

Changes in Rural Credit Structure over The Years : An Empirical Study in Kushtia District of Bangladesh

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Abstract

The study was designed to investigate into the existing rural credit market structure and expected changes which might occur therein over the years. Eighty randomly selected farmers belonging to five different villages under Mirpur Upazila of Kushtia district were interviewed through administering a well prepared structured questionnaire. Respondents were grouped into small, medium and large farm size and analysis was done accordingly. Data used covered the period of January to December, 2008. The study reveals that the structure of rural credit market has undergone a radical change over the years. Large and medium farmers had more access to public and private banks than small farmers because of their ability to offer required collaterals against loan. Member-based institutions (GB and other NGOs), however, have taken care of these people in the study area. As a result, the respondents need not be so dependent at present on money lenders and other non-institutional sources of credit. Most of the credit demand of the respondents has been satisfied by the credit institutions available close to the study villages. A lion's share of loaned money obtained has been productively utilized by the sampled respondents implying the borrower's positive attitude towards productive utilization of credit. Overall loan recovery position observed during the study period was found to be quite satisfactory. Self consciousness and hope of getting future loan were reported by most of the borrowers as major factors of timely loan repayment. Farm size, education

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and income of the borrowers were the significant contributing factors towards loan repayment behaviour of the respondents in the study villages.

Key Words : *Credit Structure; loan receipt, utilization and repayment.*

1. Introduction

Bangladesh having been predominantly an agrarian economy, agriculture has to play the vital role in its economic growth and stability through contributing a major share to gross domestic product (GDP), employment generation as well as export earnings. Bangladesh has entered the arena of modernized agriculture since 1960 and as such needs high capital investment in accumulation of HYV seeds, required machineries and equipment for land tillage, irrigation water, fertilizer, insecticides, etc., and development of agro-based industries in rural and sub-urban areas. But the fact is that the people engaged in agriculture can not adequately afford to have all these inputs and machineries out of their own savings because of financial hardship and extreme poverty situation. Under the circumstances, the farmers in general and marginal, small and tenant farmers in particular, need adequate financial assistance in the form of low-cost credit from different sources (Mian, 2001). Historical evidences reveal that rural people had to depend on informal credit market, mostly money lenders and mahajans, for agricultural production (DU 1956, Bashar 1969, Islam 1998). This financial market structure, however, has undergone significant transformation over the years with gradual expansion of bank branching network at upazila as well as other important production points. During the 1970s, the emergence of Grameen bank and hundreds of other national, international and local NGOs working specially in remote villages has ushered a gateway for the rural mass to approach the formal sources of credit (Bashar and Alam 1985, Hossain 1986, Alam 2003). Reverse comments are also there that despite the continuous expansion of the institutional network, informal sources of credit still play a dominant role in distributing farm credit specially in remotest areas in the country (Alam *et al* 1984). Therefore, an attempt has been made in the present study to find out the factual information in this regard. Results of the study will hopefully help planners and policy makers to formulate more pragmatic decisions consistent with overall agricultural development of the country. The overall objective of the study is to see the structural changes occurred over the years in the rural credit market. The specific objectives of the study are as follows:

- a. To assess the socio-economic characteristics of the respondents in the study area.

- b. To identify the existing sources of credit in the study area.
- c. To estimate the amount of credit received by the farmers from the available sources in the study area.
- d. To examine the credit utilization and repayment behaviour of the farmers in the area.
- e. To draw some rationale conclusions on the basis of the findings of the study.

The methodology adopted in the study is presented in section II. The results of the study with elaborate discussions thereon appear in section III, and the implications of the results are described in the concluding section.

