist in reality. People hope that with the rise of literacy the peace at different strata of the society will increase. But in reality it does not happen. To establish positive correlation between education and peace, tolerance, fair social justice, morality, environment and sustainability will be introduced by educational and social institutions.Campaign should be encouraged through education and practice on above components.

Recommendation

Education on peace, tolerance, fair justice, morality, sustainability and environment will be introduced at all levels through educational and social institutions. More study on the issue is suggested.

Conclusion

The prime objectives of education is to ensure peace at all strata of life of the society will be achieved if education on peace, tolerance fair justice, morality, sustainability, environment are introduced at all educational and social institutions.

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Assessment of Effectiveness of MICAII in Solving some Basic Problems of Secondary Education in Bangladesh : Some outcomes of on-going MICAII Action Research

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Abstract

An action research is going on in six selected secondary schools in urban and sub-urban areas of Dhaka Metropolitan City for development of tools of Motivation Inspiration Cooperation Appropriation Incentive Intervention (MICAII) model for mainstreaming the slow learners by unlocking their latent potentialities. The action research will continue for five years. It was started in 2010-11 and will end up in 2014-15. The present study has made an assessment of output in respect of some problems like dropout, out of school children, exclusion, eve-teasing, early marriage, physical and mental punishment, development of relationship, participation of students and awareness building among gurdians. These variables are vital input for unlocking latent potentiality of slow learners.

The assessment has shown positive change in respect of above variables. Dropout rate has declined. The children of ultra poor families are coming to school at an increasing rate. No case of eve teasing has happened in study period in these schools. No problem of early marriage has occurred during the period. No exclusion problem has arisen. The teaching community has changed. They consider the inability of students as their own weakness and try to overcome by new innovation in teaching-learning process. As a result no occurances of physical and mental punishment has happened. The tremendous result has been achieved in respect of fast-slow learners' relationship. Previously the

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fast learners remained at a far distance from slow learners.Usually fast leaners disliked slow leaners and kept distance with them. Slow learners became afraid of fast learners. But now the MICAII has made them bosom friends. There is no gap between fast and slow learners. Teachers' relation with fast learners was very good in previous time. MICAII has developed cordial relationship of teachers with slow learners. Because the teachers have realised that the slow learners do not lack potentiality. They have unlimited latent potentiality. Teachers have to do this work of unlocking their latent potentiality. The teachers of these schools have been successfully doing this job by introducing MICAII.

Usually a question arises that when the MICAII model is used to mainstreaming the slow learners it emphasizes attention on them. As a result the fast learners feel neglected and their merit development is hindered. A question regarding this was answered by the teachers-students and guardians.They mentioned that the first learners work as substitute of teachers in the group learning process.They believe that when they teach oher the depth of their knowledge will rise. That is why they become alternative teachers. They very delightedly do this job and engage them in participation at a greater extent which accelerates development of their creativities. So there is no scope of negligence for fast learners. Moreover fast learners become more faster in the system.

So MICAII model increases the utilization of human potentiality of all learners. It ensures access and equity by mainstreaming the slow learners. It enhances qualiy and creativity by raising motivation devotion, inspiration and participation Because the learners learn to dream a promising future and attempt to achieve them. Here the tools motivation, inspiration, cooperation, appreciation, incentive and intervention (MICAII) make them aware to do this job.

Introduction

The MICAII model is innovated by me in a yearlong action research held in 5-secondary schools in Rangamati district and 5-secondary schools in Faridpur district. The research was divided into six parts : first identification of causes of slow learners; second finding way of solution; third developing divices for solution; fourth utilising devices; fifth assessesing the effectiveness of the devices and sixth further development.

Background

The slow learners' problems were identified through questionnaire survey, focussed group discussion, observations, checklists and collection of secondary data from school documents. The study found as much as 65 causes. The population

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│        Slow learners problems' solution process   │
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│     Identification of causes of slow learners' problems │
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│            Determination of way of solution        │
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│            Developing devices for solution         │
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│                  Utilising devices                 │
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│          Assessment of effectiveness of devices    │
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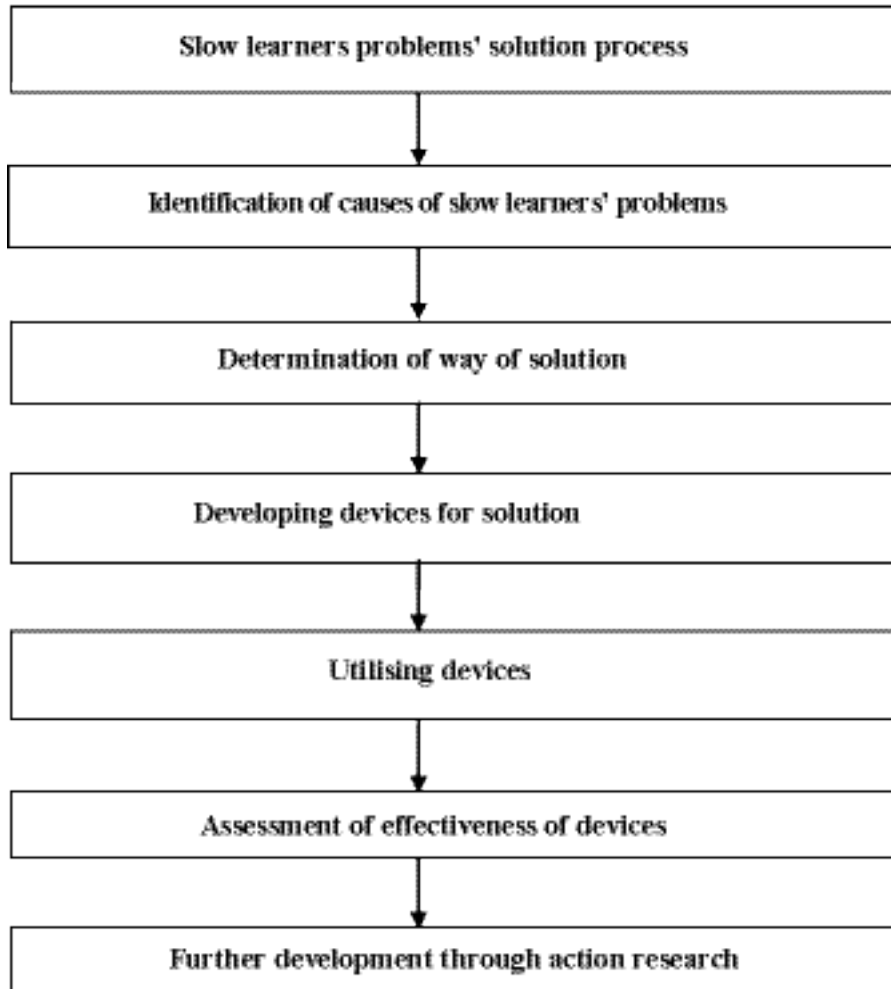
of the study were : headmasters, teachers, students, guardians, SMCs, local leaders and administrators. Study area was ten secondary schools of Rangamati and Faridpur.

The causes found in the study are shown in table 1.1

Two separate seminars were held which were attended by headmasters, teachers, students, SMCs, local leaders and administrators. The prime objective of the seminars was to synthesize the causes of slow learners so that the number of remidies comes to unique. The first session of the seminar reduced the causes to 21 through discussion. The second session reduces them further. Ultimately the final session reduces them to one cause. That cause is

Table 1.1 : Cause of slow learners

Sl.No.	Causes	No. of frequency
1.	Irregularities in School	14
2.	Absent mindedness of students	05
3.	School evading	10
4.	Influence of bad company	3
5.	Communication gap between parents & children	1
6.	Poverty	8
7.	Inability to prepare every day lesson	1
8.	Students have to sell labour for family income	1
9.	Lack of neutral behaviour of teacher	10
10.	Having bad result in exams.	1
11.	Lack of proper schooling system	1
12.	Existence of different types of schools	3
13.	Environmental barriers	1
14.	Strict behaviour of teachers	6
15.	Early Marriage	2
16.	Lack of social consciousness	2
17.	Transportation hurdle	1
18.	Lack of sufficient classroom	2
19.	Lack of trained teachers	3
20.	Lack of teachers' help	7
21.	Communication problems	6
22.	Lack of congenial environment in classroom	1
23.	Lack of Hostel facilities	1
24.	Malnutrition	2
25.	Lack of infrastructure of school	1
26.	Due to weakness in primary education	3
27.	Lack of interest in lessons	1
28.	Lack of attractive teaching	6
29.	Lack of interest of students in schools	8
30.	Cruel behaviour of teachers	1
31.	Long distance of school from home	1
32.	Illiterate guardians	1
33.	Social disparity	5
34.	Drug addiction	3
35.	Lack of proper monitoring of the head of the institution	4
36.	Incapable to listening	1
37.	Religious prejudice	1
38.	Lack of proper direction	2
39.	Irregular Lesson preparation	2
40.	Lack of special care of the teacher for the slow-learners.	5
41.	Over burden of primary education system	1
42.	Lack of inspiration	9
43.	Lack of interesting teaching-learning process	1
44.	Child labour	07
45.	Discrimination by teachers	10
46.	Lack of student-student relationship	10
47.	Weak students get no-attention	10
48.	Meritorious students do not build friendship with low performing students	1
49.	Institution fails to develop students-teacher-relationship	07
50.	More interest in sports	2

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41.	Over burden of primary education system	1
42.	Lack of inspiration	9
43.	Lack of interesting teaching-learning process	1
44.	Child labour	07
45.	Discrimination by teachers	10
46.	Lack of student-student relationship	10
47.	Weak students get no-attention	1
48.	Meritorious students do not build friendship with low performing students	1
49.	Institution fails to develop students-teacher-relationship	07
50.	More interest in sports	2
51.	Excess attention to TV and VCD/DVD/Cinema	3
52.	Lack of House tutor facilities	1
53.	Language problem	2
54.	Lack of up-to-date education	1
55.	In ability to afford house tutors	1
56.	Lack of devoted teachers	03
57.	Mental and physical punishment	10
58.	Un-favourable teacher students ratio	10
59.	Short span of class duration	1
60.	Absence of adolescence care	1
61.	Inadequate sitting arrangement	1
62.	Interest of parents to engage their children in income generating activities	1
63.	Absence of love of teachers	4
64.	Lack of motivation	5
65.	Lack of co-operation	8
	Total =	229

the lack of love of teachers for students. One solution to the causes is to build love in minds of teachers for students. This love is the most vital key to unlock the latent potentiality of all learners including slow and fast ones. Now the question is how to build love in the minds of teachers for students. The answer of this is the MICAII.

The teaching profession is usually called the solemn vow. It is solemn vow because it is full of love. It is full of devotion and dedication.

The study found that profession has four shapes of objectives like : (1) Solemn vow, (2) Profession, (3) Service and (4) Business. With the of time it tends to business from solemn vow. Keeping pace with the trends of teaching profession the message of teachers moves from heart to heart, cheast to chest, mounth to ear and mouth to mouth. The diagram given below makes the point clear.

From the diagram it is seen that for producing love the objective of teaching profession should be solemn vow. But the teaching act is moving away from

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Trends of inputs	Professional status	Communication skill	Output	Trends of output
Declining devotion	Solemn vow	From heart to heart	Love	Reducing dedication
	Profession	From cheast to cheast	Empathy	
	Service	From mouth to ear	Patient/Impatient	
	Business	From mouth to mouth	Commodities	

solemn vow towards business. As a result input quality is declining reducing output quality.

In this critical situation of teaching act, question arises how love can be built in the minds of teachers to solve the problems of slow learners. To solve this problem the device innovated is MICAII. It is an abridged form of the words : motivation, inspiration, coopration, appreciation, incentive and intervention. When the teacher will work with above actions in mind and goal ahead his/her profession level moves towards solemn vow. Inputs devotion will rise and output dedication will increase.

The action research in 5-secondary schools in Rangamati and 5-secndary schools in Faridpur has established a positive relation between input and output of latent potentiality of students. If the teachers can produce love for students they will be able to unlock the latent potentiality of all learners. In this case the teachers have to remain in the state of solemn vow. This is not possible due to unavoidable socio-eco-political and cutural factors of the present world. These factors are beyond the control of the teachers. So some devices are required which can work in existing situation. This device is MICAII.

Thus the model MICII is innovated. A new action research is going on to prove its impact and to examine its tools in six urban and sub-urban schools in Dhaka metropolitan areas. The research will continue for five years. It was started in 2010-11 and will end up in 2014-15.

The present paper has tried to answer some questions that arise with the implementation of MICAII model. The questions would be mentioned in the objective.

Statement of the Problem

MICAII model is a solution to slow learners problem. The main focuss of the model is slow learners. So the question usually arises whether fast learners would be neglected in the model. What will happen to the problem of dropout, out of school children, eve-teasing, exclusion, early marriage, physical and mental

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punishement. These are the burning issues in secondary education in Bangladesh. The study has made investigation in the role of MICAII into the above issues.

Rationale of the Study

The study has answered some basic questions related to the objectives of secondary education in Bangladesh. The important objective of secondary education is related to access, equity and quality. In the principle of access the Government has to ensure access for all in secondary education. Here the poor and extreme poor are the main target. That is the out of school children should be brought in the schools. Under the principle of equity the teachig-learnig process should be such that the poor and extreme poor can get good quality education. That is education should not be only for those who have purchasing power. Under the principle of quality, education would be qualitative. It will increase creativity, productivity, commitment, morality and humaniy of all learners. Some people are excluded in schools due to social, economic, gugraphic, ethenic and cultural grounds.

The present study examineed how far the MICAII model would attend these objectives.

Ojectives of the Study

The study firstly tried to see how far the model MICAII would ensure the principles of access, equity and quality. The second objective was to see how this model would solve problems related to dropout, out of school children, eve-teasing, physical and mental punishment, social exclusion etc.

Methodology

The study collecteed both primary and secondary data. For this purpose questionnaire, interview schedule, focuss group discussion (fgd) and observation methods were used. The population of the study were headmasters, teachers, SMCs, students and guardians of six schools. Six headmasters, all teachers, 5 students of each sections/classes, 3 SMCs and 5 guardians of each classes were interviewed. Total number of interviewees was 375. The study area was six schools of on-going action research of Dhaka Metropolitan City.

Data presentation, Analysis and Interpretation

The first question was : do MICAII has any positive role in access of poor and ultra poor in secondary education. The opinion of interviewees shown in Table 1.2.

Table 1.2 : This table shows the opinion of interviewees about access

Item	Frequency	Percentage
MICAII has strong positive role in access	345	92.00
MICAII has weak positive role in access	20	5.33
MICAII has no role in access	Nil	Nil
No reply	10	2.67
Total=	375	

Majority of respondents (92%) stated that MICAII has strong positive role in ensuring access to education. In FGD all teachers also expressed that MICAII has strong role in ensuring access to education. They also stated that there was no case of social exclusion in their schools.

The next question was about equity and quality. The result is shown in table : 1.3.

Table 1.3 : The answers about equity and quality that
MICAII can ensure are shown in this table

Item	Frequency	Percentage
MICAII has strong positive role in equity and quality	345	92.00
MICAII has weak positive role in equity and quality	20	5.33
MICAII has no role in equity and quality	Nil	Nil
No reply	10	2.67
Total	375	

The interviewees were asked how far MICAII has played role in ensuring equity and quality.

The statement of this table shows that MICAII has strong role in equity and quality.

Majority interviewees expressed that MICAII has strong positive role in ensureing equity and quality in secondary education in Bangladesh. FGD with the participants made clear the question what they did mean by equity and quality. They rightly understood the terms. By equity they meant equal participation of all students in teaching learning process and equal treatment of teachers towards each student. Here gender disparity, difference of fast and slow learners, difference between the poor and the rich would be abolished. The interviewees opined that MICAII was successfull to abolish these differences effectively. By quality they meant better performance with respect to result, creativity, behaviour, morality and humanity. The interviewees were asked to mention ways how MICAII ensure access, equity and quality. The answers of respondents are shown in Table 1.4.

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Table 1.4 : This table shows the responses of interviewees
about access, equity and quality

Answers	Frequency	Percentage
Every student is aware of his/her unlimited latent potentiality	490	4.44
Every student wants to get golden A+in all exams	410	3.72
Every student believes that he/she has capability to obtain golden A+	405	3.67
Students are more attentive in learning	403	3.65
Student – student relationship is far better than before	401	3.63
Students are highly motivated by teachers	401	3.63
Students are self-motivated	400	3.63
Fast learners and slow learners are true friends now	400	3.63
Every student dreams bright future	400	3.63
Every student is committed to arrive at bright future	390	3.53
Devotion of students has increased at a high rate	370	3.35
Committment of students has increased alot	370	3.35
Students are more creative now	350	3.17
Guardians of poor students are now hopeful about bright future of their words	340	3.08
MICAII has removed frustration of slow learners	340	3.08
MICAII has made slow learners more confident	340	3.08
Students of extreme poor families are coming to schools	310	2.81
Every guardian is aware of the unlimmited potentiality of his/her ward	310	2.81
Teacher student relation has improved alot	303	2.74
Slow learners are more lively now by MICAII	302	2.73
Teachers are more cooperative now	300	2.72
Slow learners are now more encouraged by MICAII	300	2.72
Mental and Physical punishement have been abolished	270	2.45
Teachers love their sltudents	250	2.26
There is no drop out	250	2.26
Attendance has increased alot	241	2.18
Friendship among students has developed	240	2.18
Students' morality has raised	230	2.08
Students human quality has increased by MICAII group learning	227	2.05
MICAII group learning has developed relationship between fast and slow learners	226	2.05
MICAII Group competition has improved creativity of slowlearners	223	2.03
Students participation in learning has increased	221	2.01
Teachers' discrimination towards students has been abolished	209	2.00
Difference between poor and rich students is absent now	205	1.95
Due to MICAII teachers consider students as their own wards	201	1.93
Total =	11028	

It was an open question. Every respondent was asked to mention not more than five items.

The major responses shown in table 1.4 stated facts those are directly related to access, equity and quality. From these responses it may be mentioned that MICAII has been successful in ensuring access, equity and quality in secondary education which are the great challenges for Bangladesh.

Social Exclusion

Social exclusion was totally absent in the six schools of the project areas. All headmasters and teachers admitted that all cncerned of their schools were now more humanatirian. They never faces any problem in providing admission to any students coming from socially excluded section. The friendly relationship developed by MICAII created a positive inclusive environment for all. Students teachers and gurdians were more free from conservation

Drop out

The respondents were asked question whether there had happened any cases of drop-out in their the schools. About 95% answered in negative. That is there was no dropout. Only 5% answered that they did not know. We discussed the matter with headmasters of schools. All the headmasters admitted that during implementation period of MICAII there was no case of dropout. In FGD the respondents inicluding headmasters stated that slow learners were motivated by MICAII about their unlimited latent potentiality. Even their gurdians became aware of valuable capbility of their wards by MICAII. So dropout has reduced to zero.

Access

The great message of MICAII is that every child when arrives on the earth he/she is endowed with the latent potentiality by the creator to obtain golden A+ at all examinations of life at a minimum.

The great message of MICAII has created awareness in catchment areas of these schools. As a result guardians of poor students are sending their wards to schools. Most of respondents expressed the view that access to education in their schools has increased. That is MICAII has increased access. The headmasters of these schools othenticated this finding from their schools' documents. They stated that more poor students were coming to their schools. Here the question of exclusion arose. All headmasters answered that there was no case of exclusion on any gurdians.

Eve-teasing

The respondents were asked whether any occurance of eve-teasig had happened in their schools. About 85% answered in the negative. The rest 15% replied that they did not know. The headmasters forwarded this statement. They stated that MICAII improved student-student, teacher-student, student-guardian and

teacher-guardian relationship alot. Specially the student-student and teacher-student relationship have stopped the occurance of eve-teasing.

Physical and mental punishment

In the MICAII model there is no scope of physical and mental punishment. This model aims at building love in the minds of teacahers for students. A five-day training on MICAII has been provided to headmasters, teachaers and SMCs of these schools. Before that a one-day orientation training on MICAII was provided to all headmasters SMCs and teachers.

About 95% respondents stated that there happened no single occurance of physical and mental punishment in their schools. The headmasters admitted this fact. Only 5% replied that they did not know.

Early marriage

When similar question about early marriage was asked the respondents replied that as far as their kowledge went, there happened no occurance of early marriage. The headmasters gave similar statement. They mentioned that MICAII had made female students and guardians more conscious about the unlimited latent potentiality of their wards. So they believed that their wards will be able to do something undo in future. So they did not think about early marriage of their female wards.

Development of Relationship

MICAII has been improving student-sudent, student-teacher, teacher-headmaster, student-headmster, student-guardian, teacher-guardian, SMC-student and SMC-teacher relationship very nicely. The tremendous achievement of MICAII is that it has been successful to bridge the existing gaps between the fast and slow learners and to make them friends to each other. The fast students consider slow learner's as their means to invest their learning outcomes. The next brilliant achievements is establishment of firm relationship between slow learners and teachers. This relationship was very cool in previous time. The development of relationship has changed the teaching learning envirnment. It has been more students friendlg.

Participation of students

Due to appreciation, incentive and intervention of MICAII model students participation has increased alot. Specially the spontaneous participation of slow learners has increased encouragingly.

Awareness Building among Guardians

The guardians has got the message of MICAII that their wards have unlimited latent potentiality By dint of unlocking them they would be able to achieve golden A+ at levels ahead. This has raised their awareness and confidence on their wards' capabilities.

Neglecting fast learers

The respondents were asked whether the fast learners were neglected in MICAII model. Cent percent respondents replied in the negative. They said that there was no scope of neglecting fast learners. Moreover fast learners were given more importance because they worked as alternative teachers.

Performance in Examination

By examing the ducuments and conducting focused group discussion with headmasters and teachers it was found that results in public and interanl exams were inproving at a faster rate. Awarness about latent potentialities and devices used were working as accelerating forces of these six schools.

Findings

Above data and interpretation prove that MICAII has been successful in ensuring access, equity and quality of secondary education in the project area. This is a tremendous achievement of MICAII model. Besides MICAII has reduced dropout in six schools of the project area. There happened no occurance of eve-teasing in the MICAII project area. Similarly occurance of early marriage has not happened. No single case of physical and mental punishment has happened in the area. There was also no social exclusion. An excellent environment of inclusion for all has been developed.

These are the secondary objectives of MICAII. The primary object is mainstreaming the slow learners by unlocking their unlimited latent potentiality and building love in the minds of teachers for students. It is expected that this objective would be achieved in full. In the meanwhile results of internal and external examinations of these schools have improved.

Recommendation

MICAII should be introduced in more and more areas of Bangladesh. As MICAII is a new model comprehensive training module are needed to be developed.

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Conclusion

It is expected that MICAII would be able to achieve its primary goals of unlocking unlimited latent potentiality of slow learners by building love in the minds of the teachers and would be successful in mainstreaming the slow learners. However it has already achieved some goals which are very essential for obtaining the objectives of education. It would bring tremendous positive change in education.

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The Role of Job Market Insecurity in Determining Child Labor: An Empirical Study in an Urban Area of Bangladesh

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Abstract

Too much emphasis on household poverty as the prime determinant for child labor in developing countries may be misleading planners and policy makers. It is shown in this paper that job related insecurity may work as a stronger push factor for child labor.

