

YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF COMMERCE

**AGRICULTURAL CREDIT ACCESSIBILITY AND
ITS EFFECTS ON FARM PERFORMANCE IN
SHWEGYIN TOWNSHIP**

EI THANDAR LWIN

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**AGRICULTURAL CREDIT ACCESSIBILITY AND ITS
EFFECTS ON FARM PERFORMANCE IN SHWEGYIN
TOWNSHIP**

This thesis is submitted to the Board of Examiners in Partial Fulfillment of the
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Supervised By:



Dr. Daw Tin Tin Htwe

Professor

Department of Commerce

Yangon University of Economics

Submitted By:



Ma Ei Thandar Lwin

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Master of Commerce

Yangon University of Economics

ACCEPTANCE

Accepted by the Board of Examiners of the Department of Commerce,
Yangon University of Economics, in partial fulfillment for the requirements of the
Master Degree, Master of Commerce.

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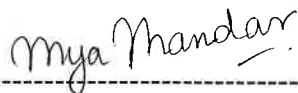
(Chief Examiner)
Dr. Daw Soe Thu
Professor and Head
Department of Commerce
Yangon University of Economics



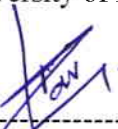
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(External Examiner)
Dr. Daw Mya Thandar
Professor
Department of Statistics
Yangon University of Economics



(Examiner)
Daw Htay Htay
Associate Professor
Department of Commerce
Yangon University of Economics



(Supervisor)
Dr. Daw Tin Tin Htwe
Professor
Department of Commerce
Yangon University of Economics

June, 2018
Head of Department
Academic Affairs
Yangon University of Economics

ABSTRACT

This study aims to identify Myanma Agricultural Development Bank credit policy and to analyze agricultural credit accessibility and its effects on farm performance in Shwegyin Township. This research used both primary and secondary data. The primary data were collected by interviewing with farmers from 3 groups of villages. The sample size includes 132 farmers (30% of the total farmers of each village). Survey was conducted by using structured questionnaires. Descriptive analysis and multiple regression method are used. According to discussion with responsible persons from MADB, the bank is providing loan with the following objectives: to farmers to promote rural banking, to encourage saving habit, to support socioeconomic development, to cultivate habit of using banking services and to develop banking services which are set up by MADB policy. According to the farmer survey, the household size of the respondent is from 2 to 7 members. Average numbers of farmers are 2 farmers. Duration of farming experience is from 11 to 20 years and their main source of earning is farming. Their living standard is above average level possessing owned home, motorcycle and almost they owned farmland and cows. The cultivated acre is 12 acres maximum and 1 acre minimum. Average paddy yield per acre is round about 60 bushels per acre. They borrowed from loan from MADB and some also obtain loan from other organizations. However, most of farmers received loan only after farming period. More than half of farmers covered about fifty percent loan sufficient rate. According to multiple regression analysis, number of cows, ownership of water-pump, loan coverage percent and period of loan received are significantly related with paddy yield per acre. The finding showed that the effect of loan coverage percent and period of loan received is greatest on paddy yield per acre. Therefore, agricultural credit should be provided to farmers sufficiently and timely manner.

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LIST OF ABBREVIATIONS

A Bank	Ayeyarwady Farmers Development Bank
ADB	Agricultural Development Bank
CBs	Commercial Banks
FIRA	Furniture Industry Research Association
GDP	Gross Domestic Product
IFC	International Finance Corporation
LGU	Local Government Unit
MADB	Myanma Agricultural Development Bank
MEB	Myanma Economic Bank
MFTB	Myanma Foreign Trade Bank
MIF	Microfinance
NGOs	Non-government Organizations
PSDC	Private Sector Development
RRBs	Regional Rural Banks
SCPL	Seasonal Crop Production Loan
SHG	Self Help Groups
SMEs	Small and Medium Enterprises
TLU	Tropical Livestock Unit

CHAPTER 1

INTRODUCTION

Agriculture is the main source of income among the rural poor. Relative to other sector, agricultural growth can reduce rural poverty rates faster and effectively (Christiaensen et,al, 2011). If a farmer get appropriate financial assistance, his crop production will increase by 60% because he will use quality seeds and right fertilizers at the right time to his farm. Loan disbursements of government are mainly needed for farmers in development of agricultural sector. In the developing country, agricultural loan is closely related to providing needed resources which farmer cannot source from their own available capital. Agricultural loan has become one of the most important government activities in the improvement of agricultural sector development.

Agricultural loans are made to farmers to finance farming activities. Agricultural loans help farmers run their farms more efficiently. It can be difficult to keep up with running a farm, so farmers need low interest agricultural loans to help them stay afloat. Credit accessibility refers to the ease or difficulty of acquiring credit by borrowers for purpose such as to enhance business performance (Salahuddin, 2006). Fortunately, the government often steps in with low interest loans and other subsidies that help farmers turn a profit. Farmers can use agricultural loans to purchase farm land, cover operating expenses, purchase livestock, cover storage/warehouse expenses, and help with the marketing of their product.(<https://www.business.com>)

In every Asian country, farm credit has always been an important factor in improving agricultural productivity and strengthening the rural economy. In some developing Asian countries, agricultural credit policy heavily relies on commercial banking, the rigid mechanism of which is not compatible with the resources of the small-scale farmers. In India, agriculture is still the principle source of livelihood for more than half the population (2015). 40% of all bank loans must go to priority sectors, which include agriculture, SMEs, and export-oriented industries. In Thailand, agricultural exports are very successful internationally; rice is the most important

crop. Thailand directs 20% of bank deposit to agriculture (14%) and SME (6%) respectively (Asia focus, 2014).

Myanmar is an agricultural country. Agriculture sector is the back bone of Myanmar economy not only contributing to the overall economic growth of the economic growth of the country and but also sustaining a standard of living. The World Bank estimates that the country's agricultural sector accounts for 38% GDP and 23% of exports in financial year 2016-2017.

Myanma Agricultural Development Bank was established on 1 June 1953 by the Government of Myanmar. The bank implements the government policy which is to support the development of agriculture, livestock and rural socio-economic enterprises in the country by providing loan and saving services. MADB is currently the largest financial institution servicing the rural areas and financing agriculture activities. There are 229 branches (2016) of MADB openings in agriculturally strong states and divisions with the support of government. They aim to assist the development of agricultural sector in such regions.

MADB has issued 1630623.88 million worth of Seasonal loan to farmers in fiscal year 2016-2017 and K 539,219 million more than in fiscal year 2015-2016. Farmer can currently take out 12 month loan K150, 000 per acre for up to 10 acres from MADB if they are growing paddy or sugar cane. The Ministry of Agriculture, Livestock and Irrigation (Cooperative department) lend loan K500 billion to the country's largest paddy-producing areas. Bago Region tops the list and receives K84.656 billion (Htoo Thant, 2016).

The current government policy is to move from traditional to industrialized farming techniques, encouraging the formation of cooperatives and providing capital to buy equipment. The government has loaned farmers more than K500 billion to buy farm machinery, and farmers have bought US\$100 million worth of equipment on the installment repayment plan. In doing so, the current government is continuing the policy introduced by the last government, of trying to improve economic and social conditions in the rural areas, creating job opportunities and generating income (Myanmar Times, Dec 2017).

1.1 Rationale of the Study

In Myanmar, approximately 70 percent of the labor force (of 32.5 million) is reportedly engaged in agriculture or dependent to a significant extent on agriculture for its income (World Bank, 2014). Credit is the essential for any business and more so for agricultural sector which has traditionally been a non-monetary activity for the rural population in Myanmar. Agricultural credit is an integral part of the process of modernization of agriculture and commercialization of the rural economy. The introduction of easy and cheap credit is the quickest way for boosting agricultural production. Therefore, it was the prime policy of all the successive governments to meet the credit requirements of the farming community of Myanmar Agriculture.

The banking system of Myanmar is composed of 4 state- owned banks and 24 private-owned banks in 2017. Among 4 state-owned banks, Myanma Agriculture Development Bank (MADB) is a specialized bank in providing agricultural loans to the farmers in the agricultural sector. Among 24 private-owned banks, Ayeyarwady farmers development bank (A Bank) is a private owned bank which was opened on 17 November 2015. A bank provides loans to farmers, small and medium rice mill owners and enterprises.

There are two types of loans to its customer nationwide provided by MADB: the seasonal crop production loan and the term loan, which account for 98 percent and 2 percent of total outstanding loans in 2014. The seasonal crop production loan (SCPL) is designed to cover the working capital needed of smallholder farmers at the beginning of the agricultural season. The loan amount varies according to the number of acres owned or leased by the farmer and the intended crop. Most term loans are collateralized. This type of loan is granted for the purchase of machinery for agricultural purpose and is given with a three-year maturity period.

Shwegyin Township is located in Bago District. The main work for the civilians is farming. There are Myanma Agricultural Development Bank, Cooperatives and other organizations in Shwegyin. They provide agricultural credit services by lending loans directly to individual farmers, groups. Priority is given to cover and benefit as many medium and small farmers as possible. It also supports farmers seasonal crop loan and term loan for sustainable agriculture development. Thus, they can use the agricultural inputs (high quality seed, fertilizer, technology) for

better yield in their farming. This study could benefit in making the credit policy of the banks and other financial institutions through the analysis on the farmer survey results and support for the welfare of the farmers of the country.

1.2 Objective of the Study

The objectives of this study are

1. To identify credit policy of Myanma Agricultural Development Bank.
2. To analyze agricultural credit accessibility and its effects on farm performance in Shwegyin Township.

1.3 Scope and Method of the Study

This study only focused accessibility of agricultural loan among farmers in Shwegyin Township. There are 28 groups of villages in the township: out of them, 3 groups of villages (10%) were randomly selected. Descriptive analysis, correlation and liner regression method is used. This research uses both primary and secondary data in order to fulfill the objective of the study. Total respondents are 132 farmers with whom face-to-face interview were conducted by using structured questionnaire. Before the survey, meeting and open discussion with managers from MADB and village administrators were conducted. The secondary data are collected from previous studies, thesis, reports, related books, journals, and internet websites.

1.4 Organization of the Study

This study paper is organized with five chapters. Particularly, chapter one presents a general description of the study, including rationale, objectives, method, scope and organization of the study. In chapter two, theoretical background of the study is described. Chapter three describes background information of agricultural loan in the Shwegyin Township. Chapter four contains the data analysis and the explanation of the primary data from the survey in Shwegyin Township. Finally, chapter five describes the findings, suggestions of the study area.

CHAPTER 2

THEORETICAL BACKGROUND

This chapter provides the literature review concerning the theories and research finding from previous studies. There are nature of agricultural finance, role of agricultural credit, accessibility of agricultural credit and sources of agricultural finance, types of agricultural loan, previous studies and conceptual framework of the study.

2.1. Nature of Agricultural Finance

Agricultural finance generally means studying, examining and analyzing the financial aspects pertaining to farm business. The financial aspects include money matters relating to production of agricultural products and their disposal. Agricultural Finance is dedicated to financing agricultural related activities such as input supply, production, processing and distribution (Meyer, etal. 2004). Murray (1953) defined agricultural finance as “an economic study of borrowing funds by farmers, the organization and operation of farm lending agencies and of society’s interest in credit for agriculture.” Tandon and Dhondyal (1962) defined agricultural finance “as a branch of agricultural economics, which deals with and financial resources related to individual farm units.” Farm finance has become an important input due to the advent of capital intensive agricultural technologies. Farmers require capital in order to enhance the productivities of various farm resources.

Agricultural finance is the economic study of the acquisition and use of capital in agriculture. It deal with the supply of and demand for funds in the agricultural sector of the economy. Knowledge of fundamental economics and management principles and analytical procedures facilitates obtaining control over capital it will pay to allocate to alternative uses. Financial analysis relating to income, repayment capacity, and risk management indicates the total amount of capital the farm business can profitably and safely use. Information on the legal aspects of borrowing, leasing, and contractual arrangements helps the farmer select the means of acquiring knowledge of the legal and financial aspects of retirement and estate planning can ensure an orderly transition and transfer of the farm business to the next generation.

Agricultural finance needs to focus on the following four factors (World Bank, 2015). They are segmenting the smallholder farmers and identify their financial needs, finding ways to de-risk agricultural finance, identifying appropriate institutions and delivery channels for loan and addressing issues in the enabling environment and specific government policies.

2.2 Role of Agricultural Credit

Agricultural credit is any of several credit vehicles used to finance agricultural transactions, including loans, notes, bills of exchange and banker's acceptances. This types of financing is adapted to the specific financial needs of farmers, which are determined by planting, harvesting and marketing cycles.