2. Methodology

To achieve the set objectives, 80 farmers covering 5 villages under Mirpur Upazilla of Kushtia district were randomly selected from whom the required data were sought during intensive field visits. Data were collected through personally interviewing the sampled farmers with a prepared questionnaire during the period, March to April, 2009. Data used for the study covered the period January-December, 2008. After completion of data collection, sampled farmers of different farm sizes were grouped into small (less than 2.50 acres), medium (2.50 to 5.00 acres), and large (above 5.00 acres) farmers and subsequent analysis has been done accordingly. Out of the 80 sample farmers, 45 were small farmers, 25 were medium, and 10 were large.

A statistical analysis has been done to achieve the desired results. The specified regression model (Gujarati, 2003) was used to examine the contributing factors of loan repayment by the borrowers. The general form of the equation is follows:

$$Y = aX_1^{b_1} X_2^{b_2} X_3^{b_3} X_4^{b_4} X_5^{b_5} X_6^{b_6} e^U$$

The equation is alternatively expressed in log-linear form as:

$$\ln Y = \ln a + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 + b_4 \ln X_4 + b_5 \ln X_5 + b_6 \ln X_6 + U_i$$

Where,

a = constant term

ln = natural logarithm

Y = amount of loan repaid by the respondent (Tk.)

X₁ = farm size of respondent (acres)

X₂ = age of the respondent (years)

X₃ = education of the respondent (years of schooling)

X_4 = income of the respondent (Tk.)

X_5 = expenditure of the respondent (Tk.)

X_6 = savings of the respondent (Tk.)

b_1 ----- b_6 = co-efficients of respective variables

U_i = error term.

3. Results and Discussion

Socio-economic Characteristics of the Respondents

Socio-economic characteristics of people are supposed to influence the credit need, its availability, loan use and repayment behaviour of the borrowers in less developed countries. Attempt has, therefore, been made in the present study to assess some of the important as well as relevant socio-economic characteristics of the respondents.

It appears from Table 1 that the overall family size of the farmers was 4.60, which is slightly less than the national average (4.90) (BBS 2006). The estimates according to small, medium and large farms were 4.37, 4.56 and 5.70, respectively, indicating a positive relationship between farm size and family size during the study. More family members within the active age group (15 to 57 years) and the higher dependency ratio indicate that there was unemployment problem in the study villages. Most of the respondents (84 percent) were found to have attended formal educational institutions and a majority of the large farmers had education above SSC level, which indicate the awareness of the respondents about the importance of education. Occupational distribution of the sampled farmers shows that most of them were engaged in agriculture (about 39 percent) and agriculture cum business (35 percent) during the study period. It is also evident from Table 1 that agriculture is the prime occupation of the respondents irrespective of farm size although some of them might have other subsidiary occupations. Land use distribution based on tenurial status was also considered in the study and presented in the same Table. Overall land holding under legal and de-facto status was estimated, respectively, at 2.19 and 1.36 acres comprising all farmers together. The Table further shows that medium and large farmers had relatively less effective land use because of their involvement other than in farming during the period under study. Small farmers, however, were found to have tried to increase their land acreage through various tenurial arrangements as evident from the Table. Land distribution relative to farmers belonging to different farm size groups considered in the study was relatively skewed (Gini coefficient = 0.51). A clear-cut positive relationship between farm size and average value of

