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Determinants of Ability to Repay Loans in the Agricultural Sector: Some Empirical Evidences of Bankura District in West Bengal

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ABSTRACT

The aim of this paper is to investigate the determinants of the farmer's ability to repay loans to the banks in the agricultural sector of Bankura district in West Bengal. For this purpose, we have collected the primary data from 308 sample farmers who have taken loans from Commercials, Regional Rural and Co-operative bank. We employ the probit and logit models to identify the main determinants that influence ability to repay loans of the borrowers. The result of this study shows that the ability to repay loans of the borrowers is influenced by the education, growth rate of income, proportion of investment financed by loan, irrigated land, technology and productive use of loans. We also find that the ability to repay loans to the banks varies directly with the size of farms.

KEYWORDS:

Loan Repayment Ability, Bankura District, Loan Defaulter, Farmers' Investment, Loan Overdue

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INTRODUCTION

In the rural areas, we see that many institutional credit sectors are seriously breaking down due to presence of bank defaults or overdues. As a result, the banking facilities cannot be increased in rural areas and further it cannot be extended to different corners of the society in the rural areas. So, ability to repay loans to the banks is the vital factor to more build up the society. And that is why, in this paper we want to find out the different factors that help to increase the borrower's ability to repay loans to the banks.

The ability to repay loans to the banks is the explained variable in our study in our logit model of ability to repay. But what can be the appropriate index of the ability to repay loans to the banks? Different authors have used different indices. For instance, net additional income, end of the period wealth etc. have been used alternatively to in indicate the ability to repay loans to the banks of the borrowers. Prof. Alokenath Dhabal and Kalyanbrata Bhattacharyya (1989)[1] have tried only to identify those borrowers as being able to repay loans, who have reported a positive net additional income per year, since the acceptance of loans. In their cases they have assumed that there has been a rise in the ability to repay loans to the banks of the borrowers with a positive net additional income per year. Instead, we have used the growth rate of income of the borrowers as an index to indicate the ability to repay loans to the banks.

There are three important factors for default of co-operative numbers namely- Environmental, Financial and Personal. Among these, environmental factor is the most important factor that founded by Gnanadhas M. E., Geetha P (2009)[2]. Verma S (2002)[3]. found that political factors play a significant role in a sovereign's decision to default. Roslan A. H., Karim A (2009)[4] indicated that a women borrower has lesser probability to default in comparison to a male borrower. Agarwal D.G (1971)[5] identified that the farmers' one –third of repaying capacity is based on the realized value of produce and total income. Nonetheless, Bottomley A (1975)[6]. had found that there is a positive correlation between increase in borrower's net income and the level of repayment of loans. Dasgupta H. K., Dutta A. R (1971)[7]. found that the default rate of the borrower will be reduced in agricultural sector due to the adoption of new technology, greater diversification in production and inclusion of commercial crops and animal husbandry programme in the production plans. Gupta S.K., Awasthi P.K., Yadav K.S (1986)[8]. found that the overdues were found highest in the case of medium farmers followed by the small and large farmers. Dadhich C.L (1971)[9]. has showed that there is no association between land owned, amount borrowed, level of literacy of the borrowers. But there is a strong association between repayment of loans and irrigation.

We have identified those borrowers as having ability to repay loans to the banks whose income has been increased at least 10% or above over the average income of previous five years prior to the intake of bank loans.

But why do we take10% increase in the level of income as the criterion of the ability to repay loans to the banks? The reason is very clear. Let the institutional rate of interest charged for the

borrowing of loans is approximately 10%. Since, in the time of 2009-2010, the interest rate of regional banks where the borrowers have taken their loans was around 10%. So, if the borrower can earn a return of 10% by investing the borrowed amount, then it will be possible for them to return the loan in time.

However, the variable ability to repay loans to the banks is a dichotomous variable taking two values namely 1 if the borrowers get an increase in their growth rate of income of 10% or more and 0 if the borrowers do not get an increase in their growth rate of income of 10%.

OBJECTIVE

- We would like to investigate that whether the farmers are able to repay loans in the agricultural sector of Bankura District in West Bengal of India.
- This paper helps to increase the income of the farmers by properly utilised their loans in productive purposes in agricultural sector.
- It helps to improve the banking performance in the banking sector.

METHODOLOGY

Analytical Frame work:

$P_i \quad = \quad$ P$(Y_i = 1) \Rightarrow$ The probability that the ith farmer is able to repay the loans to the bank.

