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## Factors Influencing Creditworthiness and Loan Repayment Among Small-Holder Farmers in Sri Lanka: A Probit Model Analysis

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### Abstract

This study investigates the determinants of creditworthiness and loan repayment performance among 113 small-holder agricultural loan borrowers from the SANASA TCCS in five villages within Sri Lanka's Vavuniya district. Using a structured questionnaire, primary data was collected during 2018/2019. The study employs a binary probit model, with creditworthiness defined as a binary variable (1 for defaulters, 0 for non-defaulters), examining its relationship with demographic, farming, and farmer attribute variables. Descriptive statistics reveal that 43.4% of respondents were defaulters, while 56.6% were non-defaulters. Probit model results indicate several significant factors influencing repayment performance. Among demographic characteristics, age, education level, and number of family members positively impacted repayment. For farming characteristics, income, farm size, land ownership, farming experience, engagement in off-farm activities, loan purpose, and perceived possibility of crop failure positively influenced creditworthiness and repayment at varying significance levels. Additionally, farmers' knowledge about the loan terms and the presence of responsible guarantors were crucial farmer attributes affecting repayment. These findings offer valuable insights for both small-holder farmers and microfinance institutions, enabling better prediction of repayment behavior among new loan applicants and informing future lending decisions.

**Keywords:** Creditworthiness, Loan Repayment, Smallholder Farmers, Probit Model, Microfinance, Sri Lanka

### Introduction

Sri Lanka is an agricultural background country where the agricultural sector plays a predominant role as the third largest contributor to the Gross Domestic Product (GDP). It helps to achieve the economic development in order to fulfil the countries' demand for food, supplying raw materials for industries, generating employment opportunities, and earning foreign exchange. In Sri Lanka, agricultural sector contributes 7.0% to the GDP and generates 32.6% employment opportunities (National Accounts of Sri Lanka-Census Department 2018). Among the developing countries especially in Sri Lanka the farmers are playing a key role to

the growth of GDP and most of them are farming based on the credit finance than their own money. Especially in developing countries mostly the farming and investment activities are still not modernized because of the financial barriers and problems. To invest more money on their farming or to adapt new techniques their financial background is not support them. Thus, they mostly depend on the agricultural credits for their cultivations. The government is providing loans for the farmers through various Micro Finance Institutions (MFI) and they are the one of the main financial institutions contributing many ways in the rural community.

In recent years, the number of financial institutions starts to function and thus many chances to access the agricultural loans that are emerging among the farmers especially who are living in North and East provinces in Sri Lanka. Even though the requirement to the agriculture credits are high and most of the banks seem to be reluctant to issue credits to farmers due to the prior experience on poor recovery of agricultural loans. According to Central Bank of Sri Lanka, Bank of Ceylon and People's banks fail to recover 17% and 45% of agricultural credits in 2009 respectively.

In Vavuniya district, among the banks and other financial institutions SANASA TCCS established mainly focus to promote the living standard of rural people and to support to the poor farmers by lending the loans them. They mostly consider the societies, and through the groups they motivate poor people to practice the micro finance systems especially the compulsory saving for the members and provide farming loans and some special loans with the aim to promote the sustainable development among rural farmers in the district. When the SANASA TCCS provides loan mostly on two types one is farming loans for paddy cultivation and other loans such as cow loans and special loans at low level interest rate than the other financial institutions.

However, SANASA TCCS provides facilities some of the farmers reluctant to repay the loans with in the effective time duration. The inability of the borrowers to repay the loans according to the loan terms will create number of problems to the borrowers and also to the lending institutions. In this current scenario, there is an instant need for the remedial actions have to be taken in order to reduce the number of defaulters among the farmers in SANASA TCCS and to educate the borrowers to perform in a correct way to reduce the loans burden in future.

### **Objectives of the study**

The study has mainly the two objectives. They are,

To identify the association between credit worthiness of the farmers and demographic characteristics, farming characteristics, farmers' attribute in SANASA TCCS in Vavuniya district, Sri Lanka.

To analyse the impact of the above three major characteristics on the repayment performance of the farmers in the study area.

