

ECONOMIC STUDY ON PATTERNS OF UTILIZATION AND EXTENT OF REPAYMENT OF AGRICULTURAL CREDIT IN BANGLADESH

S. Parveen¹, M.R. Hasan², R.Y. Lucky³ and N. Tabassum⁴

ABSTRACT

The present study was designed to analyze the patterns of uses of agricultural credit utilization by seasons and categories of farmers, to determine the extent of credit repayment by the borrowers, to examine the factors affecting repayment of agricultural credit and to recommend some policy guidelines. The study area, Boyra Union of Sadar Upazila of Mymensingh district was selected purposively considering the functional jurisdiction of a large number of institutional and non-institutional credit institutions. Primary data were collected by direct interview through using simple random sampling procedure. Tabular as well as statistical methods were used to meet the objectives. The multiple regression analysis was done to identify the relative contribution of the factors affecting the borrowers' repayment performance. Current expenditure on farming and family expenditure occupied largest shares of the agricultural credit of different categories of farmers. The percentage of credit repayment was highest for the medium farmers than that of the large and small farmers. Regression analysis showed that borrowers age, education, owned land, income, savings and loan received from institutional sources jointly explained 63 percent ($R^2 = 0.63$) of the total variation of the borrowers loan repayment and borrowers age, education, income loan received from BKB contributed positively to loan repayment performance but owned land and savings were negatively associated with the loan repayment performance. Finally, some recommendations were made on the basis of findings of the study.

Key Words: Utilization patterns, repayment extent, agricultural credit

INTRODUCTION

Agricultural credit is primarily advanced to help the farmers to use improved technologies to raise the productivity. While assessing the credit need of a farmer his production credit need not only is considered by the institutional agencies totally ignoring his other family expenses like social ceremonies, food deficits during pre-harvest time, non-institutional debt repayment, etc. But farming in our country is a way of life and a farm family is a complex unit where farming can not be considered in isolation. Therefore, when a small amount of loan is advanced to the farmer, he utilizes it according to his priority of needs. Since institutional sources of credit can not meet total credit requirements of farming sector, the needy farmers remain dependent on non-institutional sources (money lenders, well-to-do farmers) and have to pay exorbitant rate of interest. Moreover, institutional complexities and official formalities of loan disbursement often stand in the way of timely delivery of credit to the farmers when they need it for agricultural operations. As such, lack of timeliness in the institutional agricultural credit often defeats the very purpose for which credit is meant for (Bashar, 1985).

Even if production credit could be made available to the farmers in time, the timely and adequate supply of other key inputs for production can not be ensured due to lack of coordination and effective

^{1,2&3}Department of Economics, Hajee Mohammad Danesh Science and Technology University, Dinajpur; ⁴Department of Marketing and Cooperation, Bangladesh Agricultural University, Mymensingh, Bangladesh

linkage between the credit agencies and the input supplying organizations. Moreover, the continuously increasing dependence on import of fertilizers, irrigation machineries, fuels and related spares and services from abroad, the availability and price of which are erratic and uncertain, is a serious constraint to the development of the country. The combined effect of all these factors encourages the diversion of usage of credit to other non-productive purposes. Agricultural credit to be effective for increasing agricultural production should be utilized for the specific purposes for which it is borrowed. The tendency of misutilization is common among all types of borrowers. The borrowers generally use to divert the borrowed funds mostly for the consumption purposes as they can not avoid the subsistence need of the family. Late delivery of agricultural loan also attributes some extend to its improper use. Repayment of credit is mostly related to its effective utilization. Use of credit for unproductive purposes very often results in overdue of loans and weakens the financial viability of the financial institutions. The success of credit institutions therefore, depends mostly on the extent of proper utilization of credit supplied to the users. In this paper, a thorough investigation has been made to see the pattern of credit utilization in which the sampled borrowers have spend their loan money received from institutional and non-institutional sources during the year under study. More particularly, this paper examined the patterns of uses of agricultural credit utilization by seasons and categories of farmers; the extent of credit repayment by the borrowers; the factors affecting repayment of agricultural credits and finally recommended some policy guidelines.

MATERIALS AND METHODOLOGY

The study area was selected purposively considering the functional jurisdiction of a large number of institutional and non-institutional credit institutions. There were hundreds of borrower farmers in the Boyra Union of Sadar Upazila of Mymensingh district. It was very difficult to interview the entire population. Simple random sampling procedure was followed for selecting the samples and 65 borrowers were selected by using random table from the five villages of the Boyra Union. Primary data were collected form the selected respondents through survey method with a structured pre-tested questionnaire by the researcher herself through direct interview. Tabular as well as statistical analysis was done to attain the objectives. In the present study farmers were categorized in three different categories on the basis of land holding such as, small farmers who possesses or cultivates 0.1-1.00 hectare of land, medium farmers who possesses 1.01-3.03 hectares of land and large farmers who possesses above 3.03 hectares of land.