$1 - P_i = \quad$ P$(Y_i = 0) \Rightarrow$ The probability that the ith farmer is not able to repay the loans to the bank.

The conditional probability that the farmer is able to repay loans to the banks, given other things (i.e., X_i) is equivalent to the conditional expectation that the farmer is able to repay loans to the banks, given X_i. That is,

$$P_i \equiv \Pr(Y_i = 1 | \Phi_i) = E(Y_i | \Phi_i) \qquad (1)$$

The objective of the binary response model is to capture this conditional expectation.

From the above discussion it is clear that linear regression model makes no sense as a binary response model. Let us consider a column vector X_i of length k (number of explanatory variables) that belongs to the information set Φ_i including the constant term or the equivalent. Then the linear regression model would specify $E(Y_i | \Phi_i)$ as a probability, and the probabilities must lie between 0 and 1. Though the quantity $X_i'\beta$ cannot be interpreted as a probability and lie between 0 and 1, several empirical studies (for example, Bowen and Finegan, 1969) simply use OLS to estimate what is called (rather inappropriately) Linear Probability Model (LPM).

If Y_i stands for the fact that the ith farmer is able to repay loans to the banks and X_i is a set of explanatory variables (we parenthesize all explanatory variables determining the fact the ith farmer is able to repay loans to the banks within X_i) and if the relationship between Y_i and X_i is specified by a linear relationship, we can write

$$Y_i = X_i'\beta + U_i \tag{2}$$

where

$$Y_i = \begin{cases} 1 \text{ if the i-th farmer is able to repay loans to the banks.} \\ \\ 0 \text{ if the i-th farmer is not able to repay loans to the banks.} \end{cases}$$

If $E(U_i) = 0$ for all i as required in the classical linear regression model, it follows from equation (2)

$$E(Y_i|X_i) = 0 \cdot (1 - P_i) + 1 \cdot P_i = P_i = X_i'\beta \tag{3}$$

The basic condition we need for equation (3) is that

$$0 < E(Y_i|X_i) < 1$$

In order to formulate a probabilistic model for fact that the farmer is able to repay loans to the banks we would like to transform $X_i'\beta$ into a probability.

That is, we use the transformation function *F* such that

$$P_i = P(Y_i = 1) = F(X_i'\beta) \tag{4}$$

The binary response models that we would like to discuss consist of a transformation function $F(X)$ applied to an index function that depends on the independent variables (determinants of ability to repay loans) and the parameters of the model. An index function is simply a function that has the properties of a regression function, whether linear or nonlinear. Thus, a very general specification of a binary response model is

$$E(Y_i|\Phi_i) = F\{h(X_i, \beta)\}, \tag{5}$$

where $h(X_i, \beta)$ is the index function.

A more restrictive, but much more commonly encountered specification is

$$E(Y_i|\Phi_i) = F(X_i'\beta). \tag{6}$$

In this case, the index function $X_i'\beta$ is linear and $E(Y_i|\Phi_i)$ is simply a nonlinear transformation of it. Although, $X_i'\beta$ can in principle take any value on the real line, $F(X_i'\beta)$ must lie between 0 and 1. As $F(X_i'\beta)$ is a nonlinear function, changes in the values of the elements of X_i, say X_{ij}, necessarily affect $E(Y_i|\Phi_i)$ in a nonlinear fashion. Specifically, when $P_i \equiv E(Y_i|\Phi_i)$ is given by equation (8), its derivative with respect to X_{ij} is

$$\frac{\partial P_i}{\partial X_{ij}} = \frac{\partial F(X_i'\beta)}{\partial X_{ij}} = f(X_i'\beta) \cdot \beta_i. \tag{7}$$

In the probit model the term β_i appears as a multiplicative factor and determines the sign of the effect. The transformed β_i can be used to find the effect of a unit change in the exogenenous variable on the probability of ability to repay.

The Data: The study has been conducted in the district of Bankura in the state of West Bengal. There are 19 districts in the state of West Bengal. We have chosen one district purposively, namely, Bankura. From this district, one subdivision was randomly selected. The sub-division is Visnupur. Again, from this sub-division two blocks were randomly selected. We have chosen Indus and Joypur as two blocks

from Visnupur sub-division of Bankura. This constitutes the first stage of sampling. From each of these two blocks, we roughly 154 borrowers were chosen randomly. This ultimately gives a sample of 308 of borrowers in our study. Thus, in the second and final stage of the sampling, we choose the households of borrowers.

