

Article

Effects of diverse land tenant types on agricultural credit receipt and its utilization: a case study from Mymensingh district of Bangladesh

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Abstract: Agricultural credit usually plays a crucial role in using optimal rates of production inputs especially for resource poor farmers. The present study aims to investigate the impact of diverse land tenant types on agricultural credit receipt as well as adequacy and utilization of receipt credits. A total of 60 samples were randomly selected for interview from Sadar Upazila of Mymensingh district. The study found three types of land tenants: owner-tenant, tenant-owner and pure-tenants. The result shows that the highest percentage of land was controlled by tenant-owner (56%) followed by owner-tenant (36%) and pure-tenant (8%) of the study areas. The result of the study shows that the owner-tenant and tenant-owner of the study areas have got more access to institutional sources of agricultural credit relative to pure-tenants because of their ability to offer land as security. The pure-tenants received lower amount of agricultural credit from Bangladesh Krishi Bank (BKB) relative to the owner-tenant and tenant-owner, but they can easily get credit from BKB, if they were able to show legal papers of the rented or mortgaged lands and a recommendation of the land owner. The study found that almost 50% received credit was used by the pure-tenant farmer for family expenditure and non-farm business rather farming. The result of regression analysis indicates that 1% increase of farm size would lead to an increase of the utilization of agriculture credit for farming purposes by 35% in the study areas. The result suggests that ensuring use of agriculture credit for farming purposes could boost up productivity of the pure-tenant farmers.

Keywords: tenants; utilization; agricultural credit; BKB and socio-economic

1. Introduction

The livelihood of the 60% people of the country depends on agricultural sector. In terms of the size of land, about 38.63% of farmers are marginal, 49.86% small, 10.34% medium and 1.17% large. Among the farmers around 14.30% are landless but involved in farming as tenants. The area of agricultural land is 86.69 lakh hectares, which is 60.61% of the country's total land (PKSF, 2020). According to one study, 48% of farms are

engaged in renting-in land, claiming about 37% of total cultivated land. Again, of those engaged in tenancy, one-fourth are pure-tenants (cultivating only other people's land), about 15% are tenant-owners (more rented land than owned) and roughly 8% are owner-tenants (more owned land than rented) (BER, 2020). More than 40.60 per cent of the civilian labor forces are directly or indirectly engaged in agriculture. Agriculture contributes 13.65 per cent to GDP (BBS, 2020). Sustainable economic growth of Bangladesh depends largely on balanced growth of agriculture (crops, livestock, fisheries and related others). In overall agricultural production at least up to 80s other sub-sectors involved in agriculture like livestock, poultry, fisheries, forest resources etc. have not received importance.

The concept "share cropper" has derived from the term "share rent". A farmer has to pay a fixed amount of rent either in cash or in kind to the landowner under this system. Fixed cash rent is known as "standing rent" and the renter is termed as "cash tenant". Payment in kind is called "share rent" and the renter is termed as "share tenant". The existing nature of man-land relationship in agricultural is the basis of development in an agrarian economy. In the distribution of land ownership there is considerable inequality, land is generally small and medium size family based on holdings. Majority of the small land owners rent in land from others to cultivate relatively a large size of holding than their ownership would permit. The government and the findings of agricultural census claim that less than one fifth of the total land is operated under tenancy arrangements while field visits in different geographical areas give impression to many that majority of land is cultivated by the tenants and virtually all land in Bangladesh is farmed by land-less labor and tenants (ASB, 2015). There are different types of land tenure arrangements in Bangladesh at present in agricultural production process. There is a controversy over the true extent of tenancy operations in Bangladesh.