Table 1 : Socio-economic characteristics of the respondents

Particulars	Farm Size Category			All
	Small	Medium	Large	
Sample farmers (No.)	45	25	10	80
Family size (No.)	4.37	4.56	5.70	4.60
Average earning member (No.)	1.31	1.40	1.80	1.40
Dependency ratio (No.)	3.36	3.29	3.17	3.28
Education level (Percent)				
Illiterate	22.22	12.0	-	16.25
Primary	55.56	20.0	-	37.50
SSC	13.33	36.0	40.0	23.75
Above SSC	8.89	32.0	60.0	22.50
Occupation (Percent)				
Agriculture	37.78	48.00	20.00	38.75
Agriculture cum service	4.44	12.00	30.00	10.00
Agriculture cum business	33.33	32.00	50.00	35.00
Agriculture cum others	24.44	8.00	-	16.25
Size of land holding (Acre)				
Cultivated own land	0.57	1.52	2.92	1.16
Land rented in	0.17	-	-	0.10
Land rented out	-	0.40	0.46	0.18
Land mortgaged in	0.11	0.13	-	0.10
Land mortgaged out	-	0.57	3.03	0.56
Total cultivated land	0.85	1.65	2.92	1.36
Homestead	0.09	0.16	0.29	0.14
Others (pond, fallow, orchard etc.)	0.03	0.30	0.35	0.15
Total owned land (legal status)	0.69	2.95	7.05	2.19
Control over available land (Percent)	17.72 (56.25)	42.05 (31.25)	40.23 (12.50)	100 (100)
Value of assets (Tk. in '000)	75	153	237	119
Annual income (Tk. in '000)				
Farm income	25	52	71	39
Non-farm income	33	47	87	44
Total income	58	99	158	83
Annual expenditure (Tk. in '000)				
Farm expenditure	18	36	45	27
Non-farm and family expenditure	37	51	90	48
Total expenditure	55	87	135	75
Annual savings (Tk. in '000)	3	12	23	8

Note: Figures in parentheses indicate percentage of total farms surveyed

Source: Field Survey, 2009

assets possessed by the respondents was found during the study. Income-expenditure analysis reveals that both were positively related to farm size categories. Average income of a large farmer was found to be 1.6 times and 2.7 times higher than those of medium and small farmers, respectively. It is also evident from the Table that the respondents, irrespective of farm size groups, had positive savings at the end of the year, which is definitely an encouraging phenomenon. Average saving was also related positively with farm size.