The word credit is derived from the Latin word "Credire" which means to believe or to have a trust or have a faith or confidence. It has been pointed out by Murray (1949) that "credit makes it possible for farmers to take advantage of new machines, good seeds, fertilizers, livestock, labor, all of which enable the farmer to organize and operate his farm on more profitable basis. In order to adopt high yielding varieties, farmers need huge amount of loan, since their own savings are negligible. Expansion of credit institutions is a prerequisite for technological change, which will facilitate agricultural prosperity.

Credit is a means of obtaining resources at a certain period of time, with an obligation to repay it at subsequent period in accordance with the terms and conditions of the credit obtained" (RBI, 1954). The advent of modern technology has led to increased demand for inputs. As a result, adequate agricultural credit is required for agricultural development. Dantwala (1966) rightly states that provision of good credit facility to the farmers at the right time in the right place in the right proportion is a requisite for the transformation of agriculture. The non-availability or scarcity of credit retards agricultural progress in particular and rural development in general. An agriculturist has to make investment to raise the productivity of land.

Agricultural credit is the money extended to the farmers to stimulate the productivity of the limited farm resources. It is not a mere loan or advance; it is an instrument to promote the well-being of the society. The role of farm credit in strengthening and developing both input and output markets in agriculture is crucial

and significant. Providing appropriate finance for agricultural operations, therefore, like oiling agriculture to make its wheels more softly and smoothly (Agarwal, 1969).

Credit is an important input in the production process. It is beneficial not only to the person who avails it off, but also to the person who parts away with it. It is a financial asset of the bank. It helps both the bank and the borrower in strengthening their financial status (Banaijee, 1977). Credit was defined by Ellis (1992) as a sum of money in favor of person to who control over it is transferred, and who undertakes to pay it back. Agricultural credit plays an important role in agricultural development. Agricultural household models suggest that farm credit is not only necessitated by the limitations of self-finance, but also by uncertainty pertaining to the level of output and the time lag between inputs and output (De Janvry and Sadoulet, 1995).

Agricultural credit is one of the important interventions to solve rural poverty, and plays an important role in agricultural development (Linto, 1993; Meyer & Nagarajan, 2000). Expanding the availability of agricultural credit has been widely used as a policy to accelerate agricultural and rural development (ADB, 1998; Binswanger & Khandker, 1995; World Bank, 2000). Meehan (2001) reported that the provision of financial services to the poor has a crucial role to play in providing household food security and alleviating poverty. Credit has vital role for increasing agricultural production; and the timely provision of credit allows farmers to purchase the necessary inputs and machinery for farm operations (Saboor et,al, 2009).

In a broader sense, credit is not only the life-blood of modern economic system but also the magic word of socio-economic transformation and a lever of development. Credit is one of the most crucial but scarce inputs used in agriculture. Farm credit is an important instrument, which has been used to increase agricultural productivity. Credit is the most important input of modern farming.

2.3 Accessibility of Agricultural Credit

Credit accessibility refers to the ease or difficulty of acquiring credit by borrowers for purpose such as to enhance business performance (Salahuddin, 2006). The accessibility of credit is still fairly constrained, and particularly access to formal credit for small and medium farmers. These forces constrained borrowers to turn to more expensive and unreliable informal credit sources (Okurutu et,al, 2004). Credit

has a crucial role for elimination of farmer's financial constraints to invest in farm activities, increasing productivity and improving of quality and quantity of farm products so, that it can increase farmers. Credit accessibility is important for improvement of quality and quantity of farm products so, that it can increase farmer's income and avoid from rural migration. On the other hand, some policy makers believe that payment of credit with low interest rate to farmers can support them against some results of development policies that threat their welfare (Ghorbani, 2005). Therefore, with limited access to credit, the budget balances becomes a constraint, where expenditures have to remain less or equal to the sum of revenues during the period, accumulated saving and credit availability. Hence, credit constraint limits the optimum production or consumption choices (De Janvry and Sadoulet, 1995).

In other words, if producers face an infinite supply of liquidity at a given price, the production decisions will be independent of consumption decisions. When credit is rationed, some borrowers cannot obtain the amount of credit they desire at the prevailing interest rate, nor can they secure more credit by offering to pay a higher interest rate. In such circumstances, liquidity can become a binding constraint on many farmers operations. Facing such a situation, households gave to choose how to invest and what inputs to buy, depending on the level of credit they receive.

One of the financial institutes has an important role in financing agriculture sector is agricultural bank. This bank can direct agricultural credit flow such that helps general economic policies of government. So, duty of agricultural bank is financing of farmer and related industries and participation in activities that private sector can't invest in it. In fact, access to credit for farmers is accompanied with some problems (Ghorbani, 2005). Recent theoretical and empirical study in economics has established that credit markets in developing countries work inefficiently due to a number of market imperfections. The literature cites a number of market imperfections which lead some potential borrowers to be rationed out of the credit market. Regards to results of rural credit literature, farmers with credit access problems will invest less in capital assets and their land.

In some developing Asian countries, agricultural credit policy heavily relies on commercial banking, the rigid mechanism of which is not compatible with the

resources of the small-scale farmers. This has resulted to lower access by the farmers to financial resources. In developing countries where physical collateral is a major problem, land certification program could be one of the national policy options. Specially, the activities sought to address three major problems: the debt burden of farmers in debt; improving access to farm credit by small-scale farmers; and financial institution's sustainability and non-performing loan.

The outcomes of this is that only a small proportion of the total number of rural households an farmers credit from the formal sector. Again among those with access to institutional credit, a very small group particularly the rich and the elites in the village receive a very large share of the total amount disbursed. Consequently, the overwhelmingly constrained borrowers are forced to turn to the rather expensive and unreliable informal credit sources (Okurut et. al, 2004).

2.4 Sources of Agricultural Finance

Farmers need the financial credit required for investment in agricultural sector. The farmers receive the required credit from different sources which can be classified into two sectors. Credit is also classified on the basis of lender according to such as

- Institutional Credit
- Non-Institutional Credit

2.4.1 Institutional Credit Sector

The institutional sources which provide the credit to the farmers are known as organized sources of agricultural credit. They are established especially for the development of agricultural sector. The evolution of institutional credit to agriculture could be broadly classified into four distinct phases – 1904-1969 (predominance of cooperatives and setting up of RBI), 1969-1975 (Nationalization of commercial banks and setting up of Regional Rural Banks (RRBs)), 1975-1990 (setting up of NABARD) and from 1991 onwards (financial sector reforms). Institutional funding of the farm sector is mainly done by commercial banks, regional rural banks and cooperative banks. Share of commercial banks in total institutional credit to agriculture is almost 48 per cent followed by cooperative banks with a share of 46 per

cent. Regional Rural Banks account for just about 6 per cent of total credit disbursement (Ramana, 1999).

Government

The government banks extend both short term as well as long-term loans. These loans are popularly known as "Taccavi loans" which are generally advanced in times of natural calamities. ADB provides short- term (less than 1 year), medium term (1 to 5 years) and long term (more than 5 years) credits to the farmers. The rate of interest is low and it is not a major source of agricultural finance.

Cooperative Credit Societies

Cooperatives are also the most important source of institutional credit available to the farmer. In many of the Asian countries (Ceylon, India, Japan, the Republic of Korea, the Republic of Vietnam), the agricultural credit available through cooperatives accounts for four-fifths or more of the institutional agricultural credit. In China (Taiwan), the credit directly provided by multipurpose cooperatives, called farmer's associations, accounts for about one-third of total institutional credit, and the bulk of the balance is disbursed and recovered by these cooperatives as agents of various government bureau (Faridabad, 1967).

Commercial Banks

Commercial banks are corporations chartered under federal or state law. Previously commercial banks (CBs) were confined only to urban areas serving mainly the activities of trade, commerce and industry. The insignificant participation of CBs in rural lending was explained by the risky nature of agriculture due to its heavy dependence on monsoon, unorganized nature and subsistence approach. Through nationalization of CBs in 1969 and CBs were made to play an active role in agricultural credit was accelerated and they are the largest source of institutional credit to agriculture (For example, a large majority of the approximately 14,000 commercial banks in the United States are located in towns with less than 10,000 population these rural (country) banks lead all credit institutions in volume of non-real-estate farm loans and rank high in real-estate loan volume as well. From the farmer borrower's point of view, commercial banks have several advantageous features. They can give prompt credit service with a minimum of red tape, they are

readily accessible , and they alone can provide a full range of financial services, including checking accounts, saving accounts, trust counseling, estate planning, investment counseling, farm management services, charge cards, and safety deposit boxes (Murray, et.al,1980)

Regional Rural Banks (RRBs)

RRBs were set up in those regions where availability of institutional credit was found to be inadequate but potential for agricultural development was very high. However, the main thrust of the RRBs is to provide loans to small and marginal farmers, landless laborers and village artisans. These loans are advanced for productive purposes. At present 196 RRBs are functioning in the country lending around Rs 9,000 crore to rural people, particularly to weaker sections.

Micro Financing

Micro financing through Self Help Groups (SHG) has assumed prominence in recent years. SHG is a group of rural poor who volunteer to organize themselves into a group for eradication of poverty of the members. They agree to save regularly and convert their savings into a common fund known as the Group corpus. The members of the group agree to use this common fund and such other funds that they may receive as a group through a common management. As soon as the SHG is formed and a couple of group meetings are held, an SHG can open a Savings Bank account with the nearest Commercial or Regional Rural Bank or a Cooperative Bank. This is essential to keep the thrift and other earnings of the SHG safely and also to improve the transparency levels of SHG's transactions. Opening of Saving Bank account is the beginning of a relationship between the bank and the SHG. Once this process is over, banks liberally lend to the groups or to members and recover the loans conveniently. The banks even offer subsidy to the amount of loans borrowed based on their good response.

2.4.2 Non-Institutional Credit Sector

The local individual who provide the credit to the farmers are unorganized sources of agricultural credit. In Nepal, the rural farmers are dependent on the unorganized sector for their agricultural credit. About 60% agricultural credit comes

from these sectors. The unorganized sources of agricultural credit are as follow (<http://www.meospark.com>).

Friends and Relatives

The friends and relatives of farmers provide credit to the farmers in small amount to meet day to day needs and emergency needs. They provide loan with or without interest and security.

Traders and Commission Agents

Traders and commission agents advance loans to agriculturists for productive purposes against their crop without completing legal formalities. It often becomes obligatory for farmers to buy inputs and sell outputs through them. They charge a hefty rate of interest on the loan and a commission on all the sales and purchases, making it exploitative in nature.

Landlords

Land owners provide the credits to the farmers for short-terms as well as long term. Generally, short term credit is provided with security of standing crops and cattle and long term credit is provided with the security of land and houses. Mostly small farmers and tenants depend on landlords for meeting their production and day to day financial requirements.

Money Lenders

Despite rapid development happening in rural branches of different institutional credit agencies, village money lenders still dominate the scene. Money lenders are of two types, agriculturist money lenders who combine their money lending jobs with farming and professional money lenders whose sole job is money lending. They provide credit with security of movable and immoveable credit with the security moveable credit with the security movable and immovable property.

2.5 Types of Agricultural Loans

Agricultural loans are categorized as short-term, intermediate-term and long-term, depending on their maturity. Lenders often describe loans by the purpose or terms of the loan according to Eillnger and Barry, (n.d).

Short-term Loans

Short-term loans are often used for operating expenses. Loan maturity usually matches the length of the agricultural production cycle (e.g., 3 to 18 months), hence a short-term loan. However, this may be described as line-of-credit financing under a credit commitment, which specifies the amount and timing of the disbursements and payments of the loan. The line-of-credit may be a single disbursement due at a specified future date or a revolving line-of-credit in which the borrower may borrow and repay as needed during a specified time period, usually subject to a maximum borrowing level. On a non-revolving line-of-credit, a borrower is entitled to a specified amount of funds, and repayment does not allow the borrower to draw those funds again. A non-revolving line-of-credit is sometimes referred to as a draw note.

Intermediate-term Loans

Intermediate-term loan are used to finance depreciable assets such as machinery, equipment, breeding livestock and improvement. In addition, intermediate-term loans are sometimes used to restructure a borrower's balance sheet to provide additional working capital. Lenders often describe them as capital, or installment, loans. Loans usually range from 18 months to 10 years.

Long-term Loans

Long-term loans are used to acquire, construct and develop land and buildings, and usually are amortized over periods longer than 10 years. Lending may describe them as real estate mortgages because they are usually secured by real estate. Long-term loans are sometimes referred to as contract financing, in which case a seller provides financing directly to a buyer.