Credit is not only important but essentially required for a farmer to expand and run his business more efficiently and properly which may not otherwise be possible on his save (Fakir *et al.*, 2021). In other words, credit serves as a catalyst, allowing farmers to acquire and utilize modern resources in production to maximize profits, rather than being entirely dependent on their own capital (assets) accumulated out of savings or inheritance (Jahan, 2004). Some specific functions of agricultural credit are briefly discussed here. The overall objective of the present study is to examine the existing tenant types and their relationship with various credit aspects (receipts, adequacy and use pattern). Specific objectives of the study are: i) to assess the socio-economic characteristics of the respondents in the study area; ii) to identify the existing tenancy and input output sharing in the study area; and iii) to investigate into the utilization of credit in relation to tenancy in the study area.

2. Materials and Methods

2.1. Selection of the study sites and sampling technique

To attain the objectives of the present study, four villages were purposively selected from Bhabokhali union (sub-Upazila) of Sadar Upazila (sub-district) of Mymensingh district for the study. After selecting the area, first of all, the researchers visited the credit institutions available close to the selected area, collected the list of credit receivers who have taken credit from BKB. Then the farmers were randomly selected from the collected list. After final selection of the farmers, the researchers moved around the study areas to collect data administering prepared survey schedules. A total of 60 sample data were collected for the study (Table 1). The highest percentage of samples (48%) was collected from owner-tenant followed by pure-tenant (30%) and tenant-owner (22%) for the study. Among different types of land tenants, the tenant-owner controlled approximately 56% of total land of the study areas (Table 1).

2.2. Collection of data

The study was mainly based on a set of field level primary data collected from the selected members by using previously prepared interview schedule (Islam *et al.*, 2018). Field level primary data were collected from the selected respondents through direct interview conducted by the researcher himself. The sample data were collected during the period from September to October 2019 and multi-visits were made for collecting necessary information during this period. Before beginning actual interview, each respondent was given a brief introduction about the nature and the purpose of the study. Then the questions were asked sequentially in a simple manner. The responses were recorded directly on the interview schedules. Usually the respondents at grassroots level do not keep written records of their different activities, so the researcher had to depend on bare memory of the respondents. During interview, the researcher asked questions systematically and explained whenever necessary.

Table 1. Sample distribution of the study.

Tenant types	Number	% of total sample	Land under ownership or control (%)
Owner-tenant	29	48	36
Tenant-owner	13	22	56
Pure-tenant	18	30	8
All types	60	100	100

2.3. Summarization, tabulation and analysis of data

Data were carefully analyzed with a view to achieving the research objectives. All the collected data were checked and cross-checked before transferring to the master sheets. The collected data were first transferred to master sheets. Then these were classified, tabulated and analyzed to accomplish the specific objectives of the study. Data were presented mostly in the tabular form as it is simple in calculation and easy to understand. Some statistical measures like average, percentage, ratios and empirical analysis were made to arrive at desired results. The specific empirical model (Gujarati, 2003) used in the study is as follows.

$$Y = aX_1^{b_1} X_2^{b_2} X_3^{b_3} X_4^{b_4} X_5^{b_5} X_6^{b_6} e^u \dots \text{(i)}$$

The equation may be alternatively being expressed log-linearly as:

$$\ln Y = \ln a + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 + b_4 \ln X_4 + b_5 \ln X_5 + b_6 \ln X_6 + u \dots \text{(ii)}$$

Where,

Y = utilization of credit in farming purposes (Tk); Ln = natural logarithm; a = constant term; X₁ = farm size; X₂ = household asset value (Tk); X₃ = annual income (Tk), X₄ = savings (Tk); X₅ = amount of credit received (Tk); X₆ = age (years); u = error term and b₁, ---, b₆ = co-efficient of respective variables.