Primary data were collected for the agricultural year 2009-2010 from 308 sample borrowers who have taken loans from the institutional sector like commercial, Regional Rural and Co-operative bank branches operating in the two blocks through personal interview on the basis of a pre-structured questionnaire.

MODEL SPECIFICATION

Ability to repay loans to the banks is affected by a number of factors. We have classified the farms according to three land sizes, namely small and marginal farms with land size below 4 acres of land, medium farms with land size between 4 to 10 acres of lands and large farms with land size of 10 acres and above. Such classification of farms has been made on the basis of minimum coefficient of variation of land within a size class. The analytical models of ability to repay loans to the banks have been considered as follows.

$$ARTPLOANS = \gamma_0 + \gamma_1\, AGE + \gamma_2\, EDUCATION + \gamma_3 PINFLOAN + \gamma_4 WPR$$
$$+ \gamma_5\, IRRLAND + \gamma_6 NIRRLAND + \gamma_7 DINTRATE$$
$$+ \gamma_8 CASTE + \gamma_9 NALOANUSE + \gamma_{10}\, GRATEINCOME$$
$$+ \gamma_{11} RIPCFMEXP + \gamma_{12}\, TECHNOLOGY$$
$$+ \gamma_{13} CROPFAILURE + error$$

RESULT AND DISCUSSION

In this section we shall consider the ability to repay in the agricultural sector of Bankura district. Our main objective is to look into how the probability that the farmers are able to repay loans is affected due to the change in the regressors. We also see how the overall probability that the farms are able to repay loans varies over different land sizes. Tables 1, 2 and 3 show the empirical results of logit model of ability to repay, marginal change in odds ratio and probability that the farm is able to repay.

Consider first of all the model for all farms. Refer to table 1, we consider the goodness of fit of the fitted regression line to a set of collected data. The coefficient of determination R-squared is a measure that tells how well the sample regression line fits the data. Refer to table 1 the empirical value of R-squared statistics is 0.75. This means that about 75% of the variation in the response variable is explained by the explanatory variables. In the case for the model of small and marginal farms we see that the empirical value of R-squared statistics is 0.67. Again, refer to the table 2 where the empirical results for models of medium farms and large farms are presented. Consider the model of medium farms. In this case the value of R squared (0.776) statistics indicates that the sample regression line fits the data very well. Lastly, in the case for the model of large farms we get the value of R-squared is 0.835. This implies that the sample regression line fits the data very well.

The coefficient of age (**AGE**) in the logit model of ability to repay is positive but statistically insignificant in all the models of all farms, small and marginal farms, medium farms and large farms. Thus, the age has no connection with the ability to repay loans. Similarly, the non-irrigated land (**NIRRLAND**), the difference in the interest rate (**DINTRATE**), rate of increase in per capita family expenditure (**RIPCFMEXP**) and caste (**CASTE**) have no statistically significant effect on the probability that the farms are able to repay loans for all farms, small and marginal farms, medium farms and large farms.

Consider the effect of education (**EDUCATION**) on the ability to repay. The coefficient of education in logit model of ability to repay is seen to be positive and statistically significant at 5% level for all farms, small and marginal farms, medium farms and large farms. Thus, the hypothesis that education affects directly the probability that the farms are able to repay loans is accepted. The log of odds ratio in favour of ability to repay loan and odds ratio increases so does the probability that the farms are able to repay loans for all sorts of farm.

Table 1: Ability to Repay Loans to the Banks in Agricultural Sector in the District of Bankura

Dependent variable is ATRPLOANS (Ability to Repay Loans)						
	Type of Farms					
	All Farms Number of Observations = 308			Small and Marginal Farms Number of Observations = 85		
Regressor	Coefficient	Standard Error	t-Statistic	Coefficient	Standard Error	t-Statistic
CONSTANT	-5.9669*	0.8802	-6.7791	-6.6104*	1.5862	-4.1674
AGE	0.0048	0.0104	0.4635	0.0196	0.0195	1.0067
EDUCATION	0.0288*	0.0017	16.8647	0.1492**	0.0756	1.9740
GRATEINCOME	0.5519**	0.2512	2.1971	0.3481**	0.1654	2.1046
PINFLOAN	0.5252**	0.2091	2.5114	0.3316*	0.1112	2.9824
WPR	0.8987	0.9288	0.9676	0.2134*	0.1076	1.9827
IRRLAND	0.6434**	0.2660	2.4192	0.5867*	0.2159	2.7183
NIRRLAND	0.0337	0.0410	0.8221	0.3272	0.4732	0.6915
RIPCFMEXP	0.0001	0.0001	1.6024	-0.0002	0.0002	-1.1033
DINTRATE	0.0064	0.0139	0.4624	0.0189	0.0271	0.6994
TECHNOLOGY	0.3417**	0.1357	2.5192	0.0820	0.1079	0.7598
CROPFAILURE	-0.1239**	0.0509	-2.4352	-0.3936*	0.1025	-3.8391
CASTE	-0.4079	0.2938	-1.3882	-0.0393	0.5787	-0.0679
NALOANUSE	0.7003*	0.2628	2.6645	0.6224**	0.2441	2.5499
			All Farms	Small and Marginal Farms		
Mean of ATRPLOANS			0.72313	0.60000		
Mean of fitted ATRPLOANS			0.96743	0.69412		
Goodness of fit			0.74919	0.67059		
Pseudo-R-Squared			1.2460	.15893		