2.6 Previous Studies

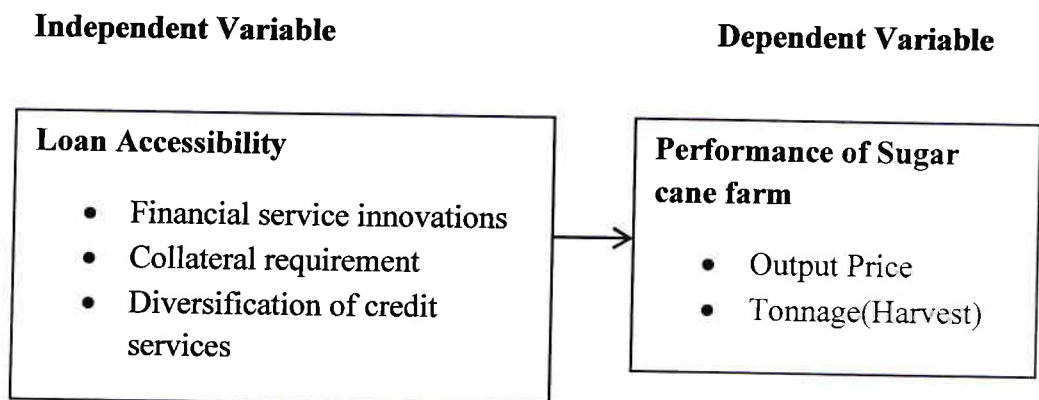
There are several studies regarding access credit of farmers. This section presents a review of some related previous studies.

Wanjawa (2017) analyzed contribution of agricultural loan accessibility to performance of small holder sugarcane farmers in Kakamega County, Kenya. The study found that agricultural loans have significant effect on the performance of the farmers. The conceptual framework can be seen in Figure (2.1). The study used

threshold decision-making theory proposed by Hill and Kau (1973) to analyse the determinants of credit demand by farmers. The decision making threshold is the value of the decision making variable at which the decision is made, such that an action is selected or a commitment to one alternative made, making the end of accumulation of information.

The theory pointed out the fact that when farmers are faced with a decision to adopt or not adopt an innovation, in this case demand agricultural loan, every farmer has a reaction threshold, which is dependent on a certain set of factors. As such, at a certain value of stimulus below the threshold, no adoption is observed while at the critical threshold value, a reaction is stimulated. These factors are loan interest rates, disbursement of loan and accessibility of loan (Hill and Kau, 1973).

Figure (2.1) Conceptual Framework of Previous Study



Source: Wanjawa, D., Yugi, C. and Muli, W. (2017)

In Figure (2.1), agricultural loans have been used as independent variable under a construct-accessibility; dependent variable which is performance of sugar farm was conceptualized as pricing of the sugarcane and tonnage. The loan affects their farm produce since they cannot invest in getting good cane suckers, fertilizer as well as labor to weed their farms. In this study, accessibility of loan was operationalized in form of flexibility of loan delivery, diversification of the loans and the innovative financial delivery services.

Obiero (2013) didn't analyze the credit accessibility, but identified the social economic factors affecting farm yield. The study found that farmer's age, farmer's experience, household size, farmer's expense and farmer's education effect on farm yield. According to the result, there is a negative correlation between farmer's age and

farmer's experience and farmer's education with farm yield. There is a positive correlation between household size and maize yield. There is positive and significant correlation between farmer's expenses and maize yield.

2.7 Conceptual Framework of the Study

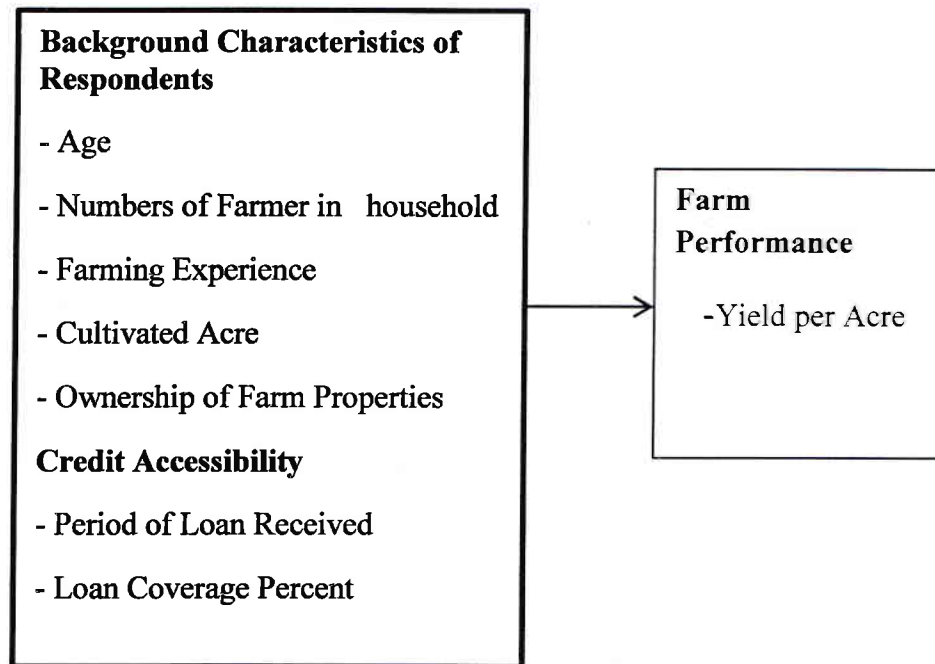
The conceptual framework for the study is constructed by considering the independent factors described above. They are background characteristics and agricultural credit accessibility which are assumed to determine its effects on farm performance.

As presented in previous section, Obiero (2013) considered farmer's age, farmer's experience, household size, farmer's expense and farmer's education effect on farm yield and found that among them, farmer's experience is significantly related with crop yields. On the other hand, Wanjawa (2017) considered loan accessibility (financial service access innovation, collateral requirement, and diversification of credit service) as the independent variables and farm as the dependent variable. The study found that credit accessibility affected on farm performance.

Thus, the conceptual framework for this proposed study is constructed as shown in Figure (2.2). According to the Figure, credit accessibility of farmers and background characteristics of respondents are assumed as the influencing factors on the farm performance. To evaluate the farm performance, the paddy yield per acre is used to measure in the study.

It is important that to improve the farm paddy yields per acre, the loan must be sufficient to cover the farming expenses and it also should be received timely. Therefore, in this analysis, to identify the credit accessibility of the farmers, the dimensions such as period of loan received and coverage percent of the loan amount are used and they are specified as independent factors. For the background characteristics of the respondents, their age, and number of farmers in the family, their farming experience, the cultivated acres, and their ownership of farm properties are put into consideration to evaluate their effects.

Figure (2.2) Conceptual Framework of the Study



Source: Own Compilation

CHAPTER 3

BACKGROUND STUDY OF AGRICULTURAL LOAN IN SHWEGYIN TOWNSHIP

This chapter describes background information of agricultural loan in Shwegyin Township. This chapter includes overviews on agricultural sector, agriculture credit in Myanmar, Myanma Agricultural Development Bank and Other Financial Institution in Myanmar, background information of Shwegyin Township and Financial Institution in Shwegyin Township.

3.1 Overview on Agriculture Sector in Myanmar

Agriculture is the backbone of Myanmar economy not only contributing to the overall economic growth of the country and but also sustaining a standard of living for more than 60 per cent of the Myanmar population. An estimated 26 per cent of the Myanmar population is living below the poverty line. Poverty in Myanmar is concentrated in rural areas, where the poor rely on agricultural and casual employment for their livelihood. Many live near the poverty line and are sensitive to economy-wide shocks. Agricultural sector plays a remarkable role in reducing poverty in Myanmar for many years to come because it supplies basic necessities of human life, provides basic inputs for industries and, in addition to these, purveys goods for exports and other purposes. It is extremely crucial to Myanmar's economy and future sustainable growth (Ramree, 2017). Agriculture is the second largest export commodity and the most important sector for the country's economy.

According to the Food and Agricultural Organization (FAO) in 2015 Myanmar agriculture policies are described which are as follows,

1. To emphasize production and utilization of high-yielding and good quality seeds.
2. To conduct training and education for farmers and extension staff on advanced agricultural techniques.
3. To implement research and development activities for sustainable agricultural development.
4. To protect farmers rights and benefits.
5. To assist farmers to get fair price on their produce.

6. To assist in lowering production costs, increasing high quality crop production, developing and strengthening of markets.
7. To encourage transformation from conventional to mechanized agriculture, production of crops appropriate with climate and extension of irrigated area.
8. To undertake renovation and maintenance works on old irrigation, pumping and underground water systems.
9. To support rural development and poverty reduction activities through development of agriculture sector.
10. To encourage local and international investment in agriculture sector for the development of advanced agricultural technology and commercial agricultural production.
11. To justify and amend existing agricultural laws and regulations in line with current economic situation.

Agriculture sector contributes 36 percent of GDP in 2007-2008; 13.3percent of total export earning; and employs 6.12 percent of the labor Force. The agriculture sector represents between 35 to 40 percent of gross domestic product (GDP) and that up to 70 percent of the labor force(of 2.5 million) is directly or indirectly engaged in agriculture products which generates between 25 to 30 percent of total export earnings (World Bank, 2014). From 1988 to 2015, Myanmar received a total of \$47.89 billion in foreign investment, of which a mere \$214 million was devoted to the agricultural sector. The World Bank estimates that the country's agricultural sector accounts for 38% of national GDP and 23% of exports in FY 2016-2017.

As in neighboring countries, small size holder of the paddy production dominates Myanmar's agricultural economy: paddy production accounts for roughly half of all cropped area. Pules and oilseeds account for a further 20 each, whereas horticulture crops, root crops and other cereals count for the remaining part. Farmers generally grow staple crops such as paddy, pulses and oilseeds on relatively large surfaces, while high-value horticulture and fruit crops take place on much smaller plots. Paddy, pulses and oilseed farmers cultivate an average of 1.5-2.0 hectare holding. In contrast,. Onions, garlic and potato fields average about 0.6 hectare each, while vegetables and cut flowers are grown on plots ranging between 0.25 and 0.3 hectare in size (<https://www.rvn.nl/sites>).

Myanmar is the world's sixth-largest rice producing country. Rice is the country's primary agricultural produce which is accounted for nearly 60% of the production value. Rice is the most important agricultural commodity of Myanmar and produced over 27 million tons in 2013. Rice production in Myanmar was decline by up to 40 percent from 2012 in some states due to flooding and insect attacks. Rice harvest in Mon and Karen states of Myanmar are down 40 percent 2014-2015 compared to those in 2013-2014 Myanmar is among the largest global exporters of pulses: in 2011/2012, the pulses area size is estimated to be 4.4 million hectare. Pulses are grown mainly by smallholders. (<https://opendevelopmentmyanmar.net>).

Myanmar exported rice to over 50 countries and more than 70 percent of exported rice goes to China (Ministry of Commerce, 2017). Between April 2016 and January 2017, the country exported 1.15 million tons of rice and broken rice and earned more than US\$370 million. But that amount is less than that of the same period last year by about 150,000 tons. In 2015-2016, the country exported 1.5 million tons of rice (Nilar, 2017).

3.2 Agricultural Finance in Myanmar

Providing adequate access to rural finance is a common problem in developing countries and Myanmar is no exception. Myanmar has 0.05 bank branches per 1,000 km; less than a quarter of the next lowest country regionally, Cambodia. Approximately 10% of the population is included in the formal financial sphere, which is concentrated in the urban areas, therefore, the rate of access to formal financial services in rural areas, for agriculture or otherwise, is certain to be even lower than the national average (Kloppinger-Todd and Sandar 2013).

The major rice-producing region is Ayeyarwady Region. It is the rice bowl of Myanmar. In 2017, Ayeyarwady Region is granted a total loan of K322390.20 million to plant monsoon crops. MADB started disbursement of agricultural loans to more than 17'000 local farmers from 57 villages in Myanaung Township, Ayeyarwady Region in 2018. Bago Region is the second rice producing area in Myanmar. In 2017, Bago Region is granted a total loan of K 313196.30 million to plant monsoon crops. During the meeting held by the Private Sector Development Committee (PSDC), members of the agricultural and SME sectors raised the issue that private banks do not

issue loans for either sector. If Myanmar's economy is to develop, the country's SMEs and agriculture will need to take off and grow. Loans are vital for their growth. Private bank must grant a specified (minimum) percentage of their loans to farmers and SMEs (Chan Mya Htwe, 2017)

Many barriers prevent the efficient allocation of access to finance, such as lack of infrastructure, poor institutional capacity, profit-limiting policy constraints, and the dominance of state-owned banks with objectives other than profit (Steel and Charitonenko, 2003). Myanmar also lacks other financial offerings, such as formal remittance services, insurance markets, equipment rental, and grain storage (for later sales or to use as collateral), which may also contribute to the relative inefficiency of the agriculture sector.