3. Results and Discussion

3.1. Socio-economic characteristics

3.1.1. Family size and dependency ratio

The family members of the respondent ranged between 2 to 7 in the study area. It is come into view from Table 2 that average family size of different tenants was 6.09 which is a little bit greater than the national average. During the study period the average family size of different tenant types were 6.04, 5.80 and 6.43 respectively for the owner owner-tenant, tenant-owner and pure- tenant. It also represents that the average family size of 6.09 persons comprised 3.44 males and 2.69 females. The dependency ratio was the highest (2.41) in case of the tenant-owner followed by owner-tenant (2.10) and pure-tenant (2.02). Majority of family members inside active age group (15 to 59 years) and higher dependency ratio point out that there were unemployed problems even though the female members were found engaged in some income generating activities. During the study period the average earning member per family was found to be 2.81 (Table 2).

Table 2. Family size and dependency ratio according to tenant types.

Tenant types	Male				Female				Average Family Size	Average Earning member	Dependency ratio
	Bellow 15 years	15-59 years	Above 59 years	Sub-total	Bellow 15 years	15-59 years	Above 59 years	Sub-total			
Owner-tenant	0.46 (13)	2.46 (82)	0.37 (9)	3.29 (104)	0.37 (7)	1.92 (45)	0.46 (9)	2.75 (61)	6.04	2.87	2.10
Tenant-owner	0.9 (12)	2.1 (30)	0.3 (3)	3.3 (45)	0.7 (6)	1.5 (14)	0.3 (2)	2.5 (22)	5.8	2.40	2.41
Pure-tenant	0.81 (15)	2.39 (49)	0.53 (9)	3.73 (73)	0.67 (9)	1.67 (23)	0.39 (4)	2.73 (36)	6.43	3.17	2.02
All types	0.72 (40)	2.37 (161)	0.43 (21)	3.44 (222)	0.58 (22)	1.77 (82)	0.42 (15)	2.69 (119)	6.09	2.81	2.17

**Figures in the parenthesis indicate the total number

$$\text{Dependency ratio} = \frac{\text{Average family size}}{\text{Average earning member}}$$

3.1.2. Education level

Bangladesh is a developing country and agriculture being its foundation, the agricultural sector can be effectively modernized by educated the rural people properly. One of the main obstacles towards upgrading of

agricultural production was the illiteracy of the rural people. Literacy level was classified into four categories as (i) Illiterate (ii) Primary (iii) Secondary and (iv) Above secondary to examine the extent of literacy level of the respondents. Illiterate termed as those who can neither read nor write. The result shows that illiteracy rate was highest for pure-tenant (57%) followed by owner-tenant (46%) and tenant-owner (40%) (Table 3).

Table 3. Level of education of the respondents (%).

Tenant types	Level of education				Total
	Illiterate	Primary	Secondary	Above secondary	
Owner-tenant	46 (13)	36 (11)	18 (5)	-	100 (29)
Tenant-owner	40 (5)	40 (5)	20 (3)	-	100 (13)
Pure-tenant	57 (10)	43 (10)	-	-	100 (18)
All types	47 (28)	40 (24)	13 (8)	-	100 (60)

**Figures in the parenthesis indicate the total number of sample.

3.1.3. Occupation of the farmers

The study revealed that approximately 48% of total sampled farmers was dependent solely on farming (Table 4). In the study villages, the non-farm business chased by service was important next to agriculture along with the producer's group (i.e., owner-tenant, tenant-owner, and pure-tenant). A few farmers were occupied in service and business, and mostly tenant-owner (60%) were occupied in farming. The pure-tenants were steadily separated from agriculture and engaged in service and business. The pure-tenants were found to have participation either fully non-farming or in farming partially.

Table 4. Occupation of the respondents according to tenant type.

