Proceedings of 12th Agricultural Research Symposium (2013) 444-448

Formal and Informal Credit Demand by Paddy Farmers in Kurunegala District

H.M.M.D. BANDARA, N.R. ABEYNAYAKE and G.H.I. ANJALEE

Department of Agribusiness Management, Faculty of Agriculture and Plantation Management. Wayamba University of Sri Lanka, Makandura, Gonawila (NWP)

ABSTRACT

In many developing countries rural agricultural financial systems are made of informal and formal sectors. Informal financial systems are mainly distributed in rural areas with high agricultural population in Sri Lanka. This study was aimed to examine empirically the present credit demand by paddy farmers and factors influencing paddy farmers to demand informal and formal credit with 61 paddy farmers in Kurunegala District. Data were analyzed using both descriptive statistics such as percentages and Nominal Logistic Regression techniques. The results suggested that majority of the farmers prefers to go for credit facilities and out of them, more than 75% demand informal sources as their main source of credit. Relatives and friends are the most important sources of informal credit, about 60% of farmers demand credit from relatives and friends while main formal source was pawning. Almost all farmers had negative perception on formal credit institutes. Out of seven variables tested, age and income from other sources had significant influence to farmers to demand informal credit and neither variable had significant influences farmers to demand formal credit. Financial institutes should adopt new promotion schemes and need to conduct adversary program to inform available credit schemes to attract farmers demand in informal credit into financial institutes.

KEYWORDS: Formal credit, Informal credit, Microfinance, Paddy farmers

INTRODUCTION

The financial systems of most of the developing countries are made of two sectors as the formal and informal financial sectors that operate side by side (Aderinto *et al.*, 2011). Ghate (1992) defined formal financial service providers as registered companies that are licensed to offer financial services by Central Monetary Authority. The formal financial sector in Sri Lanka constitutes a system encompassing commercial banks, development banks, rural banks, credit societies, savings banks, finance companies, insurance companies, and contractual savings institutions (Karunagoda, 2007).

Informal financial services refer to all transactions, loans and deposits that take place outside the regulated monetary system. The informal financial sector also known as un-organized sector consists of individuals such as money lenders, relatives, friends, neighbored, landlords, traders and group of individuals that operates mainly in the rural setting (Mehrteab, 2005). Informal capital markets for credit in developing countries consist of two segments, the non-commercial sector and commercial sector. Non-commercial sector consists of friends and relatives, and generally they do not charge interest on loans. The commercial segment constitutes of a range of people like input dealers, crop buyers, landlords and moneylenders involving in financial activities, charging interest on loans.

Informal financial systems are mainly distributed in rural areas with high agricultural population in Sri Lanka. Rural finance, as defined by the World Bank, is the provision of a range of financial services such as savings, credit, payments and insurance to rural individuals, households, and enterprises, both farm and non-farm, on a sustainable basis. It includes financing for agriculture and agro processing.

Agricultural finance is defined as a subset of rural finance dedicated to financing agricultural related activities such as input supply, production, distribution, wholesale, processing and marketing (Andrews, 2006). Though the presence of formal financial transactions in the rural sector has improved in line with the expansion of institutional financial sector with both financial widening and deepening, the informal financial transactions still play a dominant role in the rural sector. Informal financial markets provide a very important service in meeting financial needs of especially less privileged segments of the society who find it inconvenient or uncomfortable in dealing with the procedures in a formal environment with formal financial institutions (Karunagoda, 2007).

According to the Department of Agriculture (2012), rice is the single most important crop occupying 34 percent (0.77 /million ha) of the total cultivated area in Sri Lanka. On average 560,000 ha are cultivated during Maha and 310,000 ha during Yala making the average annual extent sown with rice to about 870,000 ha. About 1.8 million farm families are engaged in paddy cultivation island-wide.

For all the cultivation and processing practices of paddy, money is considered as a primary input and it will be fulfilling by taking credit from various ways or either cash on hand of farmers. Kurunegala is one of the most widely rice cultivating district of Sri Lanka and it has been selected as the base area for the study to find out paddy farmers' demand on formal and informal credit.

The broad aim of this study was to investigate the present credit demand by paddy farmers in Kurunegala District, Sri Lanka. The study was carried out with the specific objectives of determining the factors influencing paddy farmers to demand formal and informal credit. Further it was aimed to investigate the farmer's perception on lending procedures carried out by the financial institutions.

METHODOLOGY

Study Area and Data Collection

Primary data were collected by means of a survey, to find out the problems of farm credit needs of paddy farmers. Data were collected using random sampling technique in Kurunegala District, covering five Divisional Secretariat Divisions from February to March 2013. A total of 61 paddy farmers were selected for the sample and the data were collected through face-to-face interviews using a pre-tested questionnaire. The survey questionnaire was designed to gather information on demographic and socio-economic characteristics of the farmers, household characteristics, household assets and the farmers' attitudes towards formal and informal credit.