Introduction

Standard literature in child labor focuses much on household poverty, illiteracy, family composition, infrastructural deficiencies etc. as driving forces of child labor decision. However, less emphasis has been given on the role of adult income in this regard though it could be a vital issue. Many studies (for example, Ray, 2000) have identified a close substitution between adult and child labor, specially, when informal service is considered. However, there are doubts about the extent of this substitution effect (Galli, 2001). Recent research has shown that income

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has a relatively small effect on the supply of child work (Cigno et al. 2002, Deb and Rosati 2001). Moreover, it has been shown (Deb and Rosati, 2001) that different groups of households have very different propensities to invest in children's education, even if they have very similar sets of observable characteristics. Both findings are coherent with a potential role of credit rationing and the lack of "insurance" mechanisms, but they do not offer direct support to these hypotheses. However, following Jacoby and Skoufias (1997) some studies (Dehejia and Gatti, 2002; Edmonds, 2002; etc.) have explained the relationship between credit market development and child labor. According to Ranjan (1999); Beegle, Dehejia and Gatti (2003); Cigno (2004); Edmonds (2004); etc. child labor may be an outcome of financial constraints. Baland and Robinson (2001) also demonstrate that parents will choose a socially efficient level of child labor if they are not subject to borrowing constraints or if they can make a bequest or receive a transfer from their children. But, if parents lack access to the credit market or if there is neither transfer nor bequest possibility, they will engage their children in the labor market at an inefficiently high level. Jafarey and Lahiri (2000) argue that the decision on child labor and schooling can be influenced by the availability of credit market and hence interest rate. Unfortunately most of these studies has avoided the risk and uncertainty involved in any income related issue. Marginal households in developing countries live in a high risk environment with less or near zero access to formal credit and insurance markets, very limited public transfer schemes and virtually no social security system. In these circumstances households may regard children as an important source of informal insurance against income shocks as well as consumption smoothing and old-age security.

Households' ex-ante risk management strategy through income smoothing includes various diversifications of income sources, labor supply and investment (Morduch, 1990; Rosenzweig and Binswanger, 1993; Dercon, 1996; Dercon and Krishnan, 1996; Reardon, 1997; C.B. Barrett and P.Webb, 2001; etc.). On the other hand households' ex-post consumption smoothing policies concern access to credit market, wealth and readjustment of labor supply (Kotlikoff and Spivak, 1981; Townsend, 1994; Udry, 1994; etc.). The importance of labor supply adjustment strategy in both income and consumption smoothing mechanisms thus have important implications for the incidence of child labor in a country like ours. The conventional studies emphasize the occurrence of child labor as an ex-post strategy for consumption smoothing policy and the role of the ex-ante income smoothing strategy in this regard is obscurely discussed.

The objective of the present study is to explore the relationship, if any, between adult labor market characteristics with household decision for child labor in a set up where jobs are subject to uncertainty, and thus income and consumption variability is evident.

According to statistical Year book 2010 child labour force was 6.5 million in 1995-1996 which increased to 6.8 million in 1999-2000 in 1999-2000. Poor data management and lack of infrastructural facilities prohibit a clear picture about present extent and condition of labour in Bangladesh , but the child labour survey 2003 reveal that of the 42.39 million children aged between 5 and 17 years , 7.42 million children were economically active and 3.18 million children were considered child labour (7.5% of all children). The CLS also estimates that 53% are involved in agriculture, 15% in industry, 14% are in various business enterprises and another 19.5 percent are involved in income generating activities. According to the survey there is on average at least one working children in every household .Around 1.3 million children are involved in hazardous work..More children aged 14 to 15 years are working in garment factories than was the case 15 years ago. Slum children are also involved in collecting and processing waste, an activity which has increased dramatically over the last 15 years. Present day children also pull rickshaws , collect water for grocery shops, sell food items on the street , work in battery workshops, poultry farms, rice mills, video game stalls, and in the phone and fax shops(Sk. Tariquzzaman, Elma Kaiser).

Children of poor families are less enrolled in school (Huisman & Smits, 2009a) and tend to work more (e.g, Basu & Tzannatos, 2003; Basu & Van, 1998; Bourdillon, 2006; Suryahadi, Priyambada, & Sumarto, 2005). If parents cannot afford to pay for schooling and paid for labour is not a valid alternative, keeping children at home and let them help in house work or in a family business seems a reasonable option. If the father is employed in a vulnerable occupation, for example informal labor or contract labor, it raises the probability that a child will work full time or combine work and study (Khanam, 2004).

Regarding the effects of parental education, we expect children of educated parents to be less involved in hidden form of child labor. Parents who received some education themselves know the value of schooling and its possible returns and will, therefore ,be more motivated to send their children to school (Breen & Goldthorpe, 1997; Mukherjee & Das, 2008). Another important factor is the position of women in the region where the household lives. There is broad evidence that women empowerment improves their children well-being, health and school enrollment (e.g, Hodcraft 1993; Huisman & Smits 2009).

Methodology

Following standard literatures there are couple of ways child labor can be related to adult market fluctuations. Not only household head's wage income acts as a push factor for the decision of child labor but also the risk and uncertainty involved in household head's job are likely to play an important role. Many studies have revealed household policy to insure their expenditure using child labor whenever they face uncertainty in family income. The situation worsens in situations where mothers are not involved in any wage earning jobs.

In order to avoid complexity we can assume two different child activities: a child can go to school or work. Most studies consider child labor as a parental decision assuming household supremacy over children regarding bargaining power. Some studies suggest in favor of children bargaining power (Moehling, 1995; 2005), but they actually refer to already working children only. Hence we can observe child labor as the decision of household to maximize its utility, w, and apply a univariate probit model focusing on the child work decision only in which the decision to send a child to work is described by the following latent variable model:

Here w is the vector of net benefits or utilities attained by the families by sending their children to work, x is the vector of child characteristics, household head's characteristics, household composition and other characteristics that determine w; and ? is a random error, with zero mean and unit variance. As w is not observed, we can incorporate a binary variable y, which takes the value 1 if the child works and 0 otherwise and can put the linking conditions: y = 1 whenever w is positive and meaningfully greater than zero; and y = 0 otherwise.

Following the main objective of our study to relate household income status to decision for child labor we include couple of variables following standard literature that describe household income status better.

Household's income status could be a major determinant of household's decision for child labor. Household poor income status is regarded to be the basic cause for altruistic parents to send their children to work. Edmonds (2001), Yang (2008), Bourguignon et al (2003), Krueger (1996), Fallon and Tzannatos (1998) etc. have observed decline in child labor with increased household level of income. Though Basu and Van (1998) have argued that only failure to meet subsistence level of income would led households to send their children to work, findings like Baland and Robinson (2000) make it doubtful as their conclusion has depicted how households value future returns from child education. Rodgers and Swinnerton (2002) have extended the later model to show how low-income households with

better expectation can educate their children more than middle-income households. Edmonds (2004) have explored the relationship between per capita expenditures and child labor for Vietnam and showed that the decline in child labor accelerates in the neighborhood of the poverty line but stays flat in other regions.

In excess to household income we would like to focus on the impact of household head's job insecurity or job vulnerability on child labor. Sasaki (1999) found that household income is generally negatively associated with participation of children in labor activity. The luxury axiom developed by Basu and Van (1998) claims that the parents will only have their children work if they are constrained by impoverishing circumstances. Therefore, children may stop working if households earn more income. Several studies support this axiom (Edmonds 2001; Grootaert and Patrinos, 1999).

Household head's job insecurity or job vulnerability is another important variable. Because of the existing patriarchy in our society and lower involvement of mothers in income earning employment, household head's job is the principle source of household income. Household's engagement in self-employment has an impact on children's school attendance and child labor (Canagarajah and Coulombe 1997). Jacoby and Skoufias (1997) found that job vulnerable parents make significant use of child labor to self-insure. However, job vulnerability is defined based on job types. For example jobs like agricultural labor, self employment etc. can be leveled vulnerable mainly because of the presence of seasonal fluctuation in income and employment while jobs in manufacturing sector & formal services are regarded as less vulnerable as they are less effected by seasonal shocks, income fluctuations etc. Job vulnerability may be measured by the consumption variability along with importance of food to measure household vulnerability incorporating covariates like household characteristics, household head's characteristics, household head's occupation type etc (Shubham et al., 2002). Parikh and Sadoulet (2005) found that child schooling is negatively linked to parental unemployment. Jacoby and Skoufias (1997) found that parents in rural India withdraw their children from school during an unanticipated decline in crop income. Duryea (1999) showed that paternal unemployment during the school year reduces the probability of grade advancement for boys and girls. In Bangladesh, child employment could also be a strategy adopted by poor families to diversify their portfolio of activities thus reducing socio-economic vulnerability (Ahmad and Quasem, 1991). Because of the close linkage between job vulnerability and household income (or expenditure), we have adopted this variable as a categorical variable measured for different jobs as depicted in Annex 1.

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Mother income earning employment is a dummy variable included to express household income status. Rosenzweig and Evanson (1977) have showed that mother income raises the level of child education above average. Basu and Ray (2001) have found that a balance of power between parents is more likely to reduce child work than a family in which all decision- making is concentrated in the hands of a single parent.

Child characteristics like Child age (C_age), Child gender (C_gender), birth order (C_order) etc.: A child's age, gender, birth order, and relationship to the head of household also affect child labor decision (CAS and UNICEF, 1999; Lloyd and Blanc, 1996; Lloyd and Desai, 1992; Manda et al., 2003). Older children are more likely to work because they are more physically developed, can obtain higher wages, and face higher schooling costs. Hoddinott et al. (2010) showed that for Ethiopian children the incidence of child labor is incremental for higher age group. Also Ray's study (2000) of child labor in Peru and Pakistan depicts a linear relationship between children's labor hours and age in both countries. Tienda (1979) has indicated that the working probability of boys becomes higher especially at increasing ages. In fact, the age and gender of the child are found significant and decisive to child labor force in many empirical works (Tunali, 1996, Day?oglu, 2006). Alonzo and Edillon (2002) provide evidence to the aforementioned, revealing that school participation decreases with age of the child laborers. As gender diversification is almost absent in our sample for working children, we have incorporated ***child age*** only in our model.

Christenson y Juarez (1987) has shown that education of parents, family income, family size and female headship increase the likelihood of child employment. This view is supported by Khanam (2004) who also has suggested that parents age, sex and education level are among the factors determining the child labor. The level of education of the parents is argued to be one of the most important factors affecting the education status of children (ILO, 1992; Grootaert and Kanbur, 1995; Patrinos and Psacharopoulos, 1997; Grootaert, 1998; Tansel, 2002; Hussain and Maskus, 2003; Salmon, 2005). The inverse relationship between parental education and child labor is also found in many more studies (e.g., Brown, Deardorff & Stern, 2001; Rosati and Tzannatos 2006). Lim (2002) has pointed out that the educational levels of the parents, either household head or mother of the family, have a strong bearing on the poor household's dilemma to send children to school or to allow, or even force, the children to work. Few studies argues that it is not parents rather household head's level of education that matters most because of the low bargaining power of the women in the developing countries. Cockburn and College (2000) found that education of the household

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head significantly reduces child labor and increases the probability of child schooling in Ethiopia. Similar evidence was provided by Villamil (2002) in the case of Philippines. We have adopted ***household head's level of education*** in our model.

Household size is the last variable included in our model. The effect of household size on child labor is ambiguous. Household size has a positive effect on decision for child labor due to higher demand (Patrinos and Psacharopoulos, 1997), while it can also have a negative effect if it indicates ample labor resources (Jensen and Nielsen, 1997). Souza and Ponczek (2010) have addressed the endogenity of family size and child quality outcomes, and concluded that family size directly influences child labor. Lloyd (1994) suggests that a larger household size increases the likelihood of child labor. The large families in Bangladesh, traditionally hierarchically structured, rely on the perception that a child is able to provide an income and extra labor power, which can be controlled by the households through traditional attitudes of parental power and filial duty (Ghuznavi et al., 2001). Rosenzweig and Evanson (1977) have found support for higher returns to children in larger families in India. Psacharopoulos and Patrinos (1997) have showed that having more young siblings is associated with less schooling, more age-grade distortion, and less child labor among Peruvian children in 1991. Cigno and Rosati (2002) have found a significant positive effect of the number of children aged 6-16 on the time used to work and a negative effect on the time devoted to attend school. However there are more mixed results. Black et al. (2005) have found no impact of family size on individual's educational attainment in Norway. Haan (2005) has found no effect of the number of children on educational attainment in US and Netherlands. Angrist et al. (2005, 2006) also could not find any causal impact of family size on completed educational attainment and earnings in Israel.

Data

We had to collect data in two different phases as the job insecurity had to be determined prior to collecting data for child labor. As we are interested in urban child labor in Sylhet City Corporation, our first data set was collected from a local market, Madina Market. 100 data were collected comprising four different job strata as shown in Annex 1. The number of job strata is not broad as we want to avoid big income differential as well as big deviations in social status in our sample. Also we deliberately opted for selecting informal jobs as our main goal was to selecting households with poor socio-economic status. Sylhet is well known for its internationally migrated people, tea estates, gas fields, stone mines

etc. Growth in GDP of Sylhet district during the period 1995-96 to 2005-06 was 4.6 percent while it was 4.2 percent for whole country (BBS, CPD). Regarding the incidence of poverty (Head Count Ratio), Sylhet Division was in the second position with 33.8 percent in 2005 just after Dhaka Division (Report of the Household Income and Expenditure Survey 2005). Specially, because of the general confidence of migrant investors, the construction industry in Sylhet is currently booming, with many shopping centres and apartments being built to luxurious standards (Roland Buerk, 26 April 2005: Expat cash flows back to Bangladesh, BBC News, Sylhet Retrieved on 2 June, 2009). Along with this widespread income inequality is also present here. Schools and educational institutions are highly heterogeneous regarding quality and educational expenses. In order to avoid children from affluent families, we have selected different public schools and poor households with members employed in different informal services.

Once we have our job insecurity categorized we have started collecting data for child labor from various public schools, business places and well known city centers. About 500 data were collected, but only 400 were reported after final scrutiny. We also had not collected any female child data in order to avoid the impact of different social barriers.

Result and discussion

Our probit model quickly converges within five iterations and posts significant results for our model with a high pseudo R^2 (0.77) and significant chi square for log likelihood ratio (388.65). The results for probit and marginal function after probit are shown in table 1.

Child age is significantly decreasing the child labor decision, but it has a very small impact on the probability (1 percent) and is significant only in 10 percent level. The inverse relationship between these two variables may be showing households' motivation of not reversing their decisions to withdraw children from school once deciding in favor of it or decreasing market demand for child labor with age.

Household income is significantly reducing child labor but possesses a dismal impact on decision for child labor. As our sample is consist of poor households only with little income differential, this result is rather obvious (Table 3).

Household head's level of education seemingly possesses no impact on household's decision for child time allocation. This is also obvious in the perspective of our sample, which includes household heads with very low average

level of education (The average years of household head's education is 3.55, with standard deviation 2.78 and the highest years any household head has spent in any educational institution is 9).

Our main categorical variable, household head's job insecurity is very significant for all categories and highly influences household's decision for child labor. It can easily be seen from table 1 that the probability of child labor notably reduces as the job insecurity of the household head diminishes. Table 2 shows the predictive margins for all three categories of household head's job and it shows how rapidly the probability for child labor decreases with household head's job category. Had there been only those households in our sample with their heads engaged in the first category of job, which by our measurement is the most unsecured job, the probability for child labor would be 98 percent. The probability reduces to only 44 percent for the least unsecured job in our sample.

Household size is a highly significant push factor for child labor. Thus the big family size may bear the intention of higher labor supply. Last, but not least, presence of working mothers significantly and largely reduces the probability of child labor.

Conclusion

It is evident from our findings that income is not the sufficient condition whenever households are making their decisions about child time allocation. Household head's job insecurity plays an important role in pushing child labor. Thus income enhancing policies may not produce desired outcome and reduction of child labor through such measures may provide lower returns in spite of huge resource allocation. On the other hand, women employment, family planning motivational program, special access to credit and insurance etc. would be fruitful in the reduction of child labor in our country.

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Annex 1.

Wage differentials between individuals can exist as premium compensating differences in working conditions, job stability etc. (Brown, 1980; Rosen, 1986; Murphy and Topel, 1987) or as reward to workers' relative bargaining power (Daniel and Sofer, 1998; Manning, 2003) or as efficiency wages (Katz, 1986) etc. More recently Fernández and Nordman (2009) have shown that the compensating differential actually differs depending on the worker's relative position in the earnings distribution. Household job insecurity is defined in our study as employment differentiation criteria. Following Bocquier et al., (2010) we have used a number of employment status indicators for the individual that best represents the insecurity of the job.

The first variable, contractual insecurity, concerning the nature of job contract, receives the value 1 if the individual has no written or fixed-term contract or does not receive a pay slip or is an independent worker. It equals 0 if the individual either has a contract or a pay slip.

Conditions of individual's working place or premises determine his/her adverse working conditions and take up the value 1 for individuals who have no fixed place to work or are forced to work in make shift street pitches. It is equal to 0 if the individual works using a vehicle or he/she has a fixed working place in a public or private market place.

Identifying underemployment after Pagès (2003) as a source of insecurity at work we assert 1 for the variable if the individual is a piece-rate, daily or seasonal worker. It is equal to 0 for individual with a steady job. A second criterion, showing the underemployment, takes the value 1 for the workers who work less than 35 hours in a week.

Worker's unstable remuneration criterion adopts the value 1 if he/she is not paid a fixed wage or the profits for an independent worker varies too much. A second criterion to indicate instability in worker's income is the engagement of second job, a variable taking the value 1 if the individual works a second job.

Following Pagès (2003), we also incorporate instability in employment and dissatisfaction to quantify job insecurity. Provided that the worker has changed the job within last five years with notable improvement in his/her income or job status, the former variable receives the value 1. If the worker is willing to change the current job within three years, the dissatisfaction variable receives the value 1.

Thus for each employment status we define the job insecurity scale as the sum of the above nine variables. We have collected 100 data from individuals working in

a local market place, Modina Market, disregarding those who are engaged in intellectual professions, part-time working students etc. to avoid complexity. Our sample consists of 25 human haulers (Ricksaw pullers and Van drivers), 25 small vegetable and fruit traders, 25 daily labors and 25 makeshift street hawkers. According to the job insecurity scale, daily labors have achieved the highest score, on average around 5, and thus grouped as the individuals engaged in the most unsecured job. The vegetable and fruit traders scored the lowest, on average 1.4, to be in the least unsecured job group. The human haulers and makeshift street hawkers are facing mid level insecurity in their job with the average score close to 2.

Annex 2.

Table 1: Probit and Marginal Function Regression Result

Dependent Variable: Child Labor Decision	Coeff.	t - ratio	dy/dx	t - ratio
Child Age	-0.08*	-1.64	-0.01*	-1.64
Household Income	-0.00***	-6.16	-0.00***	-6.16
Household Head's Level of Education	-0.02	-0.30	-0.00	-0.30
Household Job Insecurity				
2	-1.06**	-3.05	-0.25**	-3.05
3	-2.33***	-6.14	-0.62***	-6.14
Household Size	0.81***	7.23	0.14***	7.23
Working Mother	-1.25***	-4.33	-0.24***	-4.33
Constant	3.70**	3.43		

Table 2: Predictive Margins for Household Head's Job Categories

Job Categories	Margins	t ratio
1 (Daily labors)	0.98***	88.05
2 (Human haulers, Street hawkers)	0.87***	15.28
3 (Vegetable and fruit traders)	0.44***	4.99

Table 3: Household Income and Household Head's Job Categories (Month/Tk.)

Job Categories	Household No.	Mean Income	Std. Dev.	Max. Income
1 (Daily labors)	204	6136.47	1873.40	15000
2 (Human haulers, Street hawkers)	87	6284.75	2209.39	12000
3 (Vegetable and fruit traders)	109	7871.96	2401.36	14000

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Digital Information System of BBS in Bangladesh

Md. Safat Ullah*

Abstract

The purpose of the BBS is develop a computerized Digital Information System that will replace the current manual system to take the E-Governance policy to peoples. Considering the expectation and commitment, the Government adopted the National ICT policy on July, 2009 which can be considered a road map of Vision 2021. The background and key features of the National ICT policy are discussed in the paper.

My development consists of the parts

Digital Bangladesh Information System of BBS will be implemented from Parishankhan Head Office of Bangladesh Bureau of Statistics to Statistics Upazila's Office's.

E-Governance policy will be implemented through web and network in BBS.

The main subjects change Management and Process Re-Engineering of ICT & E-Governance policy will be necessity change. Government Officers will be up to date through training to fitness of 21 century.

General peoples will be training in Computer and Internet through Union Parishad.

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All govt. teachers of secondary stage will be training in computer, Computer LAN of govt. colleges will be connect internet and the main subject's mathematics, science and English through Multimedia basis training.

Our Vision is to make Bangladesh Digital in 2021

Objectives of the Project

Vision: To be an ICT driven Digital Bangladesh Information System of BBS to comprising knowledge-based society by the year within 2021.

Mission: Support to National ICT policy making to ensure access to information by every citizen to facilitate empowerment of people and enhanced democratic values and norms for sustainable economic development by using the infrastructure for human resources development, E-Governance, public utility services and all sorts of on-line ICT enabled services.

In the every area of Millennium Development Goals (MDGs) can contribute to archive the goals within the stipulated time frame. It will play important role in the decision making process such as introduction of e-government, e-commerce, computerization etc.

In the Poverty Reduction Strategy Paper (PRSP), ICT is envisaged as on of the important tools for the economic development and poverty reduction. Moreover, Bangladesh is also committed to expand ICT education in all level of education. In the World summit on the Information Society (WSIS) held in December 2003 in Geneva, Bangladesh reiterated its commitment on this regard. This proposed project will contribute to materialize the goals, objectives and vision of MDGs, PRSP, WSIS and six five year plan action.

Current Data Archival Scenario

Mainframe Computer is being used since 1968 for Census and Survey data processing works. The last mainframe Computer IBM ES/9000 was procured in 1991 under the population Census 1991 project. It could not be possible to procure new Mainframe computer under the population census 2001 project. The IBM already declared ES/9000 computer System obsolete in 2001. Its alternative computer should be procured. Bangladesh bureau of Statistics is preserving data of various surveys and censuses since 1973 in magnetic tapes in EBCDIC (Extended Binary Coded Decimal Interchange code) format. Now, the magnetic tape system is obsolete. These data and also present and future data are to be preserved in modern optical library Data Warehouse and Data mining system. The

main computer is to be compatible in EBCDIC and ASCII (American standard code for information Interchange) format. To reduce expenditure, a mid-range computer should be procured instead of Mainframe computer.

Main Objectives

1. Digital Bangladesh Information System of BBS implemented from Parishankhan,Head Office of Bangladesh Bureau of Statistics to Statistics Upazila's Office's.

2. E-Governance policy will be implemented through web and Internet.

3. The main subjects change Management and Process Re-Engineering of ICT & E- Governance will be necessity change. Government Officers will be up to date. Through training to fitness of 21 century.

4. General peoples will be in trained up Computer and Internet through Union Parishad.

5. All govt. teachers of secondary stage will be training in computer, Computer LAN of govt. Colleges, will be connect internet and the main subject's mathematics, science and English through Multimedia basis training.

Specific Objectives

1. Government Officers will be up to date through training to fitness of 21 century.

2. All govt. teachers of secondary stage will be training in computer & Internet.

3. Computer LAN of govt. Colleges, will be connect internet and the main subject's mathematics, science and English through Multimedia basis training to fitness of 21 century.

Expected Outputs/Results

Government Officers will be skill development through training fitness of 21 century.

All Government teacher of secondary stage will be Training on Computer internet.

LAN Of Government College will be connect internet & the main subjects Mathematics, Science and English through multimedia basis trainings.