Tenant types	Only farming		Farming major and other minor occupation		Farming minor and other major occupation		Total	
	No.	%	No.	%	No.	%	No.	%
Owner-tenant	16	55	10	36	3	9	29	100
Tenant-owner	8	60	5	40	-	-	13	100
Pure-tenant	5	29	3	14	10	57	18	100
All types	29	48	18	30	13	22	60	100

3.1.4. Annual income of the respondent according to tenant types

During the study period, about 53% of annual income of the pure-tenant was came from non-farm source while it was 18% and 15% for owner-tenant and tenant-owner, respectively (Table 5). The average annual income was Tk. 63890, Tk 93517 and Tk 43942 for owner-tenant, tenant-owner and pure-tenant, respectively. The study further reveals that average income of a tenant-owner was found to be 1.46 and 2.13 times higher than that of owner-tenant and pure-tenant respectively. The pure-tenant spent (92%) more income on family expenditure while it was 56% and 69% for owner-tenant and tenant-owner, respectively. The result shows that annual savings was highest for owner-tenant followed by owner-tenant and pure-tenant.

Table 5. Annual income, expenditure and saving per farm according to tenant types.

Tenant types	Annual family income (Taka)						Annual family expenditure (Taka)						Saving (Taka)
	Farm income		Non-farm income		Total income		Farm expenditure		Family expenditure		Total expenditure		
	Amount (Taka)	%	Amount (Taka)	%	Amount (Taka)	%	Amount (Taka)	%	Amount (Taka)	%	Amount (Taka)	%	
Owner-tenant	52390	82	11,500	18	63,890	100	22,405	44	28,516	56	50,921	100	12,969
Tenant-owner	79489	85	14,028	15	93,517	100	23,313	31	51,890	69	75,203	100	18,314
Pure-tenant	20653	47	23,289	53	43,942	100	3266	8	37,562	92	40,828	100	3,114
All types	152532	76	48,817	24	2,01,349	100	48984	29	1,17,968	71	1,66,952	100	34397

3.2. Rental arrangements of the tenant operators

We found that two types of rental arrangements were practiced by the tenants in the study areas. One of them was share cropping and another was cash rental arrangements. A total of 60 tenant operators 35% were share cropping practiced and 65% were cash rental practiced in the study area (Table 6).

Table 6. Distribution of tenant operators according to rental arrangements.

Tenant types	Number	Percentage (%)
Share cropping	21	35
Cash-rent	39	65
Total	60	100

Four types of share cropping system practiced by the selected farmers in the study area: (A) fifty-fifty share cropping, (B) forty-sixty share cropping, (C) fixed amount of paddy payment and (D) cash-rent (Parveen, 2000). The most common sharing arrangement in the study area is fifty-fifty share cropping. Land owner accommodates land, some variable inputs and the tenant provides variable inputs of labor, seeds, management etc. with this arrangement. Landlord accommodates half of the irrigation cost in the case of motor pump in some places, mostly in irrigated areas. But the landlord provides the machine/deep tube-well charge only, and the tenant gives all the fuel and management cost for irrigation incase engine pump/deep tube-well. Sometimes, the land owner does not pay the seed and insecticide cost then the tenant gets all of the straw and the rice is divided into fifty-fifty basis, but if the landlord provides half of seeds then insecticides as variable input and the straw is divided into fifty-fifty basis. In share cropping system, the landlord provides half of the total fertilizer cost.

Table 7. Input-output sharing according to share cropping tenancy.

Input	Sharing (%)		Output	Sharing (%)	
	Land owner	Tenant		Land owner	Tenant
A. Fifty-fifty share cropping (N=31 [52%])					
(i) Fertilizer	50	50			
(ii) Irrigation			i) Paddy	50	50
a) Deep tube-well charge	100	-	ii) Straw	50	50
b) Fuel and electricity cost		100			
(iii) Seed	50	50			
(iv) Insecticides	50	50			
B. Forty-sixty share cropping (N=15 [25%])					
(i) Fertilizer	50	50			
(ii) Irrigation			i) Paddy	40	60
a) Deep tube-well charge	50	50	ii) Straw	40	60
b) Fuel and electricity cost	-	100			
(iii) Seed	-	100			
(iv) Insecticides	-	100			
C. Fixed amount of paddy payment (N=8 [13%])					
(i) Fertilizer	-	100			
(ii) Irrigation			i) Paddy	1	Rest of
a) Deep tube-well charge	-	100		Mounds/katha	The product
b) Fuel and electricity cost	-	100	ii) Straw		100
(iii) Seed	-	100			
(iv) Insecticides	-	100			
D. Cash Rent (N=6 [10%])					
i) Fertilizer	-	100			
(ii) Irrigation			i) Paddy	1	Rest of
a) Deep tube-well charge	-	100		Thousand	The product
b) Fuel and electricity cost	-	100	ii) Straw	taka/katha	100
(iii) Seed	-	100			
(iv) Insecticides	-	100			