### **Literature Review**

Ajah E.A, Eyo E.O. and Ofem U.I (2014) examined the credit worthiness among the poultry farmers in Nigeria. They found that the nearly 51% of the respondents were credit worthy. 120 poultry farmers were used in this study, the results revealed that older farmers with adequate supervision were credit worthy than the farmers with better educational level and with the large farm size. Finally recommended that older and experience farmers should be taken into consideration when loan applications are received. Furthermore Aniekan Jim Akpaeti. (2015) examined the agricultural loan default and repayment performance among Farmers in

Nigeria: Simple random sampling technique was used to select a total of 100 loan beneficiaries. Tobit model was used to analyse the explanatory variables influencing default rates loan beneficiaries, namely marital status, household size, off-farm income, total farm cost, enterprise profitability, debt-asset ratio, ratio of amount request, and number of visits of supervisors were significant factors influencing loan repayment among the beneficiaries. This study revealed somewhat different point of view than other as, It is recommended that Government should organize regular training programmes for the bank Supervisors to enhance effective supervision and appraisal of the agricultural projects

Kapila Premaratne (2017) examined the Factors affecting to loan repayment behaviour and credit risk of farmers in Kotiyagala village in Monaragala District in Sri Lanka. This study was carried with randomly selected 100 farmers. Primary data were collected through the structured questionnaire and small group discussions. A multiple regression model was used in the process of data analysis. The study concluded that the demographic characters like age, income and family size have strictly significant impact on the loan repayment. Finally the researcher suggested the need to create an Awareness regarding the problems regarding the un-credit worthiness and where the rural farmers are needed to introduce proper micro credit facilities and affordable interest rates to overcome from the loan burden and from the perusing inefficiencies in the loan repayment.

Another study was carried by Dr. W.P. Wijewardana, H.H.Dedunu (2017), on the topic of Loan Repayment Ability of Farmers in Sri Lanka: Exploring North Central Province dependent variable was loan repayment and independent variables were information about income, information about loan amount, background investigation, time taken to lend money and information about guarantee. The collected data were analysed by using reliability test, descriptive analysis, correlation analysis and multiple linear regression analysis. The result was generated from answers taken from 125 randomly selected borrowers. Finally this study concluded that background investigation and information about guarantee are the factors which significantly affect for the loan repayment. Hamid Safaynikou, Mohammad Taher Ahmadi Shadmehri, et al (2017) provided empirical evidence from Iran to modelling the effective factors on bank loans default rate using Delphi and they applied structural equation modelling and Tobit techniques on the case study of branches of Melli Bank in Khorasan Razavi province. For this purpose, a set of data about loans made to 300 small and medium enterprises were selected between years 2004 to 2015 and the results showed that 48 factors affect the default ratio in Iran.

Osman Yibrie and Ramakrishna, R (2017) has analyzed the determinants of loan repayment performance in ACSI using fourteen variables and out of them eight variables were found to be statistically significant. Those data were analysed with maximum likelihood estimates of multinomial logit model which showed that sex, age, level of education, loan size, interest rate, loan tenure, training and monthly sale were significantly affecting loan repayment performance of borrowers of ACSI. Factors influencing loan repayment performance: A Case study of lift above poverty organization micro-credit agency in Nigeria evaluated by Olatomide Waheed Olowa, Omowumi Ayodele Olowa (2017). They used Tobit model to analyze the data and their results of the analyses showed that 0.92 repayment rates and 0.08 default rates, and borrower experience, positive effects of the volume of loans borrowed, number of borrowers, number of credit agency staff, and volume of loans repaid.

Determinants of smallholder farmers loan repayment performance in Assosa District, Western Ethiopia was investigated by Gebre-Egziabher Fentahun Destaw Kefale Yasin Ahmed (2018). For this study a total of 1571 households' credit users and from these 94 households were selected randomly followed by probability proportional sample from Assosa woreda with primary data which was collected by direct interview of sample respondents whereas, secondary data also collected from published and unpublished documents. In their study descriptive statistics were used to summarize the demographic profile of the respondent and logistic regression model was employed to identify factors influencing loan repayment performance of farmers. Out of the total thirteen explanatory variables included in the model, livestock ownership, age, family size, income from crop product, get extension agent, off farm income, and sex were found to be statistically significant in determining loan repayment performance of smallholder farmers.

Another study conducted by Girma Gudde Jote (2018) to determine the loan repayment in the case of Microfinance Institutions in Gedeo Zone, SNNPRS, Ethiopia. Out of total population of 6662 which consists of 1610 defaulter and 5052 non-defaulter borrowers, 364 representatives from borrowers are selected by using stratified random sampling techniques. A total of ten explanatory variables were included in this model and out of these, six variables namely educational level, method of lending, nearness of borrower's residence to the institutions, family size, and income from activities financed by loan and training were found to be statistically significant to influence the probability of loan repayment in the country.