Source: Author's own calculation. * stands for significant at 1% level; ** stands for significant at 5% level; *** stands for significant at 10% level.

The coefficient of growth rate of income (**GRATEINCOME**) is positive and statistically significant. It implies that the hypothesis that the growth rate of income and probability that the farms are able to repay loans are directly connected is accepted. The log of odds ratio in favour of ability to repay loan and odds ratio in our logit model of ability to repay increase and so does the probability that the farms are able to repay loans for all farms, small and marginal farms, medium farms and large farms. The marginal increases in the probability that the farms are able to repay loans are respectively 0.12%, 0.09%, 0.12% and 0.14% for all farms, small and marginal farms, medium farms and large farms.

The coefficient of the proportion of investment financed by loans (**PINFLOAN**) is also positive and statistically significant at 5% level of significance. Thus the hypothesis of direct relation between the proportion of investment financed by loans and ability to repay is empirically accepted. The log of odds ratio in favour of ability to repay loan and odds ratio increases in all the models. The probability that the farms are able to repay loans also increases. The estimated logit model of ability to repay shows that the probability that the farms are able to repay loans marginally increases by 0.12%, 0.08%, 0.11% and 0.11% for all farms, small and marginal farms, medium farms and large farms respectively.

The coefficient of worker population ratio (**WPR**) in our logit model of ability to repay is positive and statistically significant at 5% level of significance. This implies the hypothesis of positive association between the worker population ratio and the ability to repay is accepted. The log of odds ratio in favour of ability to repay loan and odds ratio and also the probability that the farms are able to repay loans also increase due to worker population ratio for all farms, small and marginal farms, medium farms and large farms. The marginal increases in the probability that the farms are able to repay loans are respectively 0.21%, 0.05%, 0.07% and 0.03% for all farms, small and marginal farms, medium farms and large farms.

The coefficient of irrigated land (**IRRLAND**) in the logit model of ability to repay is positive and statistically significant at 5% level of significance. Thus, the hypothesis that irrigated increases the probability that the farms are able to repay loans is accepted. The log of odds ratio in favour of ability to repay loan and odds ratio also increase for all sorts of farms. The probability that the farms are able to repay loans is seen to increase with the irrigated for any farm. The probability that the farms are able to repay loans increases marginally by 0.15%, 0.14%, 0.18% and 0.19% respectively for all farms, small and marginal farms, medium farms and large farms.

Table 2: Ability to Repay Loans to the Banks in Agricultural Sector in the District of Bankura

Dependent variable is ATRPLOANS (Ability to Repay Loans)						
	Type of Farms					
	Medium Farms Number of Observations = 125			Large Farms Number of Observations = 98		
Regressor	Coefficient	Standard Error	t-Statistic	Coefficient	Standard Error	t-Statistic
CONSTANT	-4.9606*	1.8770	-2.6428	-12.2939*	2.3217	-5.2952
AGE	-0.0063	0.0182	-0.3440	-0.0063	0.0229	-0.2766
EDUCATION	0.0229**	0.0107	2.1392	0.0288*	0.0122	2.3521
GRATEINCOME	0.5146**	0.2607	1.9744	0.9531**	0.4253	2.2410
PINFLOAN	0.4812**	0.2425	1.9844	0.7539*	0.0987	7.6412
WPR	0.3019**	0.1451	2.0809	0.2203	0.2461	0.8954
IRRLAND	0.7334*	0.1705	4.3018	0.9573**	0.3751	2.5522
NIRRLAND	0.0151	0.1861	0.0809	0.0087	0.0495	0.1752
RIPCFMEXP	0.0002	0.0002	1.1577	0.0003	0.0002	1.0493
DINTRATE	0.0115	0.0255	0.4516	-0.0088	0.0293	-0.2994
TECHNOLOGY	0.2513**	0.1176	2.1372	0.4894*	0.1231	3.9743
CROPFAILURE	-0.2242*	0.0644	-3.4829	-0.0519	0.0491	-1.0577
CASTE	-0.7105	0.5177	-1.3723	-0.1550	0.6294	-0.2463
NALOANUSE	0.7409**	0.3621	2.0461	0.8363*	0.3025	2.7644
			Medium Farms		Large Farms	
Mean of ATRPLOANS			0.76000		0.78351	
Mean of fitted ATRPLOANS			0.95200		0.92784	
Goodness of fit			0.77600		0.83505	
Pseudo-R-Squared			0.085886		.12996	