3.3 Financial Institutions of Agriculture Sector

The provision of finance in rural areas of Myanmar derives from both state and non-state sectors and is composed of formal institutions such as state-owned banks, private banks, MFIs and NGOs and informal and semiformal outlets such as local pawnshops, merchants, community organizations and family and friends (Proximity Designs, 2014). Formal banking options include 4 state owned banks, 24 private domestic banks (Central Bank of Myanmar, 2017). The agricultural credit institutions are Myanma Agricultural Development Bank, Mya Sein Yaun Project, Cooperatives and Microfinance.

3.3.1 Myanma Agricultural Development Bank

MADB is one of the government-affiliated financial institutions, just as same as MEB, MFTB and MICB. MADB was established in June 1953 by the Government of Myanmar to support the development of agriculture, Livestock, and rural enterprises in Myanmar. At that time MADB has opened the banking function under the Ministry of Agricultural Livestock and Irrigations Starting from the 2017, the MADB has been operating under the control of Ministry of Planning and Finance.

MADB's objectives are to provide loans in a simple procedure, to promote rural banking, to encourage saving habit, to support rural socio-economic development, to cultivate habit of using banking services, to development banking services.

To achieve the MADB's objectives the operational guidelines are as follow:

- (1) Adequate supply of credit to the client
- (2) To provide credit timely
- (3) To seek full recovery of loans
- (4) To enable farmers for investment through savings
- (5) To help to become debt-free farmers
- (6) To make bank self-replying

MADB adopts the policy that no loans are to be written off and all loans are recoverable. The repayment periods are scheduled to coincide with the income flow of the borrower's businesses. Every group members are responsible for loan repayment jointly and severally. The divisional managers and township branch managers are also responsible for full recovery of all loans with due interest. According to the MADB Law un-discharged loans may be recovered as if they were arrears of loan revenue. As a matter of fact the borrowers have sense of duty and in practice they repay before loans maturity. Thus, MADB has always maintained 100% recovery even with the increase of its annual loan amount and number of micro loans account.

Loan Guarantees

Most of MADB's loans (99.9 percent) require a joint guarantee of borrowers instead of collateral. Individual farmers must join a group of 2 to 3 members and collectively guarantee each individual loan. Machinery loans require collateral. The machinery is taken as collateral, and in addition and a compulsory savings of 40 percent is required for machines sold by the Government and 50 percent for machines sold by the private companies. Tea-processing and coffee plantation loans are guaranteed by the Government under its special projects.

Types of Agricultural Loan

MADB offers types of loans to its customers nationwide: the seasonal crop production loan and the term loan. The season loan is designed to cover the working capital needs of smallholder farmers at the beginning of the agriculture season. Loans are divided into three categories: monsoon, winter, and premonsoon loans, with the first being the most important type of loan for MADB. Loan maturity is up to one

year and full repayment is expected at harvest time. The interest rate is 8.5 percent in 2012-2013 and decreased to 5% in 2013-2014 and 2014-2015. In 2016-2017, the loan interest rate is 8% per year.

The loan amount varies according to the number of acres owned or leased by the farmer and the intended crop. Thus, the size of the land that a farmer has the right to use for agricultural activities determines the loan amount granted by MADB to each farmer. Each farmer can get a loan for a maximum of 10 acres. Table (3.1) shows loan size per acre for seasonal loan. For the Financial year 2013-2014, Ministry of Agriculture and Irrigation` mandated MADB to significantly increase its individual loan amount from K50,000 to K100,000 per acre for paddy and sugarcane, and from K 10,000 to K 20,000 per acre for other crops such as sesame and peanut.

Table (3.1) Loan Size per Acre for Seasonal Loan

Financial Year	Paddy (kyat/acre)	Sugarcane (kyat/acre)	Other Crop (kyat/acre)
2010-2011	20,000	10,000	10,000
2011-2012	40,000	10,000	10,000
2012-2013	50,000/80,000	100,000	10,000
2013-2014	100,000	100,000	20,000
2014-2015	100,000	100,000	20,000
2015-2016	100,000	100,000	20,000
2016-2017	150,000	150,000	20,000

Source: MADB (2017)

Table (3.1) shows that for the financial year 2010-2011, loan amount is K 20,000 per acre for paddy, K 10,000 per acre for sugarcane and other crop. In 2011-2012, loan amount is double increased to K 40,000 per acre for paddy. In 2012-2013, loan amount increased to K 50,000 and 80,000 per acre for paddy and the loan amount greatly increased to K 100,000 per acre for sugarcane. The loan amount provided depend on types of paddy seeds cultivated in 2012-2013. Starting from 2013 to 2016, loan amount increased to K 100,000 per acre for paddy and sugarcane and to K 20,000 per acre for other crop. In 2016-2017, loan amount increased to K 150,000 per acre for paddy and sugarcane (Win Naing, 2017).

Term loan are divided short-term and loan-term. Short-term loan covers from 2 to 4 years and Long-term Loan covers over 4 years to 20 years. They are loans for

farm investment and farm development. Term Loan can be disbursed only with immovable properties and two reliable person's guarantees. The borrower can pledge their saving deposit, implements, machineries bought with the loan.

Term Loans are farm machinery loan, tea processing loan (Short-Term Loan) and special project loan. Most term loans are collateralized. The farm machinery loan is the only type of loan that requires compulsory savings by the farmer. This type of loan is granted for the purchase of machinery for agricultural purposes and is given with a three-year maturity period. The repayment is divided into three installments, with an option to repay with the compulsory deposit at the end of each year . The short-term loan is provided to finance tea processing. The last subgroup is the special project loan, which is disbursed from our own sources of fund, calls Industrial Crop Loan (Sugarcane). The loan disburse MADB to Department of Agriculture (Industrial Crop), the some Ministry, is called Government to Government Loan. The Loan contract is signed by MADB Managing Director and Department of Agriculture (Industrial Crop) Director General. The loan interest rate is 13%. In 2011-2017, term loan has issued 3613.52 million (Win Naing, 2017).

Loan amount borrowed by MADB

MADB offers the seasonal crop production loan and the term loan. Seasonal loan are divided into three categories: monsoon, winter, and premonsoon loans, with the first being the most important type of loan for MADB. Monsoon loan is the greatest loan amount in all type of seasonal loan. In 2014-2015, 2,717,418 people are granted a total loan of K1167485.44 million, in 2015-2016, 2,498,515 people are granted a total loan of K1, 091,404.88 million and 2016-2017, 2,542,162 people are granted a total loan of K 1,630,623.88 million for monsoon, winter and premonsoon. These are shown in Table (3.2), (3.3) and (3.4).

According to Table (3.2), the amount of monsoon loan at 2016-2017 increases more than 3 times higher than those of loans at 2012 to 2013. Table (3.3) shows that the amount of winter loan at 2016 to 2017 increases nearly 2 times higher than those of loans at 2012 to 2013. Table (3.4) shows that the amount of premonsoon loan at 2016-2017 increases 4 times higher than those of loans at 2012 to 2013.

Table (3.2) Monsoon Loan Provided by MADB

Year	Monsoon Loan		
	No. of Farmers	Acre	Loan Amount(Kyat Million)
2012-2013	1,599,121	10,334,576	426,452.51
2013-2014	1,842,463	11,147,372	933,979.28
2014-2015	1,944,393	1,140,5630	957,062.52
2015-2016	1,845,225	10,791,836	916,448.00
2016-2017	1,922,284	11,167,778	1,401,599.58

Source: MADB

Table (3.3) Winter Loan Provided by MADB

Year	Winter Loan		
	No. of Farmers	Acre	Loan Amount (Kyat Million)
2012-2013	662,475	4,004,699	127,259.96
2013-2014	777,553	4,581,537	204,918.98
2014-2015	702,851	4,132,637	177,993.22
2015-2016	614,795	3,586,770	156,963.48
2016-2017	589,975	1,109,232	212,661.70

Source: MADB

Table (3.4) Premonsoon Loan Provided by MADB

Year	Premonsoon Loan		
	No. of Farmers	Acre	Loan Amount (Kyat Million)
2012-2013	14342	5,1676	4,134.08
2013-2014	48553	198,552	19,830.32
2014-2015	70174	325,497	32,429.70
2015-2016	38495	179,934	17,993.40
2016-2017	29902	132,112	16,362.60

Source: MADB

3.3.2 Other Financial Institutions of Agriculture Sector

There are other financial institutions in Myanmar for banking services. They are Department of Rural Development, Cooperatives and Microfinance.

Department of Rural Development

Mya Sein Yaung Project was started in fiscal year 2014-2015 in Myanmar. It lend loan to rural people for rural development. It was operated Ministry of Agriculture, Livestock, and Irrigation and Department of Rural Development. Its objectives are improving socio-economic development and decrease rural poverty, operating self-help livestock and cover nutrient, according to organization agreement, increase money operate in villages demand and improving rural people ability. In fiscal year 2014-2015, it was implemented 14 Regions, 70 Districts, and 288 Townships and 1450 villages in Myanmar. 3000 village was implemented in fiscal year 2015-2016. In fiscal year 2016-2017, project was increased depending upon organization's funds to villages (9,930). Interest rate is from 6% to 18% per annual according to village committee's agreement.

Cooperatives Associations

Cooperatives in Myanmar have a legacy dating back to the early 1900s and have historically been seen as a tool of the government to assert their control (Ferguson 2013). However, the GoM sees cooperatives as a tool to help improve socio-economic conditions and microfinance as the primary method to fulfill this objective. According to government officials, there are plans to open a cooperative with microfinance services in every village in Myanmar (Ferguson 2013).

The two legal documents defining the operations of cooperatives in Myanmar are the Cooperatives Law (1992) and Regulations (1998). These documents provide the Ministry of Cooperatives the power to "liquidate" cooperatives as well as register and review their office-holders and proceedings, as well as "issue rules and procedures as it sees fit" to implement the law (Ferguson 2013).

In 2016, Loan totaling K500 billion are to be parceled out to the nation's states and regions according to the amount of rice they intend to grow and their respective population size. The bulk of money, which is being drawn from a \$400million loan from China's Exim Bank, will go to the country's largest paddy-producing area. Bago

Region tops the list and receives K84.656 billion worth of loans. Ayeyarwady Region receives K80.723 billion and Sagaing Region will get K 71.897 billion.

Microfinance Institutions

Microfinance was firstly introduced to Myanmar in 1997, primarily as an international development assistance activity, utilizing a poverty-targeting approach and operating in the urban areas. In Myanmar, microfinance institutions (MFIs) are concentrated in the urban areas and currently are active in 12 states and divisions (Duflos et al. 2013) and continue to target the poor, especially landless farmers who cannot receive MADB support. MFIs tend to be group-based in Myanmar and their terms are stringent, mandating loan length, stipulating regular and frequent payments, and requiring attendance at group meetings (Kloeppinger-Todd and Sandar 2013).

Microfinance scheme is relatively easier for farmers to access, since the institutional finance require mortgage including real estate and deposit. Before Microfinance Law (2011), MFIs had been an informal sector but they are formal organization after the law. However, those organizations which hold license issued by Microfinance Supervisory Enterprise (MSE) are only 118, and cooperatives which account for more than 50% of license holders, operate basically in urban areas.

3.4 Background Description of Shwegyin Township

This section presents the background description of Shwegyin Township such as geographic and demographic conditions of Shwegyin Township. Geographic background of Shwegyin Township is presented with topography and Climate situation of the region. Demographic factor of Shwegyin Township are delineated by the number of population, occupation and education status according to annual report of Myanmar Population and Housing Census.