Nwafor Grace O.et al. (2018) examined the loan repayment behaviour among member of multipurpose cooperative societies in Anambra State. The study was investigated the socioeconomic factors affecting the farmers' credit repayment ability and ascertained major problems affecting the farmers in loan repayment using t-test statistics and a multiple econometric model of the Ordinary Least Square (OLS). Findings of the study revealed that there is a significant difference between the amount of loan received and amount repaid by the cooperative farmers and the joint effect of the explanatory variable in the model account for 91.9% of the variations in the factors affecting the farmers' credit repayment ability. Four variables such as educational qualification, farm size, loan application cost, and collateral value are significant whereas, age, membership duration and income of the farmers are not significant but they show a positive relationship with loan repayment. Based on the study, they recommended that among others cooperative societies should endeavour to educate the farmers on financial discipline and management because it has proven to significantly influence loan repayment.

### **Methods of Analytical tools**

The population of this study comprised the farmers who borrower the loans from SANASA TCCS in Vavuniya district in Sri Lanka during the period of 2018 December to 2019 January. The relevant primary data were gathered with a set of questionnaire using simple multi - stage sampling technique. Out of 25 districts in Sri Lanka, Vavuniya was selected as the major study area which has 4 Divisional secretariats (DS) divisions in the district. The 4 DS divisions have many Grama Sevaka (GS) divisions and out of them, only Marukkampalai GS division was selected in the study. Several villages located in the division and out of them finally, 113 total small - holder farmers were selected randomly from five villages in the study.

To examine the impact of demographic characters, farming characters and farmers' attributes on credit worthiness, different analytical tools as descriptive statistics, frequency analysis, chi-square test ( $\chi^2$ ), probit model with marginal effects were employed in the collected data.

### **Descriptive statistics**

Descriptive statistics are used to describe the basic features of the data and provide the simple summaries about the sample and measures in terms of mean, median and standard deviations of the variables used in the study.

### **Frequency Analysis**

The frequency analysis is a way to explain the data which gives more attraction and helps to give clear understanding of the study. Credit worthiness whether the borrower belongs defaulter or non- defaulter, selected demographic, farming and farmers' attributes were analysed using frequency analysis in the study.

### **Chi-square test**

The cross table and chi-square test is used to examine the association between credit worthiness among the small- holder farmers and some selected characteristics related to demographic, farming and attributes of the farmers on loans in the study.

### **Probit model or Binary Probit model**

Addition to the above analytical tools, this study adopts probit model to investigate the impact of different characteristics on the credit worthiness among the small – holder farmers in the study area. Credit worthiness measured by binary variables namely 1 for non- defaulter and 0 for defaulter taken as dependent variable and as the dependent variable in the form of zero or one probit model is more applicable than the multiple regression. The probit model is applied into three models where the explanatory variables have three main characteristics and their impact on credit worthiness was examined by estimating the following models.

#### ***Demographic characteristics: .....Model 01***

$$Y_i = \beta_0 + \beta_1 \text{age} + \beta_2 \text{gender} + \beta_3 \text{education} + \beta_4 \text{civil status} + \beta_5 \text{family members} + \varepsilon_i$$

#### ***Farming characteristics: .....Model 02***

$$Y_i = \beta_0 + \beta_1 \text{income} + \beta_2 \text{farm size} + \beta_3 \text{land ownership} + \beta_4 \text{farming experience} + \beta_5 \text{off-farm activity} + \beta_6 \text{purpose} + \beta_7 \text{crop failure} + \beta_8 \text{weather} + \varepsilon_i$$

#### ***Farmers' attributes..... Model 03***

$$Y_i = \beta_0 + \beta_1 \text{knowledge about loan} + \beta_2 \text{type of loan security} + \varepsilon_i$$

Where,

$Y_i$  = the borrowers' credit worthiness, which was categorized as.

1 if the borrower belongs to a non - defaulter

0 if the borrower belongs to a defaulter

$\beta_0$  = Constant term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \dots, \beta_8$  are the coefficients of each respective independent variable.

$\varepsilon_i$  = Error term

## Marginal Effects

After estimates the probit model, marginal effect was calculated which measure the expected instantaneous change in the dependent variable as a function of a change in a certain explanatory variable while keeping all the other covariates held constant. The co-efficient of the marginal effect in probit model explains the effect of independent variable on dependent variable in terms of probability.

## Results and Discussions

In the beginning, the collected data were examined using descriptive statistics and frequencies which are the basic statistical tools analysed for selected variables used in the study.