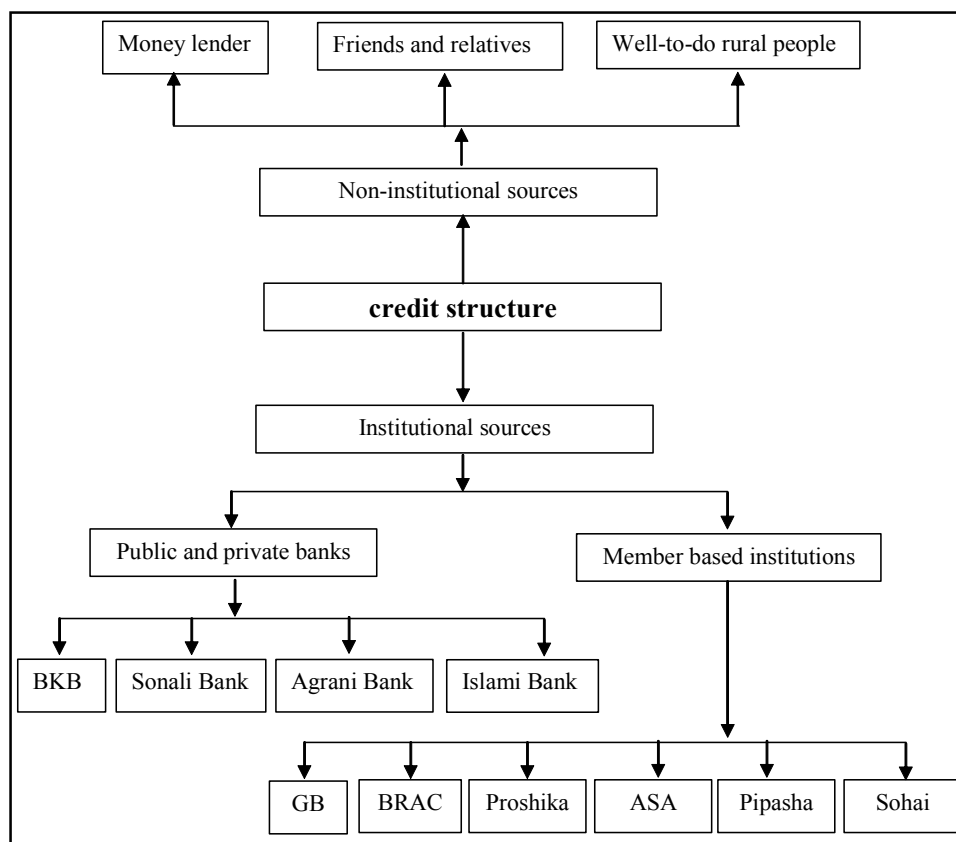
Sources of Credit

Both institutional and non-institutional sources of credit were found to have distributed credit among the farmers in the study area. Institutional sources of credit present in the study area were public banks (PBs), private commercial banks (PCBs) and member based institutions (GB and other NGOs), while well-to-do rural people, money lender and friends and relatives were important among non-institutional sources during the study period. No loan was given by the BRDB and co-operatives during the same period. The present credit structure in the study area is shown in Figure 1.

Amount of Credit Obtained from Different Sources

It appears from Table 2 that loans received from non-institutional sources by all categories of farms during the study period was quite insignificant (11.13 percent) relative to institutional ones (88.87 percent). This is indicative of the success of the government efforts to popularize the formal credit among the rural mass of the country.

Table 2 shows that the small farmers received on an average 84.54 percent of total credit from the institutional sources, of which a member-based institution “Pipasha” (local NGO) supplied the highest proportion (16.53 percent), followed by the Grameen Bank (15.16), Agrani Bank (15.16 percent) and ASA (11.83 percent) in the study villages. The small farmers, in fact, had more access to member-based credit institutions which gave collateral free loans, popularly known as micro credit, to the farmers for income generating activities (IGAs). The Table, on the other hand, reveals that the public and private commercial banks have supplied more money to medium and large farmers than small ones possibly because of the formers’ ability to offer security against loan. Money lenders, friends and relatives and well-to-do rural people were more or less important to the small farmers while not so to medium and large ones for obvious reasons. Loan receipt was found positively related to farm size in the study villages.

Figure 1 : Credit structure in the study area

The above discussion reveals that institutional loan becomes more and more available among the farmers due to the gradual expansion of institutional branch network all over the country along with relatively easy terms and conditions of loan. Institutional sources of credit, however, have still more affinity with the wealthy people even though they may have no direct connection with actual farm production. This is because of the concerns of institutional sources for adequate security and safety of credit extended by them.

Utilization of Credit by the Respondents

Success or failure of any credit program depends mostly on the extent of loan use and, accordingly, on the loan repayment behaviour of the borrower, which might have important long term bearing on the liquidity as well as the viability of the concerned lending institutions. Keeping this concept in mind, attempt has been made in the present study to explicitly examine the pattern of loan use by the

Table 2 : Average amount of loan contracted from different sources
(Amount in Taka)

Farm Size	Institutional sources										Non-institutional sources					Total
	Public and private banks					Member based institutions					Sub total	Money lender	Friends and relatives	Well-to-do rural people	Sub total	
	BKB	Sonali Bank	Agrani Bank	Islami Bank	Grameen Bank	BRAC	Proshika	ASA	Pipasha	Sohal						
Small	1556 (10.62)	-	2222 (15.16)	-	2222 (15.16)	233 (1.59)	622 (4.24)	1733 (11.83)	2422 (16.53)	1378 (9.40)	12388 (84.54)	844 (5.76)	311 (2.12)	1111 (7.58)	2266 (15.46)	14654 (100)
Medium	7560 (16.94)	8400 (18.82)	10400 (23.30)	4800 (10.75)	720 (1.61)	3200 (7.17)	1920 (4.30)	2120 (4.75)	800 (1.79)	-	39920 (89.43)	720 (1.61)	-	4000 (8.96)	4720 (10.57)	44640 (100)
Large	10000 (9.09)	10000 (9.09)	65000 (59.09)	15000 (13.64)	-	-	-	-	-	-	100000 (90.91)	-	10000 (9.09)	-	10000 (9.09)	110000 (100)
All	4488 (12.49)	3875 (10.78)	12625 (35.12)	3375 (9.39)	1475 (4.10)	1131 (3.15)	949 (2.64)	1638 (4.56)	1612 (4.48)	775 (2.16)	31943 (88.87)	700 (1.95)	1425 (3.96)	1875 (5.22)	4000 (11.13)	35943 (100)