3

The findings of the training will be directly utilized in improving computer use, development of digital BBS in Bangladesh. The objective and the outputs have been set exercising one 4 × 4 (activities, means of narrative statement, measuring indicators, verification and assumptions) Log frame matrix.

Methods and Materials

The methods of the training have been set training major aspects now hindering the appropriate use of computer in most organizations.

Major activities:

> (a) Censuses & Survey using a Questionnaire,
>
> (b) Collection and analysis of BBS ICT Materials.

The problem events may have deep roots in the issues of knowledge gap and lack of scope for skill development due to incomplete ICT understanding of Digital Bangladesh.

Digital BBS

- Thus a comprehensive training will be made to identify the right causes and suitable practical solution for use by the beneficiaries of the department of Bangladesh Bureau of Statistics(BBS) covering about 80% of its offices and projects whirlwind (whi) need digital BBS.

Major Activities

- Selection of interviewee and office workshop
- Literature review
- Arranging instruments format tools, etc.
- Bench mark site/office workshop selection, Questionnaire inception seminar
- Site studies and workshops
- Physical visits and feed back
- Data and document analysis and processing drafting Questions will be set judging the skill of the operators
- Then the scores will be made as per answers given during interview. Questionnaire on special BBS use of the Computers. To be done on the Basis of the findings of the above surveys and interpretations.

Summary and Recommendations

The summary and recommendations of the research works entitle Studies on the Digital Bangladesh Information Systems of BBS are briefly mentioned here:

According to the preliminary observations made as a context of the training the following problems were found to dominate the situation and might hindering the progress digital BBS development in the country, were studied and identified.

Considering the observations and literature demand it is stated that the training proposed here to analyze the computer use Digital BBS in the country may highlight one or more of the situation when the Software systems are in concern.

Software is called a computer program. It consists of a series of instructions that tells the hardware of a computer what to do or how to do it. For example, some instruction direct the computer to allow you to input data from a keyboard and store it in the memory. Other instructions cause data stored in memory to be used in calculations.

Usage of Software: Software is used so that you can interact with the program through its user interface. This user interface controls how you enter data, instructions and how information is displayed on the screen.

The software is the information that the computer uses to get the job done. Software needs to be accessed before it can be used. There are many terms used for process of accessing software including running, executing, starting up, opening, and others.

There are millions of different pieces of software available for almost every conceivable need. Software is available commercially through stores and mail order and also available on the **Internet**. Software is also available through an Open Source license which allows anyone to use the Open Source software free of charge as long as the license is maintained. If you can't find the application that you need **software development** companies can custom design software for you.

The three basic types of software are; commercial, shareware and open source software. Some software is also released into the public domain without a license.

Commercial software comes prepackaged and is available from software stores and through the Internet.

The major objectives and outputs of the result are summarized here:

All the questioners use in the training were prepare as per following guideline Questions guidelines

SFinally it may be conclude that the computer operator group studied in the target population was 15 to 20% which stated to be off extreme low standard. Such a situation is practically unworkable. Intensive training every year is essential.

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Studies on the Digital Agricultural Extension Software Systems Status in Bangladesh

Md. Safat Ullah*

Abstract

The purpose of the Digital Agricultural Extension Software Systems in Bangladesh is to replace the current manual system so as to bring the benefite the E-Governance policy to peoples. Considering the expectation and commitment, the Government adopted the National ICT Policy in July, 2009 which can be considered a road map of Vision 2021. Digital Agricultural Extension Software system has been discussed in the paper.

Introduction

Use of Computer in Bangladesh is increasing at an alarming rate through out the country. The institute or organization leading the sector is the field of agricultural Extension and Training. In the extension services computer occupied a very vital point in case of technology transfer to farmers. About 25 thousands extension blocks, sub blocks and training centre have been established. The Universities and Institutes are awarding certificate and Diploma. Recently science and Technology universities took special initiative of giving Diploma in computer engineering. With these views in mind a very precise research work planned in the Khamarbari and around organizations to know the present status of computer use in the light of establishing Digital Agriculture in Bangladesh. The study is intended to

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identify computer use in the sector under facing situations as regards hardware and soft ware combinations and professional skill.

The Objectives

- Identifying the lacking of skill in Software selection use and maintenance.
- Knowing the gap of knowledge in Software identification and installation.
- Specifying the inappropriate use of Computer Software.

Expected Outputs/Results

- The lack of skill in Software selection use and maintenance will be identified.
- The gap of knowledge in Software identification and installation will be known.
- Specifying the in the appropriate methods of using computers will be specified.
- The findings of the study will be directly utilized in improving computer use, development of digital agriculture in Bangladesh. The objective and the outputs have been set exercising one 4×4 (activities, means of narrative statement, measuring indicators, verification and assumptions) Log frame matrix.

The Context

According to the Preliminary observations made as a context of the study the following problems were found to dominate the situation and might hindering the progress digital agriculture development in the country are mostly expected to be related to: Lack of skill in Software selection uses and maintenance. Lack of knowledge in software identification and installation. Under use of Computers due to lack of skill. Intensive use for games and viewing films/festival documents. Failure in identifying appropriate brands and accessories for a specific purpose. Considering the observations and literature demand it is stated that the study proposed here to analyze the computer use status in the country may highlight one or more of the situation when the Software systems are in concern.

Software

Software is called a computer program. It consists of a series of instructions that tells the computer what to do or how to do it. For example, some instruction

directs the computer to allow you to input data from a keyboard and store it in the memory. Other instructions cause data stored in memory to be used in calculations.

Usage of Software: Software is used so that you can interact with the program through its user interface. The user interface controls how you enter data, instructions and how information is displayed on the screen.

The software is the information that the computer uses to get the job done. Software needs to be accessed before it can be used. There are many terms used for process of accessing software including running, executing, starting up, opening and others.

There are millions of different pieces of software available for almost every conceivable need. Software is available commercially through stores and mail order and also available on the

Internet Software is also available through an open source license which allows anyone to use the open source software free of charge as long as the license is maintained. If you can't find the application that you need software development companies can custom design software for you.

Types of Software

The three basic types of software are; commercial, shareware and open source software. Some software is also released into the public domain without a license.

Commercial software comes prepackaged and is available from software stores and through the Internet.

Operating Systems

All computers need some sort of Operating System (OS).

The majority of modern home computers use some form of Microsoft's operating systems.

The original Microsoft operating system was called DOS (Disk Operating System) though most computers use Windows.

Windows comes in various versions beginning with version 3.X then 95, 98, ME, XP, Vista and currently version.

A few computers use IBM's OS/2. Apple's Mac use their own operating system beginning with OS 1 though to OS 10.X.

3

Internet Service

In the past large companies and institutions would have an operating system design exclusively for them but as the commercial operating systems become more sophisticated the benefits of this practice is becoming less apparent. Some computer professionals, Internet Service Providers (ISP) and mainframe computer users use an operating system such as UNIX (or a variant such as Linux), Windows NT or 2000 (Win2K) or one of the other network or server based operating systems.

Methods and Materials

The methods of the study have been set studying major aspects now hindering the appropriate use of computer in most organizations.

Major activities:

    (a)   Survey using a Questionnaire,

    (b)   Collection and analysis of agro IT Materials.

The problem events may have deep roots in the issues of knowledge gap and lack of scope for skill development due to incomplete software understanding.

Digital Agriculture:

Thus a comprehensive study will be made to identify the right causes and suitable practical solution for use by the beneficiaries of the dept of agriculture DAE Khamarbari covering about 80% of its offices and projects whirlwind (whi) need digital agriculture.

Major Activities

Selection of interviewee and office workshop

Literature review

Arranging instruments format tools, etc.

Bench mark site/office workshop selection, Questionnaire inception seminar

Site studies and workshops

Physical visits and feed back

Data and document analysis and processing drafting Questions will be set judging the skill of the operators

Then the scores will be made as per answers given during interview

Questionnaire on special agricultural use of the Computers. To be done on the basis of the findings of the above surveys and interpretations.

Questionnaires Guidelines

Software: Computer use Compatibility

1. Office.
2. Page formatting.
3. Graphics: Illus.
4. Photoshop.
5. Corel draws.
6. Excel, Internet.
7. Access.
8. Video studio.
9. Video Conversion.
10. AV editing.

Total score-100 (10×10).

Questionnaire 1

Personnel Information:

Name of Interviewee............. Age........... Address................ Qualification.......... Training received..............

1. Can work Office, 2. Page formatting,
3. Graphics: Illustrator, 4. Photoshop,
5. Corel draw, 6. Excel Access,
7. Network, 8. 1-Film edit,
9. Video studio conversion, 10. AV editing.

Total score 100 (10×10).

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প্রেস বিজ্ঞপ্তি, শোকবার্তা ও অন্যান্য

প্রেস বিজ্ঞপ্তি : ২৭ ফেব্রুয়ারি, ২০১৩

বাংলাদেশ অর্থনীতি সমিতি আগামী ১৭ জুন, ২০১৩ সোমবার বিকেল ৪.০০টায় ২০১৩-১৪ সালের **"জাতীয় বাজেট-উত্তর"** এক সংবাদ সম্মেলন (প্রেস কনফারেন্স)-এর আয়োজন করেছে। সংবাদ সম্মেলনে সভাপতিত্ব করবেন বাংলাদেশ অর্থনীতি সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত। সংবাদ সম্মেলন অনুষ্ঠিত হবে বাংলাদেশ অর্থনীতি সমিতির অডিটোরিয়ামে (৪/সি, ইস্কাটন গার্ডেন রোড, ঢাকা)। উক্ত সংবাদ সম্মেলনে অর্থনীতি সমিতির কার্যনির্বাহক কমিটির সদস্যগণ উপস্থিত থাকবেন।

উক্ত সংবাদ সম্মেলন সম্পর্কিত খবর প্রচারের জন্য আপনার পত্রিকা/টেলিভিশন চ্যানেলের একাজন প্রতিনিধি প্রেরন করলে আমরা কৃতজ্ঞ থাকব।

ধন্যবাদান্তে,

অধ্যাপক ড. তৌফিক আহমদ চৌধূরী
সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ১৫ জুন, ২০১৩

আপনার অবগত আছেন যে, বাংলাদেশের বিশিষ্ট অর্থনীতিবিদ এবং ঢাকা বিশ্ববিদ্যালয়ের অর্থনীতি বিভাগের প্রাক্তন অধ্যাপক ড. মুশাররফ হোসেন গত ২১ ফেব্রুয়ারি, ২০১৩ তারিখ ইন্তেকাল করেছেন (ইন্না লিল্লাহি ওয়া ইন্না ইলাইহি রাজিউন)। তাঁর রুহের মাগফেরাত কামনা জন্য ও মরহুমের জীবনের উল্লেখযোগ্য দিকসমূহ আমাদের স্মৃতিতে অম্লান রাখার জন্য একটি স্মরণ সভা আগামী ১লা মার্চ ২০১৩ তারিখ (শুক্রবার) বাংলাদেশ অর্থনীতি সমিতির মিলনায়তনে (৪/সি, ইস্কাটন গার্ডেন রোড, ঢাকা) বিকেল ৪ ঘটিকায় অনুষ্ঠিত হবে। স্মরণ সভায় সভাপতিত্ব করবেন অধ্যাপক ড. আবুল বারকাত, সভাপতি, বাংলাদেশ অর্থনীতি সমিতি। দেশের অর্থনীতিবিদসহ সুশীল সমাজের প্রতিনিধিবৃন্দ এবং অর্থনীতি সমিতির কার্যনির্বাহক কমিটির সদস্যগণ সভায় উপস্থিত থাকবেন।

দেশ বরেণ্য অর্থনীতিবিদ অধ্যাপক মুশাররফ হোসেন-এর স্মরন সভা সম্পর্কিত খবর প্রচারের জন্য স্মরন সভার দিন (১লা মার্চ, ২০১৩ বিকেল ৪টা) আপনার পত্রিকা/টেলিভিশন চ্যানেলের একাজন প্রতিনিধি প্রেরন করলে আমরা কৃতজ্ঞ থাকব ।

ধন্যবাদান্তে,

অধ্যাপক ড. তৌফিক আহমদ চৌধূরী
সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ০২ ডিসেম্বর, ২০১৩

গত কয়েক দিনের হরতাল-অবরোধে ঢাকাসহ দেশের বিভিন্ন স্থানে গাড়ীতে বোমা হামলায় আহত-নিহত হয়েছেন অনেকে । এদের বেশীর ভাগ বোমা হামলায় আহত হয়ে ঢাকা মেডিকেল কলেজ হাসপাতালের বার্ন ইউনিটে ভর্তি আছে । এদের অধিকাংশ হত দরিদ্র-খেটে খাওয়া মানুষ । অনেকের অবস্থা সংকটাপূর্ণ । সেখানকার ডাক্তারবৃন্দ অগ্নিদগ্ধদের সুস্থ করে তুলতে সর্বাত্মক চেষ্টা চালিয়ে যাচ্ছেন । ইতোমধ্যে অনেকেই ঔষধ-পথ্য ও আর্থিক সহায়তা করেছেন ।

এরই ধারাবাহিকতায় বাংলাদেশ অর্থনীতি সমিতি হরতাল-অবরোধে বোমা হামলায় অগ্নিদগ্ধ রোগীদের মাঝে ৩,০০,০০০/- (তিন লক্ষ) টাকা আর্থিক সহায়তা প্রদান করেছে । এ অর্থ রোগীদের ঔষধ ও অন্যান্য প্রয়োজনীয় পথ্য ক্রয়ের মাধ্যমে ব্যয় করার লক্ষ্যে বার্ন এন্ড প্লাস্টিক সার্জারী ইউনিটের বিভাগীয় প্রধান অধ্যাপক ডা. আবুল কালাম এবং অধ্যাপক ডা. মোঃ সাজ্জাদ খোন্দকার-এর নিকট হস্তান্তর করা হয়েছে ।

০২ ডিসেম্বর, ২০১৩ তারিখ সকাল ৯:০০টায় বাংলাদেশ অর্থনীতি সমিতির যুগ্ম-সম্পাদক জনাব বদরুল মুনির-এর নেতৃত্বে মোঃ মোজাম্মেল হক, সহ-সম্পাদক, কার্যনির্বাহক কমিটির সদস্য অধ্যাপক হান্নানা বেগম ও মনজু আরা বেগম বার্ন ইউনিট পরিদর্শন করেন এবং হরতাল-অবরোধে অগ্নিদগ্ধ রোগীদের চিকিৎসার্থে উপরোক্ত অর্থ হস্তান্তর করেন ।

দেশের চলমান বোমা হামলার অগ্নিদগ্ধ হত দরিদ্র রোগীদের সাহায্যে বৃত্তবানদের উৎসাহিত করার লক্ষ্যে বাংলাদেশ অর্থনীতি সমিতির অনুদানের বিষয়টি আপনার পত্রিকার প্রচারের জন্য বিশেষভাবে অনুরোধ করছি ।

ধন্যবাদান্তে,

অধ্যাপক ড. তৌফিক আহমদ চৌধূরী
সাধারণ সম্পাদক

বাংলাদেশ অর্থনীতি সমিতি আগামী ০৪ জানুয়ারি, ২০১৪ তারিখ শনিবার সকাল ৯.৩০টায় **"সহিংস রাজনীতি, সংকটে দেশ: ভবিষ্যৎ ভাবনা"** শীর্ষক এক গোলটেবিল আলোচনার আয়োজন করেছে। উক্ত আলোচনায় দেশের প্রখ্যাত অর্থনীতিবিদ, শিক্ষাবিদসহ দেশের বিশিষ্ট নাগরিকবৃন্দ অংশগ্রহণ করবেন। গোলটেবিল আলোচনায় সভাপতিত্ব করবেন বাংলাদেশ অর্থনীতি সমিতির সভাপতি **অধ্যাপক ড. আবুল বারকাত**। গোলটেবিল আলোচনাটি অনুষ্ঠিত হবে **লা ভিটা হল, হোটেল লেক শোর** (বাসা # ৪৬, রোড # ৪১, গুলশান-২, ঢাকা)।

উক্ত গোলটেবিল আলোচনায় আপনার পত্রিকার/গণমাধ্যমের একজন প্রতিনিধি পাঠানোর জন্য বিশেষভাবে অনুরোধ করা হ'ল।

ধন্যবাদান্তে,

অধ্যাপক ড. তৌফিক আহমদ চৌধূরী
সাধারণ সম্পাদক

বাংলাদেশ অর্থনীতি সমিতির উদ্যোগে আগামী ২২ মার্চ, ২০১৪ শনিবার সকাল ১০.৩০টায় **"বাংলাদেশে দারিদ্র্য-বৈষম্য-অসমতাঃ একীভূত রাজনৈতিক অর্থনীতির তত্ত্বের সন্ধানে"** শিরোনামে একটি লোকবক্তৃতা আয়োজন করা হয়েছে। লোকবক্তৃতা প্রদান করবেন বাংলাদেশ অর্থনীতি সমিতির সভাপতি ও ঢাকা বিশ্ববিদ্যালয়ের অর্থনীতি বিভাগের **অধ্যাপক ড. আবুল বারকাত**। অনুষ্ঠানে প্রধান অতিথির আসন অলংকৃত করবেন ঢাকা বিশ্ববিদ্যালয়ের মাননীয় উপাচার্য **অধ্যাপক ড. আ আ ম স আরেফিন সিদ্দিক**।

লোকবক্তৃতায় সভাপতিত্ব করবেন বাংলাদেশ অর্থনীতি সমিতির প্রাক্তন সভাপতি এবং ঢাকা স্কুল অব ইকনোমিকস-এর পরিচালক **ড. কাজী খলীকুজ্জমান আহমদ**। তাছাড়া আলোচনা পর্বে নির্ধারিত আলোচক হিসেবে থাকবেন জনাব **খন্দকার ইব্রাহীম খালেদ**, প্রাক্তন ডেপুটি গভর্নর, বাংলাদেশ ব্যাংক এবং **অধ্যাপক ড. মোঃ মোয়াজ্জেম হোসেন খান**, চেয়ারম্যান, অর্থনীতি বিভাগ, রাজশাহী বিশ্ববিদ্যালয়। লোকবক্তৃতাটি অনুষ্ঠিত হবে **ঢাকা বিশ্ববিদ্যালয়ের নবাব নওয়াব আলী চৌধুরী সিনেট ভবনে**।

উক্ত লোকবক্তৃতায় আপনার পত্রিকার/গণমাধ্যমের একজন প্রতিনিধি পাঠানোর জন্য বিশেষভাবে অনুরোধ করা হ'ল।

ধন্যবাদান্তে,

অধ্যাপক ড. তৌফিক আহমদ চৌধূরী
সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ১২ এপ্রিল, ২০১৪

বাংলাদেশ অর্থনীতি সমিতির উদ্যোগে আগামী ১ বৈশাখ ১৪২১/১৪ এপ্রিল ২০১৪, বিকেল ৪:০০টায় **পহেলা বৈশাখ - ১৪২১ উপলক্ষ্যে আলোচনা ও সাংস্কৃতিক অনুষ্ঠান** আয়োজন করা হয়েছে। আলোচনা সভায় মূল প্রবন্ধ উপস্থাপন করবেন বাংলাদেশ অর্থনীতি সমিতির কার্যনির্বাহক কমিটির সদস্য মেহেরুননেছা। অনুষ্ঠানে প্রধান অতিথির হিসেবে থাকবেন পিকেএসএফ-এর চেয়ারম্যান **ড. কাজী খলীকুজ্জমান আহমদ**।

আলোচনা সভায় সভাপতিত্ব করবেন বাংলাদেশ অর্থনীতি সমিতির সভাপতি **অধ্যাপক ড. আবুল বারকাত**। অনুষ্ঠানটি অনুষ্ঠিত হবে বাংলাদেশ অর্থনীতি সমিতির মিলনায়তনে (৪/সি, ইস্কাটন গার্ডেন রোড, ঢাকা) বিকেল ৪ ঘটিকায়।

উক্ত অনুষ্ঠানে আপনার পত্রিকার/গণমাধ্যমের একজন প্রতিনিধি পাঠানোর জন্য বিশেষভাবে অনুরোধ করা হ'ল।

ধন্যবাদান্তে,

অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
       সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ০১ জুন, ২০১৪

বাংলাদেশ অর্থনীতি সমিতি আগামী ০৭ জুন, ২০১৪ তারিখ শনিবার দুপুর ১২.০০টায় **২০১৪-১৫ সালের "বাজেট-উত্তর"** এক সংবাদ সম্মেলন-এর আয়োজন করেছে। উক্ত সংবাদ সম্মেলনে সভাপতিত্ব করবেন বাংলাদেশ অর্থনীতি সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত। সংবাদ সম্মেলন অনুষ্ঠিত হবে বাংলাদেশ অর্থনীতি সমিতির অডিটোরিয়ামে (৪/সি, ইস্কাটন গার্ডেন রোড, ঢাকা)।

২০১৪-১৫ সালের বাজেট বিষয়ে আপনার লিখিত মতামত জানিয়ে আগামী ৬ জুন ২০১৪ তারিখ সকাল ১০:০০টার মধ্যে সমিতির কার্যালয়ে পাঠানোর জন্য বিশেষভাবে অনুরোধ করা হ'ল।

ধন্যবাদান্তে,

অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
       সাধারণ সম্পাদক

শোক বার্তা

<div align="right">প্রেস বিজ্ঞপ্তি : ১৭ অক্টোবর, ২০১২</div>

বাংলাদেশ অর্থনীতি সমিতির কার্যনির্বাহক কমিটির ১৩ অক্টোবর, ২০১২ তারিখের সভায় বাংলাদেশ অর্থনীতি সমিতির কার্যনির্বাহক কমিটির সহ-সম্পাদক জনাব মোঃ সাদিকুর রহমান ভূঁইয়া-এর পিতা আলহাজ্ব সূরজ আলী ভূঁইয়ার মৃত্যুতে গভীর শোক প্রকাশ করা হয়। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি জনবা মোঃ সাদিকুর রহমান ভূঁইয়ার পরিবারের প্রতিও গভীর সমবেদনা প্রকাশ করছে। সেইসাথে বাংলাদেশ অর্থনীতি সমিতি মরহুম আলহাজ্ব সূরজ আলী ভূঁইয়ার বিদেহী আত্মার মাগফেরাত কামনা করছে।

<table>
<tr><td>অধ্যাপক ড. আবুল বারকাত</td><td>অধ্যাপক ড. তৌফিক আহমদ চৌধূরী</td></tr>
<tr><td>সভাপতি</td><td>সাধারণ সম্পাদক</td></tr>
</table>

<div align="right">প্রেস বিজ্ঞপ্তি : ২২ ফেব্রুয়ারি, ২০১৩</div>

বাংলাদেশের বিশিষ্ট অর্থনীতিবিদ ও ঢাকা বিশ্ববিদ্যালয়ের অর্থনীতি বিভাগের প্রাক্তন অধ্যাপক ড. মুশাররফ হোসেন গত ২১ ফেব্রুয়ারি ২০১৩ তারিখ (বৃহস্পতিবার) রাতে ধানমন্ডির বাসায় মৃত্যুবরণ করেন। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করছে। তিনি বাংলাদেশ অর্থনীতি সমিতির জীবন সদস্য ছিলেন। প্রথমে ঢাকা বিশ্ববিদ্যালয় ও পরবর্তীতে ম্যানচেস্টার বিশ্ববিদ্যালয় হতে অর্থনীতিতে পোষ্ট গ্রাজুয়েশন ডিগ্রী অর্জনের পর লন্ডন বিশ্ববিদ্যালয় থেকে পিএইচডি ডিগ্রী অর্জন করেন। শিক্ষকতা ছাড়াও তিনি WFP, FAO, UNDP সহ আরও অনেক আন্তর্জাতিক সংস্থাসমূহে গবেষণায় নিয়োজিত ছিলেন। অর্থনীতি বিষয়ক গবেষণার জন্য তিনি ২০১১ সনে বাংলাদেশ ব্যাংক পদকে ভূষিত হয়েছিলেন। অধ্যাপক মোশাররফ-এর স্মৃতি আমাদের কাছে অর্থনীতিবিদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরুক থাকবে। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করছে এবং মরহুমের রুহের মাগফিরাত কামনা করছে।