Data Analysis

Data were analyzed using both descriptive and inferential statistics. For descriptive statistics techniques such as percentages and frequencies were used. Descriptive data analysis technique was used to identify the sources from which the paddy farmers seek their credit needs.

Nominal Logistic Regression was used to evaluate factors that influence paddy farmers to demand formal and informal credit. Decision by respondents to demand credit (informal or formal) is assumed to be influenced by the individual and household characteristics as well as institutional factors. Credit demand has been taken in three categories as formal credit recipient, informal credit recipient and non-credit recipient. Because of three categories in the response variables Nominal Logistic Regression was performed. Let represent farmers' decision to demand credit by a latent variable (y_i). This depends on a vector of explanatory variables (x_i) include individual and household characteristics as well as institutional factors. This leads to quantitative response model which can be presented as:

$$y_i = \alpha + \beta x_i + \varepsilon_i$$

As per the Nominal Logistic Regression; considering that,

$$y_i = (y_{i1}, y_{i2}, \dots, y_{ir})^T$$

has a multinomial distribution with index,

$$n_i = \sum_{j=1}^{r} y_{ij}$$

and parameter

$$\pi_i = (\pi_{i1}, \pi_{i2}, \dots, \pi_{ir})^T$$

When the response categories 1, 2, . . . , r are un ordered, the most popular way to relate π_i to covariates is through a set of $r - 1$ baseline-category logits. Taking j^* as the baseline category, the model is,

$$\log\left(\frac{\pi_{ij}}{\pi_{ij^*}}\right) = x_i^T \beta_j, j \neq j^*$$

If x_i has length p, then this model has $(r-1)\times p$ free parameters, which we can arrange as a matrix or a vector. For example, if the last category is the baseline ($j^* = r$), the coefficients are,

$$\beta = \beta_1, \beta_2, \dots, \beta_{r-1}$$

With the principal of Nominal logistic explained above, parameters $(\beta_1, \beta_2, \dots, \beta_{r-1})$ of socio-economic factors were estimated by using MINITAB 15.

RESULTS AND DISCUSSION

Descriptive Statistics

From the sample, 65.5% of farmer's were selected informal sources as their source of credit and 19.7% farmers used formal sources as their main source of credit where as 14.8% do not go for credit (Figure 1).

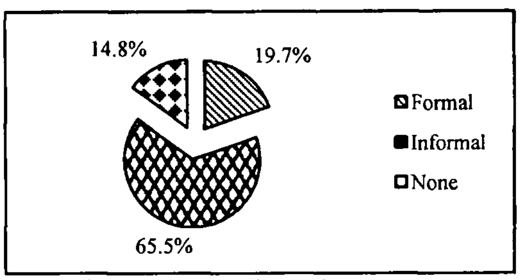

Figure1. Farmer credit preference

There were two choices of farmer whether to demand credit or not to demand credit. From the sample 85.2% of farmers were borrowing credit where as other 14.8 % not borrowing credit from any source (Figure 2).

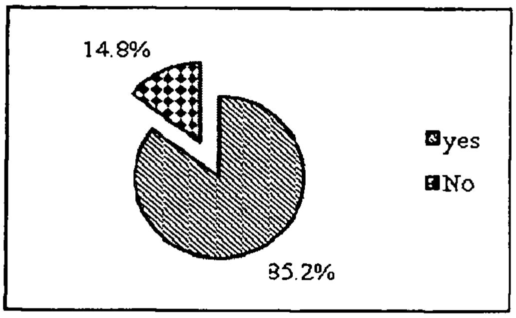

Figure 2. Farmers' credit demand

Out of the farmers that demand credit, 76.9% farmers demand informal credit while 23.1% farmers demand formal credit (Figure 3).

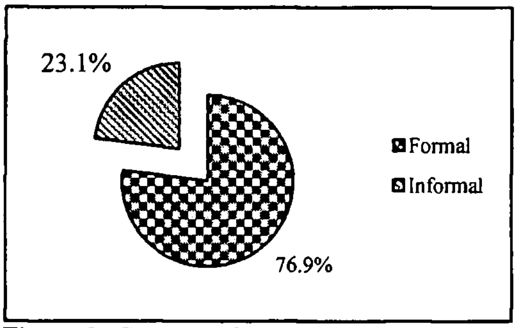

Figure 3. Sources of credit

Informal Credit Sources

There were five major intermediaries operating in the informal financial market segment these are relatives and friends, input traders, output traders, money lenders and others. Relatives and friends are the most important sources of informal credit, about 60% of farmers demand credit from relatives and friends. Relatives and friends offer credit to farmers at negotiable rates depending on social relationships and reputation.