### Results of descriptive statistics analysis

In this section, some selected demographic and farming characteristics of the 113 borrowers in the sample were analysed using the following descriptive statistics.

**Table 01: Results of descriptive statistics**

Variables	N	Minimum	Maximum	Mean	Standard deviation
Age	113	21	80	46	14.595
Family members	113	2	8	4.04	1.326
Income	113	10000	50000	25946.9	7873.8
Farm size	113	1	13	4.96	2.737
Farming experience	113	1	50	15.44	12.517

Source: Calculated by author, 2018/2019

Results of descriptive statistics reveal that, an average age of the famer is nearly 46 years old and this age group peoples were listed out by the World Bank as an effective work force among the Asian countries (Labour market statics 2017). Age of the sample respondents ranges from 21 to 80 years with the standard deviation age of 14.59. The average number of family member is 4 which is an indication of the household ensures that the availability of huge family support for their farming activities. As an average income per month they are earning Rs 25946/= by producing agriculture products with nearly 5 acres of land and of 15 years of experience in the farming.

### Results of frequency analysis

Frequency is the way of analytical tool which illustrates the basic features of the demographic and farming characteristics used in the study.

**Table 02: Frequency of the variables**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Credit worthiness <sup>(a)</sup></b>		
Non-defaulter	64	56.6
Defaulter	49	43.3
<b>Gender</b>		
Male	63	56
Female	50	44
<b>Civil status</b>		
Married	89	79
Unmarried	24	21
<b>Education</b>		
Uneducated	17	15
Primary	46	41
Secondary	50	44
<b>Land ownership</b>		
Own	88	78
Tenant	25	22
<b>Off-farm activities</b>		
Yes	65	58
No	48	42
<b>Purpose of getting loan</b>		
For agriculture	70	62
For others	43	38
<b>Crop failure</b>		
Yes	38	34
No	75	66
<b>Weather</b>		
Yes	36	32
No	77	68
<b>Knowledge about loan</b>		
Yes	69	61
No	44	39
<b>Types of loan security</b>		
New members	42	37
Responsible members	45	40
Irresponsible members	26	23

Note :(a) indicate the dependent variable used in the study. Source: Survey data, 2018/2019

Table 2 shows that, out of 113 sampled borrowers 64 of the borrowers belong to non-defaulters which accounts nearly 57% while 49 of them belongs to defaulters which accounts nearly 43% in the study area. Frequency analysis across demographic variables specially gender and civil status refers that, 56% of the borrowers were males whereas 44% of them were females. In case of civil status, majority (79%) of the respondents were married

while 21% of them were single. Only 15% of the farmers not educated while 41% and 44% of them acquire primary and secondary education levels respectively. Ownership of cultivated land represents that 78% of them cultivating the crops on their own land and rest of them used tenant land. Even agricultural is the main income earning sector in the study area, 58% of them have off - farm income while 42% of them mainly depends on farm income. In similar way, frequency of other variables also explained in the above table.

### Results of Chi-square test

To verify whether there is any significant association between credit worthiness and the selected demographic and farming characteristics of the samples, chi - square test was analysed in the study.

**Table 03: Estimated results of chi-square test**

Variables	Non- defaulter (%)	Defaulter (%)	$\chi^2$	Significant
<b>Off-farm activity</b>			12.44	0.000*
Yes	70.8	29.2		
No	37.5	62.5		
<b>Type of land</b>			13.92	0.003*
Own	65.9	34.1		
Tenant	24.5	76.0		
<b>Gender</b>			0.68	0.795
Male	55.6	44.4		
Female	58.0	42.0		
<b>Civil Status</b>			0.54	0.460
Married	58.4	41.6		
Unmarried	50.0	50.0		
<b>Education</b>			11.32	0.003*
Uneducated	23.5	76.5		
Primary	54.3	45.7		
Secondary	70.0	30.0		
<b>Purpose of loan</b>			8.26	0.004*
For agriculture	67.1	32.9		
For others	39.5	60.5		

Note: \* represent the 1% level of significant. Source: Survey data, 2018/2019

In the above results in table 03 suggest that all the variables have statistically significant association with credit worthiness except gender and civil status. The borrowers who have engaged in off-farm activities, out of them 70.8% of the borrowers belong to non-defaulters while 29.2% of them belong to defaulters. This indicates that when the borrowers have other income sources, they are able to repay their loans on time and the default ratio is lower than others who don't have off - farm income.