Note: Figures in parentheses indicate percentages

Source: Field Survey, 2009

farmer borrowers. The information and data gathered from respondents in this regard are presented in Table 3. The broad purposes for which the borrowers in the study villages used loan money are (a) Capital expenditure on farming, (b) Current expenditure on farming, (c) Non-farm business expenditure, and (d) Family expenditure. Table 3 shows the break-up of the utilization of credit for

Table 3 : Percent utilization of credit according to farm size

Head of expenditure	Percent of loan use			
	Small	Medium	Large	All
Purchase of livestock	8.27	5.73	3.45	5.44
Purchase of land/mortgage in land	7.35	3.28	7.60	5.87
Purchase of agricultural equipment (tubewell, power pump, power tiller, etc.)	-	7.26	9.25	6.36
Pond leased in/digging	4.73	9.05	5.83	3.82
Total capital expenditure on Farming	20.35	25.32	26.13	24.49
Purchase of seed/seedling	3.32	2.15	3.10	2.78
Purchase of fertilizer	8.53	7.21	4.06	6.30
Purchase of insecticide	2.21	1.07	1.30	1.42
Charge for human labor	5.76	3.56	3.27	4.00
Irrigation charge incurred	2.35	0.78	0.35	0.98
Charge for power tiller	2.07	0.64	0.17	0.78
Seed, feed and medicine charge for live animals	1.18	0.65	1.25	0.97
Total current expenditure on Farming	25.42	16.06	13.50	17.23
Petty business/SMEs	11.63	9.74	5.26	8.46
Grocery shop	6.92	5.87	7.41	6.70
Tailoring	4.75	-	-	1.09
Purchase of van/autovan	8.78	-	-	2.01
Rice mill/saw mill	-	13.86	17.54	12.09
Chatal business	-	16.09	20.04	13.91
Total non-farm business expenditure	32.08	45.56	50.25	44.26
Purchase of food	7.78	3.29	-	3.06
Purchase of clothes	4.23	0.25	-	1.07
Expenditure on education	1.27	2.60	2.33	2.19
Medical treatment	3.12	1.64	1.82	2.05
Social ceremonies	4.13	2.75	1.92	2.75
Construction/ repairing house and household durables	1.62	2.53	4.05	2.90
Total family expenditure	22.15	13.06	10.12	14.02
Grand total	100	100	100	100

Source: Field Survey, 2009

these four purposes by the three size categories of farms. It is evident from Table 3 that, overall, a lion's share of the loan money has been used for productive purposes (almost 86 percent) while only 14 percent of the same was used for different items of family expenditure during the study period. Analysis of loan use by farm size category shows that the large farmers have used relatively more of the loan money on non-farm business activities (50.25 percent) and capital expenditure on farming (26.13 percent) while the small and medium ones put more or less equal importance on capital and current expenditure on farming and non-farm business expenditure during the same period. Small farmers, however, used relatively more on family expenditure (more than 22 percent) than medium (13 percent) and large ones (only 10 percent) during the year under investigation.

The pattern of loan use reveals a growing tendency on the part of the farmers towards productive use of credit over the years particularly since the later part of the 1980s. This shift of emphasis toward productive use of loans can perhaps be attributed to the gradual modernization in agricultural operation as well as rural small entrepreneurship development in the country.