The multiple regression analysis was done to identify the relative contribution of the factors affecting the borrowers' repayment performance. The multiple regression equation used in the present study is of the following form $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e_i$ where, Y = Amount (TK) of loan repaid by the loanee, X_1 = Age of the respondent measured in years, X_2 = Borrower's education, measured in term of schooling year, X_3 = Borrower's own land measured in hectare, X_4 = Borrower's income (Tk), X_5 = Borrower's savings (Tk.), X_6 = Loan (Tk.) received, b = Regression coefficient, e_i = Error term.

RESULTS AND DISCUSSION

Utilization of Credit Received from Institutional Sources

The average amount of loan spent for different purposes by families' surveyed belonging to various farm size groups. Purposes for which the surveyed borrowers spent their loan money had been broadly classified into (i) capital expenditure on farming. (ii) Current expenditure in farming. (iii) Non-farm business expenditure and (iv) family expenditure.

Capital Expenditure on Farming: The average amount of total loaned money utilized in meeting capital expenditure on farming was about Tk.1213/- and was positively related to the size of farm

during the study period. Average amount of loan utilized in capital expenditure in farming was Tk.837/-, Tk.1310/-, and Tk.3557/- respectively for small, medium and large farmers (Table 1). It was also found that the borrowers invested for major four farm capital items namely purchase of land, purchase of irrigation equipment, purchase of livestock and expenditure on pond culture. It was evident from the table that the large farmers invested most on irrigation equipment (12 percent) than those of other two groups during the year. The table also revealed that the percentage of loan money for meeting various types of capital expenditure on farming increased with the increase in farm size. This implied that the large farmers spent relatively more for high cost capital items (Table 2).

Table 1: Utilization of credit received from institutional sources

Heads	Use of credit (Average amount in Tk.)			
	Small	Medium	Large	All
1. Capital expenditure on farming	837 (11.39)	1310 (13.48)	3557 (17.02)	1213 (12.79)
2. Current expenditure on farming	3799 (51.69)	5231 (53.83)	10527 (50.37)	4987 (52.58)
3. Non-farm business expenditure	--	--	92.00 (0.44)	3.00 (0.03)
4. Family expenditure	2714 (36.92)	3176 (32.69)	6724 (32.17)	3281 (34.60)
5. Total	7350 (100.00)	9717 (100.00)	20900 (100.00)	9484 (100.00)

Figures in parentheses indicate percentages, Source: Field Survey, 1999

Table 2. Percentage utilization of loan received from institutional sources

Head of expenditure	Percentage amount of loan use			
	Small	Medium	Large	All
1. Purchase of Livestock	6.10	4.21	0.22	4.78
2. Purchase of Land	0.94	7.27	4.80	4.16
3. Purchase of Irrigation Equipment	3.50	2.00	12.00	3.46
4. Expenditure on Pond Culture	0.85	--	--	0.39
Total Capital Expenditure on Farming	11.39	13.48	17.02	12.79
5. Purchase of Seed/Seedlings	1.70	1.89	1.90	1.80
6. Purchase of Manure and fertilizer	9.90	11.87	12.02	10.97
7. Purchase of Insecticides	0.90	0.97	0.75	0.92
8. Charge of Using Irrigation Water	11.33	7.99	9.30	9.63
9. Hire charge for Human Labour	24.96	26.73	23.67	25.68
10. Charge for Animal Labour /Power tiller	2.90	4.38	2.73	3.57
Total Current Expenditure on Farming	51.69	53.83	50.37	52.58
11. Investment in Business/Trade	--	--	0.44	0.03
Total non farm Business Expenditure	0	0	0.44	0.03
12. Purchase of Food	19.43	13.32	6.98	15.65
13. Repayment of Old Debt	11.22	10.17	7.60	10.46
14. Social Ceremonies	1.80	5.21	11.22	4.10
15. Purchase of clothes	1.22	1.90	1.24	1.53
16. Madical Treatment	2.39	0.48	0.48	1.36
17. Expenditure on education	0.82	1.18	3.25	1.17
18. construction / repairing of House and Furniture	0.04	0.43	1.40	0.32
Total Family Expenditure	36.92	32.69	32.17	34.60
Grand Total	100	100	100	100

Current expenditure in farming: The analysis showed that about Tk.4987/- of total loan was invested in current expenditure on farming during study period. More than 65 percent of loan had been used for various farm activities and the use of loan related positively with farm size category during year (Table 1). The main subheads of the current expenditure on farming as considered in the present study were purchase of seed/seedling, manure and fertilizer and insecticides, rental charge for irrigation water, hire charge for human labor and charge for animal labor/power-tiller. It was apparent from the same table that the percentage of total loan money utilize for meeting current expenditure on farming was about 53 percent (Table 2).