A contractual arrangement was input-output sharing. Arrangements obtainable in the study area were fifty-fifty share cropping, forty-sixty share cropping, fixed amount of paddy payment and cash-rent respectively. The tenant provided 100% fuel/electricity cost while the land owner provides 50% fertilizer, seed and insecticides and 100% deep tube-well charge in case of fifty-fifty sharing (Table 7). Then the output paddy and straw were distributed 50:50 basis. In case of forty-sixty sharing, tenant provided 100% fuel, seed and insecticides cost while the land owner provides 50% fertilizer, deep tube-well water charge. Then the tenants got all of the straw and the output paddy was distributed 40:60 basis. Fixed amount of paddy payment was a contractual arrangement. Whether the tenant could be produced or not the tenant must be given 1 mounds of paddy per katha in this rule. Similarly cash rent was a contractual arrangement in this process the tenant must give TK 1 thousand per katha, whether the tenant could be produced or not tenure was much unsecured for the share-croppers in the study area. A total of 60 share cropping operators, 52% were of fifty-fifty output sharing, 25% were of forty-sixty output sharing practice; fixed amount paddy payment comprised 13% while cash rent payment 10% in study area (Table 7).

3.3. Utilization of credit according to tenant types

According to tenants, the credits for farmers like them "have fallen from heaven." First, the interest rate is very low compared to that charged by chataldars, village mahajons and NGOs. Second, distress sales of paddy have decreased in the absence of pressure from private lenders. Finally, the contract postulates an additional advantage of low interest rate if the money is repaid before due time. For the farmers belonged to different tenant types efforts have been made to inspect the utilization pattern of credit.

Table 8. Utilization of credit according to tenant types (Amount in Tk.).

Heads	Utilization of credit			All types
	Owner-tenant	Tenant-owner	Tenant	
Capital expenditure on farming	12111 (35.53)	13936 (33.59)	2520 (20.72)	9629 (33)
Current expenditure on farming	8600 (25.23)	9663 (23.29)	3679 (30.25)	7354 (25.26)
Non-farm business expenditure	3450 (10.12)	3784 (9.12)	748 (6.15)	2711 (10)
Family expenditure	9926 (29.12)	14107 (34.00)	5215 (42.88)	9418 (32.35)
Total	34086 (100)	41490 (100)	12162 (100)	29112 (100)

**Figures within the parentheses represent % of total

The average capital expenditure on farming was about Tk 9629 by the different tenants' farmers (Table 8). Average amount of credit utilized for capital expenditure on farming was Tk 12111, Tk 13936 and Tk 2520 for owner-tenant, tenant-owner and pure-tenant farmers, respectively. The maximum of credit was used for capital expenditure on farming. The tenant wise credit use indicates that 35.5%, 33.6% and 20.7% of total credit was used for capital expenditure on farming by the owner-tenant, tenant-owner and pure-tenant farmers, respectively. The documented expenditures as considered in the study were purchase of seed, purchase of fertilizer, purchase of insecticides, irrigation charge and charge for power tiller (Fakir *et al.*, 2021). This study found least priority incase family expenditure and the owner-tenant operators did the least (only 29.12%) while pure-tenant farmer were found to have expectedly used more money for family expenditure (42.9%) during same period. The proportion of total credit utilized in the form of capital and current expenditure on farming together accounted for about 58.3% of total credit contracted by the farmers during the study year (Table 9).