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<tr><td>সভাপতি</td><td>সাধারণ সম্পাদক</td></tr>
</table>

বাংলাদেশের বিশিষ্ট অর্থনীতিবিদ ড. যাদব চন্দ্র সাহা আজ (৫ মার্চ ২০১৩) দুপুর ১:০০টায় স্কয়ার হাসপাতালে মৃত্যুবরণ করেন। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করেছে। তিনি বাংলাদেশ অর্থনীতি সমিতির জীবন সদস্য ও পর পর দুই বার কার্যনির্বাহক কমিটির নির্বাচিত সদস্য ছিলেন। ড. যাদব চন্দ্র সাহা বাংলাদেশ কৃষি ব্যাংক ও হাউজ বিল্ডিং ফাইন্যান্স কর্পোরেশন-এর ব্যবস্থাপনা পরিচালক পদে নিয়োজিত ছিলেন। ড. যাদব চন্দ্র সাহা-এর স্মৃতি আমাদের কাছে অর্থনীতিবিদদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরুক থাকবে। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করেছে এবং তাঁর বিদেহী আত্মার স্বর্গীয় সুখ কামনা করছে।

অধ্যাপক ড. আবুল বারকাত   অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
সভাপতি   সাধারণ সম্পাদক

গণপ্রজাতন্ত্রী বাংলাদেশ সরকারের মহামান্য রাষ্ট্রপতি মোঃ জিল্লুর রহমান আজ বাংলাদেশ সময় বিকেল ৪:৪৭ মিনিটে সিংগাপুরের মাউন্ট এলিজাবেথ হাসপাতালে ইন্তেকাল করেছেন। বাংলাদেশের বিশিষ্ট রাজনৈতিক ব্যক্তিত্ব মোঃ জিল্লুর রহমান-এর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করছে। তাঁর-এর স্মৃতি আমাদের কাছে সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরুক থাকবে। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করেছে এবং তাঁর বিদেহী আত্মার মাগফেরাত কামনা করছে।

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সভাপতি   সাধারণ সম্পাদক

গত ২৪ এপ্রিল ২০১৩ তারিখ সাভারস্থ রানা প্লাজা ভবনটি ধ্বসে এপর্যন্ত প্রায় তিন শতাধিক ব্যক্তির মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করেছে। এ করুন ও হৃদয়স্পর্শী ঘটনার জন্য বাংলাদেশ অর্থনীতি সমিতি মৃত ব্যক্তিদের পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করেছে এবং তাদের বিদেহী আত্মার মাগফেরাত কামনা করছে। সেই সাথে আহতদের দ্রুত আরোগ্য কামনা করছে।

এ মর্মান্তিক ঘটনার কারণ নির্ধারণের জন্য এ মুহূর্তে উচ্চক্ষমতাসম্পন্ন একটি তদন্ত কমিটি গঠন করে দায়ী ব্যক্তিদের কোন বিলম্ব না করে গ্রেফতার করা হোক, এবং তাদের কঠোর দৃষ্টান্তমূলক শাস্তির ব্যবস্থা কার্যকরী করার জন্য বাংলাদেশ অর্থনীতি সমিতি জোর দাবী জানাচ্ছে।

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অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ২৭ সেপ্টেম্বর, ২০১৩

বাংলাদেশের বিশিষ্ট ব্যাংকার ও অর্থনীতিবিদ জনাব মোঃ গোলাম মুর্তজা গত ২৬ সেপ্টেম্বর ২০১৩ বৃহস্পতিবার সকালে মৃত্যুবরণ করেন। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করেছে। তিনি বাংলাদেশ অর্থনীতি সমিতির জীবন সদস্য ও পর পর দুই বার কার্যনির্বাহক কমিটির নির্বাচিত সদস্য ছিলেন। জনাব মুর্তজা বাংলাদেশ ব্যাংকের জি.এম পদে নিয়োজিত ছিলেন। তাঁর স্মৃতি আমাদের কাছে অর্থনীতিবিদদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরূক থাকবে। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করেছে এবং তাঁর বিদেহী আত্মার মাগফেরাত কামনা করছে।

বদরুল মুনির
যুগ্ম-সম্পাদক

প্রেস বিজ্ঞপ্তি : ০৩ নভেম্বর, ২০১৩

বাংলাদেশের বিশিষ্ট ব্যাংকার ও অর্থনীতিবিদ জনাব সউদ আহমদ গত ১লা নভেম্বর ২০১৩ শুক্রবার সকালে মৃত্যুবরণ করেন। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করছে। তিনি বাংলাদেশ অর্থনীতি সমিতির সদস্য ছিলেন। জনাব সউদ আহমদ বাংলাদেশ ব্যাংকের মহাব্যবস্থাপক পদে নিয়োজিত ছিলেন। তাঁর স্মৃতি আমাদের কাছে অর্থনীতিবিদদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরূক থাকবে। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করেছে এবং তাঁর বিদেহী আত্মার মাগফেরাত কামনা করছে।

অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ১৬ জানুয়ারি, ২০১৪

সাবেক প্রধান বিচারপতি ও সাবেক তত্ত্বাবধায়ক সরকারের প্রধান উপদেষ্টা জনাব মুহাম্মদ হাবিবুর রহমান গত ১১ জানুয়ারি শনিবার রাতে ইউনাইটেড হাসপাতালে ইন্তেকাল করেছেন (ইন্নালিল্লাহির...রাজিউন)। বাংলাদেশের বিশিষ্ট আইনজ্ঞ ও বুদ্ধিজীবি মুহাম্মদ হাবিবুর রহমান-এর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করেছে। তিনি ছিলেন আমাদের সমাজ ও রাষ্ট্রের অভিভাবকের মত, বাংলাদেশের বিভিন্ন ক্রান্তিকালে তাঁর উপদেশ ও পরামর্শ আমাদের সমস্যা থেকে উত্তরনের পথ দেখিয়েছে। এ মুহূর্তেও মুক্তিযুদ্ধের চেতনায় উদ্ভাসিত বাংলাদেশ প্রতিষ্ঠায় আমাদের জরুরিভাবে দরকার ছিল বিচারপতি হাবিবুর রহমানের বুদ্ধি ও পরামর্শ। তাঁর স্মৃতি আমাদের কাছে সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরূক

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থাকবে । তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করছে এবং তাঁর বিদেহী আত্মার মাগফেরাত কামনা করছে ।

অধ্যাপক ড. আবুল বারকাত   অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
সভাপতি   সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ১৮ জানুয়ারি, ২০১৪

বাংলাদেশের বিশিষ্ট অর্থনীতিবিদ ও সমাজসেবিকা ড. খালেদা সালাউদ্দিন গতকাল (১৫ জানুয়ারি ২০১৪) রাতে নিজ বাস ভবনে ইন্তেকাল করেছেন (ইন্নালিল্লাহির....রাজিউন) । তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করছে । তিনি বাংলাদেশ অর্থনীতি সমিতির জীবন সদস্য ও সহ-সভাপতি এবং কয়েকবার কার্যনির্বাহক কমিটির নির্বাচিত সদস্য ছিলেন । ড. খালেদা সালাউদ্দিন-এর স্মৃতি আমাদের কাছে অর্থনীতিবিদদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরুক থাকবে । তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করছে এবং তাঁর বিদেহী আত্মার মাগফেরাত কামনা করছে ।

অধ্যাপক ড. আবুল বারকাত   অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
সভাপতি   সাধারণ সম্পাদক

প্রেস বিজ্ঞপ্তি : ৯ মার্চ, ২০১৪

বাংলাদেশের বিশিষ্ট অর্থনীতিবিদ শামীমা আখতার আজ (৯ মার্চ ২০১৪) দুপুর ১২:৫৮টায় স্কয়ার হাসপাতালে মৃত্যুবরণ করেন । তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করছে । তিনি বাংলাদেশ অর্থনীতি সমিতির জীবন সদস্য ও পর পর চার বার কার্যনির্বাহক কমিটির বিভিন্ন পদে নির্বাচিত সদস্য ছিলেন এবং বর্তমান সমিতির নির্বাচিত সহ-সভাপতি । তিনি পরিকল্পনা কমিশনের বিভাগীয় প্রধান পদে নিয়োজিত ছিলেন । শামীমা আখতার-এর স্মৃতি আমাদের কাছে অর্থনীতিবিদদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরুক থাকবে । তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করছে এবং তাঁর বিদেহী আত্মার স্বর্গীয় সুখ কামনা করছে ।

অধ্যাপক ড. আবুল বারকাত   অধ্যাপক ড. তৌফিক আহমদ চৌধুরী

<div align="center">সভাপতি   সাধারণ সম্পাদক</div>

<div align="right">*প্রেস বিজ্ঞপ্তি : ০৯ মে, ২০১৪*</div>

বাংলাদেশের বিশিষ্ট ব্যাংকার ও অর্থনীতিবিদ জনাব এম. তাহের উদ্দিন গতকাল (৮ মে ২০১৪) বিকেল ৫:০০টায় মৃত্যুবরণ করেন। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করেছে। তিনি বাংলাদেশ অর্থনীতি সমিতির জীবন সদস্য ও ২০০৮-২০০৯ সালে কার্যনির্বাহক কমিটির নির্বাচিত সদস্য ছিলেন। এম. তাহের উদ্দিন জনতা ব্যাংক, দি সিটি ব্যাংক লিঃ এবং মার্কেন্টাইল ব্যাংক-এর ব্যবস্থাপনা পরিচালক পদে নিয়োজিত ছিলেন। জনাব এম. তাহের উদ্দিন-এর স্মৃতি আমাদের কাছে অর্থনীতিবিদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরুক থাকবে। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করেছে এবং তাঁর বিদেহী আত্মার মাগফেরাত কামনা করছে।

<div align="center">অধ্যাপক ড. আবুল বারকাত   অধ্যাপক ড. তৌফিক আহমদ চৌধুরী</div>
<div align="center">সভাপতি   সাধারণ সম্পাদক</div>

<div align="right">*প্রেস বিজ্ঞপ্তি : ১৪ জুন, ২০১৪*</div>

বাংলাদেশের বিশিষ্ট অর্থনীতিবিদ অধ্যাপক ড. সিরাজুল হক ১৪ জুন ২০১৪ শনিবার সকাল ৮.০০টায় মৃত্যুবরণ করেন। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি গভীর শোক প্রকাশ করেছে। তিনি বাংলাদেশ অর্থনীতি সমিতির সদস্য ছিলেন। ড. সিরাজুল হক চট্টগ্রাম বিশ্ববিদ্যালয়ের অর্থনীতি বিভাগের প্রাক্তন অধ্যাপক ছিলেন। তাঁর স্মৃতি আমাদের কাছে অর্থনীতিবিদের সামাজিক দায়বদ্ধতার প্রতীক হিসেবে চিরজাগরুক থাকবে। তাঁর মৃত্যুতে বাংলাদেশ অর্থনীতি সমিতি তাঁর পরিবারবর্গের প্রতি গভীর সমবেদনা প্রকাশ করেছে এবং তাঁর বিদেহী আত্মার মাগফেরাত কামনা করছে।

অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
<div align="center">সাধারণ সম্পাদক</div>

নিন্দা প্রস্তাব

তারিখ: ১৫ অক্টোবর ২০১২

কক্সবাজারের রামুতে সংগঠিত বৌদ্ধ ধর্মাবলম্বীদের উপর বর্বরোচিত আক্রমনের প্রতিবাদে – বাংলাদেশ অর্থনীতি সমিতির প্রতিক্রিয়া

গত ২৯ সেপ্টেম্বর ২০১২ তারিখ কক্সবাজার রামুতে সংখ্যালঘু বৌদ্ধ ধর্মাবলম্বীদের উপাসনালয় ও বাড়ী ঘরে যে বর্বরোচিত ও ন্যাক্কারজনক হামলা হয়েছে, তাতে বাংলাদেশ অর্থনীতি সমিতি গভীরভাবে ব্যথিত ও বিস্মিত হয়েছে। বাংলাদেশ অর্থনীতি সমিতি এ দেশের অর্থনীতি পেশাসংশ্লিষ্টদের একমাত্র সংগঠন হিসেবে মুক্তিযুদ্ধের চেতনায় অনুপ্রানিত হয়ে বাংলাদেশকে একটি অসাম্প্রদায়িক, উদার, গনতান্ত্রিক এবং স্বল্প বৈষম্যপূর্ন দেশে রূপান্তরিত করার সংগ্রামে রত। অর্থনীতি সমিতি বৌদ্ধ ধর্মাবলম্বীদের উপর এহেন বর্বরোচিত হামলার তীব্র নিন্দা জানাচ্ছে এবং অবিলম্বে হামলাকারীদের গ্রেপ্তার ও কঠোর শাস্তি প্রদানের জন্য দাবী রাখছে। সেইসাথে ক্ষতিগ্রস্থ বৌদ্ধ ধর্মাবলম্বীদের উপসানালয় ও বাড়ী ঘর সমূহের পুননির্মান করা এবং ক্ষতিগ্রস্থদের উপযুক্ত ক্ষতিপুরনের জন্য গনতান্ত্রিক ও সদাশয় সরকারের প্রতি আহবান জানাচ্ছে। ভবিষ্যতে এধরনের হীন কর্মকান্ড প্রতিরোধে বাংলাদেশের সচেতন নাগরিক সমাজের সাথে বাংলাদেশ অর্থনীতি সমিতি একাত্ম হয়ে কাজ করার দৃঢ় সংকল্প ঘোষনা করছে।

অধ্যাপক ড. তৌফিক আহমদ চৌধুরী
সাধারণ সম্পাদক
বাংলাদেশ অর্থনীতি সমিতি

## বাংলাদেশ অর্থনীতি সমিতি সম্মাননা স্বর্ণপদক ২০১২: সম্মাননা পরিচিতি

অধ্যাপক ড. মোহাম্মদ আখলাকুর রহমান

দেশ বরেণ্য অর্থনীতিবিদ, খ্যাতনামা শিক্ষাবিদ, স্বনামধন্য গবেষক এবং বিশিষ্ট রাজনৈতিক বিশ্লেষকের এক অনন্য নাম অধ্যাপক ড. মোহাম্মদ আখলাকুর রহমান। জন্ম ০৬ ডিসেম্বর, ১৯২৫ সাল, বৃহত্তর সিলেটের সুনামগঞ্জ জেলার তেঘরিয়া গ্রামে। ১৯৫০ সালে তিনি ঢাকা বিশ্ববিদ্যালয় থেকে অর্থনীতি বিষয়ে স্নাতকোত্তর ডিগ্রী লাভ করেন। পরবর্তীতে ১৯৫৪ সালে যুক্তরাজ্যের ম্যানচেস্টার ভিক্টোরিয়া বিশ্ববিদ্যালয় থেকে অর্থনীতিতে এম,এ ডিগ্রি লাভ করেন। পি.এইচ.ডি করেন অর্থনীতি শাস্ত্রে যুক্তরাষ্ট্রের এম আই টি কেমব্রিজ থেকে। মেধাবী এই ব্যক্তি ঢাকা বিশ্ববিদ্যালয়ে প্রভাষক হিসেবে কর্মজীবন শুরু করেন। এখানে শিক্ষকতা করেন ১৯৫০ থেকে ১৯৫২ সাল পর্যন্ত। ১৯৫৩-৫৪ সালে তিনি যুক্তরাষ্ট্রের ম্যানচেস্টার বিশ্ববিদ্যালয়ে শিক্ষকতা করেন। অর্থনীতি বিভাগের রিডার ছিলেন তৎকালীন পাকিস্তানের পেশোয়ার বিশ্ববিদ্যালয়ে, ১৯৫৫-৫৮ সাল পর্যন্ত। ১৯৬৫ থেকে ৬৭ সাল পর্যন্ত তিনি পাকিস্তান অর্থনীতি সমিতির সহ-সভাপতি এবং সমিতির জার্নালের সম্পাদক ছিলেন। ১৯৬৯-৭০ সালে তিনি তৎকালীন পাকিস্তানের চতুর্থ পঞ্চবার্ষিক পরিকল্পনার অর্থনীতিবিদ প্যানেলের সদস্য ছিলেন।

আন্তর্জাতিক খ্যাতিসম্পন্ন এই অর্থনীতিবিদ জাহাঙ্গীরনগর বিশ্ববিদ্যালয়ে অধ্যাপনাসহ অর্থনীতি বিভাগের চেয়ারম্যান হিসেবে গুরু দায়িত্ব পালন করেছেন। অধ্যাপনা ছাড়াও তিনি আন্তর্জাতিক, আঞ্চলিক ও উন্নয়ন অর্থনীতি গবেষনা কর্মে সুদীর্ঘকাল নিয়োজিত ছিলেন। তিনি ১৯৮০ থেকে ৮২ সাল পর্যন্ত বাংলাদেশ অর্থনীতি সমিতির সভাপতি ছিলেন। এছাড়া তিনি কর্মজীবনে বাংলাদেশ গ্রান্টস কমিশনের সদস্য, বি আই ডি এস এর সিনিয়র ফেলো, বঙ্গবন্ধু বহুমুখী সেতু কর্তৃপক্ষের কনসালটেন্ট, পাকিস্তান ট্যাক্সেস কমিশনের চীফ ইকোনমিক এডভাইজার, ইউনাইটেড ব্যাংক লিঃ করাচীর ডাইরেক্ট কনসালটেন্ট, বিশ্ব স্বাস্থ্য সংস্থা, আভ্যন্তরীন জল পরিবহন কতৃপক্ষের পরিচালক (পরিকল্পনা) সহ অনেক গুরুত্বপূর্ণ দায়িত্ব পালন করেন।

অর্থনীতির সাথে সংশ্লিষ্ট জাতীয় ও আন্তর্জাতিক বিষয়ের উপর, অধ্যাপক ড. মোহাম্মদ আখলাকুর রহমানের বেশ কয়েকটি গ্রন্থ ইতোমধ্যে প্রকাশিত হয়েছে। জাতীয় ও আন্তর্জাতিক বিভিন্ন জার্নালে তাঁর গবেষণাধর্মী প্রবন্ধ ও নিবন্ধ প্রকাশিত হয়েছে। ১৯৯২ সালের ০৪ মে এই খ্যাতনামা অর্থনীতিবিদ ইন্তেকাল করেন।
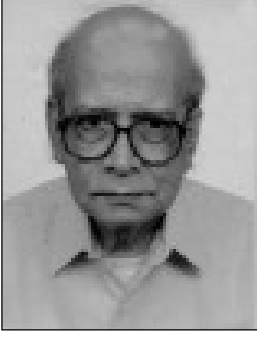
অধ্যাপক ড. মোজাফ্ফর আহমেদ

বাংলাদেশ অর্থনীতি সমিতির জীবন সদস্য প্রয়াত অধ্যাপক ড. মোজাফ্ফর আহমেদ ১৯৩৬ সালে কলিকাতায় জন্মগ্রহণ করেন। পিতা প্রয়াত নাজির আহমেদ ব্রিটিশ সরকারের একজন ডেপুটি ম্যাজিস্ট্রেট ছিলেন। অধ্যাপক মোজাফ্ফর আহমেদ ঢাকা বিশ্ববিদ্যালয় থেকে অর্থনীতিতে সম্মানসহ স্নাতকোত্তর ডিগ্রি লাভ করেন। এ বিশ্ববিদ্যালয়েই তিনি প্রথম জীবনে শিক্ষক হিসেবে যোগদান করেন। এখানে কিছুদিন শিক্ষকতা করার পর যুক্তরাষ্ট্রের শিকাগো বিশ্ববিদ্যালয় থেকে অর্থনীতি শাস্ত্রে ডক্টরেট ডিগ্রি অর্জন করেন। ১৯৬৫ সালে তিনি দেশে ফিরে ঢাকা বিশ্ববিদ্যালয়ে যোগদান করেন। এ সময়ে ঢাকা বিশ্ববিদ্যালয়ে একটি অপ্রীতিকর ঘটনার প্রতিবাদে তিনি পদত্যাগ করেন। ১৯৬৮ সালে করাচিতে ইউনাইটেড ব্যাংক লিমিটেড এ কাজ করেন।

১৯৭১ সালে মুক্তিযুদ্ধ শুরুর পূর্ব পর্যন্ত তিনি ইপিআইডিসিতে কর্মরত ছিলেন। এরপর স্বাধীন বাংলাদেশের পরিকল্পনা কমিশনে শিল্প ও শক্তি বিভাগের প্রধান, শিল্প উন্নয়ন করপোরেশন এ উর্ধ্বতন নির্বাহী এবং বিভিন্ন জাতীয় কমিশনে সদস্য হিসেবে কাজ করেন। এরপর তিনি পুনরায় ঢাকা বিশ্ববিদ্যালয়ে আইবিএ-তে যোগদান করেন এবং এখান থেকেই অবসর গ্রহণ করেন। এ ছাড়াও তিনি বিআইবিএম, বিআইডিএস, বিআইআইএসএস, টিআইবি, সিপিডি, ইউএন এজেন্সিসহ বিভিন্ন প্রতিষ্ঠানের সাথে সংযুক্ত ছিলেন এবং পরামর্শক হিসেবে কাজ করেছেন। তিনি যুক্তরাষ্ট্র, জাপান, নরওয়ে, কোরিয়ান বিশ্ববিদ্যালয়ে ভিজিটিং ফেলো/অধ্যাপক হিসেবে কাজ করেছেন। অবসর গ্রহনের পর ২০০২ সাল থেকে তিনি বিভিন্ন সামাজিক ও পেশাজীবি সংগঠনের সাথে জড়িত হয়ে পড়েন। এসব সংগঠনের মধ্যে উল্লেখযোগ্য বাংলাদেশ অর্থনীতি সমিতি, সুশাসনের জন্য নাগরিক (সুজন), টিআইবি, সিপিডি এবং পরিবেশ বাঁচাও আন্দোলনের চেয়ারপারসন হিসেবে কাজ করেছেন। বাংলাদেশ অর্থনীতি সমিতির সভাপতি হিসেবে চার বছর গুরু দায়িত্ব পালন করেছেন। তিনি রাষ্ট্রপতির উপদেষ্টা হিসেবেও কিছুদিন কাজ করেছেন। একুশে পদকসহ বিভিন্ন পুরস্কারপ্রাপ্ত অধ্যাপক আহমেদ ছিলেন অত্যন্ত বিনয়ী সদালাপী এবং নির্লোভ স্বভাবের ব্যতিক্রমধর্মী একজন মানুষ। তাঁর প্রকাশিত বহু গ্রন্থ, গবেষণাপত্র, অর্থনীতি বিষয়ে পাঠ্যবই এবং প্রবন্ধ রয়েছে। এর মধ্যে পাবলিক এন্টারপ্রাইজ, স্টেট এন্ড ডেভেলপমেন্ট, স্টেট অব ইডুকেশন, গভর্নেন্স এন্ড ডেভেলপমেন্ট ইত্যাদি উল্লেখযোগ্য। তিনি এদেশে গনতন্ত্র, পরিবেশ রক্ষা এবং সুশাসন প্রতিষ্ঠার জন্য আন্দোলন করে গেছেন। অত্যন্ত সৎ, স্পষ্টবাদী এবং সমাজ সচেতন এ গুণী ব্যক্তি এ দেশ এবং এ সমাজের জন্য জীবনের শেষ দিন পর্যন্ত নিরলসভাবে কাজ করে গেছেন। তাঁর সমৃদ্ধ, বর্ণাঢ্য আলোকিত জীবন সম্পর্কে এ স্বল্প পরিসরে বলা দুরুহ। তাঁর সহধর্মিনী মিসেস রওশন জাহানও ঢাকা বিশ্ববিদ্যালয়ে ইংরেজি বিভাগের অধ্যাপক ছিলেন। তিন সন্তানের জনক অধ্যাপক আহমেদ ২২ মে ২০১২ তারিখে হৃদযন্ত্রের ক্রিয়া বন্ধ হয়ে চলে যান না ফেরার দেশে। তাঁর বিদেহী আত্মার মাগফেরাত কামনা করি।