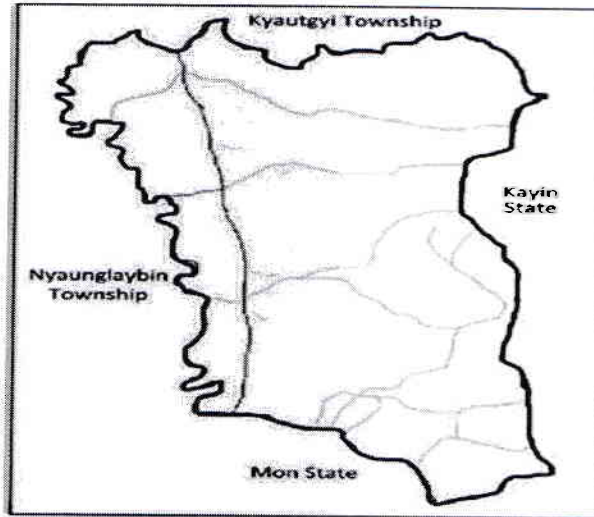
3.4.1 Geographic Condition of Shwegyin Township

Shwegyin Township is situated in the Bago Region of Myanmar country. It is located in south-eastward of the Bago Region. It is between $17^{\circ} \times 25'$ and $18^{\circ} \times 14'$ N latitude and $96^{\circ} \times 44'$ and $97^{\circ} \times 14'$ E longitude. It is 42.6 miles long from the North to the South and 22.19 miles wide from the East to the West. The total area

extent of Shwegyin Township is 605,084 acres (945.448 sq. miles). There are 8 quarters in the city and 32 groups of villages in the Shwegyin Township.

It is bounded by Kyaukkyi Township in the North, Pharpon Township, Kayin State in the East, Kyaikto Township, Mon State in the South and NyaungLaybin Township, Kyauktaga Township and Waw Township in the West. Figure (3.1) shows the Location of the Township.

Figure (3.1) Shwegyin Township Map



Source: Google Map

Shwegyin Township is within the region of tropical monsoon climate. Two seasons, the wet seasons and the dry season are distinguished. The wet season is from June to September and the dry season is from October to May. In 2016, average temperature is 25.4 °C for Shwegyin Township. In 2017, average temperature is 27.7°C. In 2016, average annual rainfall of Shwegyin Township is 11.125 inches (28.25 centimeters). In 2017, average annual rainfall is 12.49 inches (31.72 centimeters). In 2016, the annual rainy day is 121 days , in 2017, the annual rainy day is 137 days in Shewgyin Township.

3.4.2 Demographic Background of Shwegyin Township

Population of Shwegyin Township increased annually indicating the growth of Shwegyin Township. In 2013, its population was 89,084 people consisting of 44,796 males and 44,288 females. According to 2014 Myanmar population and Housing Census, total population is 107,462 people. It includes 53,092 males and 54,370

females. In the Urban area, total population is 82,883 people. 245,579 residents located in rural areas.

Agricultural, manufacturing and commerce are the main economic activities within the Township. Main occupations are mostly workers, private employees and public employees. Total public employees were 12,326 people in 2013. On the other hand, agriculture is the main economic activity of the Shwegyin Township. Civilians work in hilly and mountainous areas. In the mountainous areas of Shwegyin Township, the main earning of the villagers is land farming and hill farming; about 8059 of households (nearly 44%) involve in the agricultural sector. Therefore, agricultural sector is an important sector of the Shwegyin Township. The main cultivate crop is paddy of which the total areas is 40,455 acres. There are 93 school and these school are 8 high schools, 9 middle schools and 76 primary schools in Shwegyin Township.

3.5 Financial Institutions in Shwegyin Township

There are two State owned bank in Shwegyin Township such as Commercial Bank and Myanmar Agriculture Development Bank (MADB). Other financial institution is Cooperative Associations, Ministry of Agriculture, Livestock, and Irrigation and Department of Rural Development, Yadannamatar NGO Organization, Royal Trust Microfinance Co.,ltd and Private other Money Lender which are local brokers and relatives. Among them, agriculture credit institutions are MADB, Cooperative Associations, Ministry of Agriculture, Livestock, and Irrigation and Department of Rural Development and Yadannamyitar NGO Organization.

Myanma Agricultural Development Bank

In Shwegyin Township, MADB started on July 1978. MADB offers the seasonal crop production loan and the term loan to farmers. Farmers have borrowed two type of Seasonal loan: monsoon loan and winter loan. Twenty eight groups of villages are granted a total loan of K2,463.78 million (monsoon loan K21,285 million and winter loan K335.28 million) in 2014-2015. Seasonal loan is increased to K1,859.88 million in 2016-2017. They are shown in Table (3.5). According to Table (3.5), monsoon loan amount increased annually from 2014 to 2017. But winter loan

decreased to K11.76 million in 2015-2016 and in 2016-2017 increased to K 3.54 million (Branches of MADB, 2018).

Table (3.5) Seasonal Loan Condition in Shwegyin Township

Year	Monsoon Loan			Winter Loan		
	No. of Farmer	Acres	Amount (Kyat Million)	No. of Farmer	Acres	Amount (Kyat Million)
2014-2015	3506	21285	2128.5	2585	16764	335.28
2015-2016	3887	22582	2258.2	2579	2579	323.52
2016-2017	4247	26644	3996.6	2666	2666	327.06

Source: MADB in Shwegyin Township

To apply for a loan, farmers have to submit a loan application to the loan screening committee at the village level for approval. MADB requires farmers to have a good credit history, to join a group of 3-2 farmers to mutually guarantee their loans, and to submit the Farmer Registration Book issued by the village authorities. The book is required to verify the farmer's right over the land leased from the Government year by year; it could not be used as a guarantee. However, a new farm law was recently passed by the parliament under which farmers will be issued ownership certificates, which could be transferred and thus pledged as collateral. Issuing certificates is under way, and MADB will need to adapt its lending terms and conditions to these new circumstances.

Once the application is submitted to the loan screening committee at the village level, the committee reviews and approves all loan applications that meet the conditions. MADB's branch managers sign off the loan application after the committee's approval. MADB staff is not allowed to travel to the villages for loan operations; farmers must come the bank in town to take out and to repay loans, incurring in considerable travel related costs. Loan screening committees also help to ensure that farmers pay off their loans on due dates. They exert pressure on delinquent borrowers with the argument that if a single borrower fails to repay its loan, the entire village will not be able to borrow from MADB in the next season.

Since the committee takes on the credit decision and monitoring process, MADB virtually performs only an agent role by acting as a money distribution channel for the Government. In the event of default, all members in the group are liable for repayment. If the group cannot repay, MADB has to bear the resulting losses. The branch manager at the township level is held responsible for following up with the delinquent borrowers and guarantors (Branches of MADB, 2018).

Rural Development Department

Livestock and Irrigation and Rural Development Department under Ministry of Agriculture has operated Mya Sain Yaung Project in Shwegyin Township since the year 2014-2015. Mya Sein Yaung lends loan service to rural areas. According to the application of the organization, only organization members have to take loan by Myasainyaung. The interest rate is from 6% to 18% per annual (Branches of Livestock and Irrigation and Rural Development Department in Shwegyin Township, 2018).

Cooperative Associations

In Shwegyin Township, the Cooperatives lend loan with the government grant.. It refers from Central Bank to Central Cooperative. Cooperatives have three programs including agriculture, promote of agrarian and provide seeds. Loan amount differs depending on saving amount and time of membership. Interest rate is 1.5 percent. Financial cooperatives collect the loan payments daily and the loan duration is 6 months (Cooperative Association in Shwegyin , 2018).

Microfinance Institutions

There are two microfinance institution in Shwegyin Township. They are Yadanamyitar institution and Royal Trust Microfinance Co.,ltd. Yadanamyitar institution was established in 2012. It provides loan service to the group of villages and small business. Individual must join a group of 5 members and collectively guarantee each individual loan. Maximum loan amount is 500000 Kyats to individual. Its interest rate is 30% per year. Loans collect installment and loan duration is only five months. Government is granted Royal Trust Microfinance Co.ltd on November 2016. It was established Shwegyin Civilian. Firstly, it provide financial service to

government employees in Shwehyin Township. The maximum loan amount of one government employee is 300,000 Kyats. Employees return 2.5% interest rate in one month and 10 month.

CHAPTER 4

ANALYSIS OF AGRICULTURAL CREDIT ACCESSIBILITY AND ITS EFFECTS ON FARM PERFORMANCE

This chapter presents agricultural credit accessibility of farmer and the effect on farm performance in Shwegyin Township. This analysis is based on empirical data collected from 3 group of villages in Shwegyin Township. There are five main parts in this chapter. They are survey design, background characteristics of respondents, credit accessibility of farmers and farm performance

4.1 Research Design

This study is conducted with the objective of identifying farmers accessibility to agricultural credit and the effect on farm performance in Shwegyin Township. There are (32) group of villages in Shwegyin Township. Among them 28 group of villages in farming, out of them three group of villages (10%) were randomly selected from Shwegyin Township which are Tagonetine, Toungbat and Thanseik group of villages. Tagonetine and Toungbat are situated in the South part of the Shwehyin Township which distance are far from 3 to 2 miles away from Shwegyin Township. A total of households are 808 and 1283. Thanseik group of village is located in the north part of the Shwegyin Township. It is about 12 miles away from Shwegyin Township. Its total household is 519. Major job of these three villages are cultivation of paddy in monsoon and plantation of beans and pulse in winter season. Among them total household, nearly 30% of borrowing farmers are randomly selected in three of villages. And then from Tagonetine group of villages are randomly selected 8 non-borrowing farmer households. In Toungbat and Thanseik group of villages are randomly selected 10 and 12 non-borrowing farmer households. These are described in Table (4.1).

Table (4.1) Sample Size of Respondents

Group of Village	No. of Farming Household	No. of Borrowing Household	No. of Non-Borrowing Farmers Household	Sample Size of Borrowing farmers Household
Tagonetine	112	104	8	30
Toungbat	141	131	10	37
Thanseik	124	112	12	35
Total			30	102

Source: Survey data (2018)

4.2 Background Characteristics of Respondents

The first section in this study analyses the background characteristics of two types of the respondents which are borrowing farmers and non-borrowing farmers. The characteristics of respondents are divided into two: demographic characteristics and economic characteristics.

4.2.1 Demographic Characteristics of Respondents

Demographic characteristics of respondents are firstly analyzed. They are gender, age, education level, and household size, number of farmers and year of farming. The following shows in Table (4.2).

According to Table (4.2), gender ratio of loan borrowers is 66:34 and non-borrowers are 70:30. The age distribution of most borrowing farmers is from 45 to 54 years as nearly 60% of total respondents and over 30% are the age level of 35 to 44 years. For non-borrowing farmers, within the age level of 45 to 54 years are more than half of total respondents. The age distribution of second highest non-borrowing farmers is from 35 to 44 years as 33 percent of total respondents.

Table (4.2) Demographic Characteristics of Respondents

(N=102, N=30)

Characteristics	Borrowers		Non-borrowers	
	No.	Percent	No.	Percent
Gender				
Male	67	65.7	21	70
Female	35	34.3	9	30
Age (Year)				
35-44	32	31.3	10	33.4
45-54	58	56.8	16	53.3
55-64	12	11.7	4	13.3
Education Level				
Primary	22	21.6	6	20
Middle	66	64.7	21	70
High	14	13.7	3	10
Household Size				
2-4	64	62.8	28	93.3
5-7	38	37.3	2	6.7
Number of Farmer				
1	30	29.4	20	66.67
2	55	53.9	10	33.33
3	16	15.7	-	-
4	1	1.0	-	-
Duration of Farming (Year)				
<10	9	8.9	12	40
11-20	52	51	11	36.67
21-30	35	34.3	7	23.33
31-40	6	5.9	-	-

Source: Survey Data (2018)

Regarding the education, all the respondents are literate, of which most of the farmers (nearly 65%) are with middle education level and for non-borrowers group, 70% are with middle education level.

For household size, 63 percent of the household size of the loan borrowing farmers is 2 to 4 family members and one-third of the borrowing farmers have 5 to 7 family members. For non-borrowing farmers, over 90 percent of households have the most within the 2 to 4 family members. Only nearly 7 percent of the farmers have 5 to 7 family members.

Half of borrower's farming year is within the year of 11 to 20. Moreover, one-third of borrowing farmers are within the farming year of 21 to 30. From less than 10 and 31 to 40 years of farming is the small percent of respondents. For non-borrowing farmers, less than 10 years of farming is the most percent as 40 percent of farmers respondents. One-third of respondent are the second highest farming year of 11 to 20.

4.2.2 Economic Profile of Respondents

Regarding the economic condition, two type of respondent are involved. These characteristics are their source of earning, annual household income and type of properties (such as living ownership and business ownership), cultivated acre and yield per acre.

Annual Household Income

Farmer's annual household income is between from 1500,000 to 6400,000 Kyat. The Table (4.3) shows the annual household income of the respondents.