The chi- square value for types of land has significant at 1% level reveals that, the farmers whether they cultivate own land or tenant significantly associated with credit worthiness where the borrower belongs to defaulter or not. According to the results, 65.9% the farmers who are cultivating the crops on their own land belongs to non-defaulter while 76% them who are cultivating on the tenant land belongs to defaulter. These findings conclude that, own land cultivators have more motivation to settle their loans without any time delaying than tenant cultivators in the study area. However, among the three demographic characteristics only level of education has significantly associates with credit worthiness whereas gender and civil status of the borrowers have no associated with credit worthiness. Further, 76.5% of the farmers who have uneducated belong to defaulters but most of the primary educated (54.3%) and secondary educated farmers (70%) belong to non – defaulters respectively.

Chi- square value for purpose of loan has significant at 1% level indicates that 67.1% of the farmers, who got the loans for agricultural purpose, belong to non- defaulters while 60.5% of them received for other purposes become as defaulter in the study.

### Regression outcomes of the binary probit model

Binary probit model was applied to satisfy the second objective of the study to investigate the impact of demographic characteristics of the borrowers, farming characters and farmers' attributes on the credit worthiness whether the particular borrower is a defaulter or non – defaulter in the study. Total independent variables belongs to three sets of different aspects, three models were employed in the analysis.

**Table 04: Estimated results of probit model for demographic characters**

Number of observation = 113

Log like hood =- 54.89

Probability > Chi<sup>2</sup> = 0.000

Pseudo R<sup>2</sup> = 0.29

Variable	Coefficient	Standard error	z	P > (z)	Marginal effects
Age	0.041	0.01	3.20	0.001*	0.011
Gender	0.041	0.29	0.14	0.889	0.011
Primary	0.837	0.40	2.06	0.040**	0.228
Secondary	1.638	0.42	3.89	0.000*	0.448
Civil status	0.536	0.37	1.43	0.152	0.145
Family members	- 0.422	0.13	- 3.21	0.001*	- 0.115
Constant	- 1.493	0.86	- 1.72	0.085	.....

Note: \* and \*\* represents the 1% and 5% levels of significant respectively

Source: Survey data, 2018/2019

Table 04 represents the estimated results of probit model for demographic characteristics of the borrowers and out of six variables, four were found to be statistically significant impact on credit worthiness of the borrowers while gender and civil status have insignificant in the

model. Log likelihood test of the probit model which is equal to the 54.89 with the probability value of 0.000 suggest that the model is good fitted one. Based on the statistically significant coefficients secondary education and age of the farmers and family size have 1% level of significant whereas, primary education has significant at 5% level in the model.

The coefficient of age has positive sign reveal that, as age increase the farmers will have more likely to repay the loan and thus their repayment performance also increases. In other words, young farmers have less likely to repay the loan than elder farmers which indicate that, young farmers have less responsibility in settle the loans than elders. These results conclude that, elder farmers belong to non – defaulters while young farmers mostly belong to defaulters. The same finding represented by the marginal effect of the age and it has 0.011 which shows that elder farmers have 1.1% of more probability to repay the loans than young farmers. The coefficients for both primary and secondary education levels have positive sign with the marginal effects of 0.228 and 0.448 illustrates that, the borrowers who have primary and secondary educational qualifications, the probability to become as a non- defaulter increases by 22.8% and 44.8% respectively. Thus, educated farmers who borrow the loans from the bank will have more likely to repay the loans than uneducated farmers. Negative sign of the family members shows that, the respondents who have more members in the family, the probability to repay the loans is less and they mostly become as non – defaulter.

The impact of farming characters on credit worthiness was examined using probit model and the results were depicted in table 05.

**Table 05: Estimated results of the probit model for farming characters**

Number of observations = 113

Probability > Chi<sup>2</sup> = 0.000

29.72

Pseudo R<sup>2</sup> = 0.61

Log like hood = -

Variable	Coefficient	Standard error	z	P > (z)	Marginal effects
Income	0.321	0.074	3.41	0.021**	0.051
Farm size	0.340	0.088	3.83	0.000*	0.049
Land ownership	2.143	0.555	3.83	0.000*	0.308
Experience	0.048	0.020	2.40	0.016**	0.007
Off-farm activities	1.535	0.444	3.46	0.001*	0.220
Purpose	0.724	0.401	1.80	0.071***	0.104
Crop failure	- 1.079	0.544	- 1.98	0.048**	- 0.155
Weather	- 0.276	0.519	- 0.53	0.594	- 0.039
Constant	- 4.573	0.977	- 4.68	0.000	.....