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ড. কাজী খলীকুজ্জমান আহমদ

ড. কাজী খলীকুজ্জমান আহমদ বর্তমানে ঢাকা স্কুল অব ইকনোমিকস-এর গভর্নিং কাউন্সিল-এর চেয়ারম্যান এবং পল্লী কর্ম-সহায়ক ফাউন্ডেশন-এর পরিচালনা পর্ষদের চেয়ারম্যান। তিনি জলবায়ু পরিবর্তন সংক্রান্ত আন্তর্জাতিক পরিমন্ডলে দরকষাকষিতে নিয়োজিত বাংলাদেশ টিমের সমন্বয়ক।

ড. আহমদ ১৯৭১ সনে মুক্তিযুদ্ধে অংশগ্রহণ করেন এবং মুজিবনগর সরকারের অধীনে পরিকল্পনা সেলে কর্মরত ছিলেন। তিনি ২০০২ থেকে এপ্রিল ২০১০ সময়ে বাংলাদেশ অর্থনীতি সমিতির ক্রমান্বয়ে তিনবার নির্বাচিত সভাপতি ছিলেন এবং বহুমুখী স্বাধীন গবেষণা প্রতিষ্ঠান বাংলাদেশ উন্নয়ন পরিষদের প্রাক্তন (প্রতিষ্ঠাতা) চেয়ারম্যান।

দারিদ্র্য বিমোচন সংশ্লিষ্ট গবেষণায় অসামান্য অবদানের স্বীকৃতি স্বরূপ ২০০৯ সালে তিনি একুশে পদক-এ ভূষিত হন। তিনি ২০০৭ সালে নোবেল শান্তি পুরস্কার বিজয়ী জাতিসংঘ আন্তঃরাষ্ট্রীয় জলবায়ু পরিবর্তন সংক্রান্ত প্যানেল (IPCC)-এর সদস্য। অর্থনীতি ও অর্থনীতি বিষয়ক গবেষণায় কৃতিত্বপূর্ণ অবদানের স্বীকৃতিস্বরূপ ২০০৫ সালে তিনি 'মার্কেন্টাইল ব্যাংক পুরস্কার' পেয়েছেন।

জাতীয় শিক্ষানীতি–২০১০ কমিটির কো-চেয়ারম্যান, হিসেবে তাঁর কৃতিত্বপূর্ণ অবদান রয়েছে। জাতীয় পাট কমিশন-এর চেয়ারম্যান হিসেবে পাট-নীতি প্রণয়নে এবং পাট-অর্থনীতির বিকাশের ক্ষেত্রে তিনি অবদান রেখেছেন।

বাংলা ও ইংরেজি ভাষায় উন্নয়ন সংক্রান্ত বিভিন্ন বিষয়ে লেখা ও সম্পাদিত বইয়ের সংখ্যা ৩৫টি। এছাড়া দেশী ও বিদেশী বিভিন্ন জার্নাল-এ প্রকাশিত এবং গবেষণা রিপোর্টসহ তাঁর প্রবন্ধের সংখ্যা দুই শতাধিক। তিনি Asia Pacific Journal on Environment and Development শীর্ষক অর্ধবার্ষিক জার্নাল-এর সম্পাদনার দায়িত্ব পালন করছেন।

তিনি বাংলাদেশ প্রকৌশল বিশ্ববিদ্যালয় এবং শাহজালার বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়-এর সিন্ডিকেট সদস্য এবং ঢাকা বিশ্ববিদ্যালয়-এর সিনেট ও জাহাঙ্গীরনগর বিশ্ববিদ্যালয়-এর একাডেমিক কাউন্সিলের সদস্য ছিলেন। তিনি কুয়ালালামপুরভিত্তিক Association of Development Research and Training Institutes of Asia and the Pacific (ADIPA)-এর প্রেসিডেন্ট (১৯৭৯-৮৩); এবং রোমভিত্তিক আন্তর্জাতিক উন্নয়ন সংস্থা Society for International Development (SID)-এর ভাইস- প্রেসিডেন্ট (১৯৮৮-৯১) ছিলেন।

তিনি ঢাকা বিশ্ববিদ্যালয় থেকে অর্থনীতিতে এমএ পাশ করার পর লন্ডন স্কুল অব ইকনোমিকস এন্ড পলিটিক্যাল সাইন্স (LSE) থেকে এমফিল ও পিএইচডি ডিগ্রী লাভ করেন।

3

প্রফেসর মইনুল ইসলাম

প্রফেসর মইনুল ইসলাম চট্টগ্রামের রাউজানের ঐতিহ্যবাহী পরিবারে ১৯৫০ সালের পহেলা জুলাই জন্ম গ্রহণ করেন। শিক্ষানুরাগী পিতা মরহুম ওবাইদুল হকের আদর্শে প্রাথমিক পর্যায় থেকে শিক্ষা ক্ষেত্রে কৃতিত্বের স্বাক্ষরসহ তিনি মাধ্যমিক, উচ্চ মাধ্যমিক ও ঢাকা বিশ্ববিদ্যালয় হতে অর্থনীতিতে প্রথম শ্রেণীতে উত্তীর্ণ হন। ১৯৭৩ সালে চট্টগ্রাম বিশ্ববিদ্যালয়ে অর্থনীতি বিভাগের প্রভাষক হিসাবে যোগদানের মাধ্যমে তাঁর শিক্ষকতা জীবন শুরু করে ছাত্র/শিক্ষকদের প্রিয়ভাজন হিসাবে অধ্যাপনায় নিয়োজিত আছেন। ১৯৭৬ সালে ম্যাক মাস্টার বিশ্ববিদ্যালয় হতে এম.এ. ও ১৯৮১ সালে ভেন্ডারবিল্ট বিশ্ববিদ্যালয় হতে কৃতিত্বের সাথে পিএইচডি ডিগ্রী অর্জন করেন। পরবর্তীতে তিনি যুক্তরাজ্যের ওয়ারউইক বিশ্ববিদ্যালয়ে পোস্ট ডক্টরাল পর্যায়ে গবেষণা সম্পন্ন করেন।

অধ্যাপক মইনুল ১৯৯৮-২০০১ সালে BIBM-এর মহাপরিচালক পদে ডেপুটেশনে থাকাকালীন সময়ে ব্যাংকিং সেক্টরে যুগান্তকারী সিদ্ধান্ত গ্রহণের মাধ্যমে বড় ঋণ খেলাপীদের স্বরূপ উন্মোচনে বলিষ্ট ভূমিকা রাখেন। ব্যাংক সংস্কারে তাঁর গৃহীত পদক্ষেপ ব্যাংকিং সেক্টরে অত্যান্ত সমাদৃত। তাঁর লিখা "A profile of Bank Loan Default in the Private Sector in Bangladesh" দেশের অর্থনীতিতে সাড়া জাগানো বই।

উন্নয়ন অর্থনীতিতে মেধাবী এ ব্যক্তিত্ব অর্থনৈতিক কর্মকান্ড গতিশীল করতে ও অর্থনীতির বাঁধাসমূহ অতিক্রম করতে প্রচুর গবেষণার অন্যতমঃ বিদেশে বাংলাদেশী অভিভাসন, আন্তর্জাতিক অবৈধ বাণিজ্য বাংলাদেশ, বাংলাদেশের রাষ্ট্র, সমাজ ও দুর্নীতির অর্থনীতি, প্রান্তীয় পুঁজিবাদী রাষ্ট্র, পূজিবাদী বিশ্বায়ন ও সাম্প্রতিক বাংলাদেশ', Poverty Discourse, 'Economic Integration in South Asia: Issues and Pathways"-সহ আরোও বই ও গবেষণায় তাঁর সাহসী ভূমিকা অর্থনীতিবিদদের কাছে সমাদৃত।

কোন অপশাসন ও অপশক্তি তাঁর লিখা বা গবেষণা নিয়ন্ত্রণ করতে পারেনি এবং পারবে না। জাতীয় ও আন্তর্জাতিক পর্যায়ে প্রকাশিত অসংখ্য প্রবন্ধ, সংকলন, বই এবং চলমান গবেষণাগুলো ভবিষ্যত প্রজন্মের পথ ও পাথেয় হয়ে থাকবে।

কর্মজীবনে দেশী-বিদেশী অনেক প্রতিষ্ঠানের গুরুত্বপূর্ণ পদসহ চট্টগ্রাম বিশ্ববিদ্যালয়ের শিক্ষক সমিতির সভাপতি, সাধারণ সম্পাদক, সিন্ডিকেট ও সিনেট সদস্য, অর্থনীতি বিভাগের সভাপতি, সমাজ বিজ্ঞান অনুষদের ডীন, বাংলাদেশের ৩য়, ৫ম ও ৬ঠ পঞ্চ বার্ষিকী পরিকল্পনার প্যানেল অব ইকনমিস্টস-এর সদস্য, পরিচালক বাংলাদেশ কমার্স ব্যাংক, সম্পাদক, বাংলাদেশের জার্নাল অব পলিটিক্যাল ইকনমি ১৯৯৩-৯৫, সম্পাদক ত্রৈমাসিক গণগবেষণা রিব (RIB) ও বাংলাদেশ অর্থনীতি সমিতির ২০০০-০২ মেয়াদে সভাপতি হিসাবে গুরু দায়িত্ব পালন করেন।

এই গবেষক ও বিশিষ্ট অর্থনীতিবিদের আমরা সুন্দর দীর্ঘ জীবন কামনা করি।

বাংলাদেশ অর্থনীতি সমিতির ১৮তম দ্বি-বার্ষিক
সম্মেলন ২০১২-এর উদ্বোধনী অনুষ্ঠানে

সভাপতির ভাষণ

আবুল বারকাত*

শ্রদ্ধেয় প্রধান অতিথি, শেখ হাসিনা, মাননীয় প্রধানমন্ত্রী, গণপ্রজাতন্ত্রী বাংলাদেশ সরকার,

সম্মানীয় অধ্যাপক হান্নানা বেগম, আহবায়ক, বাংলাদেশ অর্থনীতি সমিতি অষ্টাদশ দ্বিবার্ষিক সম্মেলন,

মন্ত্রী পরিষদের সম্মানিত সদস্যবৃন্দ,

বাংলাদেশ জাতীয় সংসদের সম্মানিত সদস্যবৃন্দ,

বিদেশী দূতাবাসসহ বিভিন্ন সংস্থার সম্মানিত অতিথিবৃন্দ,

সরকারের পদস্থ সম্মানিত কর্মকর্তাবৃন্দ,

মিডিয়ার সম্মানিত ভাই ও বোনেরা,

বাংলাদেশ অর্থনীতি সমিতির সম্মানিত সদস্যবৃন্দ,

সম্মানিত উপস্থিত সুধী,

আপনারা সবাই আমার সম্ভাষণ গ্রহণ করুন।

প্রথমেই আমি মাননীয় প্রধান প্রধানমন্ত্রী শেখ হাসিনাকে ধন্যবাদ দিতে চাই ও কৃতজ্ঞতা প্রকাশ করতে চাই– এ জন্য যে আপনি আপনার হাজারো কর্মব্যস্ততার মাঝে আমাদের মধ্যে প্রধান অতিথি ও সম্মেলন উদ্বোধক হিসেবে এসে সম্মেলনের ভাবগাম্ভির্য বৃদ্ধি করলেন।

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*   সভাপতি, বাংলাদেশ অর্থনীতি সমিতি

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সুধীবৃন্দ,

আপনারা লক্ষ্য করেছেন এবছর আমাদের সম্মেলনের মূল প্রতিপাদ্য বিষয় **"বৈশ্বিক অর্থনীতি ও রূপকল্প ২০২১"**(Global Economy and Vision 2021) । "রূপকল্প ২০২১" একটি উন্নয়ন দর্শন– দেশের মাটি উথিত উন্নয়ন দর্শন (home grown development philosophy) । "রূপকল্প ২০২১" এর স্বপ্ন হলো মুক্তিযুদ্ধের ৫০ বছর পূর্তির বাংলাদেশ হবে "অসাম্প্রদায়িক, প্রগতিশীল, উদার গণতান্ত্রিক কল্যাণ রাস্ট্র", ২০২১ এর বাংলাদেশ হবে "স্বল্প বৈষম্যপূর্ণ মধ্য আয়ের দেশ"; ২০২১ এর বাংলাদেশ হবে "জ্ঞান-বিজ্ঞান-প্রযুক্তি সমৃদ্ধ মানুষের শান্তির বাংলাদেশ" ।

এ স্বপ্ন কল্প যখন বিনির্মাণ করা হয়েছিল তখন যুক্তিযুক্ত কারণেই ধরে নেয়া হয়েছিলো যে বিষয়টি শুধুমাত্র আমাদের অভ্যন্তরীণ অর্থনীতির বিষয় নয়; এর সাথে সরাসরি সম্পর্কিত বৈশ্বিক অর্থনীতির গতি প্রবাহ । সুতরাং সঙ্গত কারণেই এ দুয়ের আন্তসম্পর্ক আমাদের বুঝতে হবে এবং সে অনুযায়ী নীতি-কৌশল প্রণয়ন ও তা বাস্তবায়ন করতে হবে ।

সুধীবৃন্দ,

বৈশ্বিক অর্থনীতির গতি প্রবাহ যা আমরা দেখছি তাতে মনে হয় অন্যদের comparative-disadvantage (**তুলনামূলক অসুবিধে**) গুলো বুঝা দরকার এবং সেসবে আমাদের comparative advantage (**তুলনামূলক সুবিধে**) থাকলে তা বিকশিত হবার সুযোগ করে দেয়া দরকার । আর এ কর্মকা-টি জ্ঞান-সংশ্লিষ্ট; সচেতন পরিকল্পনা-নীতি প্রণয়ন সংশ্লিষ্ট । আমার মনে হয়েছে মাননীয় প্রধানমন্ত্রী বিকল্প উন্নয়ন চিন্তা হিসেবে যে ধারণা-কাঠামো গতবছর জাতিসংঘে উপস্থাপন করেছেন এবং যা জাতিসংঘভুক্ত ১৮৯ দেশ গ্রহণ করেছে তা আত্মস্থকরণ জরুরি । তত্ত্বটি "People's empowerment- mediated development and peace model" (জনগণের ক্ষমতায়ন-মধ্যস্থতাকারী উন্নয়ন ও শান্তির মডেল) ।

বেশ জোর দিয়েই এখন বলা যায় যে বৈশ্বিক অর্থনীতিতে এখন টালমাটাল অবস্থা; 'বাণিজ্য চক্রে' (business cycle) মন্দাবস্থা প্রলম্বিত হচ্ছে; ভবিষ্যৎ প্রক্ষেপণ সহজ নয় । বিশ্ব অর্থনীতি ২০০৮-০৯ এর বৈশ্বিক মন্দার পর থেকে মন্দা কাটিয়ে উঠতে না উঠতেই– অনেকের মতে– আরো বড় মাপের, গভীর এবং সম্ভবত দীর্ঘমেয়াদের মন্দার দিকে যাচ্ছে ।

অভিন্ন মুদ্রা ব্যবহারকারী ১৭টি দেশ নিয়ে যে **ইউরোজোন** তা আবারও মন্দার দিকে ধাবমান । ইউরোপের সার্বভৌম ঋণ সংকট (sovereign debt crisis) বিশ্ব অর্থনীতির স্থিতিশীলতার বড় বাধা । গ্রীস থেকে সংকট শুরু হয়ে অর্থাৎ "প্রান্তস্থ সার্বভৌম" (peripheral sovereign) থেকে এখন তা কেন্দ্রের দিকে (অর্থাৎ core countries) যেমন জার্মানি ও ফ্রান্সের দিকে ধাবমান ।

মার্কিন যুক্তরাষ্ট্রের অর্থনীতি ২০০৮-০৯ এর মন্দা থেকে এখনও উঠে দাঁড়াতে পারেনি । পারছে না । যুক্তরাষ্ট্রে সরকারী ব্যয় কমছে, মার্কিন কংগ্রেস সংশ্লিষ্ট বাজেট পাশ করছে না– প্রবৃদ্ধি কমছে, বেকারত্ব বাড়ছে । দীর্ঘস্থায়ী অর্থনৈতিক মন্দার ফলে **মার্কিন যুক্তরাষ্ট্র ও ইউরোপে** ইতোমধ্যেই দেখা যাচ্ছে

চাহিদার সংকোচন (demand contraction) । এসব অর্থনীতি যেহেতু আমাদের প্রধান রপ্তানী বাজার সেহেতু সংগত কারণেই আমাদের রপ্তানীকারকেরা উদ্বিগ্ন (জুলাই ২০১২-র রপ্তানী প্রবৃদ্ধি হয়েছে মাত্র ৪.২৬%) অর্থাৎ ভবিষ্যতে রপ্তানী বাজারের বৈচিত্র এবং একই সাথে নতুন গন্তব্য নিয়ে ভাবতে হবে । অতএব যা দাঁড়াচ্ছে তা হলো একদিকে মার্কিন যুক্তরাষ্ট্রসহ ইউরোপে চাহিদা সংকোচনের অভিঘাত নিয়ে ভাবতে হবে, আবার একই সাথে আমাদের দেশের ১৬ কোটি মানুষের অভ্যন্তরীণ বাজার (domestic market) কি ভাবে আরো বিকশিত করা যায়– সেটাও ভাবতে হবে ।

বৈশ্বিক অর্থনীতির আর্থিক সংকট (financial crisis), মন্থর গতি (slow down), আর ইউরোপের ঋণ সংকট– সব মিলিয়ে **বৈশ্বিক বাণিজ্যের** গতি মন্থর হচ্ছে । আন্তর্জাতিক মুদ্রা তহবিল (IMF) এর প্রক্ষেপণ অনুযায়ী আন্তর্জাতিক বাণিজ্যের প্রবৃদ্ধির হার ২০১১ সালের ৫.৯% থেকে ২০১২ সালে কমে দাঁড়াবে ৩.৮%এ ।

অন্যদিকে **অগ্রসর উদীয়মান অর্থনীতি** অর্থাৎ BRICS– ব্রাজিল, রাশিয়া, ভারত, চীন ও দক্ষিণ আফ্রিকা– যারা কয়েক বছর সজোরে ছুটছিলো তাদের ছুটার গতি কমে যাচ্ছে । সবারই প্রবৃদ্ধির হার কমে গেছে । এপ্রিল-জুন (২০১২) কোয়ার্টারে চীনের অর্থনৈতিক প্রবৃদ্ধির হার ছিলো বিগত ৩ বছরের মধ্যে সর্বনিম্ন । অর্থাৎ আপাতত BRICS এর বাজার ধরা কঠিন ।

বিশ্ব বাজারে বিভিন্ন **কাঁচামাল ও মধ্যবর্তী পণ্যের** দামে অস্থিরতা (Volatility) দেখা দিয়েছে । দেখা দিয়েছে **খাদ্য পণ্যের** দাম বাড়া নিয়ে নতুন উদ্বেগ । যুক্তরাষ্ট্রের খরা খাদ্য মূল্যস্ফিতি বাড়াবে । অনেকের মতে বিশ্ব এবছর ২০০৭-০৮ এর মত একটা খাদ্য সংকটের দিকে এগুচ্ছে ।

জনশক্তি রপ্তানীর সুযোগ ক্রমান্বয়ে সংকুচিত হচ্ছে । ‘মধ্যপ্রাচ্যের বসন্ত’ এখন অনেকের জন্যই মরা কার্তিক । লিবিয়া ও সিরিয়ার গৃহযুদ্ধ – জনশক্তি রপ্তানিতে নেতিবাচক প্রভাব ফেলছে । ইরানের নিউক্লিয়ার সংকট উদ্ভূত অর্থনৈতিক অবরোধ-এর প্রভাবও নেতিবাচক ।

সব মিলিয়ে বিশ্ব অর্থনীতিতে বড় মাপের অনিশ্চয়তা, অস্থীতিশীলতা, টানাপোড়েন অবস্থা প্রক্ষেপণ করা যায় ।

সুধীবৃন্দ,

বৈশ্বিক অর্থনীতির মন্দা, অস্থীতিশীলতা ও সম্ভাব্য ভবিষ্যত চিত্র– আপাতত আশা সঞ্চারকারী কোন বার্তা দেয় না ।

এদিকে আমাদের দেশে প্রবাসিদের প্রেরিত অর্থের (remittance) প্রবৃদ্ধি কমছে । লিবিয়া থেকে ফেরত এসেছে ৫০,০০০ শ্রমিক; সৌদি আরব নূতন শ্রমশক্তি নিচ্ছে না আর পুরাতনদের নবায়নও করছে না; মালয়েশিয়া ইস্যু এখনও সমাধান হয়নি; শ্রম শক্তি রপ্তানীর নতুন গন্তব্যস্থল এখনও মেলে নি । ২০১২ অর্থবছরে প্রবাসিদের প্রেরিত অর্থ প্রবাহের প্রবৃদ্ধি ছিল ১০.২৪% ।

বিশ্ব পণ্য বাজারে দামের অস্থিরতার কারণে আমাদের খাদ্য আমদানি ব্যয় বাড়বে; খাদ্য মূল্যস্ফীতি বাড়বে। আর বিশ্ববাজারে **শিল্পের কাঁচামাল ও মধ্যবর্তী পণ্যের** দাম বাড়ছে– যার ফলে আমাদের সংশ্লিষ্ট উৎপাদন ব্যয় বাড়বে এবং প্রতিযোগিতা সক্ষমতা কমবে।

সুধীবৃন্দ,

এইই যখন বৈশ্বিক অর্থনীতির দৃশ্যপট তখন আমাদের যা করতে হবে তা হলো বুঝতে হবে চিরাচরিত-প্রচলিত (tradition) চিন্তা দিয়ে হবে না; ঐ পথে হেঁটে লাভ হবে না। **আমাদের নতুন ভাবনা ভাবতে হবে।**

আমাদের ভাবতে হবে **সম্পদের নতুন ব্যবস্থাপনা নিয়ে;** সম্পদ সৃষ্টি, পুনঃসৃষ্টি ও ব্যবহারের নতুন ভাবনা ভাবতে হবে। সম্পদ বলতে আমি বুঝাচ্ছি **মানব সম্পদ (১৬ কোটি মানুষ), প্রাকৃতিক সম্পদ** (অর্থাৎ মাটির উপরের ও তলার সম্পদ, পানির মধ্যে এবং পানির নীচের সম্পদ, আকাশ-বাতাস-মহাকাশ সম্পদ), **ভৌত সম্পদ** (physical resources)।

মানুষ যেহেতু খাদ্য খাবার খাবেই, যেহেতু খাদ্য চাহিদা বিশ্বের জনসংখ্যা বাড়ার সাথে সাথে বাড়ছে/বাড়বে এবং যেহেতু কৃষিতে আমাদের **নিরঙ্কুশ তুলনামূলক সুবিধে** (absolute comparative advantage) আছে, সেহেতু নতুন ভাবনা দরকার **কৃষি ও কৃষি প্রক্রিয়াজাতকরণ শিল্প বিকাশ নিয়ে–** যাতে দেশের মানুষের খাদ্য ও পুষ্টি চাহিদা মেটানোর পাশাপাশি আমরা যেনো খাদ্য নিয়ে বিশ্ব বাজারে প্রবেশ করতে পারি। এক্ষেত্রে নতুন ভাবনা ভাবতে হবে আমাদের জমি-জলা-জঙ্গল-জনমানুষ নিয়ে আর সেই সাথে সংশ্লিষ্ট বিজ্ঞান-প্রযুক্তি নিয়ে।

নতুন করে ভাবতে হবে **অন্যদের তুলনামূলক অসুবিধেগুলো** বিবেচনায় এনে আমাদের **তুলনামূলক সুবিধেগুলো** কিভাবে সর্বোচ্চ মাত্রায় নেয়া যায় সে সম্পর্কে।

ভাবতে হবে **শ্রমশক্তির-দক্ষতা ও উৎকর্ষতা** বৃদ্ধির পথ-পদ্ধতি নিয়ে!