According to Table (4.3) annual household income of most borrowing farmers is from 2500,000 to 3400,000 kyats as over 40 percent of total respondents. Annual household income of borrowing farmers from 5500,000 and 6400,000 are the smallest percent. For the non- borrowing farmers, two-third of annual household income is within the amount of 1500,000 to 2400,000 kyats. The smaller annual household income percent is nearly 27% of non-borrowing farmers.

Table (4.3) Annual Household Income

Annual Household Income (Kyat Lakh)	Borrowers		Non-borrowers	
	No	Percent	No	Percent
15-24	33	32.4	22	73.3
25-34	42	41.2	8	26.7
35-44	20	19.6	-	-
45-54	5	4.9	-	-
55-64	2	1.96	-	-
Total	102	100	30	100

Source: Survey data (2018)

Annual household income of most borrowing farmers is from 2500,000 to 3400,000 kyats as over 40 percent of total respondents. Annual household income of borrowing farmers from 5500,000 and 6400,000 are the smallest percent. For the non-borrowing farmers, two-third of annual household income is within the amount of 1500,000 to 2400,000 kyats. The smaller annual household income percent is nearly 27% of non-borrowing farmers.

Main Source of Earning

Main source of earning of respondents are classified as farming, government employment salary and general workers.

Table (4.4) Main Source of Earning

Main source of earning	Borrowers		Non-borrowers	
	No.	Percent	No.	Percent
Farming	93	91.2	22	73.3
Government employee	8	7.8	4	13.3
General Workers	1	1.0	4	13.3
Total	102	100	30	100

Source: Survey data (2018)

Table (4.4) shows that almost all of loan borrower households answered that farming is their major job. The remaining are government employees and general

workers. For non-borrowing farmers, over 73 percent of respondents are the major farming. The government employees and general workers have over 13 percent of respondents.

Types of Properties

Types of properties are classified living ownership and business ownership. Living ownership include home, cycle, bicycle, water-pump and TV. Business ownership contains farmland, cows, bullock cart, ploughing machine and water-pump. These shows in Table (4.5).

Table (4.5) Type of Properties

Ownership	Borrowers		Non-borrowers	
	No.	Percent	No.	Percent
Living Properties				
Home	102	100	30	100
Motorcycles	79	77.5	18	60
Bicycles	54	52.9	7	23.3
Water-Pump	23	22.5	2	6.7
TV	78	76.5	20	66.67
Farming Properties				
Farmland	102	100	16	53.3
Cows	78	76.5	11	36.7
Bullock Cart	71	69.6	11	36.7
Ploughing Machine	9	8.8	-	-
Water Pump	24	23.5	1	3.3
Business Properties				
Shop	11	10.8	5	16.7

Source: Survey data (2018)

According to Table (4.5) all farmer respondents have a home. More than two-third of borrower and nearly two-third of non-borrowing farmers have motorcycles. Half of loan borrowing farmer have bicycles. Only less than one-third of non-borrowing farmers have bicycles. Loan borrowing farmers have more water pump than non-borrowing farmers. Moreover, loan borrowing farmer have more TV than

non-borrowing farmers. All borrowing farmers have their own farmlands. But only over half of non-borrowing farmers have farmland. Borrowing farmers own cows as 78% of respondents. But one-third of non-borrowing farmers own cows as nearly 37%. Only borrowing farmers own ploughing machine. Borrowing farmers have owned water pump as 24% and non-borrowing farmer slightly have owned water-pump. Borrowing farmer and non-borrowing have owned shop as 10.8% and 16.7 percent. Non-borrowing farmers are more than borrowing farmers in the percent of shop ownership.

Cultivated Acres (paddy)

Almost of farmer respondents are small cultivated acres. The smallest ownership acres of farmers are 1 acre and the largest is 12 acres. They are described in Table (4.6).

Table (4.6) Cultivated Acres (paddy)

paddy Cultivated Acres	Borrowers		Non-borrowers	
	No.	Percent	No.	Percent
1-3	51	50	21	70
4-6	37	36.3	8	26.7
7-9	10	9.8	1	3.3
10-12	4	3.9	-	-
Total	102	100	30	100

Source: Survey data (2018)

Table (4.6) shows that half of borrowing farmers cultivated 1 to 3 paddy acres as 50% of respondent. In remaining borrowing farmers, 4 farmers of 10 to 12 cultivated acres is the smallest percent as nearly 4 % of respondents. For loan non-borrower farmers, from 1 to 3 paddy cultivated acres are the highest respondent. At least, over 3.% of 30 respondents cultivate from 7 to 9 paddy acres. Therefore, borrowing farmers is more paddy cultivated acres than non-borrowing farmers.

Paddy Yield per Acre

Paddy yield per acre of respondents are within the range between 40 to 80 bushels. Table shows paddy yield per acre of respondents. It shows that paddy yield

per acre of borrowing farmers produced within the range between 40 to 80 bushels and non-borrowing farmers produced within the range between 40 to 55 bushels.

Table (4.7) Paddy Yield per Acre of Respondents

Paddy Yield per Acre	Borrowers		Non-borrowers	
	No.	Percent	No.	Percent
40	1	1.0	8	26.7
45	3	2.9	8	26.7
50	20	19.6	13	43.3
55	11	10.8	1	3.3
60	26	25.5	-	-
65	1	1.0	-	-
70	25	24.5	-	-
80	15	14.7	-	-
Total	102	100	30	100

Source: Survey data (2018)

Majority of borrowing farmers produce 60 bushels per acre and non-borrowing farmers produce 50 bushels per acre. Therefore, this analysis founded loan borrowing farmer yield per acre more than non-borrowing farmers.

4.3 Credit Accessibility of Respondents

This section identifies the finding from survey on credit accessibility of borrowing and non-borrowing farmers.

4.3.1 Credit Accessibility of Loan Borrowing Farmers

This analysis of the credit accessibility for borrowing farmers includes sources of finance, year of connection with bank, amount of loan borrowed, period of loan received from MADB, Loan coverage percent and used of loan, constraints for procurement of agricultural Credit.

Sources of Finance

In the study area, farmers may borrow various finance institutions. These are MADB, Cooperatives, Mya Sein Yaung Project and friend and relatives. The situation is showed in Table (4.9).

Table (4.8) Sources of Finance

Source of Finance	Borrower	
	No.	Percent
MADB	102	100
Cooperatives / MFI	27	26.5
Mya Sein Yaung Project	21	20.6
Friend and Relative	4	3.9

Source: Survey data (2018)

According to Table (4.8), all borrowers borrowed from MADB. In other sources of finance, cooperatives are the second sources of finance for farmers. Moreover, over 20% of respondents borrowed from Mya Sein Yaung Project. At least, farmers borrowed from Friend and Relatives. Almost all of farmer rely on MADB.

Year of Connection with MADB

Year of connection with MADB include 3 categories. They are 1to 10, 11 to 20 and 21 to 30 years. Loan borrower farmers need to save at least 10,000 kyats in his saving account as a member of MADB bank. All non-borrowing farmers have not saving deposit with MADB. They are described the following table.

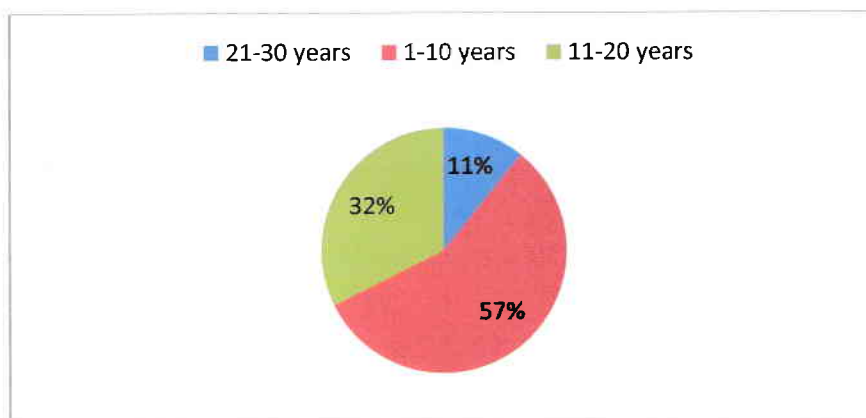
Table (4.9) Year of Connection with MADB

Year	Borrower	
	No.	Percent
1-10	58	56.86
11-20	33	32.34
21-30	11	10.8
Total	102	100

Source: Survey data (2018)

In Table (4.9), 1 to 10 years is the most connection with MADB as 57%. Moreover, one-third of respondent connected with MADB in 11 to 20 years. The remaining respondents are 21 to 30 years of connection as nearly 11 percent.

Figure (4.1) Year of Connection with MADB



Source: Survey data (2018)

Amount of Loan Borrowed

In Shwegyin Township, as described in chapte 3, there are five financial institutions. Mostly farmers borrowed from MADB and in addition some of farmers also borrowed from loan by other organizations. MADB bank lends the seasonal loan at the minimum amount is 150,000 and the maximum amount is 1500,000 for ten acres. The loan amount are divided into four groups. The Loan amount depending on cultivated acres. Table (4.10) shows amount of loan received from MADB.

Table (4.10) Amount of loan received from MADB

Paddy Cultivated Acres	Loan Amount(Kyat)	No.	Percent
1-3	150,000-450,000	51	50.1
4-6	600,000-900,000	37	36.2
7-9	1050,000-1350,000	10	9.8
10-12	1500,000	4	3.9
	Total	102	100

Source: Survey data (2018)

According to the survey data, half of borrowing farmers from 1 to 3 cultivated acres borrow 150,000 to 450,000 kyats. One third of farmers from 4 to 6 acres borrow 600,000 to 900,000 kyats which amount is the second highest percent. At least, 10 to 12 paddy cultivated acres is nearly 4%. MADB loan interest rate is 8% per year.

The other organizations include Cooperatives, Mya Sein Yaung Project and friend and relatives. The smallest amount is Kyats 50,000 and the highest amount is Kyats 300,000. Table (4.11) shows amount of loan received from other organizations.

Table (4.11) Amount of Loan Received from Other Organization

Amount(Kyat)	No.	Percent
50,000	2	2.0
100,000	2	2.0
120,000	1	1.0
180,000	20	19.6
200,000	1	1.0
240,000	20	19.6
300,000	5	4.9
Total	51	100

Source: Survey Data (2018)

According to survey research, half of farmers did not borrow from other organizations. Only 50% of respondents borrowed from other organizations. Average lending amount is 206, 276 kyat of borrowing farmers. Other organizations loan interest rates are 18%, 30%, 48% and 60% respectively. Other organization loan interest rate is greater than MADB.

Period of Loan Received from MADB

This analysis of farmer respondents answered period of loan received from MADB. These answers are farming the period and after farming. It shows in Table (4.12).

Table (4.12) Period of Loan Received From MADB

Period of Loan Received	No.	Percent
Farming Period	17	16.7
After Farming	85	83.3
	102	100

Source: Survey Data (2018)

According to Table (4.12), in this situation, most of respondent replied that after farming as more than 80% of respondents. Only nearly 17 % of respondent answered that farming period for period of loan received from MADB.

Loan Coverage Percent

All farmers answered that MADB loan amount not cover their farming. The following Table show their loan coverage percent of respondents. Most of farmer is more used in farming. Small numbers of respondents used loan for machinery. Therefore, farmer's farm machinery is weak for farmers.

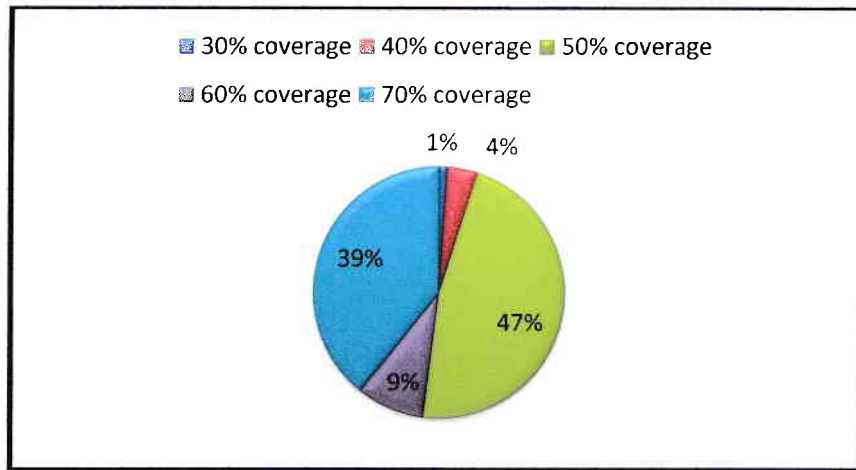
Table (4.13) Loan Coverage Percent

Loan Coverage Percent	Borrowers	
	No.	Percent
30	1	1.0
40	4	3.9
50	48	47.1
60	9	8.8
70	40	39.2
	102	100

Source: Survey Data (2018)

Table (4.13) shows that half of respondents answered 50 percent sufficiency. It is followed by over one-third of respondents covered 70 percent. At least, only 1% of respondent answered 30 percent. The most sufficient percent is 70%. It can be seen in Figure (4.2).