The table indicated that among the various items of current expenditure, cost of human labor was the most important item. It comprised near about 26 percent of the total borrowed funds. The table also revealed that medium farmers were more dependent on hired labor than those of other two groups. Another thing to be mentioned here that the small farmers spent most on the charge for using irrigation-water than medium as well as large farmers, perhaps, because they did not have adequate funds either of own or from external sources of credit to purchase high cost irrigation equipment or their tiny piece of land does not allow on to have it from economic point of view. The proportion of total loan utilized in the form of capital and current expenditure on farming together thus accounted for 65.37 percent of the total loan contracted by the sampled borrowers during the year under study. This clearly indicated that the farmers in our country are now a day becoming more and more conscious about productive loan use and thereby increasing their farm income (Table 2).

Non-farm business and Family expenditures: The analysis revealed that only the large farmers used loan for non-farm business expenditure. Family expenditure had been the next head of expenditure which accounted for Tk.3281/- of total loan used for various purposes. Small, medium and large farmers used Tk.2714/-, Tk.3176/- and Tk.6724/- of the total loan for family expenditures respectively (Table 1). Non-farm business expenditure included investment in trade and other subsidiary occupations outside agriculture. It appeared that small and medium farmers were observed to have incurred nothing on non-farm business expenditure during the study period. Only the large farmers spent insignificant amount of total loan on non-farm business expenditure during the year under study (Table 2).

Family expenditure comprises 34.60 percent of total loan used for various purposes. The subheads of family expenditure were i) purchase of food. ii) Purchase of clothes, iii) expenditure on construction of houses and furniture, iv) expenditure on education. v) social ceremonies, vi) medical treatment and vii) repayment of old debt. Main item of family expenditure was purchase of food, which alone accounted for about 16 percent of the total loan. There was expectedly an inverse relationship between the size of farm and the cost incurred for purchase of food which implied that small farmers had to spend some of their loan money in meeting basic necessities of life. Second important item of family expenditure was repayment of old debt which meant paying back part of whole of previous outstanding loan taken from all sources, which comprised more than 10 percent of the total loan during the study period (Table 2).

Utilization of Credit Received from Non-Institutional Sources

In addition to the institutional loan the sampled farmers had to receive loan form the non-institutional sources in order to satisfy their rest of the credit requirement during the study year. The sample farmers were found to have received credit from the informal sources, namely friends and relatives and the money lender during the study period.

Table-3 showed the extent of non-institutional credit received by the respondents during the year of study. The study revealed that the borrowers had obtained an average amount of Tk.1708/- per household during the study. The borrowers also reported that loan from informal sources could

instantly be received by them although in some cases they had to pay higher rate of interest (141 percent) compared to interest demanded by the formal sources of credit.

Average amount of credit received by the small, medium and large farmers were Tk.1770/-, Tk.1430/- and Tk.3000/- respectively for which they had to pay interest ranging from 110-185 percent. It may be mentioned here that large farmers received the highest average amount of loan (Tk.3000/-) from the non-institutional sources of credit while medium farmers received the least amount of credit during the same year. Rate of interest paid was the highest for small farmers (185 percent) followed by the large farmers (130 percent) and the medium ones (110 percent) during the study period (Table 3).

Table 3: Credit received from non-institutional sources

Farm size	Average amount received	Rate of interest (%)
Small	1770	185
Medium	1430	110
Large	3000	130
All	1708	141

Source: Field Survey, 1999

Repayment of Credit Received from Institutional Sources

Repayment capacity is one of the crucial aspects of loan analysis and proper utilization of loan is supposed to have a great influence upon the repayment capacity of the borrowers. Table-4 showed the repayment of farm credit borrowed from the institutional sources by the selected farmers. The average amount received was Tk.7449/- and the average amount repaid was Tk.3305/-. Average amount repaid constituted 44 percent of average amount due for the year under study. Average amount due was found to be Tk.6042/-, Tk.6922/- and Tk.9049/- respectively for the small, medium and large farmers during the study period. Average amount repaid by the small, medium and large farmers were found to be Tk.2296/-, Tk.4082/- and Tk.4693/- respectively during the same period.