3.3.1. Capital expenditure on farming

In the study villages, farmers were establishes to have spent for most important four items namely, purchase of livestock, purchase of land, purchase of tube-well/ power pump and pond leased in/digging ponds. Table 9 shows that owner-tenant and tenant-owner farmers were found to have used credited money for high cost capital items like purchase of livestock, the proportions was 26.1% and 23.79%, respectively. The owner-tenant were found to have used 4.6% of credit money for purchasing land perhaps in order to raise status further in rural power structure. The owner-tenant and tenant-owner have used credit money to the extent about 2% and 3% respectively for purchasing tube-well/power pump that requires irrigate crop land as well to pump in and pump

out water in/from ponds in culture fisheries. The owner-tenant and tenant-owner were found to have used 3.1% and 2.0% of credit money for digging/leasing in ponds respectively.

3.3.2. Current expenditure on farming

Table 9 indicates that among various items of current expenditure on farming, irrigation charge was expectedly the most preferred item particularly to the owner-tenant (about 12%) and pure-tenant-owner (about 11%) in the study villages (Alam *et al.*, 2019). Taking all farms together, the proportion was found 11.2% of total credited money. Pure-tenant on the other hand incurred minimum for irrigation water (about 7%). It is to be mentioned here that the owner-tenant and tenant-owner also spent relatively more for hire charge of human labor (4.0% and 3.4% respectively) of total credited money than pure-tenant during the period (Jahan, 2004).

Among the current expenditure on farming, purchasing fertilizer comprised out 3.7% of total credited money (Table 9). The commonly used fertilizers were urea, TSP and MP etc. An insignificant amount of total credited money (1.8%) was spent on seed/seedling purchase and about 1.6% credit was used for to purchase insecticides. For the pure-tenants, on an average 3.9% of total credited money was used for purchasing of seed/seedlings (Table 9).

Table 9. Utilization of credit according to land tenant types in the study areas.

Heads of expenditure	Tenant types			All (%)
	Owner-tenant (%)	Tenant-owner (%)	Pure-tenant (%)	
Purchase of livestock	26.14	23.79	20.72	21.44
Purchase of land	4.63	4.61	-	5.86
Purchase of tube well/power pump/power tiller	1.67	3.23	-	2.63
Pond leased in/digging	3.09	1.96	-	3.15
Total capital expenditure on farming	35.53	33.59	20.72	33.08
Land preparation	2.89	5.23	6.54	3.49
Purchase of seed/seedlings	1.83	2.51	3.87	1.83
Purchase of fertilizer	3.50	3.83	5.95	3.69
Charge for human labor	4.02	3.38	-	3.48
Irrigation charge incurred	11.75	6.87	11.68	11.19
Purchase of insecticides	1.24	1.47	2.21	1.58
Total current expenditure on farming	25.23	23.29	30.25	25.26
Expenditure of business	10.12	9.12	6.15	9.31
Total non-farm business expenditure	10.12	9.12	6.15	9.31
Purchase of food	7.39	5.95	17.56	5.77
Purchase of cloths	7.85	6.76	7.32	8.58
Medical treatment	4.94	5.41	4.39	3.99
Expenditure on education	2.60	3.29	2.76	3.91
Social ceremonies	2.72	3.799	2.15	5.71
Construction and repairing of house and furniture	3.62	8.787	8.70	4.39
Total family expenditure	29.12	34.00	42.88	32.35
Grand total	100	100	100	100.00

3.3.3. Non-farm business expenditure

Investment on trade and other subsidiary occupations are termed as non-farm business expenditure. During study year, we found that it included about 9.3% of total borrowed money (Table 9). The owner-tenant was found to have spent maximum on business (10.1%) of total credited money. The tenant-owner and pure-tenant spent about 9.1% and 6.2% of total credited money respectively on business. The owner-tenant belonged to businessmen.