Source: Author's own calculation. * stands for significant at 1% level; ** stands for significant at 5% level; *** stands for significant at 10% level.

Consider the coefficient of technology (**TECHNOLOGY**) in the logit model of ability to repay. We note that this coefficient is positive and statistically significant at 1% level of significance except for the small and marginal farms. The reason is obvious. The small and marginal farms cannot reap the benefit of technology and this make the coefficient of technology statistically insignificant for them. However, the positive sign and the statistical significance of the coefficient of technology we infer that the hypothesis that the technology increases the ability to repay loans for all farms, medium farms and large farms is accepted. The small and marginal farms are the exception in this context. However, we see also that the log of odds ratio in favour of ability to repay loan and odds ratio in our logit model of ability to repay increase and so does the probability that the farms are able to repay loans. The marginal increases in the probability that the farms are able to repay loans are 0.08%, 0.02%, 0.06% and 0.07% respectively for all farms, small and marginal farms, medium farms and large farms.

The coefficient of crop failure (**CROPFAILURE**) in our logit model of ability to repay is negative and statistically significant at 5% level of significance for all farm sizes except that for the large farms. This is very much natural. The large farms can tolerate the shock of crop failure and their income does not fall as it falls in the case of small and marginal farms, and medium farms. However, the hypothesis that crop failure adversely affects the ability to repay loans irrespective of the farm size is accepted. The log of odds ratio in favour of ability to repay loan and odds ratio and the probability that the farms are able to repay loans – all decrease in our logit model of ability to repay. This indicates that the crop failure leads to a reduction in the probability that the farms are able to repay loans. Further, the marginal falls in the probability that the farms are able to repay loans are respectively 0.03%, 0.10%, 0.05% and 0.008% for all farms, small and marginal farms, medium farms and large farms.

Table 3. Logit, Odds Ratio, Probability and Marginal Change in Odds Ratio and Probabilities in ATRPLOANS in the Agricultural Sector

	All Farms		Small and Marginal Farms		Medium farms		Large farms	
Logit	-0.0274		-1.1474		-0.0116		0.5340	
Odds Ratio	0.9730		0.3175		0.9884		1.7058	
Probability	0.4932		0.2410		0.4971		0.6304	
	Change in		Change in		Change in		Change in	
Regressor	Odds Ratio	Probability	Odds Ratio	Probability	Odds Ratio	Probability	Odds Ratio	Probability
CONSTANT	-99.7438	-1.3983	-99.8654	-1.6189	-99.2991	-1.2011	-99.9995	-1.7989
AGE	0.4844	0.0011	1.9781	0.0048	-0.6256	-0.0015	-0.6327	-0.0009
EDUCATION	2.9206	0.0067	16.0917	0.0365	2.3136	0.0055	2.9184	0.0042
GRATEINCOME	73.6549	0.1293	41.6374	0.0853	67.3043	0.1246	159.3738	0.1395
PINFLOAN	69.0733	0.1231	39.3209	0.0812	61.8047	0.1165	112.5317	0.1103
WPR	145.6481	0.2106	23.7867	0.0523	35.2454	0.0731	24.6488	0.0322
IRRLAND	90.2978	0.1508	79.8117	0.1437	108.2177	0.1776	160.4628	0.1901
NIRRLAND	3.4237	0.0079	38.7120	0.0801	1.5171	0.0036	0.8707	0.0013
RIPCFMEXP	0.0140	0.0000	-0.0244	-0.0001	0.0210	0.0001	0.0251	0.0000
DINTRATE	0.6458	0.0015	1.9125	0.0046	1.1602	0.0028	-0.8730	-0.0013
TECHNOLOGY	40.7387	0.0801	8.5406	0.0201	28.5666	0.0608	63.1293	0.0716
CROPFAILURE	-11.6511	-0.0290	-32.5370	-0.0964	-20.0832	-0.0543	-5.0601	-0.0076
LOANAGNAG	-33.4955	-0.0956	-3.8548	-0.0096	-50.8592	-0.1720	-14.3593	-0.0227
CASTE	101.4256	0.1641	86.3376	0.1524	109.7865	0.1794	130.7743	0.1224
NALOANUSE	-99.7438	-1.3983	-99.8654	-1.6189	-99.2991	-1.2011	-99.9995	-1.7989