ভাবতে হবে **প্রাকৃতিক তন্তু– পাট অর্থনীতির বিকাশ নিয়ে!**

আশা করি এসব ভাবনার ফল হিসেবে আগামী ৩ দিনে আমরা "বৈশ্বিক অর্থনীতি ও রূপকল্প ২০২১" নিয়ে যৌক্তিক একটি পর্যায়ে যেতে সক্ষম হবো। আর এসব চিন্তার ক্ষেত্রে মাননীয় প্রধানমন্ত্রী শেখ হাসিনার উন্নয়ন ও শান্তি চিন্তার ভিত্তি কাঠামো "জনগণের ক্ষমতায়ন" বিষয়টি যথেষ্ট কাজে আসবে।

আপনাদের সবাইকে ধন্যবাদ। সবাই ভাল থাকুন– সুস্থ থাকুন!

বাংলাদেশ অর্থনীতি সমিতির অষ্টাদশ সম্মেলন
প্রস্তুতি কমিটির আহ্বায়কের শুভেচ্ছা ভাষণ

হান্নানা বেগম

বাংলাদেশ অর্থনীতি সমিতির অষ্টাদশ দ্বিবার্ষিক সম্মেলনের উদ্বোধনী অনুষ্ঠানের সম্মানিত সভাপতি, ড: আবুল বারকাত, সম্মেলনের প্রধান অতিথি বাংলার প্রাণ আগামী দিনের আধুনিক সমৃদ্ধ বাংলাদেশের স্বপ্নদ্রষ্টা, গণপ্রজাতন্ত্রী বাংলাদেশ সরকারের মাননীয় প্রধানমন্ত্রী শেখ হাসিনা, সমিতির সাধারণ সম্পাদক, ড: তৌফিক আহমেদ চৌধুরী, বিভিন্ন অধিবেশন এবং বিশেষ অধিবেশনের সভাপতিবৃন্দ, প্রবন্ধ উপস্থাপকগণ, অতিথিবৃন্দ, শিক্ষার্থীগণ, গণমাধ্যমের প্রতিনিধিবৃন্দ এবং ভদ্র মহিলা এবং ভদ্র মহোদয়গণ। ভাদ্রের এই শুভ সকালে আপনাদের জানাই সালাম ও শুভেচ্ছা। আপনাদের স্বাগত জানাই বাংলাদেশ অর্থনীতি সমিতির এই দ্বিবার্ষিক সম্মেলনে।

প্রিয় সুধী,

এবারের সম্মেলনের মূল বিষয় হলো- 'বৈশ্বিক অর্থনীতি ও রূপকল্প ২০২১'। ২০০৮ সালের ২৯ ডিসেম্বর জনগণের বিশাল ম্যান্ডেট নিয়ে যে সরকার গঠিত হয় তার সামনে ছিল সুনির্দিষ্ট লক্ষ্য, সুখী সমৃদ্ধ বাংলাদেশ গড়ার প্রত্যয়, রূপকল্প ২০২১।

২০০৮-০৯ ছিল বিশ্ব মন্দার বছর। এসময়ে বিশ্ব প্রবৃদ্ধি নেমে যায়, রপ্তানি কমে যায় ও রেমিটেন্স হ্রাস পায়। এই মন্দা মোকাবেলায় সরকার পর পর দুটি প্রণোদনা প্যাকেজ ঘোষণা করে। এর ফলে আমাদের অর্থনীতির উপর মন্দার নেতিবাচক প্রভাব ন্যূনতম পর্যায়ে রাখা সম্ভব হয়, প্রবৃদ্ধি অব্যাহত থাকে, রপ্তানি বাড়ে এবং রেমিটেন্স বৃদ্ধি পায়।

বিশ্ব মন্দার পরবর্তী দু'বছর বিশ্ব উৎপাদন বৃদ্ধি পায়, বৃদ্ধি পায় রপ্তানি ও রেমিটেন্স। তবে, ২০১২ তে এসে দেখা যায়- বিশ্ব মন্দা থেকে বিশ্ব অর্থনীতি পুনরুদ্ধারের যে গতি আশা করা হয়েছিল বাস্তবে তা হয়নি। অন্যদিকে বৈশ্বিক প্রবৃদ্ধির এই শ্লথ গতি এবং সংযত মুদ্রা নীতি গ্রহণের কারণে বিকাশমান ও

উন্নয়নশীল অর্থনীতির প্রবৃদ্ধির গতিও কিছুটা কমে আসে । তবে অন্যান্য বিকাশমান ও উন্নয়নশীল অর্থনীতির সাথে তাল মিলিয়ে বাংলাদেশের অর্থনীতির প্রবৃদ্ধির গতি অব্যাহত রাখতে আমরা সক্ষম হয়েছি ।

ইতোমধ্যে 'রূপকল্প ২০২১' এর আলোকে প্রণয়ন করা হয়েছে- 'প্রেক্ষিত পরিকল্পনা (২০১০-২০২১), ষষ্ঠ পঞ্চবার্ষিক পরিকল্পনা এবং বর্ষিক উন্নয়ন পরিকল্পনা । বিগত চারটি বাজেটই প্রণীত হয়েছে এই পরিকল্পনা সমূহের অংশ হিসেবে এবং জনগণের কাছে সরকারের প্রতিশ্রুত অঙ্গীকার রূপকল্প ২০২১ বাস্তবায়নের লক্ষ্যকে সামনে রেখে ।

প্রিয় সুধী,
'রূপকল্প ২০২১' ভিত্তি করে বাংলাদেশের উন্নয়নের যে মহা পরিকল্পনা নেওয়া হয়েছিল তার একটা সুযাত্রা শুরু হয়েছে । আমরা যে শুধু দেশের প্রবৃদ্ধি বাড়াতে সক্ষম হয়েছি তা নয়, দেশে দ্রুত আয় দারিদ্র, মানব দারিদ্র কমেছে । আজ আমরা বিশ্ব দরবারে এক অমিত সম্ভাবনাময় দেশ হিসেবে স্বীকৃত । বাংলাদেশ স্বীকৃতি পেয়েছে নিরবিচ্ছন্ন প্রবৃদ্ধি অর্জনকারী অভিজাত সংঘের পরবর্তী সম্ভাবনাময় সদস্য হিসেবে । বাংলাদেশকে গণ্য করা হয়েছে ১১টি থ্রি জি দেশের মধ্যে । অর্থনৈতিকভাবে সম্ভাবনাময় ২৬টি দেশের তালিকায় চীন ও ভারতের সঙ্গে একই কাতারে স্থান পেয়েছে বাংলাদেশ । অর্থনৈতিক অর্জন ছাড়াও আন্তর্জাতিক আদালতে সমুদ্র সীমা জয়ের দুর্লভ অর্জন বিশ্ব সভায় আমাদের অবস্থানকে আরো সমুন্নত করেছে ।

প্রিয় সুধী,
বাংলাদেশ অর্থনীতি সমিতি বরাবর দেশের অর্থনীতির প্রাগ্রসরতায় নিরবিচ্ছন্ন ভূমিকা রাখতে সচেষ্ট রয়েছে । সমিতির এবারের অষ্টাদশ দ্বিবার্ষিক সম্মেলনে উদ্বোধনী অধিবেশন ছাড়াও দুটি স্মারক বক্তৃতা এবং একটি বিশেষ অধিবেশন আছে । আটটি কর্ম অধিবেশনে নব্বইটি প্রবন্ধ উপস্থাপিত হবে । বিভিন্ন অধিবেশনে সক্রিয়ভাবে অংশগ্রহণ করে রূপকল্প ২০২১ এর স্বপ্ন বাস্তবায়নের পথে আপনাদের সুচিন্তিত পরামর্শ আশা করছি ।

সম্মানিত প্রধান অতিথি, সুধীবৃন্দ,
আমরা আবারও আশা করছি, দৃঢ়তা ব্যক্ত করছি, বৈষম্য ও অন্যায়ের প্রতিবাদের গর্ভে যে বাংলাদেশের জন্ম, মুক্তিযুদ্ধের যে স্বপ্ন তা এদেশের জনগণ অর্জন করবে ।

মাননীয় প্রধানমন্ত্রী তাঁর অত্যন্ত ব্যস্ততার মধ্যেও আমাদের সময় দিয়েছেন, আমাদের উদ্বুদ্ধ করেছেন, তাঁর প্রতি আমাদের অশেষ কৃতজ্ঞতা । আপনাদের সবার সুস্বাস্থ্য ও মঙ্গল কামনা করে বক্তব্য শেষ করছি ।

বাংলাদেশ অর্থনীতি সমিতির

৩১ ভাদ্র ১৪১৯ /১৫ সেপ্টেম্বর ২০১২-এ অনুষ্ঠিত
সমিতির সাধারণ সভায় কার্যনির্বাহক কমিটির

সাধারণ সম্পাদকের প্রতিবেদন

শ্রদ্ধেয় সভাপতি ও বাংলাদেশ অর্থনীতি সমিতির সম্মানিত সদস্যবৃন্দ,

বাংলাদেশের বিভিন্ন জেলা-উপজেলা থেকে এমনকি, প্রত্যন্ত জনপথ থেকে মূল্যবান সময় এবং পেশাগত ও পারিবারিক কাজকে উপেক্ষা করে আপনারা তিন দিনব্যাপি দ্বিবার্ষিক সম্মেলনে অংশগ্রহণ করেছেন, এজন্য আপনাদের অজস্র ধন্যবাদ। বাংলাদেশ অর্থনীতি সমিতির ২০১০-১২ সালের নির্বাচিত কার্য নির্বাহী কমিটির পক্ষ থেকে সাধারণ সম্পাদক হিসেবে আমি এখন ২০১০-১২ সাল ব্যাপী আমাদের কর্মকান্ড সংক্রান্ত প্রতিবেদন পেশ করছি।

শ্রদ্ধেয় সদস্যবৃন্দ,

গত দুই বছর সমিতির বিভিন্ন কর্মকান্ডে আপনাদের সক্রিয় অংশগ্রহণ ও আন্তরিক সহযোগিতা সমিতির কার্যক্রমকে গতিশীল করেছে। বাংলাদেশ অর্থনীতি সমিতির ১৮তম দ্বিবার্ষিক সম্মেলনের আজ শেষ দিন। তিনদিন উদ্বোধনী অধিবেশনসহ বিভিন্ন কর্ম অধিবেশনে সক্রিয়ভাবে অংশগ্রহণের জন্য আপনাদের সবাইকে আন্তরিক ধন্যবাদ। এবারের সম্মেলনে মোট ১০৫ জন প্রবন্ধকার ৮৫টি প্রবন্ধ দক্ষতার সাথে উপস্থাপন করেছেন। সৃজনশীল এবং সুচিন্তিত প্রবন্ধ উপস্থাপনের মাধ্যমে সম্মেলনকে প্রাণবন্ত করে তোলার জন্য প্রবন্ধকারদের প্রতি আমি আন্তরিক কৃতজ্ঞতা প্রকাশ করছি এবং তাঁদের গবেষণা কর্মের আরো সফলতা কামনা করি।

সম্মানিত সদস্যবৃন্দ,

গত দু'বছরে আমরা আমাদের সমিতির প্রাণপ্রিয় ক'জন সদস্যকে চিরতরে হারিয়েছি। আমাদের সমিতির প্রাক্তন সভাপতি এবং আমাদের শিক্ষক অধ্যাপক ড. মোজাফ্ফর আহমদ, প্রাক্তন সহ-সভাপতি অধ্যাপক সৈয়দ আবদুল হাই, বিশিষ্ট অর্থনীতিবিদ অধ্যাপক ড. মোঃ কায়সার হুসেইন,

অধ্যাপক ড. নাসরিন হক খন্দকার, প্রাক্তন সচিব অর্থনীতি সমিতির আজীবন সদস্য সালাহউদ্দিন আহমেদ এবং ড. এম.এ. মোমেন মৃত্যুবরণ করেছেন। আমরা তাঁদের পুণ্য স্মৃতির প্রতি শ্রদ্ধা জানাই এবং বিদেহী আত্মার শান্তি কামনা করি। আমাদের সদস্যদের অনেকেই তাঁদের অতি প্রিয়জনদের হারিয়েছেন– আমরা আপনাদের সাথে সহমর্মিতা প্রকাশ করছি। সেই সাথে আমাদের সদস্যদের অনেকেই এখন বয়সের ভারে নুয়ে পড়েছেন এবং/অথবা অসুস্থ-তাঁদের সবার সুস্থতা কামনা করছি।

প্রিয় সদস্যবৃন্দ,

বাংলাদেশ অর্থনীতি সমিতি এ-দেশের অর্থনীতিবিদদের একমাত্র পেশাজীবী সংগঠন। পরিকল্পনা কমিশনের প্রথম ভাইস চেয়ারম্যান, অধ্যাপক ড. নুরুল ইসলামের ভাষায় বাংলাদেশ অর্থনীতি সমিতি "জনস্বার্থরক্ষাকারী অর্থনীতিবিদদের প্লাটফর্ম"। একারণেই এ-দেশের বৃহত্তর জনগোষ্ঠী যার অধিকাংশই দরিদ্র-প্রান্তিক-বঞ্চিত-নিম্নমধ্যবিত্ত এবং সেই সাথে সমাজ, রাষ্ট্র ও স্বাধীনতার প্রতি আমাদের দায়বদ্ধতা অন্য অনেক পেশাজীবী সংগঠনের তুলনায় অপেক্ষাকৃত বেশী। একদিকে অর্থনীতি শাস্ত্রের সাধারণের দুর্বোধ্য অথচ প্রয়োজনীয় টেকনিক্যাল বিষয়াদির চর্চা অব্যাহত রাখা অন্যদিকে যা কিছু আমাদের অর্থনীতি-সমাজ-রাষ্ট্রের গতিপথ নির্দেশ ও নিয়ন্ত্রণ করে, এবং সমাজ-রাজনীতি-রাষ্ট্রের যা কিছু অর্থনীতি দিয়ে নির্ধারিত হয়-এ সবের নির্মোহ বিশ্লেষণ এবং তা দেশের মানুষের কাছে পৌঁছে দেয়া আমাদের সমিতির অন্যতম প্রধান দায়িত্ব। এদেশে সত্যভাষ্যের সীমাবদ্ধতা ও প্রতিকূলতার মধ্যেও গত দুই বছরে আমরা এসব দায়িত্ব পালনে অঙ্গীকারবদ্ধ হবার কারণে কোনো অবস্থাতেই পিছপা হইনি, সাহস হারাইনি।

প্রিয় সদস্যবৃন্দ,

২০১০ সালের এপ্রিল মাসে আপনাদের ভোটে দু'বছর মেয়াদের জন্য আমরা নির্বাচিত হয়ে সমিতির কার্যনির্বাহক কমিটির দায়িত্বভার গ্রহণ করি। দেশের সার্বিক পরিস্থিতি, মাননীয় প্রধান মন্ত্রীর ব্যস্ততা, রমজান মাস এবং সম্মেলনের ব্যয়ভার বহনে অনুদান সংগ্রহ-এসব কারণে সম্মেলনের আয়োজনে একটু দেরি হয়ে গেলো। এ অনিচ্ছাকৃত বিলম্বের জন্য আপনাদের ক্ষমাসুন্দর দৃষ্টি প্রত্যাশা করছি।

উপস্থিত সদস্যবৃন্দ,

বাংলাদেশ অর্থনীতি সমিতি গত দুই বছরে যে যথেষ্ট মাত্রায় সচল ছিল এবং বহুমুখী কর্মকান্ড সুসম্পন্ন করেছে তার প্রমাণ মিলবে এ প্রতিবেদনের শেষে সংযুক্ত বাংলাদেশ অর্থনীতি সমিতি "২০১০-২০১২ এর মূল কর্মকান্ডের তালিকা'য়। সমিতির গঠনতন্ত্র মোতাবেক আমাদের পেশাগত উৎকর্ষ ও স্বার্থসংরক্ষণসহ এ দেশের গণ-মানুষের প্রতি আমাদের দায়-দায়িত্ব পালনে বর্তমান কার্যনির্বাহক কমিটির সদস্যদের মেধা, অক্লান্ত পরিশ্রম ও সকল সদস্যের সহযোগিতার মাধ্যমে বিভিন্ন ক্ষেত্রে যথেষ্ট অগ্রগতি সাধিত হয়েছে বলে আমরা মনে করি। অনেক কিছু নিয়েই আমরা বেশ খুশী তবে অনেক ক্ষেত্রেই আমরা আত্মতুষ্ট নই।

গত দু'বছরে সমিতি যে যথেষ্ট মাত্রায় কর্মমুখর ছিল তা আমাদের দৃশ্যমান কর্মকান্ডের একটি সংক্ষিপ্ত

বিবরণী দিলে স্পষ্ট হবে । গত দু'বছরে সমিতির সফল কর্মকান্ডের অন্তর্ভুক্ত বিষয়াদি নিম্নরূপঃ

১)   সৃজনশীল প্রতিভা, মেধা মনন এবং জনকল্যাণ উদ্দিষ্ট গবেষণা ও কর্মকান্ডের স্বীকৃতিস্বরূপ গত কয়েক বছর যাবৎ আমাদের সমিতি "বাংলাদেশ অর্থনীতি সমিতি সম্মাননা" নামে সৃজনশীল ও প্রথিতযশা ব্যক্তিবর্গকে স্বর্ণপদক প্রদান করে আসছে । কার্যনির্বাহী কমিটির সিদ্ধান্ত অনুযায়ী "বাংলাদেশ অর্থনীতি সমিতি সম্মাননা-২০১২" স্বর্ণপদক প্রদান করা হয়েছে অর্থনীতি সমিতির ৪জন সাবেক সভাপতিকে । এরা হলেনঃ প্রয়াত অধ্যাপক ডঃ আখলাকুর রহমান, প্রয়াত অধ্যাপক ডঃ মোজাফ্ফর আহমদ, ডঃ কাজী খলীকুজ্জমান আহমদ, অধ্যাপক ডঃ মইনুল ইসলাম ।

২)   গত ২০১০-১২ দ্বিবার্ষিক সম্মেলনের উদ্বোধনী অধিবেশনে মাননীয় প্রধানমন্ত্রী "ঢাকা স্কুল অব ইকোনমিক্স" এর শুভযাত্রা ঘোষণা করেছিলেন । সম্মানিত সদস্যদের জ্ঞাতার্থে জানাচ্ছি যে, "ঢাকা স্কুল অব ইকোনমিক্স" ইতোমধ্যে ঢাকা বিশ্ববিদ্যালয়ের অধিভুক্তি নিয়ে একাডেমিক কার্যক্রম শুরু করেছে । যদিও স্কুলটি একটি স্বতন্ত্র প্রতিষ্ঠান, তথাপি একথা বলতেই হয় যে, অর্থনীতি শাস্ত্রের নির্মোহ জ্ঞান চর্চার মহৎ উদ্দেশ্যকে সামনে রেখে বাংলাদেশ অর্থনীতি সমিতির একক প্রচেষ্টায় এটা প্রতিষ্ঠিত হয়েছে । আমরা স্কুলটিকে অর্থনীতি শাস্ত্রের দক্ষিণ এশিয়ার একটি "সেন্টার অফ এক্সেলেন্স" হিসেবে দেখতে চাই । সমিতি দৃঢ়ভাবে আশাবাদী যে, ডঃ কাজী খলীকুজ্জমানের সুযোগ্য নেতৃত্বে স্কুলটি দৃঢ় পদক্ষেপে সেদিকে এগিয়ে যাবে ।

৩)   ২০১০-১২ সালের দ্বিবার্ষিক সম্মেলনে উপস্থাপিত প্রবন্ধসমূহ এবং তৎপরবর্তীতে গত দুই বছরে সমিতি আয়োজিত বিভিন্ন জাতীয় ও আঞ্চলিক সেমিনারে উপস্থাপিত প্রবন্ধসমূহ যথাযথ Editorial Screening এর মাধ্যমে নির্বাচিত প্রবন্ধসমূহের সমন্বয়ে Journal of Political Economy ২০১১-১২ (তিন খন্ড) প্রকাশ করা হয়েছে ।

৪)   যে সমস্ত প্রবন্ধ জার্নালে স্থান দেয়া সম্ভব হয়নি সেগুলোর সমন্বয়ে এবং সমিতির বিভিন্ন কার্যক্রমের বর্ণনা সংযুক্ত করে প্রণীত হয়েছে দুইখন্ডের "বাংলাদেশ অর্থনীতি সমিতি সাময়িকী-২০১২ ।

৫)   এবারের প্রকাশনা তালিকায় একটি অনন্য সংযোজন হচ্ছে "বাজেট বিশ্লেষণ সংকলন''। বাংলাদেশ অর্থনীতি সমিতির গত এক যুগ ধরে বাজেট পূর্ব সুপারিশ এবং বাজেট উত্তর বিশ্লেষণসমূহ সংকলন করার মাধ্যমে এ সংকলনটি প্রকাশিত হয়েছে ।

৬)   জুন, ২০১২ পর্যন্ত সমিতির আজীবন ও সাধারণ সদস্য সংখ্যা দাড়ায় যথাক্রমে ২৩৬৩ এবং ৯৩৯ । সদস্যদের সংক্ষিপ্ত পরিচিতি সম্বলিত বাংলাদেশ অর্থনীতি সমিতি ডাইরেক্টরী শেষ প্রকাশ করা হয়েছিল ২০০৪ সালে । ডাইরেক্টরীটি Update করার লক্ষ্যে এবার নতুন করে ডাইরেক্টরীও ছাপানো হয়েছে । ডাইরেক্টরীতে মুদ্রণ জনিত কিছু ক্রটি থাকার জন্য আমরা দুঃখিত । তাছাড়া, সমিতির আজীবন সদস্যদের আইডি কার্ড তৈরী ও বিতরণ করা হয়েছে ।

৭)   ২০১০-২০১২ কার্যকালে সমিতি এককভাবে ৫টি ও যৌথভাবে ২টি, মোট ৭টি জাতীয় সেমিনারের আয়োজন করেছিল । এর মধ্যে ১টি সেমিনার ছিল ২টি দিন ব্যাপী, যার শিরোনাম ছিলঃ Sixth Five Year Plan: Strategies, Financing and Challenges. এককভাবে