Figure (4.2) Loan Coverage Percent



Source: Survey Data (2018)

Constraints for Procurement of Agricultural Credit

There may have constraints for borrowing the agricultural loan. They are interest rate, documentation required, waiting time and travel mile distance, etc. In this survey, accessibility of loan condition of the farmers are identified in terms of their ease of getting loan, waiting time and travel distance to go the MADB. The conditions are shown in Table (4.13).

Table (4.14) Constraints for Procurement of Agricultural Credit

Characteristics	No.	Percent
Difficulty of Credit		
Easy	78	76.5
Difficult	24	23.5
Waiting Time for Credit		
Half of day	59	57.8
More the half of day	43	42.2
Travel distance to MADB (Miles)		
2	37	36.3
3	30	29.4
12	35	34.3

Source: Survey data (2018)

More than 76 percent of the respondents have experienced as it's easy to credit. Only 24% of the respondents who have taken agricultural credit responded that it is difficult to obtain such credit. As regards the waiting time, nearly 60% of farmer respondents answered that it takes half of the day whereas 43% respondents more than half of the day. For the travel distance to MADB, it is about 3 and 2 miles away from Toungbat and Tagonetine group of villages. The bank is about 12 miles away from Thanseik group of villages.

4.3.2 Credit Accessibility of Non-borrowing Farmers

Credit accessibility of non-borrowing farmers contains barriers of not getting loan for non-borrowing farmers from formal financial institutions.

Barriers of Not Getting Loan for Non-borrowing Farmers

In this study, non-borrowing farmers analyzed barriers of not getting loan for non-borrowing farmers from formal financial institutions. These barriers are insufficiency document required, passing decline and lack of farmland owned.

Table (4.15) Barriers of Not Getting Loan for Non-borrowing Farmers

Barriers to Credit Accessibility	No.	Percent
Insufficiency Document Required	20	66.7
Missing Deadline	7	23.3
Lack of Farmland Owned	3	10.0
Total	30	100

Source: Survey data (2018)

In Table (4.15), result of the analysis, it was found 20 respondents with 67% replied that insufficient document required such as land use right certificate. Moreover, 7 respondents over 23 percent replied that they did not access to credit because of passing decline and 3 respondents answered lack of farmland owned.

4.4. Farm Performance of Farmers

Farm performance of farmers contains paddy yield per acre, farming income and annual household income for borrowing and non-borrowing farmer, background information of farmers include difference between background information of

borrowing farmers and non-borrowing farmers and relationship between independent variable and paddy yield per acre and regression analysis on paddy yield per acre.

4.4.1 Paddy Yield per Acre and Farmer's Income

This section analyses paddy yield per acre and annual household income of farmers. It shows in Table (4.16).

Table (4.16) Paddy Yield per Acre and Farmer's Income

Variable	Borrowers	Non-Borrowers	T-value
Paddy Yield per Acre (bushels)	62.30	46.17	12.124**
Farming Income (Kyat lakh)	12.5	7.1	5.964**
Annual Household Income (Kyat lakh)	27	20.93	6.257**

Note: ** indicates that it is statistically significant at the 0.01 level

Source: Survey Data (2018)

Table (4.16) examines average paddy yield per acre, farming income and annual household income for the loan borrowing and non-borrowing farmers. It can be seen that the variable of average yield per acre, farming income and annual household income of borrowing farmer are significantly ($P < 0.01$) higher than non-borrowing farmer. It indicates that borrowing farmers average yield per acre, average farming income and average annual household income are more than non-borrowing farmers.

4.4.2. Background Information of Farmer

Background information of farmers includes difference between background information of borrowing and non-borrowing farmers and relationship between independent variable and paddy yield per acre.

Difference between Background Information of Borrowing and Non-borrowing Farmers

Difference between background information of borrowing and non-borrowing farmers contains age, number of farmers in household, experience of year, cultivated

acre, ownership of cows, number of cows, ownership of ploughing machine, shop, water-pump.

Table (4.17) Difference between Background Characteristics of Borrowing and Non-borrowing Farmers

Independent Variable	Loan Borrower	Non-Loan Borrower	T-value
	Mean(n=102)	Mean(n=30)	
Age of Household Head Farmer	46.88	47.06	-.114
Number of Farmer in Household	1.88	1.33	4.055
Farming Experience (year)	20.78	17.03	2.526
Cultivated Land (acre)	4.10	3.17	2.860**
Ownership of Cows (Yes=1,No=0)	.77	.37	4.023*
Number of Cow	2.15	.73	4.411
Ownership of Ploughing Machine (Yes=1,No=0)	.09	.00	3.126**
Ownership of Water Pump	.24.	.03	3.755**
Ownership of Shop(Yes=1,No=0)	.11	.17	-.864

Note *. Correlation is significant at the 0.05 level (2-tailed).

Note **. Correlation is significant at the 0.01 level (2-tailed).

Source: Survey Data (2018)

According to Table (4.17), it can be seen that, average cultivated acre, ownership of cows, ownership of ploughing machine, ownership of water pump are significantly ($P < 0.05$) higher than non-loan borrowing farmers.

Regression Analysis on Paddy Yield Per Acre

In this study, regression analysis is applied in order to analyze the effects on paddy yield per acre. The dependent variables (paddy yield per acre) are explained by four independent variables (number of cows, ownership of water pumps, loan coverage percent and period of loan received).

According to Table (4.18), analysis of variance was used to test the significance of the regression model as pertains to differences in means of the dependent and independent variables as shown on Table (4.18) above. The $F=59.468$ was positive and significant at $P=0.000<0.05$. Thus, the regression model is statistically significant with paddy yield per acre.

Table(4.18) ANOVA of Independent Variable and Paddy Yield per Acre

Model	Sum of Squares	df	Mean Square	F	Sig
1 Regression	11450.945	4	2862.736	59.468	.000 ^b
Residual	5969.210	124	48.139		
Total	17420.155	128			

Table (4.19) describes regression results among dependent variable (paddy yield per acre and independent variables (, number of cows, ownership of water-pumps, loan coverage percent and period of loan received). These results show that the coefficients for number of cows is significant at 5% level, ownership of water-pump, loan coverage percent and period of loan received is significant at 1% level.

Table (4.19) Regression Result for Paddy Yield per Acre

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	44.458	1.267		35.1	.000
Number of Cows	.990	.369	.140	2.499	.014
Ownership of Water-pump	4.921	1.639	.208	3.002	.003
Loan Coverage Percent	9.618	1.840	.365	5.227	.000
Period of Loan Received	11.983	1.706	.401	7.023	.000

N=132, $R^2=.657$, Adjusted $R^2=.646$, $F= 59.468$ (p value = 0.000)

Source: Survey data (2018)

As show in Table (4.19), the value of adjusted R^2 is .646 that revels 64.6% of

total variation in paddy yield per acre are explained by four factors: number of cows, ownership of water-pump, loan coverage percent and period of loan received. These results suggest that the four variables have significantly explained 64.6% of the variance in paddy yield per acre. The regression coefficient of number cows is .990 at 5% significance level. The regression coefficient of ownership of water-pump is 4.921 at 1% significance level. The regression coefficient of loan coverage percent is 9.618 at 1% significance level. The regression coefficient of period of loan received is 11.983 at 1% significance level. These variables are positively correlated with paddy yield per acre.

Furthermore, the value of standardized coefficients for period of loan received (.401) is highest among variables. It can be said that the effect of period of loan received is greatest among variable on paddy yield per acre.

CHAPTER 5

CONCLUSION

This chapter describes conclusion of the study areas of credit accessibility and effect of agricultural loan among farmers. This chapter contains findings and recommendations and needs for further research of the study.

5.1 Findings

Myanmar is agriculture-based country. Agriculture plays an important role in reducing poverty in Myanmar. The country's agricultural sector accounts for 38% of national GDP and 23% of exports in fiscal year 2016-2017. Therefore, agricultural loan has always been an important factor in improving agricultural productivity and strengthening the rural economy. MADB provide agricultural loan of K 1630623.38 million to farmers for monsoon, winter and premonsoon in 2016-2017. Development loan has issued 3613.52 million in 2016-2017. To achieve the MADB's objectives the operational guidelines are adequate supply of credit to the client, to provide credit timely, to seek full recovery of loans, to enable farmers for investment through saving, to help to become debt-free farmers and to make bank self-replying.

According to the study, on background characteristics of respondents, the most of farmers fall within the age level 45 to 54 years old. More than half of farmers are middle education level. The household size of the respondents is from 2 to 7 members. Average numbers of farmers is 2 farmers. Duration of farming experience is form 11 to 20 years and their main source of earning is farming. Their living standard is above average level possessing owned home, motorcycle and almost they owned farmland and cows. The cultivated acre is 12 acres maximum and 1 acre minimum. Average paddy yield per acre is round about 60 bushels per acre.

Regarding with credit accessibility, all loan borrower farmers have saving deposit at MADB, but all non-borrower farmers do not have saving account with MADB. The maximum year the loan borrower farmers connect with the bank is 30 years and the minimum year is 1 year. And then, 102 of loan borrower farmer's main source of finance are MADB. The amount of loan given by MADB depends on the cultivate acre that the borrower farmer have. All farmers answered not sufficient loan

amount from financial organization. Almost of respondent replied that loan received after farming from MADB. Most of the loan borrower farmers replied that it is easy to get loan and 23.5% of respondent answered that it is difficult to get loan. All farmers wait half of day to get loan. In these study areas, 12 miles is the greatest distance from group of villages to MADB.

According to t-test, loan borrowing farmer's paddy yield per acre, farming income and annual household income is greater than those of non-borrowing farmers. According to multiple regression analysis, number of cows, ownership of water-pump, loan coverage percent and period of loan received is statistically significant with paddy yield per acre. The effect of period of loan received is highest among variables on paddy yield per acres.

5.2 Recommendations

In the selected study area, according to MADB, all borrower farmers will get their respective loan for next farming season only when each borrower member of the village repays the loan they get before. That's why, all farmers do not get loan in time from MADB because some borrowers are often late to repay their loan. Even though some borrowers repay their loan in time, they will not be able to get their loan if one of the borrower members of the village repay late. Thus this credit system has a fundamental weakness. Farmers who do not have their own farmland do not get loan from some organization. Therefore, they don't use adequate quality seeds, reliable fertilizer and pesticides, etc. Financial organization should assist to improve their social-economic. A few farmers find it difficult getting credit from some organization. This procedure should be simplified and made farmer friendly.

MADB does not provide sufficient amount of loan for farmers. The full amount of loans needed by the farmers for paddy plantation should be provided as much as possible based on MADB's working capital. In agricultural finance, the cooperative of private banks are required. Therefore, agriculture sector should support both public and private organization to get sufficient amount of loan for farmers.

Nowadays, Myanmar agriculture sector needs the knowledge and infrastructure especially in the rural areas. Farmer need to know modern farming technique and information on the global supply and demand conditions. The

government should instruct modern agricultural techniques, support modern agricultural machine to rural farmers. The government should encourage participation and provide incentives for farmers to save and recycle the funds.

5.3 Needs for Further Research

This study only focused on credit accessibility and effect of agricultural loan in Shwegyin Township. The study area covers Shwegyin Township only. Thus, the result for the study may not reflect the overall situation in Myanmar. Only paddy crops have been taken in to consideration. This research cannot be specifically explored farmer's loan usage for farming. Prices of paddy product and their benefits are lacking in this study. It is due to time constraints to conduct more area in survey as well as to collect more randomly selected farmers. Comparing loan borrower farmers and loan non-borrower farmers are difference sample size because of loan non-borrower farmer population is very small in Shwegyin Township. Therefore, if further study can be conducted on more sample size and whole Myanmar areas.