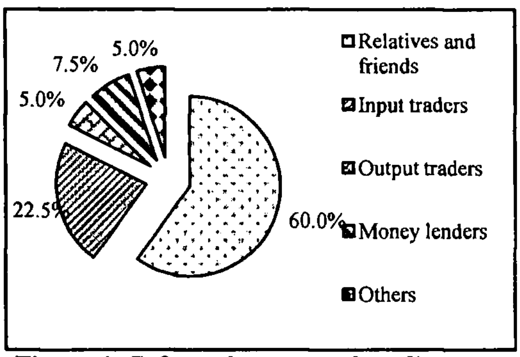

Figure 4. Informal sources of credit

Farmers who are capable of building social capital take advantage of this form of loan. Even many times this type of credit is interest free. Traders are next source of credit demand by farmers, 22.5% from input traders and 5% respectively. Money lenders were selected as their source of informal credit by 7.5% of farmers. Another 5% of farmers selected other sources as their source of income in many times and those are the farmer societies which having semi formal characteristics (Figure 4).

Formal Credit Sources

The study categorized formal credit sources operating within the formal financial market segment into three major classes namely: banks, pawning and micro credit companies (MCC).

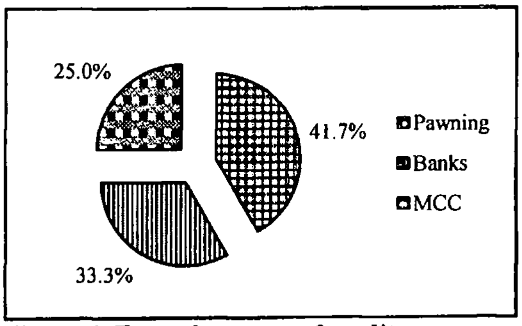

Figure 5. Formal sources of credits

Pawning was playing a leading role in offering credit to farmers. About 41.7% of the farmers used pawning as source of formal credit. Usually, formal financial institutes provide this facility at very low interest rates with high security compare to money lenders. Therefore, almost all farmers stated that they prefer formal financial institutes as their pawning center. Banks and micro credit companies were used as sources of formal credit at 33.3% and 25% respectively (Figure 5).

Farmer Perception Towards Formal Financial Institutes

Farmers' perceptions were obtained using five point Likert scale (i.e. 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree) to quantify their perception towers formal financial institute. As illustrated in figure 6, farmer perception was averagely close to four (04) indicating that farmers are agree to the all statements that have negative perception about formal institutes. Almost all farmers had similar perception on formal financial institute regardless their preferred source of credit.

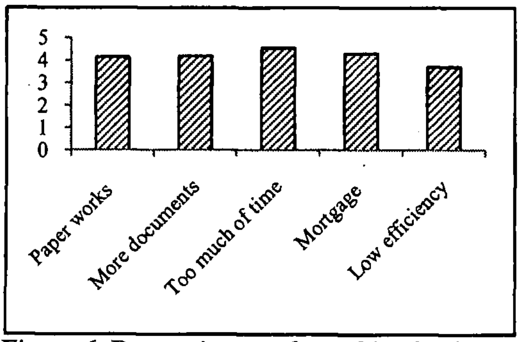

Figure 6. Perceptions on formal institutions

Distribution of Farmers

From the sample, more than 75% of the farmers were higher than 35 years of age. This means most farmers are experienced in paddy farming. About 88.5% farmers were having income from other sources where as 11.5% farmers were only depending on paddy farming.

Out of the total respondents 86.9% of the farmers were male and only 13.1% were female. Majority of the farmers were small and medium scale farmers which cultivate rice mainly for consumption purpose (Table 1).

Table 1. Land holding size

Land holding size	Percentage
Small (0-1.5)	60.6%
Medium (1.6-2.5)	32.8%
Large (>2.6)	6.6%

Outcome of the Nominal Logistic Regression

According to the Nominal Logistic Regression, the factors influencing demand for informal credit and formal credit with respect to no demand to credit is presented in Table 2. Out of seven variables tested age and income from other sources had significant influence on farmers to demand informal credit with respect to the category of farmers who didn't demand credit. Age and income from other sources had negative relationship with demand for informal credit. It revealed that with the ageing of people, preference for the formal credit institution is low. Out of seven variables neither variable had significant influences on farmers to demand formal credit with respect to the category of farmers who didn't demand credit.