আয়োজিত সমিতির অন্যান্য সেমিনারগুলির বিষয়বস্তু ছিল আন্তর্জাতিক জলবায়ু সম্মেলন, পুঁজিবাজার, নারীর ক্ষমতায়ন এবং পদ্মাসেতু অর্থায়ন সংক্রান্ত। ঢাকা স্কুল অব ইকনোমিক্স এর সাথে যৌথভাবে আয়োজিত ৫দিন ব্যাপী (২৩-২৮ এপ্রিল, ২০১১) সেমিনারটি এখানে প্রনিধানযোগ্য। মোট ২৩টি Thematic বিষয়ের উপর উপরোক্ত সেমিনারে প্রবন্ধ উপস্থাপিত হয়েছিল।

৮)   আমাদের কার্যকালে আমরা মোট ২টি লোক বক্তৃতার আয়োজন করেছিলাম। তার মধ্যে শেষোক্ত লোক বক্তৃতাটি প্রদান করেন WTO এর Director General Dr. Pascal Lamy. বক্তাকে সমিতির সম্মানিত আজীবন সদস্য পদও প্রদান করা হয়েছে।

৯)   প্রতি বছরের ন্যায় আমাদের কার্যকাল সময়ে আমরা ২০১০-২০১১, ২০১১-১২ এবং ২০১২-১৩ অর্থবছরের বাজেট পূর্ব এবং বাজেট পরবর্তী বিশ্লেষণ সংবাদ সম্মেলনের মাধ্যমে দেশবাসীকে অবহিত করেছি। এখানে উল্লেখ্য যে, বিগত অর্থবছরগুলোতে বাংলাদেশ সরকারের নীতি নির্ধারকরা বাজেট সংক্রান্ত আমাদের সুপারিশমালা অত্যন্ত মনোযোগের সাথে শুনেছেন এবং আমাদের বহু সুপারিশ বাজেটে সন্নিবেশিত করেছেন।

১০)   গত ৩১ জানুয়ারী, ২০১২ তারিখে "টিপাইমুখ প্রকল্প: বাংলাদেশ প্রেক্ষিত" শিরোনামে একটি গোলটেবিল বৈঠকের আয়োজন করেছিল।

১১)   আমাদের কার্যক্রম শুধুমাত্র ঢাকায় সীমাবদ্ধ না রেখে আমরা পূর্বের ন্যায় এবার চট্রগ্রাম, রাজশাহী, কুষ্টিয়া ও বাংলাদেশ কৃষি বিশ্ববিদ্যালয় ময়মনসিংহ মোট ৪টি আঞ্চলিক সেমিনারেরও আয়োজন করেছিলাম। ইতোমধ্যে চট্রগ্রাম চ্যাপ্টারের দ্বিবার্ষিক সম্মেলন অনুষ্ঠিত হয়েছে। সম্মেলন উপলক্ষ্যে চট্রগ্রামে আরও ২টি বিষয়ে ২টি সেমিনার অধিবেশন অনুষ্ঠিত হয়।

১২)   ২০১০-১২ কার্যকালে মোট ২টি শিক্ষক রিফ্রেসার কোর্সও আয়োজন করা হয়েছিল। তন্মধ্যে ১টি এককভাবে আর একটি যৌথভাবে ঢাকা স্কুল অব ইকনোমিক্স এর সাথে। প্রশিক্ষণ দুইটিতে পোষ্ট গ্রাজুয়েট পর্যায়ের শিক্ষকতায় নিয়োজিত মোট ৬২ জন কলেজ শিক্ষক অংশ নিয়েছিলেন। আর প্রশিক্ষক হিসাবে উপস্থিত ছিলেন বিশ্ববিদ্যালয়ের শিক্ষকতা ও বিভিন্ন অর্থনৈতিক গবেষণায় নিয়োজিত সমিতির জ্যেষ্ঠ সদস্যরা।

১৩)   একক ও যৌথভাবে আয়োজিত সমিতির সেমিনার গুলিতে আমাদের নথি অনুযায়ী মোট উপস্থিতির সংখ্যা ছিল ৬ হাজারের অধিক। আঞ্চলিক ৪টি সেমিনারে উপস্থিতির সংখ্যা ছিল প্রায় ১৮০০। এসব তথ্য নির্দেশ করে যে একদিকে যেমন আমাদের উপর অর্পিত দায়িত্ব পালনে আমরা সচেষ্ট ছিলাম, অন্যদিকে সম্মানিত সদস্যরাও গভীর আগ্রহ নিয়ে আমাদের সকল কর্মকান্ডে অংশ নিয়েছেন। শুধু একাডেমিক কার্যক্রম নয়, জাতীয় পর্যায়ের বিভিন্ন দিবসগুলির কার্যক্রম যেমনঃ একুশের প্রভাত ফেরী, বিজয় দিবসের অনুষ্ঠান ইত্যাদিতেও বাংলাদেশ অর্থনীতি সমিতির সদস্যরা সক্রিয়ভাবে অতীতের ন্যায় এবারও অংশ নিয়েছিলেন। সমিতির এ ঐতিহ্য ভবিষ্যতেও ধরে রাখতে আমরা সংকল্পবদ্ধ।

প্রিয় সহকর্মী ও সদস্যবৃন্দ,

১৪) সমিতির গঠনতন্ত্রের ধারা ঙ.১ মোতাবেক কার্যনির্বাহক কমিটির সভা অনুষ্ঠিত হবার কথা প্রতি ৩ মাসে অন্তত একবার। গঠনতন্ত্রের বিধান মোতাবেক সমিতির দায়িত্বভার নেবার পরে গত ২৮ মাসে (এপ্রিল, ২০১০ থেকে ১০ই সেপ্টেম্বর, ২০১২) কার্যনির্বাহক কমিটির নিয়মিত মাসিক সভা ২০১০ সনে ৮টি, ২০১১ সনে ১২টি এবং ২০১২ সনে ১৪টি অনুষ্ঠিত হয়েছে। কার্যনির্বাহক কমিটির সদস্যদের গড় উপস্থিতির হার ছিল ৭৫%। আশা করি আপনারা সকলেই একমত হবেন যে সমিতির ইতোমধ্যে উল্লেখিত ব্যাপক কর্মকান্ড আর সেই সাথে কার্যনির্বাহক কমিটির নিয়মিত মাসিক সভা-এ দু'য়ের মধ্যে সম্পর্কটি সমিতিতে গত দুই বছরে আমাদের সক্রিয়তার মাত্রা নির্দেশ করে।

১৫) আমাদের সমগ্র কর্মকান্ডে স্বচ্ছতা নিশ্চিত করা ও জবাবদিহিতা বৃদ্ধির লক্ষ্যে প্রায় প্রতিটি বিষয়েই পত্র মারফত আপনাদের সাথে নিয়মিত যোগাযোগ রক্ষার চেষ্টা করেছি। কার্যনির্বাহক কমিটির প্রয়োজনীয় সকল সিদ্ধান্ত সময়মত আপনাদের অবগত করেছি। সমিতির কার্যক্রম আরো ফলপ্রদ আরো ভালো করার জন্য আপনাদের পরামর্শ চেয়েছি। আর্থিক হিসেব-নিকেশের স্বচ্ছতা নিশ্চিত করার লক্ষ্যে ত্রৈমাসিক ভিত্তিতে কার্যনির্বাহক কমিটিতে কোষাধ্যক্ষের রিপোর্ট প্রদানের বিধি অব্যাহত রাখা হয়েছে। শুধু তাই নয় প্রতিটি কার্যনির্বাহক কমিটির সভার কার্যবিবরণী পরবর্তী সভায় নিয়মিতভাবে উপস্থাপন করা এবং সুসংবদ্ধভাবে নথীভুক্ত করা হচ্ছে। এ সবই স্বচ্ছতা ও জবাবদিহিতামূলক স্বেচ্ছাশ্রমের উৎকৃষ্ট দৃষ্টান্ত।

সুধীজন,

তিনদিন ব্যাপি দ্বিবার্ষিক সম্মেলন আয়োজনে সমিতির কার্যনির্বাহক কমিটির বিভিন্ন কমিটি-উপকমিটির সকল সদস্য এবং সমিতির সীমিত সংখ্যক কর্মচারী-কর্মকর্তারা নির্ঘুম পরিশ্রম করেছেন- এজন্য তাঁদের আন্তরিক কৃতজ্ঞতা জানাই। আমাদের প্রিয় ছাত্র-ছাত্রীরাসহ অন্যান্যরা যে স্বেচ্ছাশ্রম দিয়েছেন সেজন্য সমিতির পক্ষ থেকে তাদের সবাইকে ধন্যবাদ। আজকের এ মিলনায়তনে অনুপস্থিত অথচ সম্মেলন কর্মকান্ড সুন্দর ও সার্থক করা 'পর্দার অন্তরালের' যেসব ব্যক্তির অক্লান্ত পরিশ্রম ছাড়া অসম্ভব সেই দরিদ্র রাত-জাগা মুদ্রণ কর্মী, খাদ্য পরিবেশক এবং শান্তি-শৃংখলা সংশ্লিষ্ট কর্মকান্ডের সাথে জড়িত সবাইকে আন্তরিক ধন্যবাদ। সম্মেলনের বিভিন্ন কার্যক্রমে যারা মেধা-শ্রমসহ আর্থিক সহায়তা প্রদান করেছেন তাদের প্রতি আমরা কৃতজ্ঞ। যেসব প্রতিষ্ঠানের প্রতি আমরা কৃতজ্ঞতা স্বীকার করছি তাদের মধ্যে আছেঃ অগ্রণী ব্যাংক লিমিটেড, আইসিবি, আরএসআরএম, Alliance Capital Asset Management Ltd, International Acumen Ltd, এক্সিম ব্যাংক লিমিটেড, এ বি ব্যাংক লিমিটেড, গ্রীণ ডেল্টা ইন্স্যুরেন্স লিমিটেড, জনতা ব্যাংক লিমিটেড, থারমেক্স গ্রুপ, প্রাইম ব্যাংক লিমিটেড, ফার্স্ট সিকিউরিটি ইসলামী ব্যাংক লিমিটেড, বাংলাদেশ ব্যাংক, বাংলাদেশ ডেভেলপমেন্ট ব্যাংক লিমিটেড, বিজিএমইএ, বেসিক ব্যাংক লিমিটেড, ব্যাংক এশিয়া লিমিটেড, রূপালী ব্যাংক লিমিটেড, সুপার কম্পোজিট কিট লিমিটেড, সোনালী ব্যাংক লিমিটেড, স্ট্যান্ডার্ড ব্যাংক লিমিটেড, সর্বশেষ, ইঞ্জিনিয়ার্স ইনস্টিটিউশন বাংলাদেশ এর কর্তৃপক্ষকে সর্বাত্মক সহযোগিতার জন্য বাংলাদেশ অর্থনীতি সমিতির পক্ষ থেকে আন্তরিক ধন্যবাদ।

প্রিয় সদস্যবৃন্দ,

বাংলাদেশ অর্থনীতি সমিতির গত দুই বছরের কর্মকান্ড সংক্রান্ত সাধারণ সম্পাদকের প্রতিবেদন পেশ করলাম। আমরা সব কিছু পেরেছি একথা বলবো না। তবে আমাদের সদিচ্ছা এবং স্বেচ্ছাশ্রমে চেষ্টার কোনো ত্রুটি ছিল না। যা কিছু আমরা করেছি সেখানে *দেশের স্বার্থ ও দেশের ব্যাপক জনগোষ্ঠীর স্বার্থ সব কিছুর উর্ধ্বে* -এ বিবেচনা আমরা কখনও ভুলিনি। কারণ এসবই আমাদের মুক্তি ও স্বাধীনতার মূল চেতনা।

এবারের সম্মেলনসহ গত দুই বছরে আমাদের কোনো ভুল-ত্রুটি থাকলে ক্ষমাসুন্দর দৃষ্টিতে দেখবেন।

সমিতি এখন এক স্বচ্ছ রূপ ধারণে সক্ষম হয়েছে। সমিতি অতীতের তুলনায় সক্রিয়তর হয়েছে। এ অর্জন ধরে রাখা প্রয়োজন। সেই সাথে সময়ের চাহিদার সাথে তাল মিলিয়ে ভবিষ্যতে আরো সৃজনশীলতার প্রয়োগ প্রয়োজন।

সর্বশেষে অবশ্যই আপনার ও আপনার পরিবার-পরিজন, আত্মীয়-স্বজন, বন্ধু-বান্ধব সকলের সুস্বাস্থ্য ও দীর্ঘায়ু কামনা করছি।

আপনাদের সবাইকে আরো একবার ধন্যবাদ।

ড. তৌফিক আহমদ চৌধুরী
সাধারণ সম্পাদক
বাংলাদেশ অর্থনীতি সমিতি

সাধারণ সম্পাদকের প্রতিবেদন ৩৮৩

সাধারণ সম্পাদকের প্রতিবেদন ৩৮৫

সাধারণ সম্পাদকের প্রতিবেদন ৩৮৭

সাধারণ সম্পাদকের প্রতিবেদন ৩৮৯

সাধারণ সম্পাদকের প্রতিবেদন ৩৯১

সাধারণ সম্পাদকের প্রতিবেদন

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

সাধারণ সম্পাদকের প্রতিবেদন

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

সাধারণ সম্পাদকের প্রতিবেদন

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

সাধারণ সম্পাদকের প্রতিবেদন

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

সাধারণ সম্পাদকের প্রতিবেদন

বাংলাদেশ অর্থনীতি সমিতি সাময়িকী ২০১৪

বাংলাদেশ অর্থনীতি সমিতি					
২০১০-২০১২-এর মূল কর্মকান্ডের খেরোখাতা					
১। জাতীয় সেমিনার					
(National Seminar)					
তারিখ/স্থান	সেমিনারের শিরোনাম	প্রবন্ধের বিষয়	প্রবন্ধকর	সভাপতি, নির্ধারিত আলোচক ও স্বাগত বক্তা	উপস্থিতি
২১ অক্টোবর, ২০১০ সোনার গাঁও বল রুম	যৌথ সেমিনার- বাংলাদেশ অর্থনীতি সমিতি ও ইউনেসেফ বাংলাদেশ	• Mitigating social-economic inequalities to accelerate poverty reduction : Ingestion in vulnerable children	• Mr. Carel de Rooy	Mr. Abul Maal Abdul Muhith Dr. Shirin Sharmin Chawdhury Mr. Carel de Rooy Prof. Dr. Ashraf Uddin Chawdhury Prof. DDr. Sadeka Halim Dr. Fahmida Khatun Prof. Dr. Abul Barkat	৭৫০ জন
৮ জানুয়ারি, ২০১১ অর্থনীতি সমিতির অডিটোরিয়াম	সেমিনার	"কানকুন সম্মেলনের ফলাফল ও বাংলাদেশ"	ড. কাজী খলীকুজ্জমান আহমদ	অধ্যাপক ড. আবুল বারকাত	২২০ জন
২১ ও ২২ অক্টোবর ২০১১ ইঞ্জিনিয়ারিং ইনিস্টিটিউট	জাতীয় সেমিনার-২০১১	ড. কাজী খলীকুজ্জমান আহমদ ড. মোঃ মোয়াজ্জেম হোসেন খান কাজী জলফিকার আলী Dr. Salim Raihan অধ্যাপক ড. আবুল বারকাত	Framework, Targets, Strategies, Financing and Challenges. বাংলাদেশের ষষ্ঠ পঞ্চবাষিক পরিকল্পনায় সড়ক ও রেলওয়ে উপ-খাত : একটি তুলনামূলক পর্যালোচনা Comment on Sixth Five year Plan on trade Issues. ষষ্ঠ পঞ্চবাষিকী পরিকল্পনায় দারিদ্র ও বৈষম্য হ্রাস : উক্ত ও অনুক্ত বিষয়াদি	এয়ার ভাইস মার্শাল (অব:) এ.কে. খোন্দকার এমপি ড. কাজী খলীকুজ্জমান আহমদ অধ্যাপক ড. এম.এ. সাত্তার মন্ডল অধ্যাপক ড. আবুল বারকাত ড. এম. মোয়াজ্জেম হোসেন ড. এম. মোয়াজ্জেম হোসেন খান ড. নারায়ন চন্দ্র নাথ ড. সেলিম রায়হান ড. আনসুরুল করিম ড. তৌফিক আহমদ চৌধূরী	৬০০ জন

১। জাতীয় সেমিনার					
(National Seminar)					
তারিখ/স্থান	সেমিনারের শিরোনাম	প্রবন্ধের বিষয়	প্রবন্ধকর	সভাপতি, নির্ধারিত আলোচক ও স্বাগত বক্তা	উপস্থিতি
২৪/০৩/২০১২ অর্থনীতি সমিতির অডিটোরিয়াম	সেমিনার-২০১২	হান্নানা বেগম	"স্বাধীনতা চার দশক: বাংলাদেশের অর্থনীতিতে নারী"	ড. কাজী খলীকুজ্জমান আহমদ ড. আবুল বারকাত ড. সাদেকা হালিম অধ্যাপক মাহফুজা খানম ড. আনোয়ারা বেগম	২২০ জন
২/৬/২০১২	সেমিনার-২০১২	ড. জামালউদ্দিন আহমেদ	"Demutualization of Stock Exchanges: Rationale, Country Practice and A Road Map for Bangladesh"	ড. আবুল বারকাত ড. এম. খায়রুল ইসলাম মসিহ্ মালিক চৌধুরী	৪০০ জন
১৯ জুলাই ২০১২	জাতীয় সেমিনার-২০১২	অধ্যাপক ড. আবুল বারকাত	"নিজ অর্থে পদ্মা সেতু"	ড. মোহাম্মদ ফরাসউদ্দিন	৪৫০ জন

২। যৌথ সম্মেলন

(Jointly Conference)						
তারিখ/স্থান		সেমিনারের শিরোনাম	প্রবন্ধের বিষয়	প্রবন্ধকর	সভাপতি, নির্ধারিত আলোচক ও স্বাগত বক্তা	উপস্থিতি
২৩-২৮ এপ্রিল, ২০১১ বঙ্গবন্ধু সম্মেলন কেন্দ্র	*Organized by* Dhaka School of Economics (DScE) *in association with* Bangladesh Economic Association (BEA) *Participating organizations* Bangladesh Institute of Bank Management (BIBM), Bangladesh Network for Environmental Governance (BNEG), Bangladesh Unnayan Parishad (BUP), Bangladesh Young Economists Association (BYEA) , Campaign for Popular Education (CAMPE), Department of Population Sciences, University of Dhaka, Dhoritri Foundation ,		Macroeconomic Performance: Vision, Realities, Strategies, Constraints and Future Prospects Information and Communication Technology (ICT): Towards A Digital Bangladesh Role of Right to Information (RTI) in Establishing Transparency and Fighting Corruption in Society Strengthening Ganges-Brahmaputra-Meghna (GBM) Regional Cooperation for Mutual Benefit: Focus on Climate Change GBM Regional Connectivity for Mutual Benefit of the Regional Countries Changing Paradigms of Women's Empowerment: Education, Health and Violence Sixth Five Year Plan: A Review of Policies and Strategies Democratic Governance and Role of Media in promoting Equitable Development	Dr. Quazi Mesbahuddin Ahmed Mr. Mostafa Jabber Dr. Sadeqa Halim Dr. Qazi Kholiquzzaman Ahma Mr. Mohammad A. Arafat Dr. Nazmunessa Mahtab Dr. Mohammed Farashuddin Dr. Abul Monsur Ahammad,	**Chief Guest** Mr. Abul Maal Abdul Muhith,MP Dr. S. M. Nazrul Islam Justice Md. Tafazzul Islam Mr. Romesh Chandra Sen, MP Mr. Muhammad Faruk Khan, MP Vice Principal Md. Abdus Shahid, MP, Chief Whip Alhaj Advocate Md. Rahmat Ali, MP Mr. M. Syeduzzaman Justice kazi Ebadul Haque Mr. Subed Ali Bhuiyan , MP Dr. Mashiur Rahman Mr. Dilip Barua, MP Mr. H. N Ashiqur Rahman, MP Mr. Md. Israfil Alam, MP Mr.Mostafa Faruque Mohammed ,MP Barrister Shafique Ahmed Dr. Atiur Rahman Dr. Shirin SharminChowdhury,MP Dr. Alauddin Ahmad Mr. Rashed Khan Menon, MP Syed Manzur Elahi Mr. Abdul Latif Biswas Dr. Md. Afsarul Ameen, MP Dr. Towfiq-e-Elahi Chowdhury, BB, Mr. Amir Khasru Mahmud Chowdhury Dr.Mohiuddin Khan Alamgir, MP Mr. Suranjit Sen Gupta M,P	৩৫০০ জন

Governance Advocacy Forum, Human Development Research Centre (HDRC), Institution of Diploma Engineers, Bangladesh (IDEB), Palli Karma-Sahayak Foundation (PKSF),Riverine People, Unnayan Shamunnay		Ensuring Transparency and Accountability in Public Administration	Dr. Akbar Ali Khan	Mr. Enamul Hoque Mostofa Shaheed, MP **Chairperson** Dr. Qazi Kholiquzzaman Ahmad
		Culture and Sports for Human and Social Development: Identifying Needs and Defining Scope	Dr. Syed Manjurul Islam	Dr. A. Musawwir Chowdhury Mr. Golam Rahman Mr. C. M. Shafi Sami Dr. Ashraf Uddin Chowdhury
		External Assistance: Effectiveness and Influence	Dr. M. M. Akash	Ms. Rasheda K. Chowdhury Dr. Shamsul Alam Dr. A.A.M.S Arefin Siddiq
		Sustainable Rural Employment Generation: Issues and Future Direction	Dr. Zahurul Karim	Barrister Md. Amirul Islam Dr. Mridul Kanti Chakrobarty, Professor Dr. Mizanur Rahman Shelly
		Public Private Partnership (PPP) and Infrastructure Development	Mr. Nazrul Islam	Dr. A B Mirza Azizul Islam Prof. Ali Ashraf,MP Mr. A.K.M Zafrullah Khan
		An Integrated Approach to Population, Health and Nutrition	Dr. A K M Nurun Nabi	Dr. Hafiz G. A. Siddiqi *Mr. MA Jalil,Chairman, BUP* Dr. Mohammed Farashuddin Dr. Salehuddin Ahmed
		Human Services Export: Challenges in Taking Advantage of the Emerging Opportunities	Dr. Monwar Hossain	Prof. Amirul Islam Dr. Mahbub Hossain Mr. Khondkar Ibrahim Khaled,
		Local Governance: Reforms with Reference to Constitutional Obligations	Mr. Mohsin Ali	Professor Md. Sakender Khan Dr. Qazi Kholiquzzaman Ahmad, Mr. Kazi Rafiqul Alam Syed Yousuf Hossain
		Effectiveness of Regulatory Bodies: Manipulations and Anomalies in Capital Market	Prof. Dr.M.A Baqui Khalili	Md. Allah Malik Kazmi Dr. Mohammed Farashuddin Justice Md. Tafazzul Islam Prof. Siddiqur R. Osmani,
		Financial Stability and Risk Management in the Banking Sector	Dr. Toufic Ahmad Choudhury	**Discussant** Dr. Sadiq Ahmed Dr. Ananya Raihan
		Women in theEconomy of	Prof. Hannana	Ms. Tahmina Rahman,