REFERENCES

- Abedullah, Mahmood, N., Khalid, M., and Kouser, S., (2009), "The Role of Agricultural Credit in the Growth of Livestock Sector: A Case Study of Faisalabad" Department of Agricultural Economics, University of Agriculture, Faisalabad, Pakistan. 29(2): 81-84.
- ADB (1998), "Rural Development for the Philippines". Retrieved from <http://www.Adb.org/Documents/News/1998/nr1998037.asp>.
- Administrative Department (2013), "Performance of Shwegyin Township", Bago Region.
- Agarwal, R.N. (1969), "Agriculture Finance" Vikas Publishing House, Pvt.Ltd. Ghaziabad U.P p.365.
- Baiyegunhi, S. & Fraser, G. (2014), "Smaller Holder Farmer's Access to Credit in the Amathole District Municipality", Eastern Cap Province, South Africa.
- Banaijee, P.K. (1977), "Indian Agricultural Economy" Chetan Publications, New Dehli p.27.
- Bell, C. (1990), "Interactions between Institutional and Informal Credit Agencies in Rural India". *The World Bank Economic Review*, 4(3), 297-327.
- Binswanger, H. & Khandker, S. (1995), "The Impact of Rural Finance on the Rural Economy of India", *Journal of Development Studies*, 32(2), 234-262.
- B. S. A., & Salim, U. (2015), "Analysis of Dominant's Factor of National Renewable Energy Strategy". *Energy Procedia*, 68, 336-344.
- Christiaensen, L., Demery, L., & Kuhl, J. (2011), "The (evolving) Role of Agriculture in Poverty Reduction- An Empirical Perspective". *Journal of Development Economics*, 96(2), 239-254.
- Country Analysis Unit (2014), *Asian Focus. "Priority Sector Lending in Asia"*, Federal Research Bank of Sanfrancisco.
- Dantwala, M.L, (1966), "Institutional Credit in Subsistence Agriculture": *International Journal of Agrarian Affairs*, vol. 5(1), December P.21.
- Ellinger, N. & Barry, J. (n.d), "A Farmer's Guide to Agricultural Credit, University of Illinois at Urbana-Champaign".
- Ferguson, Jo-Anne (2013), "Consultancy on Co-operative Systems in Myanmar". World Bank and Livelihoods and Food Security Trust Fund (LIFT).

- Kloeppinger-Todd, R. and T. M. Sandar (2013), "*Rural Finance in Myanmar*". Myanmar Strategic Agricultural Sector Diagnostic Assessment Background Paper 3. East Lansing, MI: Michigan State University; Yangon, MM; Myanmar Development Resource Institute.
- Kohansal, R., Ghorboni, M. and Mansoori, H. (2008), "Effect of Credit Accessibility of Farmers on Agricultural Investment and Investigation of Policy Option in Khorasan-Razzvi Province". *Journals of Applied Science*, 8(23), 4455-4459
- Lee, F., Bochlje, D., Nelson, G. & Murraray, G. (1980), "*Agricultural Finance* (7thed)", Ames, The Iowa State University.
- Luna-Martinez & Anontavrasilpa (2014), "*International Assessment and Restructuring Options*": *Myanma Agricultural Development Bank*, World Bank Office, Bangkok.
- Meehan, F., (2001), "Usage and Impact of Micro-Credit Provision: A Case Study Based on the Credit Operations of Dedebit Credit and Saving Institution (DECSI), Tigray Ethiopia". *A Paper Presented at the International Workshop on Dimensions of Microfinance Institutions in Sub-Saharan Africa: Relevance of International Experience* Mekelle University, Mekelle.
- Miller and Jones (2010), "*Agricultural Value Chain Finance*", Food and Agricultural Organization (FAO).
- Muhongayire (2012), "*An economic Assessment of the Factors Influencing Smallholder Farmer's access to Formal Credit*": A Case Study of Rwamagana District, Rwanda.
- Murray, W.G. (1949), "*Agricultural Finance, Principles and Practices of Farm Credit Ames Iowa*", State College Press, p.7.
- Obiero, E.O. (2013), "*Social Economic Factor Affecting Farm Yield in Siaya District, Siaya Country, Kenya*". University of Nairobi, Nairobi.
- Okurutu, N., Schoombe, E., & Servaas, V. (2004), "Credit Demand and Credit Rationing in the Informal Financial Sector in Uganda". *Africa Development and Poverty Reducation: The Macro-Micro Lineage Forum*.
- Poliquit, L.Y. (2006), "*Accessibility of Rural Credit among Small Farmers in the Philippines*". Master of Applied Science Thesis. Massey University, New Zealand.
- Ramana, Reddy (1999), "*Role of Institutional Finance in India Agriculture*", Anmol Publications, New Delhi.

- Ramree, Mark (2017), "*Agricultural Sector Development*", Myanmar.
- RBI (1954), "*AU India Rural Credit Survey Committee*", Bombay.
- Rehman & Jingdong (2017), "*Is Credit the Devil in the Agriculture: The Role of Credit in Pakistan's Agricultural Sector*", China Ccinece Publishing & Media ltd.
- Republic of Union of Myanmar (2014), "*Myanmar Population and Housing Census*", Shwegyin, Myanmar.
- Salahuddin, A. (2006), "Pertinent Issues on SME Finance in Bangladesh", *The financial Express*, 1:589.
- Sisay, Y., (2008), "*Determinants of Smallholder Farmers Access to Formal Credit: The Case of Metema Woreda, North Gondar, Ethiopia*". M.Sc. Thesis, Haramaya University.
- Singh, Wanasinghe, S., Cheriyan, C., Cabrera, G., Saranaga, Gadgil, R. & Hoynndon (1964), "*International Cooperative Alliance: Agricultural Cooperative Credit in South-East Asia*", Asia Publishing House, Bombay.
- Steel, W. and S. Charitonenko (2003), "*Rural Financial Services: Implementing the Bank's Strategy to Reach the Poor*". Washington, DC: The World Bank.
- Straton, H., (2007), "*Access to Finance through Value Chains: Lessons from Rwanda SNV*", Rwanda, shabyarimana@snnworld.org
- Wanjowa, S., Yugi, T. & Muli, M. (2017), "*Contribution of Agricultural Loans Accessibility to Performance of Small Holder Sugar Cane Farmers in Kakamegu County, Kenya*". Vol .4.
- Win Naing (2017), Annual Report: "*Myanma Agricultural Development Bank Agricultural Finance System*", Yangon, Myanmar.
- World Bank (2000), Philippines Rural Development & Natural Resource Management: "*Trends, Strategy Implementation, and Framework Performance Indicator System*". The World Bank Rural Development and Natural Resources Sector Unit.

APPENDIX

**Questionnaire for Farmers to Agricultural Credit Accessibility and
Its Effects on Farm Performance in Shwegyin Township**

Interviewer -----

Date of interview -----

Village Name -----

A . Respondent Profile

1 . Name of Respondent ----- (Gender ----- Age -----

Education ----- Occupation -----)

2 . Name of Household Head ----- (Gender ----- Age -----

Education ----- Occupation-----)

3 . Total no. of Household (----) No. of workers ----- No. of Dependent -----

4 . Job condition of the family member

No. of farmers ----- No. of government staff -----

No. of shopkeepers ----- No. of general worker -----

5(a). Farm Tenurial Status (only one described one tick)

(1) Owner (2) Share Tenant (3) Lease Holder (4) Other(please specify ---)

(b). How many years in farming? -----

B. Income Condition

1. Main source of earning for living (only describe one tick)

(1) Farming (2) Small Shop (3) Government Employee (4) Private Employee

(5) Other (please specify -----)

2. Average annual household income ----- Kyats

3. Please proportion of the farming income

Farm income ratio () Non-farm income ratio ()

(1) Crops ()

(2) Livestock ()

(3) Farm labor ()

Non-Farm

-Income from other agricultural activities

- (1) Rice/Groundnut milling ()
- (2) Rental /labor for pre/post-harvest facilities ()
- (3) Other(Please specify -----) ()

- Income from non- agricultural activities

- (1) Small business ()
- (2) Government employee ()
- (3) Private employee ()
- (4) Remittances from abroad ()
- (5) Other (please specify -----)

C. Property of ownership C. Property of ownership

1. Ownership in home

No	Item	Have you own the property? 1=yes; 2=no	Type	Quantity	Value (Market Price)
1	Living House				
2	Motorcar				
3	Motorcycle				
4	Bicycle				
5	Water Pump				
6	TV				
7	Trolley				
8	Other				

Type:House (1) Brick-noggin (2) Bamboo (3) Wooden (4)Other
(Please specify -----)

2. Ownership for Farming and Other Business

No	Item	Have you own the property? 1=Yes: 2=No	Type	Quantity	Value (market Price)
1	Farmland				
2	Cows				
3	Bullock Cark				
4	Ploughing Machine				
5	Other Agricultural Machine/ Tools				
6	Water Pump				
7	Trolley				
8	Mill				
9	Shop				
10	Others				

D.1 Farm Condition

No	Group of village name	Owned land (acre)	Cultivate land (acre)
1	Tadhuntile		
2	Taundbed		
3	Than Zeik Min Lan		

2. Yield per acre this year

No	Season	Other Crop	Cultivate acre	Yield Per acre	Total Yield (in unit)	Selling Price Per unit	Remark
1	Rainy						
2	Cold						
3	Summer						

No	Season	Type of Paddy/ crop	Cultivate acre	Yield Per acre	Total Yield (in unit)	Selling Price Per unit
1	Rainy					
2	Cold					
3	Summer					

3. Farming input used for cultivation (per acre)

No	Item	Unit used per acre	Quantity	Price per unit	Remark
1	Seed				
2	Pesticides				
3	Natural Fertilizer				
4	Chemical Fertilizer				
5	Others				

4. Number of labor working in the farm (per acre)

No	Types of farm work	No. of farm workers	Number of Days	Wages Per Day	Remark
1	Ploughing				
2	Putting seed				
3	Taking plant				
4	Growing plant				
5	Harvesting				

E. Farmer's connect with Bank

1. Do you have saving account in MADB? (Yes=1, No=0) -----

2. Period of content with MADB (Year/Month) -----

For Loan Borrowing Farmers

F.I Loan Condition

1. Where do you borrow from loan?

(a) MADB (b) Cooperative (c) Microfinance (c) friend and relative (c) other (---)

2. Where do you know loan information?

(a) Village administer (b) Bank staff (c) friend and relative (d) other (-----)

II. Source of Loan from MADB

If you borrowed or yes,

(1). Frequency of borrowing -----

(2). Amount loan -----(Kyat)

(3). Extent of sufficiency (%) -----

(4). Type of loan (short/long) -----

(5). Interest rate -----

(6). Do you give collateral? (Yes=1, No=2) -----

(7). Type of collateral -----

(8). Tenure of loan (Year/Month) -----

(9). Repayment (Installment/lump sum) -----

(10). Period of loan received

(1)Before farming (2) Farming the period (3) After farming

(11). Main use of loan

For agriculture percent () For machinery percent ()

No	Item	Rank
1	Seed	
2	Pesticides	
3	Fertilizers	
4	Labor	
5	Farm Machinery	
6	Water-pump machine	
7	Other	

G. Submission for Loan Application of MADB

- (1). Do you take that borrow of loan is difficult? (Yes=1, No=2) -----
- (2). Waiting time to get loan (day/ month) -----
- (3). Do you get timing of loan? (Yes=1, No=0) -----
- (4). Distance of MADB (Km/mile) -----
- (5). Travelling period -----
- (6). Cost of travelling to MADB -----

H. Loan from other Sources

- (1). Do you borrow loan other financial institution? (Yes=1, No=0) -----
- (2). Frequency of borrowing -----
- (3). Amount loan -----(Kyat)
- (4). Extent of sufficiency (%) -----
- (5). Type of loan -----
- (6). Interest rate -----
- (7). Do you give collateral? (Yes=1, No=2) -----
- (8). Type of collateral -----
- (9). Tenure of loan (Year/Month) -----
- (10). Repayment (Installment/lump sum) -----

For Non-borrowing Farmers

F (1). Did you applied for credit from bank? (Yes=1, No=0) -----

(2). If yes, what the reasons that your applications was not successful?

- a. Had no collateral ()
- b. Had difficulty in providing required document ()
- c. Incurred previous loan ()
- d. Others (-----) ()

(3). If no, why -----

- a. Had enough saving/ earning from other sources ()
- b. Interest rates were not affordable ()
- c. Insufficiency Document Required ()
- d. Uncertainty about repaying the loan ()
- e. Uncertainty about repaying the loan ()
- f. Difficulty to get loan ()
- g. Have enough money ()
- h. Missing deadline ()
- i. Other (please specify -----) ()

(4). Are there lending organizations in this area other than the one you got the credit from?

(Yes=1, No=0) -----

(5). If yes, what are these? -----