3.3.4. Family expenditure

Total credit used for various household purposes is defined as family expenditure. It is one of major heads of expenditure which accounted for 32.4% of total expenditure (Table 9). We found that purchase of clothes was major item of family expenditure. For its negative relationship with production purposes this type of cost is considered to be unproductive use. Another important item of family expenditure was on social ceremonies comprising 5.7% of total credit money. Expenditure on education is relatively higher (3.9%) in the study areas because it is at present undoubtedly to be considered very important among people of Bangladesh like other

developing countries. Average cost incurred for purchase of food, medical treatment and construction/ airing of house and furniture were 5.8%, 4.0% and 2.3% for different tenant types available in the study area (Table 9). To observe the existence of high degree of association among the variables multicollinearity test was conducted and multicollinearity among the variables did not exist indicated by the test.

3.4. Factors affecting of the utilization of credit for farming purposes

The results of the factors affecting of the utilization of credit for farming purposes is presented in the Table 10. The estimated regression coefficient for farm size (X_1) was positive and significant at 1% level indicating that 1% increase of farm size would lead to an increase of the utilization of credit for farming purposes by 35%, if other things remain in constant. The estimated regression coefficient for asset position (X_2) was 0.021 with negative sign. Since the coefficient was insignificant, further illustration was avoided. The value of coefficient for annual income (X_3) was 0.24 with positive sign and also significant at 1% level of confidence. It implies that keeping other things constant, 1% increase in income would lead to an increase in the purposive utilization of credit by 24%. The value of coefficient for savings was 0.159 with negative sign and also significant at 5% level of confidence. It implies that keeping other things constant, 1% increase in savings would lead to a decrease in the purposive utilization of credit by 16%.

Table 10. Estimated values of co-efficient for tenant farmers of the study areas.

Explanatory variables	Coefficients	Standard error	t-values	R ²	Adjust R ²	F-Value
X ₁	0.352***	0.021	6.991			
X ₂	-0.021	0.028	-0.722			
X ₃	0.240***	0.027	5.991			
X ₄	-0.159**	0.014	-2.619	0.85	0.74	10.45***
X ₅	-0.021	0.031	-0.694			
X ₆	0.001	0.045	0.013			
Constant	-0.192***	0.029	-3.619			

***significant at 1% level, **significant at 5% level

The estimated regression coefficient for amount of credit received (X_5) was 0.021 with negative sign. The coefficient was insignificant. The estimated regression coefficient for age (X_6) of the respondent was statistically insignificant. For that reason, further illustration was avoided. The co-efficient of multiple determinations, R² was 0.85 for tenant farmers which indicate that about 85% of the total variation of the utilization of credit for farming purposes is explained by the variables included in the model (Islam *et al.*, 2019). The F-value of the equation was highly significant and it implies that the included variables were important for explaining the variation in the utilization of credit for farming purposes.

4. Conclusions

Agricultural country like Bangladesh majority of its people is dependent on agricultural activities and live in rural areas. The land tenancy market in rural Bangladesh is passing through an interesting phase. The arrangements of the operations in the market undergone rapid changes from crop-sharing to fixed-rent system. The amount of land transacted in this market has also picked up by the study.

Data availability

The data used to support the findings of this study are included within the article.

Conflict of interest

None to declare.

Authors' contribution

Conceptualization: [Syful Islam]; Methodology: [Md. Ashraful Hoque], [Md. Shofiqul Islam]; Data collection and formal analysis: [Md. Shofiqul Islam], [Md. Imrul Kaysar], [Ashraful Alam Fakir]; Writing - original draft preparation: [Md. Ashraful Hoque] [Syful Islam]; Writing - review and editing: [Md. Imrul Kaysar], [Ashraful Alam Fakir]. All authors have read and approved the final manuscript.

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