The coefficient of nature of loan use (NALOANUSE) is positive and statistically significant at 5% level of significance. This indicates that the hypothesis of positive relation between the productive use of loans and ability to repay is accepted. The log of odds ratio in favour of ability to repay loan and odds ratio also increases for all farms, small and marginal farms, medium farms and large farms. This indicates that the probability that the farms are able to repay loans also increases for all farms, small and marginal farms, medium farms and large farms due to productive use of loans.

Refer to the table – 3 where the overall probability that the farms are able to repay loans is presented according to different farm size. We note that the probabilities that the farms are able to repay loans are respectively 0.49, 0.24, 0.50 and 0.63 for all farms, small and marginal farms, medium farms and large farms. This clearly shows that farm size and probability that the farms are able to repay loans vary directly.

POLICY RECOMMENDATIONS

We are now in a position to prescribe some economic policy that would help to increase the probability that the farmers are able to repay loans. In formulating the economic policy, we shall be guided by the empirical estimates of our model. Now these policies are mentioned below.

(1) Education brings the outer world in the arena of the farmers. The farmers get much information through education and acquaint them with the possible knowledge that results in fruitful effect from production. If proper training is arranged, the farmers will come to know the proper input-mix of the production from which the optimum return can be found. Therefore, imparting educational training for the farmers in the agricultural will stimulate the income generation. As a result, they will be able to repay their loans to the banks in time.

(2) From the study we have seen that the growth rate of income has a positive impact on the ability to repay loans to the banks. It is obviously that if income is generated, it is likely to create the ability to repay the loans of the households. So at the first there must be necessary to increase the income generation as measured by growth rate of income that help to improve the ability to repay loans to banks of the farmers.

(3) We have proportion of investment financed by loan has a positive impact on the ability to repay loans to the banks. Therefore, we would suggest that the banks should provide to the farmers with the loans sufficient to finance the project the farmers have planned for. Otherwise, the under-investment or investment at the sub-optimal level cannot generate income to the desired level and there will be insufficient income generation. Due to this fact of under-investment, the ability to repay loans to the banks will be decreased.

(4) We have seen that the worker population ratio has a positive effect on ability to repay loans to the banks. Creation of the jobs or employments will increase the worker population ratio and it will reduce the dependency ratio of the family. Obviously, the borrowers will be able to repay their loans in time.

(5) We have noticed that the irrigated land has a positive effect on the ability to repay loans to the banks. Therefore, if the government improves the irrigation facilities among the farmers, then their income will increase and ability to repay loans to the banks will also improve.

(6) Adoption of the technology is another important factor of the ability to repay loans to the banks. It has a positive impact on the ability to repay loans to the banks. But, the use of technology is costly. Therefore, the small and marginal farms cannot afford to use technology and the medium farms and large farms can do. Thus, the use of fertilizers, machineries for agriculture and seeds of HYV are only by the large farms. Therefore, the government should look after this matter and arrange by paying subsidies if required so that the small and marginal farms and medium farms can reap the benefit of the technology.

(7) The productive use of loans has always a positive and favorable effect on the ability to repay loans to the banks. The government or the appropriate loan sanctioning authority should be watchful enough so that the borrowers do not get the scope to diversify the loans from the productive activities to non-productive activities.

CONCLUSION

In the agricultural sector, though this study relates only to the district of Bankura, but the findings are fairly general in the rural areas. From the empirical findings we found that the probability that the households are able to repay loans to the banks is directly related with the growth rate of income that is income generation. So reduce the number of defaulters, all attempts should be employed to increase the ability to repay loans to the banks. This implies that the income generation must be the necessary condition for the repayment of bank loans. And this income generation takes place at a sufficient level only through the productive use of loans. Further, empirically we get an interesting result that some farmers did not repay their loans in time though they have got the income generation sufficiently. They are called wilful defaulters. For these reasons the farmers must be made conscious and it is only possible through regular campaign and proper education.

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