Note:\*, \*\* and \*\*\* represents 1%, 5% and 10% significant levels respectively.

Source: Survey data, 2018/2019

According to the table 05, goodness fit of the binary choice probit model was measured by the pseudo R<sup>2</sup> which is equal to 0.61 refers that 61% of the variations in dependent variable explained by the above explanatory variables in the study. Also, the estimated results of probit

model for farming characters were shown in the above table and out of eight farming related variables, seven were found to be significantly influencing the probability of being defaulter or non – defaulter at different significant levels. Coefficient for borrowers' income was found to be positive as expected sign and its marginal effect has 0.051 means that, as their income increased the probability of being non defaulter is increased by 5.1% assuming that other factors held constant. Farm size is one of the major significant factors which determine the credit worthiness and according to its marginal effect suggest that the farmers who cultivate with large farm size, the probability of repayment also increase by 4.9%. Thus, the larger farm size cultivators belong to non – defaulters compared to smaller farm size cultivators in the study area.

Marginal effects of land ownership is 0.308 reveals that, the farmers who cultivate the crops in their own land, the probability to happen to non – defaulter will increase by 30.8%. In other words, tenant land cultivators have 30.8% of less probability to repay the loans on time and they fall into defaulters. The coefficient of farming experience has 0.048 with its marginal effect of 0.007 shows that the borrowers who have more years of experience in farming, the probability to belong to non-defaulter also increase by 0.7%. This may be due to the fact that when the borrowers had enough experience in farming, they already know the potential risks that they will face in the farming and able to make remedial actions.

According to the results, borrowers who engaged in other off –farm activities they were the best loan re- payers than others who depends on agriculture only. When they have other income sources the probability to become as a non –defaulter also increases by 22% and this variable also significant at 1% level. The loans given by the bank mainly focused on two purposes like for agricultural and other purposes and the probit results reveal that, the farmers who received loans for agricultural activities have better repayment performance and their default risk is less compared to the borrowers who get the loans for other targets. Repayment performance may depends on whether the farmers face crop failures or not and according to the coefficient of crop failure which has negative sign proves that, crop failure discourage them to pay the loans and they belong to defaulter in the study.

Finally, credit worthiness of the farmers influence by their attributes and the estimated results from probit model given in the following table.

**Table 06: Estimated results for the Farmers' attributes**

Number of observation = 113  
Probability > Chi<sup>2</sup> = 0.000  
Log like hood = - 47.47  
Pseudo R<sup>2</sup> = 0.38

Variable	Coefficient	Standard error	z	P > (z)	Marginal effects
Knowledge					
about loan	1.261	0.328	3.84	0.000*	0.298
New member	0.710	0.427	1.66	0.097**	0.168
Responsible members	2.088	0.436	4.79	0.000*	0.494
Constant	- 1.666	0.38	- 4.43	0.000	

Note: \* and \*\* represents the significant levels at 1% and 10% respectively

Source: Survey data, 2018/2019

The above results suggest that, all three variables related to attributes of the farmers statistically significant at 1% and 5% levels and they have positively impact on repayment performance and when they have positive attributes on these aspects make them belong to non- defaulters in the sample.

## Conclusion

This study intended to examine the impact of demographic characteristics of the borrowers, farming characters and attributes of the farmers about loans on credit worthiness in Vavuniya, Sri Lanka. For this purpose, descriptive statistics, frequency analysis, chi-square test and binary probit model were employed in the study. The probit regression outcomes indicated that, among demographic variables age, primary and secondary education levels and family members were significantly influence the credit worthiness while among farming characters, income, farm size, land ownership, experience in farming, availability of off – farm incomes, purpose of receiving the loans and possibility of crop failure were the significant determinants on credit worthiness in the model. On the other hand, all three attributes about loans have positively impact on credit worthiness among the small-holder farmers in the district in Sri Lanka.

Finally, the micro finance institutions and banks should focus on the repayment challenges and issues which found by the researchers and take remedial actions to improve the repayment performance among the small holder farmers in the study area. Micro finance institutions to take more precautions before granting the loans with regard to the farmers who face the crop failure with large members in the family and they mainly can provide their services focusing on the farmers who have more income with other off – farm income cultivating the crops in large size of farm using own land and farming experience. Thus, this study recommended that those financial institutions have to consider the above factors and issues in granting the loans which may help them to improve the recovery loan repayment ratio in future.

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