Repayment of Credit by the Respondents

Loan repayment is one of the important aspects of credit analysis because of the fact that timely loan repayment by borrowers encourages the lending institutions to extend further loans to the farmers when required, which by and large helps economic development of the country. Attempt was, therefore, taken in the study to see the extent of loan repayment made by the borrowers. Table 4 shows the repayment behavior of the respondents. It can be seen in Table 4 that in the case of institutional sources, the loan recovery rate was 95.51%, 96.99%, and 100% for the small, medium and large farmers, respectively, while in the case of non-institutional sources, the recovery rate was 100% for all size categories of farms. Overall loan recovery percentage was thus quite satisfactory during the study period. Self consciousness and the hope of getting loan gain in future was reported by most of the borrowers as the major motivation behind timely loan repayment. Fear of surcharge, proper supervision by the field level staffs, and pressure of the leader and other members of the group were the other factors that induced timely loan repayment.

Efforts were also made to identify the contribution of individual explanatory variables influencing loan repayment made by the borrowers under study using a regression model. Results of the regression analysis are presented in Table 5.

Table 4 : Repayment of credit by the respondents
Amount in Tk.

Farm size	Institutional Sources				Non-institutional sources				
	Average Principal amount received	Average amount repaid	Loan Recovery Rate (%)	Total	Average Principal amount received	Average amount repaid	Loan Recovery Rate (%)	Total	
Small	12388	11832	1584	13416	95.51	2266	613	2879	100
Medium	39920	38720	5356	44076	96.99	4720	1248	5968	100
Large	100000	100000	14150	114150	100	10000	-	10000	100
All	31943	31256	4334	35590	97.85	4000	735	4735	100

Source: Field Survey, 2009

[Note: Interest rate charged by BKB – 8% to 14%, Sonali Bank – 14%, Agrani Bank – 14%, Islami Bank – 15%, Grameen Bank – 15%, BRAC – 15%, Proshika – 15%, ASA – 12.5%, Pipasha – 12.5%, Sohai – 12.5%, Money lenders – 33% to 80%, Well-to-do rural people– 20% to 24%]

Table 5 : Estimated values of coefficients and related statistics of regression analysis

Explanatory variable	Coefficient	Standard error	t-value
Constant	6.583	4.185	1.575
X ₁ , farm size	0.384**	0.156	2.470
X ₂ , age	-0.529	0.418	-1.265
X ₃ , education	0.220*	0.127	1.729
X ₄ , income	0.669*	0.382	1.750
X ₅ , expenditure	-0.258	0.333	-0.776
X ₆ , savings	0.050	0.042	1.171
R ²	0.58	-	-
Adjusted R ²	0.55	-	-
F-value	17.184***	-	-

* significant at 10 percent level

** significant at 5 percent level

*** significant at 1 percent level

Farm size, education and income of the borrowers were the significant variables influencing the loan repayment behaviour of the respondents.

The co-efficient of multiple determinations, R², was 0.58 indicating that about 58 percent of the total variation in loan repayment by the farmers could be explained by the variables taken into account in the study.

The F- value of the equation is highly significant implying that the variables considered were important for explaining the variation in the amount of loan repaid by the farmers.

Conclusions

- Based on the findings of the study, following conclusions may be drawn:
- The structure of rural credit has undergone a radical change over the years.
- Large and medium farmers were the major beneficiaries of public and private banks' credit while the credit needs of the smaller ones have been taken care of by GB and the available NGOs.
- Land ownership on legal status still plays a dominant role in receiving loan from public and private banks signifying least access of marginal, small and landless farmers to those institutions.
- Availability of institutional sources of credit in the study area seems to be adequate causing a gradual decline in the importance absence of non-institutional ones, particularly of money lenders and mohajans.

- Sources of credit available in the study villages more or less could satisfy the credit requirement of the farmers.
- Borrowed money is used mostly for productive purposes by the respondents in the study villages.
- Loan use for family expenses at present receives least priority from the borrowers.
- Timely loan repayment by the farmers in the study area seems to be quite satisfactory.
- Similar studies in other areas of the country are suggested to test the findings of the present study.

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