Table 2. Outcome of the nominal logistic regression

Predictor	Coefficient	Standard Coefficient	Z value	P value	Odds ratio
Logit 1: (I/N)					
Constant	11.10940	6.195660	1.790000	0.073	
Age	-0.122990	0.055380	-2.220000	0.026*	0.8800000
Family size	0.164520	0.488250	0.340000	0.736	1.1800000
Level of education					
Secondary	0.808490	1.656460	0.490000	0.625	2.2400000
Tertiary	-2.375830	2.577600	-0.940000	0.347	0.0900000
Cost of production (rs/ac/season	0.000081	0.000125	-0.690000	0.492	1.0000000
Income (rs/ac/season)	0.000017	0.000051	0.240000	0.811	1.0000000
Income from other sources	-0.000009	-0.000003	-2.710000	0.007*	1.0000000
Total value of assets	0.000006	0.000003	0.660000	0.509	1.0000000
Logit 2: (F/N)					
Constant	1.351500	6.467890	0.210000	0.834	
Age	-0.427200	0.057198	-0.750000	0.455	0.9600000
Family size	0.088460	0.495020	0.580000	0.560	1.3300000
Level of education					
Secondary	0.876090	1.764860	0.500000	0.620	2.4000000
Tertiary	-0.096558	2.621210	-0.040000	0.971	0.9100000
Cost of production (rs/ac/season	0.000037	0.000133	0.230000	0.817	1.0000000
Income (rs/ac/season)	0.000005	0.000054	0.150000	0.882	1.0000000
Income from other sources	-0.000005	0.000003	-1.740000	0.081	1.0000000
Total value of assets	0.000001	0.000003	0.2700000	0.785	1.0000000

*Note: * - Significant at 0.05 level*

CONCLUSIONS AND RECOMMENDATIONS

Majority of the farmers prefer to go for credit facilities and out of them, more than 75% demand informal sources as their main source of credit. Farmers have benefits in informal credit such as close proximity, comfortable atmosphere, quick credit, all-time access, freedom of deployment, repayment flexibility and lower transaction cost. On the other hand, farmers are having very negative perception about formal financial institutes. Those factors were lead to farmers demand informal credit. Most farmers are Medium or small scale farmers which cultivate rice for consumption purpose without industrial purposes and they didn't think about advancing their production and committed to available resources.

The main source of informal credit was relatives and friends. Farmers demand credit from relatives and friends than other sources as most of the time it is interest free and easy to recover.

The main source of formal credit was pawning and farmers select pawning as their credit due to advantages such as less time consuming, less document work and etc

As farmers were used to obtain credit from informal sources they remain on those sources and do not think about changing the source of credit. In order to change the their negative attitudes, financial institutes should adopt new promotion schemes and need to conduct adversary program to inform available credit schemes such as National Comprehensive Rural Credit Scheme which operates under government subsidy scheme at low interest rates and functioning under the government own banks. Also, it is recommended to conduct employee training and development programs for the staff members of financial institutes which will encourage them to work with farmers more closely. The financial institutes can conduct interactive activities which encourage farmers to do their financial activities with formal organizations. Also, the institutes can introduce more flexible requirements and regulations that a farmer can easily adopt in borrowing credit facilities.

Farmer awareness campaigns are very much essential as most of the farmers are not aware about the available facilities. Therefore, banks should promote such an awareness creation programs in targeted areas and formal financial institutes can also enhance their branch network to capture more farmers in rural agricultural areas.

ACKNOWLEDGEMENTS

The authors would like to extend their profound gratitude to all the respondents who spent their valuable time to provide necessary information.

REFERENCES

Aderinto, A.A., Lawal, W.A. and Abdullahi, I.B. (2011). Determinants of Informal Agricultural Financing: Evidence from Rural Economy of Kwara State, Nigeria, *The Journal of World Economic Review*, **6** (2), 101-110.

Andrews, M. (2006). Microcredit and agriculture how to make it work, Available from: http://www.ruralfinance.org/library/policyadvice/agriculturalfinancedetails/en/no_cache=1&srec=11674&tdet=training&tdet2= &tdet3=2&referer=MTA1MTU%3D. (Accessed 08 February 2013).

Department of Agriculture (2012), Peradeniya, Sri Lanka.

Ghate, P.B. (1992). Interaction between the formal and informal financial sectors, *The Asian Experience World Development*, **1** (14).

Karunagoda, K.P.N.S. (2007). Informal markets for financial services in Sri Lanka, *19th Anniversary Convention*, Association of Professional Bankers, Sri Lanka, 123-146.

Mehrteab, H.T. (2005). Adverse selection and moral hazard in group-based lending evidence from Eritrea. Ph.D. Thesis, University of Groningen, Netherlands.