Table 4. Repayment of credit extended by institutional sources

Farm size	Average amount due (Tk.)			Average amount repaid (Tk.)			Percent of total Repayment
	Principal	Interest	Total	Principal	Interest	Total	
Small	3300	742	6042	2050	246	2296	38
Medium	6072	850	6922	3645	437	4082	59
Large	16710	2339	19049	4190	503	4693	25
All	6534	915	7449	2951	354	3305	44

Source: Field Survey, 1999

Although there was no clear-cut trend about the repayment performance, it was quite clear that medium farmers were relatively good repayers followed by the small and large ones during the period of study. This finding indicated that the large farmers are still reluctant towards loan repayment as before possibly because of their social status in rural power structure.

REPAYMENT OF CREDIT RECEIVED FROM NON-INSTITUTIONAL SOURCES

Table 5 showed repayment of credit received from the non-institutional sources by the borrowers. The average amount of loan obtained by farmers from all available non-institutional sources together was found to be Tk.1708/- during the study year. The table further revealed that average amount repaid was Tk.950/- constituting 56 percent of the average amount received during the same period.

Loan repayment percentages in relation to amount received for small, medium and large farms were 63, 58 and 24 percent respectively. It may be mentioned here that among the non-institutional sources

Table 5. Repayment of non-institutional credit received by the borrowers

Farm size	Friends and relatives			Money lender			All non –institutional sources		
	Average amount received (TK)	Average amount repaid (TK)	Repayment percentage (%)	Average amount received (TK)	Average amount repaid (TK)	Repayment percentage (%)	Average amount received (TK)	Average amount repaid (TK)	Repayment percentage (%)
Small	1250	900	72	520	210	40	1770	1110	63
Medium	450	300	67	980	530	54	1430	830	58
Large	950	330	35	2050	380	19	3000	710	24
All	858	579	67	850	371	44	1708	950	56

of credit the money lender supplied an average amount of Tk.850/- to a borrower of which Tk.371/- was repaid, the repayment percentage being 44 on the other hand, friends and relatives supplied an average amount of Tk.858/- to a borrower and the average amount of loan repaid was found to be Tk.579/- comprising 67 per cent in relation to amount received during the same period (Table 5).

Factors Affecting Repayment of Credit

Regarding repayment of credit, the respondents were asked about the factors they considered to have inspired them to repay the loan. In this connection seven relevant questions were put to them. The farmers had to express their liking factors, which inspired them to repay the loan. Tabular as well as regression analysis had been done to identify the factors afflicting the borrower's repayment performance.

The borrower-farmers who have repaid their loan on time either in full or in part have been taken into consideration in this section. Out of 42 borrower farmers of all categories who have repaid cent percent of expressed their fear of imposing additional interest and penalties as the reason for repayment. While almost 95 percent of the farmers did the same out of their personal consciousness. The farmers comprising 88 percent have repaid loan on time to get further loan in future. Persuasion by the field workers encouraged almost 74 percent of the borrowers to repay loan on time during the year under review (Table 6).

Table 6. Factors affecting loan repayment according to farms size

Factor	Farm size			
	Small	Medium	Large	All
1. Fear of additional interest and penalties	16 (100)	24 (100)	2 (100)	42 (100)
2. Personal consciousness	15 (94)	23 (96)	2 (100)	40 (95)
3. To get loan in Future	13 (81)	23 (96)	1 (50)	37 (88)
4. Persuasion by the field workers of BKB	14 (88)	17 (71)	---	31 (74)
5. Fear of certificate case	11 (69)	11 (46)	----	22 (52)
6. Suggestions of friends and relatives	12 (75)	7 (29)	-----	19 (45)
7. Notice served by BKB	8 (50)	8 (33)	-----	16 (38)

Figures in parentheses indicate percentages, Source: Field Survey, 1999

Fifty percent of farmers have repaid loan in time to avoid certificate case. Suggestions from the friends and relatives (45 percent) and notice served by the bank (38 percent) were also found to insist the farmers to repay loan in time during the study period. It was evident from the table that fear of additional interest and penalties as well as the expectation to have further loan in future were the major factors affecting timely loan repayment (Table 6).

Results of Regression Analysis: The multiple regression analysis was done to identify the relative contribution of the factors affecting the borrowers, repayment performance. Both the linear and log-linear form of multiple regression analysis were estimated. But the linear form of multiple regression analysis seemed to be fit better and easily explainable in terms of sign and significance of the parameters.