				Bangladesh Since Beijing Platform for Action 1995	Begum	Dr. Ansarul Karim Dr. Selim Raihan, Ms. Shirin Akhter	
				Solving Unemployment of Educated Youths: Ways Forward	Dr Shamsul Alam	Dr. Ismail Hossain Mr. qbal Sobhan Chowdhury, Dr. Iftekheruzzaman Mr. Aly Zaker	
				Youth Perspectives on Shaping the Future of Bangladesh	Ms. Adan Islam	*Mr.*Faroquddin Ahmed Mr. Abdul Matin, Dr. Abu Zamil Faisal	
				Approaches to Skill Development	Mr. Salahuddin Kasem Khan	Dr. Tasneem Arefa Siddiqui, Dr. Abdul Wadud Dr. Taufic Ahmad Chowdhury Mr. Habibullah Bahar	
				Agricultural Development under Changing Climatic Conditions	Dr. M. Asaduzzaman	Dr. Anowara Begum Mr. Asmar Osman Prof. Dr. Ayesha Shirin Rahman Dr. Mohammed Farashuddin Dr. M A Sattar Mandal, Dr. M Moazzam Hossain Khan Dr.Md. Mozibur Rahman Dr. Pratima Paul Majumder Dr. Shahdeen Malik Dr. M. M. Akash,	

২ । লোকবক্তৃতা

(Publication)

তারিখ/স্থান	আয়োজনে	বই	রচয়িতা	উপস্থিতি
১৯/০২/২০১১	লোকবক্তৃতা	Harsha V. Singh	Importance of WTO system for development	২০০ জন
০১/০৪/২০১২	'Public Lecture-2012'	Pascal Lamy	Role of Trade in Development	১১০০ জন

৩। আঞ্চলিক সেমিনার
(Regional Seminar)

তারিখ/স্থান	সেমিনারের বিষয়	প্রবন্ধের বিষয়	প্রবন্ধকার	নির্ধারিত আলোচক/বক্তা	উপস্থিতি
২৮/০১/২০১২ আঞ্চলিক সেমিনার (চট্টগ্রাম)	ব্যানিজ্যিক ব্যাংকগুলোর CSR কার্যক্রম: এদেশের দারিদ্র্য বিমোচনে হতে পারে অনুকরনীয় মডেল	মুহাম্মদ জসীম উদ্দীন Rumman Karim Chowdhury Dr. Andrea Carriera Mohammad Naushad Ali Chowdhury সানজিদা আক্তার Mohammed Saiful Islam Md. Selim Reza Dr. M. Moazzem H. Khan Md. Abdul Wadud Fatema Johara Dr. Md. Fashiul Alam	ব্যানিজ্যিক ব্যাংকগুলোর CSR কার্যক্রম: এদেশের দারিদ্র্য বিমোচনে হতে পারে অনুকরনীয় মডেল The Global Financial Crisis and Recovery: 2007-2009 Bangladesh Bank and Management of Financial Sector বাংলাদেশে বৈদেশিক সাহায্যের কার্যকারিতা একটি সমীক্ষা Could Monetary Policy of Bangladesh be Rule-based Rather than Discretionary? Impact of Global Financial Crisis on The Economy of Bangladesh Global Financial Crisis in the Late 2000s and Exports, Imports and Economic Growth in Bangladesh: A Granger Causality Analysis. Global Recession and The Road Transport of Bangladesh		২৫০ জন
০৪/০২/২০১২ আঞ্চলিক সেমিনার (কুষ্টিয়া)	সাম্প্রতিক বিশ্ব অর্থনৈতিক মন্দা : প্রেক্ষিত বাংলাদেশ	অজয় কুমার বিশ্বাস	সাম্প্রতিক বিশ্ব অর্থনৈতিক মন্দা : প্রেক্ষিত বাংলাদেশ		৮৫০ জন

২৫/০২/২০১২ আঞ্চলিক সেমিনার (ময়মনসিংহ)	Minor Crops, Livestock and Fish Farming in Bangladesh: Prospects and Challenges	Dr. Rayhan Hayat Sarwer Tofazzal Hossain Miah	Livelihood Adaption Strategies of the Resource-poor Women through Chicken, Duck and Goat Rearing in Bangladesh.	ড. এম. সাত্তার মন্ডল ড. মোঃ রফিকুল ইসলাম ড. আবুল বারকাত ড. তৌফিক আহমদ চৌধূরী	২৫০ জন
		M. Akteruzzaman M.M. Hossin M.A.M. Miah Abdullah Al-Mamun Sadika Haque	Factors Influencing Intensification of Integrated Farming Systems in Noakhali		
		A.N.M. Wasim Feroz Mahbub Hossain M.H.A. Rashid	Factors influencing production of year round bagda shrimp in satkhira district of Bangladesh.		
		Mou Rani Sarkre Dr. M. Serajul Islam	An Economic Study of Small-Scale Koi (Anabas testudineus) Fish Farming in Some Selected Areas of Greater Mymensingh District.		
		M. Serajul Islam K.M. Mostafijur Rahman Md. Kamrul Hasan K.M. Mehedi Adnan	Present Status and Potentiality of Onion production in Selected Areas of Bangladesh.		
		Farhana Pathan Tofazzal Hossain Miah Mahbub Hossain	Prospects and Problems of Small-holder's Dairy Farming: A Case of Bhaluka Upazila in Mymensing District of Bangladesh.		
		Md. Abdur Rouf Sarkar Dr. M. Harun-Ar Rashid	An Economic Analysis on Contract Farming in Vegetables Seed Production in Selected Areas of Rangpur District.		

১০/০৩/২০১২ আঞ্চলিক সেমিনার (রাজশাহী)	বাংলাদেশে ষষ্ঠ পঞ্চবার্ষিক পরিকল্পনা: ২০১১-১৫	Md. Abdul Wadud Bibhuti Sarker	Potential Impact of the sixth five year plan on the relationship among exports, Imports, remittances and economic growth in Bangladesh: A vector error correction modeling analysis.		৪২০ জন
		Md. Enamul Haque Afroza Khatun Kazi Julfkar Ali Dr. M. Moazzem Hossain Khan	Population, Socio-Economic Impacts, Climate Change & 6th Five Year Plan. The Sixth Five Year Plan of Bangladesh and Performance Evaluation of Public Sector Enterprises : A Case Study of Kushtia Sugar Mills Limited.		
		Md. Selim Reza Dr. M. Moazzem Hossain Khan	Transport Sector in the Sixth Five Year Plan of Bangladesh : An Overview		
		Md. Abdul Khaleque Khan	Employment generation, Poverty reduction and Sixth Five Year Plan (FY2011-FY2015)		
		Tariq Saiful Islam Nazmullah bin Tariq	A Study of Macroeconomic Projections of the Sixth Five year Plan of Bangladesh		
		Mst. Shefa Zebun Dr. Md. Elias Hossain	Analysis of Rural Women's Participation in Economic Activities in Dinajpur District of Bangladesh.		

৪ । গোলটেবিল, সংলাপ, মতবিনিময় সভা
(Round Table Discussion and Dialogue Meeting)

তারিখ/স্থান	বিষয়	প্রবন্ধের মূল বিষয়	প্রবন্ধকার/উপস্থাপক	আলোচক, সভাপতি	উপস্থিতি
৩১/০১/২০১২	গোলটেবিল আলোচনা'	টিপাইমুখ প্রকল্প: বাংলাদেশ প্রেক্ষিত	ড. এস.এ. কাসেম		২১০ জন

৫ । সাংবাদিক সম্মেলনঃ বাজেট, গ্যাস-তেল-কয়লা

তারিখ/স্থান	বিষয়	প্রবন্ধের বিষয়	উপস্থাপক	উপস্থিতি
১৯ মে, ২০১০ সমিতির অডিটোরিয়াম	বাংলাদেশের প্রাক-বাজেট: ২০১০-১১ সংবাদ সম্মেলন	বাংলাদেশ সরকারের ২০১০-২০১১ অর্থবছরের প্রাক-বাজেট সুপারিশ : বাংলাদেশ অর্থনীতি সমিতি	ড. আবুল বারকাত ড. তৌফিক আহমদ চৌধুরী	১১০ জন
১৩ জুন ২০১০	বাংলাদেশের বাজেট উত্তর সংবাদ সম্মেলন ২০১০-১১	বাংলাদেশ সরকারের ২০১০-২০১১ অর্থবছরের বাজেট ঃ প্রতিক্রিয়া ও সুপারিশ	ড. আবুল বারকাত ড. তৌফিক আহমদ চৌধুরী	৯০ জন
২২ এপ্রিল, ২০১১ অর্থনীতি সমিতির অডিটোরিয়াম	২৩-২৮ এপ্রিল, ২০১১ ঢাকা স্কুল অব ইকনোমিকস ও বাংলাদেশ অর্থনীতি সমিতি কর্তৃক সম্মেলন	বাংলাদেশ সামাজিক ও অর্থনৈতিক ফোরাম ২০১১		৯৫ জন
২৮ মে, ২০১১ সমিতির অডিটোরিয়াম	বাংলাদেশের প্রাক-বাজেট: ২০১১-১২ সংবাদ সম্মেলন	বাংলাদেশ সরকারের ২০১১-২০১২ অর্থবছরের প্রাক-বাজেট সুপারিশ : বাংলাদেশ অর্থনীতি সমিতি	ড. আবুল বারকাত ড. তৌফিক আহমদ চৌধুরী	১১০ জন
২৫ জুন ২০১১	বাংলাদেশের বাজেট উত্তর সংবাদ সম্মেলন ২০১১-১২	বাংলাদেশ সরকারের ২০১১-২০১২ অর্থবছরের বাজেট ঃ প্রতিক্রিয়া ও সুপারিশ	ড. আবুল বারকাত ড. তৌফিক আহমদ চৌধুরী	৯০ জন

| ১৪ জুন ২০১২ | 'সাংবাদিক সম্মেলন' ২০১২-২০১৩ | বাংলাদেশ সরকারের ২০১২-১৩ অর্থবছরের বাজেট: প্রতিক্রিয়া ও সুপারিশ | ড. আবুল বারকাত
ড. তৌফিক আহমদ চৌধুরী | ১২০ জন |

৬। প্রশিক্ষণ কর্মশালা

তারিখ/স্থান	বিষয়	প্রশিক্ষণের বিষয় ও প্রশিক্ষক	সভাপতি ও অতিথি	প্রশিক্ষণার্থী সংখ্যা
১১-১৬ ফেব্রুয়ারি, ২০১১ বাংলাদেশ অর্থনীতি সমিতির মিলনায়তন	শিক্ষক রিফ্রেসার কোর্স	Mr. Asrarul I. Chowdhury Microeconomics Mr. Asrarul I. Chowdhury Microeconomics Prof. Dr. M A Sattar Mandal Agriculture Economics Dr. Selim Raihan International Economics Dr. Selim Raihan International Economics Dr. A. Wadud, R U Econometrics Dr. A. Wadud, R U Econometrics Prof. Shafiquzzaman Industrial Economics Dr. Md. Amzad Hossain Macroeconomics Dr. Md. Amzad Hossain Macroeconomics Dr. Q K Ahmad Education Policy	ড. কাজী খলীকুজ্জমান আহমদ প্রফেসর ড. নজরুল ইসলাম প্রফেসর ড. কাজী শহিদুল্লাহ অধ্যাপক ড. আবুল বারকাত	২৭ জন

		Dr. Mustafizur Rahman WTO and Development Prof. Hannana Begum Gender Issues Dr. Q K Ahmad Climate Change and Environment Dr. N C Nath Industrial Policy Dr. Toufic A. Chow Banking Sector & Capital Market Prof. Dr. Abul Barkat Poverty Issues Prof. Dr. Abul Barka Health Economics Dr. Aktaruzzaman Monetary Policy Prof. Amirul Islam Chow Public Finance Prof. Moazzem H Khan Open discussion on Bangladesh Economy Dr. Jadab Chandra Saha Teaching of Economics		
২৩-২৯ মার্চ, ২০১২ বাংলাদেশ অর্থনীতি	শিক্ষক রিফ্রেসার কোর্স আয়োজনে বাংলাদেশ অর্থনীতি সমিতি ও ঢাকা স্কুল	Dr. Md. Amzad Hossain Microeconomics Dr. Muinul Islam Macro Economics	ড. কাজী খলীকুজ্জমান আহমদ ড. মোহাম্মদ ফরাসউদ্দিন অধ্যাপক ড. আবুল বারকাত ড. তৌফিক আহমদ চৌধুরী	৩৫ জন

সমিতির মিলনায়তন	অব ইকনোমিকস			
		Dr. Amirul Islam Chowdhury Public Finance Dr. Kazi Saleh Ahmed Statistics Dr. Shafiquzzaman Industrial Economics Dr. Abul Barkat Population Economics Dr. Toufic A. Chowdhury Monetary Economics Dr. Abdul Wadud Econometrics Dr. M. Moazzem H Khan International Economics		

৭। দ্বি-বার্ষিক সম্মেলন চট্টগ্রাম চ্যাপ্টার

তারিখ/স্থান	বিষয়	প্রবন্ধের বিষয়	প্রবন্ধকর	নির্ধারিত আলোচক/বক্তা	উপস্থিতি
৫ ফেব্রুয়ারি ২০১১ থিয়েটার ইনস্টিটিউট, চট্টগ্রাম	"Development of Chittagong: Regional Hub of the East" ২য় দ্বি-বার্ষিক সম্মেলন ও আঞ্চলিক সেমিনার (চট্টগ্রাম চ্যাপ্টার)	ট্রানজিট বনাম ট্রান্সশীপমেন্ট ঃ কোনটি বাংলাদেশের জন্য শ্রেয় ট্রানজিটের রাজনৈতিক অর্থনীতি : বাংলাদেশের প্রাপ্তি আঞ্চলিক ট্রানজিট এবং ট্রান্স শিপমেন্টঃ প্রেক্ষাপট চট্টগ্রাম বন্দর Corridor controversy: Optimum	মায়মুল আলী ড. মোয়াজ্জেম হোসেন খান মোঃ সেলিম রেজা নাসির উদ্দিন চৌধুরী Dr.Abul Kalam Azad Nitai C. Nag Ataul Karim	ড. রেহমান সোবহান ড. কাজী খলীকুজ্জমান আহমদ অধ্যাপক মু. সিকান্দার খান ড. মইনুল ইসলাম অধ্যাপক আবদুল মান্নান চৌধুরী অধ্যাপক আবুল বারকাত খোরশেদুল আলম কাদেরী মনছুর এম.ওয়াই. চৌধুরী	২২৫

		service charges, gains, risks and alternative	Chowdhury		
		Issues on a regional economic cooperation between Bangladesh and her landlo ched neighborhood with highlights on the rolu of Chittagong	Dr. M. Abdul Mamar Chowdhery		
		Rational and the economic parameters that justify Chittagong as a regional hub the prospect and possibilities on regional connectivity trans & trans shipment an extract of opinion & thought	A.H.M. Salimullah Halima Bagum		
		The application of just-in-time (JIT) approach to improve the management efficiency of Chittagong port : some observations	খোরশেদুল আলম কাদেরী		
		Role of Chittagong sea port in economic co-operation in eastern south Asia e-port : A case study of Chittagong port সাধারন সম্পাদকের প্রতিবেদন কোষাধ্যক্ষের প্রতিবেদন	এম.ওয়াই. চৌধুরী		

৮ । পত্রিকায় প্রেস বিজ্ঞপ্তি/শোক বার্তা

৩ মে ২০১১	বাংলাদেশ অর্থনীতি সমিতির সদস্য অধ্যাপক ড. নাসরিন হক খন্দকার-এর মৃত্যুতে শোকবার্তা	
৩০ জুলাই, ২০১১	বাংলাদেশ অর্থনীতি সমিতির সদস্য সাবেক সচিব সালাহ উদ্দিন আহমদ-এর মৃত্যুতে শোকবার্তা	
১৪ আগস্ট, ২০১১	বিশিষ্ট চলচ্চিত্র নির্মাতা তারেক মাসুদ ও বিশিষ্ট সাংবাদিক আশফাক মুনীর মিশুক-এর মৃত্যুতে শোকবার্তা	
১৬ সেপ্টেম্বর, ২০১১	বিশিষ্ট অর্থনীতিবিদ ও অর্থনীতি বিভাগ, জাহাঙ্গীর নগর বিশ্ববিদ্যালয়-এর অধ্যাপক এবং বাংলাদেশ অর্থনীতি সমিতির প্রাক্তন সহ-সভাপতি অধ্যাপক সৈয়দ আব্দুল হাই-এর মৃত্যুতে শোকবার্তা	
১লা ডিসেম্বর ২০১১	বিশিষ্ট অর্থনীতিবিদ অধ্যাপক ড. মোঃ কায়সার হুসেইন	
১৩ ফেব্রুয়ারি ২০১২	চলচ্চিত্র ব্যক্তিত্ব হুমায়ুন ফরীদি	
২২ মে ২০১২ তারিখ	বিশিষ্ট অর্থনীতিবিদ এবং বাংলাদেশ অর্থনীতি সমিতির প্রাক্তন সভাপতি অধ্যাপক মোজাফ্ফর আহমদ	

৯ । একুশের প্রভাত ফেরি

তারিখ/স্থান	বিষয়	উপস্থিতি
২১ ফেব্রুয়ারী ২০১১ শহীদ মিনার	প্রভাতফেরি	৪৫ জন
১৬ ডিসেম্বর ২০১১	বিজয় দিবসে ফুল দিতে যাওয়া	৪০ জন
২১ ফেব্রুয়ারী ২০১১ শহীদ মিনার	প্রভাতফেরি	৩৫ জন

১০ । প্রকাশনা ও অন্যান্য

- বাংলাদেশ অর্থনীতি সমিতির সাময়িকী ২০১২ (দুই খণ্ড) ইতোমধ্যে প্রকাশিত হয়েছে ।
- বাংলাদেশ জার্নাল অব পলিটিক্যাল ইকনমি: ২০১১-২০১২-এর পরিকল্পনা অনুযায়ী তিনটি ইতোমধ্যে প্রকাশিত হয়েছে ।
- সমিতির আজীবন সদস্য-এর আইডি কার্ড তৈরী হয়েছে ।
- সমিতির সদস্য ডাইরেক্টরী-২০১২ প্রকাশ ।

১৮তম দ্বি-বার্ষিক সম্মেলনে উপস্থিত অতিথি সদস্যদের একাংশ।

১৮তম দ্বি-বার্ষিক সম্মেলনের নির্বাচনী কার্যক্রম।

১৮তম দ্বি-বার্ষিক সম্মেলনের সাধারণ সভা।

১৮তম দ্বি-বার্ষিক সম্মেলনের নির্বাচন কার্যক্রমে ব্যস্ত প্রধান নির্বাচন কমিশনার ড. নাজমুল বারী (ডান থেকে প্রথম) সহযোগী নির্বাচন কমিশনার যথাক্রমে ড. আযম খান ও জনাব মোঃ কোরবান আলী।

৩০ নভেম্বর ২০১২ তারিখ অনুষ্ঠিত ড. অশোক মিত্র প্রদত্ত লোকবক্তৃতা অনুষ্ঠান। ডান দিক থেকে অধ্যাপক রেহমান সোবহান, ড. অশোক মিত্র, অধ্যাপক ড. আবুল বারকাত ও অধ্যাপক হান্নানা বেগম।

১৫ ফেব্রুয়ারী ২০১৩ তারিখে গণজাগরণ মঞ্চের সঙ্গে একাত্মতা প্রকাশ। বাম দিক থেকে মোঃ মোস্তাফিজুর রহমান সরদার, অধ্যাপক ড. আবুল বারকাত, অধ্যাপক হান্নানা বেগম ও মসিহ্ মালিক চৌধুরী।

১৩ এপ্রিল ২০১৩ তারিখে সাংবাদিক প্রশিক্ষণ কোর্সে বক্তৃতা প্রদান করছেন সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত বামে কার্যনির্বাহী কমিটির সদস্য খন্দকার ইব্রাহীম খালেদ।

৫ নভেম্বর ২০১৩ "গ্রীণ ব্যাংকিং ও গ্রীণ ইকনোমি" ব্যাংকিং প্রশিক্ষণ কোর্সে বক্তব্য প্রদান করছেন সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত। বাম পাশে বসা সহ-সম্পাদক আসজ্জাদুল কিবরিয়া ও ডানে অধ্যাপক ড. শাহ্ মোঃ আহসান হাবিব।

৫ নভেম্বর ২০১৩ "গ্রীণ ব্যাংকিং ও গ্রীণ ইকনোমি" ব্যাংকিং প্রশিক্ষণ কোর্সে বক্তব্য প্রদান করছেন সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত। বাম পাশে বসা সহ-সম্পাদক আসজ্জাদুল কিবরিয়া ও ডানে অধ্যাপক ড. শাহ্ মোঃ আহসান হাবিব।

৫ নভেম্বর ২০১৩ তারিখে অনুষ্ঠিত "গ্রীণ ব্যাংকিং ও গ্রীণ ইকনোমি" শীর্ষক প্রশিক্ষণ কর্মসূচীর প্রশিক্ষণার্থীরা।

৩০ নভেম্বর ২০১৩ তারিখে সমিতির সাধারণ সম্পাদক ড. তৌফিক আহমদ চৌধুরী ৩ বছরের জন্য বিআইবিএম-এর ডিজি হিসেবে পুনঃনিয়োগ পাওয়ায় তাকে ফুল দিয়ে শুভেচ্ছা জানান সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত।

২৬ অক্টোবর ২০১৪ তারিখে শিক্ষক প্রশিক্ষণ কোর্সের সমাপনী অনুষ্ঠানে সনদপত্র প্রদান করছেন কার্যনির্বাহী কমিটির সদস্য অধ্যাপক হান্নানা বেগম।

১৫ ডিসেম্বর-২০১৩ শহীদ বুদ্ধিজীবিদের প্রতি শ্রদ্ধা জানাতে গণজাগরণ-মঞ্চের প্রতিনিধিদের সঙ্গে সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত (ডান থেকে ৫ নম্বর এ)।

১৫ ডিসেম্বর-২০১৩ শহীদ বুদ্ধিজীবিদের প্রতি শ্রদ্ধা জানাতে গণজাগরণ মঞ্চের প্রতিনিধিদের সঙ্গে সমিতির সহ-সভাপতি ড. জামালউদ্দিন আহমেদ ও কার্যনিবাহী কমিটির সদস্য জনাব মাহতাব আলী রাশেদী (ডান থেকে যথাক্রমে ২য় ও ৩য়)।

১৬ ডিসেম্বর ২০১৪, গণজাগরণ মঞ্চের শপথ অনুষ্ঠানে সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত (মাঝে)।

৪ জানুয়ারী ২০১৪, দেশে সহিংস ও ধংসাত্মক রাজনীতির স্বরূপ উদঘটন ও ভবিষ্যত নিরূপণের লক্ষে সমিতি আয়োজিত গোল টেবিল বৈঠক।

লোক বক্তৃতা-২০১৪ প্রদান করছেন সমিতির সভাপতি অধ্যাপক ড. আবুল বারকাত।

লোক বক্তৃতা-২০১৪ অনুষ্ঠানে প্রধান অতিথির বক্তব্য রাখছেন ঢাকা বিশ্ববিদ্যালয়ের মাননীয় উপাচার্য অধ্যাপক ড. আ আ ম স আরেফিন সিদ্দিক।

বাংলাদেশ অর্থনীতি সমিতি কর্তৃক ঢাকা বিশ্ববিদ্যালয়ের সিনেট ভবনে আয়োজিত লোক বক্তৃতা-২০১৪ অনুষ্ঠানে সমবেত সুধীমণ্ডলীর একাংশ (তারিখঃ ২২-০৩-২০১৪)।