Regression analysis showed that borrowers age, education, owned land, income, savings and loan received from institutional sources jointly explained 63 percent ($R^2 = 0.63$) of the total variation of the borrowers loan repayment. Among the six explanatory variables borrowers age, education, income loan received from institutional sources contributed positively to loan repayment performance but owned land and savings were negatively associated with the loan repayment performance of the borrower farmers (Table 7).

Table 7. Regression coefficient and ‘t’ value of six selected variables

Variables	Regression coefficient		
	Small farm	Medium farm	All farm
X ₁ , Borrower’s age	74.00 (1.63)	-77.26 (0.78)	0.27 (0.01)
X ₂ , Borrower’s education	-886.42 (1.29)	4851.57 (3.19)**	1260.57 (2.34)**
X ₃ , Borrower’s owned land	990.15 (0.55)	-1765.94 (0.72)	-10.75 (0.01)
X ₄ , Borrower’s income	-0.03 (0.84)	0.10 (2.79)**	0.07 (3.56)*
X ₅ , Borrower’ (0.87)saving	0.91 (0.87)	-4.29 (3.08)*	-1.39 (4.52)*
X ₆ , Loan received	0.27 (2.72)**	0.53 (2.03)**	0.38 (2.92)*
value of R ²	0.64	0.67	0.63
value of F	2.59	3.13	6.23

Note: figures within the parentheses are ‘t’ values, Probability levels * and** indicate level of significance at 0.01 and 0.05 respectively.

In the regression analysis, regression coefficient of borrowers age was found to be $b_1 = 0.27$ which indicated that age related positively but quite influence insignificantly the loan repayment performance of the borrower-farmers in the study area. Borrower’s education contributed significantly to loan repayment of the borrowers. It had a regression co efficient $b_2 = 1260.57$, this implied that education had positive significant effect to change the attitude of the farmers towards loan repayment. Regression coefficient of owned land was found to have carried negative sign ($b_3 = -10.75$) which indicated that land relates negatively and insignificantly, towards loan repayment performance of borrower-farmers (Table 7).

Income of the borrowers positively and significantly affected the loan repayment performance of the borrowers. It provided sufficient evidence to say that borrower’s income had significantly influenced

borrower's performance in the study area. Regression coefficient of borrowers savings was found to be negative ($b_5 = -1.39$) indicated that repayment is negatively affected as savings increase. It may attribute to the borrowers uses of the savings for other purposes during the year (Table 7).

In the regression analysis, regression coefficient of borrowers loan receipt ($b_6=0.38$) was found to be positive and it showed that loan received from institutional sources had positive contribution to loan repayment performance of the farmers. Regression analysis showed that borrowers age, education, owned land, income, savings and receipt loan from the bank jointly explained 64 percent ($R^2 = 0.64$) of the total variation for the small farmers loan repayment performance (Table 7).

CONCLUSIONS

Credit serves as an important component to acquire productive inputs essentials for crop production. It affects crop production via media of input demand. The input demand is affected by credit supply. But the supply of credit is not at all adequate in comparison to its demand. Even if production credit could be made available to the farmers in time, the timely and adequate supply of other key inputs for production can not be ensured due to lack of coordination and effective linkage between the credit agencies and the input supplying organizations. Moreover, the continuously increasing dependence on import of fertilizers, irrigation machineries, fuels and related spares and services from abroad, the availability and price of which are erratic and uncertain, is a serious constraint to the development of the country. The combined effect of all these factors encourages the diversion of usage of credit to other non-productive purposes. Agricultural credit to be effective for increasing agricultural production should be utilized for the specific purposes for which it is borrowed.

To overcome financial constraints, the government at present has liberalized its credit policy so as to provide more and more credit facilities to the farmers particularly the small and marginal ones. Institutional rural credit in Bangladesh is financed through multi agencies for the purpose of meeting credit needs of the individuals as well as limited companies engaged in agriculture and agro-based industries. But in practice, it hardly achieved its goal, and the government should implement some rules and regulations to ensure the timely credit facilities to the farmers. It is often alleged that the farmers although received credit from the bank on the plea of increasing farm production, deviation of loan use is alarming in spite of the institutions continuous cautionary by signal to the borrowers. These are used for different unproductive purposes. As a result, credit remained unpaid and stuck up outstanding loan becomes higher causing serious setback on the future credit delivery of the lending institutions in the country. The link between the borrowers and the institutions should further be strengthened for timely disbursement and proper utilization of the credit.

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