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EFFECT OF CREDIT ACCESSIBILITY ON FARM PERFORMANCE IN KAN GYI TAUNG TOWNSHIP, AYEYARWADY DIVISION

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ABSTRACT

This study aims to examine the credit accessibility and agricultural loan on farm performance in Kan Gyi Taung Township based on primary and secondary data. The sample size of 150 farmers was randomly selected and surveyed using structured questionnaires. Descriptive analysis and multiple regression method are used. According to the survey, the household size of the respondent is from two to seven members. Their farming experience is from 15 to 35 years and their main source of earning is farming. Their living standard is above average level with the ownership of home, motorcycle, and almost they owned farm land and cows. They owned cultivated land of acres fifteen at maximum. Average paddy yield per acre is round about 80 bushels. They borrowed loan from MADB bank and some from other financial organizations. However, most of farmers received loan just after farming period. More than half of farmers covered about fifty percent loan sufficient rate. According to multiple regression analysis, Frequency of borrowing, loan coverage percent and period of loan received ,Amount of credit are significantly related with paddy yield per acre. The study showed that the effect of loan performance of agriculture profit and productivity. Therefore, agricultural credit should be provided to farmers sufficiently and timely manner.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I
INTRODUCTION

Micro and small enterprise (MSEs) have become the focus of attention for the economic development, economic growth and job creation in the world. The importance of Micro and Small Enterprises in the economics has been recognized by many players such as World Bank, UN, governments, non-governmental organizations and private entities.

Agriculture in Myanmar is a major source of income; over 60% of the population survives by farming and livestock rearing. In a bid to develop the agricultural sector, farmers have been encouraged to work together in small groups-agricultural sectors. The Ministry of agriculture has implemented various programs such as training in storage techniques and encouraging Micro Finance Institutions (MFIs) to extend credit in the sector.

Agriculture accounts for 30% of Myanmar's GDP and 61.2% of the population works in the agricultural sector (Myanmar Ministry of Agriculture and Irrigation, 2016). Furthermore, approximately 70% of the population resides in rural areas where agriculture is the primary source of jobs. One part of these development activities is an agricultural financing scheme at the Ministry of Agriculture and Irrigation (MOAI) to assist farmers.

However, there is a shortage of funds at Myanmar Agricultural Development Bank (MADB), a unit of MOAI that extends loan to farmers. There are also issues involving capabilities needed for the loan approval process. For these reasons, there is a need to provide small loan services on a medium to long-term basis to end-users by extending two-step loans for agriculture and rural development. In addition, end users/ sub-borrowers must be given the agricultural management skills needed to enable them to repay these agricultural loans. There is also a need for participating financial institutions to devise a framework that creates an environment in which non-performing loans will not be a serious problem.

Credit terms are the minimum conditions set by lending institutions to which borrowers must adhere in order to qualify for loan. Enforcing credit terms involve the screening of customers so that only those who are credit-worthy are allowed to do business.

Credit accessibility refers to the ease or difficulty of acquiring credit by borrowers for purposes such as to enhance business performance. In order to ensure continuity and realized successes, SMEs need to acquire the necessary financial resources/ credit to allow them to invest now so that they will obtain income in the future. Acquisition of such credit is difficult for the SMEs because of high rates of interest on lending, and this has constrained private sector demand for the credit and limited their progress. The accessibility of credit is still fairly constrained, and particularly access to formal credit for small and medium farmers. Therefore, there is a need to understand factors that affect agricultural performance and the measures that can be adopted to overcome them.

Participating financial institutions (PFIs) will be performed that includes determining how much expertise these institutions currently have for the creation of this framework. Extending loans to farmers does not use the same logic as loans for small and medium-sized enterprises (SME). Agricultural loans are likely to involve almost entirely borrower-side risks. Examples are risks associated with weather and other forces of nature. This creates the problem of what type of institutions would guarantee the repayment of loans.

Ayeyarwady Region covers mainly the fertile, low-lying and densely-populated areas also known as the Irrawaddy Delta, one of Myanmar's main river systems that the Region takes its name from. The river and its delta occupy a position of central importance in the history, economy and the daily life of the Region. Rice cultivation and fishing dominate economic activity in still largely rural communities. Meanwhile, the development of industry, infrastructure and service sectors such as tourism still lag behind the Yangon-Mandalay central axis areas of Myanmar and give much of the region on air of remoteness and underdevelopment.

Currently, in principle, regulations allow banks in Myanmar to extend loans only when these are secured by real estate. Loan applications are rarely examined based on a business plan. As as result, companies with no land and companies that have submitted all their land as collateral are unable to obtain loans or additional loans. Although there are 26 townships of Ayeyarwady Division in different parts of Myanmar, Kan Gyi Taung Township is studied.

1.1 Rationale of the Study

The Myanmar government has made several attempts to promote rural development in an effort to increase the living standard of the people who reside in rural areas These projects have failed for several reasons, including the high cost of living for farmers, and the lack of coordination between government agencies More farmers in the rural areas do have problems in dealing with the rural banks or the credit unions Some of these problems include preparing viable business proposals and collateral securities that the banks do demand Meanwhile, majority of the farmers are not well educated in order to plan or write their own business proposals In addition, it becomes very difficult for farmers to secure loans because of the collateral securities demanded by the banks

Some of the banks even look at the scale of the farm before granting loans The most alarming problem that the farmers do face is the high interest rates or bank changes It is very difficult these days for the farmers to borrow money from the rural banks because of the high interest rates More of the farmers do even end up by selling their lands or assets in order to pay the loans they have borrowed This has therefore increased the bank changes According to him, the problem of high interest rates is an impediment on the economy since it forces more businesses to close down This research therefore looked at the impact of these credit unions or rural banks on farmers in the rural areas

1.2 Objectives of the Study

The specific objectives of the study are as follows:
1. To identify the credit accessibility of agriculture in Kan Gyi Taung Township.
2. To analyze effect of credit accessibility on farm performance of agriculture.

1.3 Scope and Method of the Study

Although there are 26 townships of Ayeyarwady Division in different parts of Myanmar, Kan Gyi Taung Township is studied. A Likert Scale questionnaire was used to measure on credit accessibility and the effectiveness of loan on farm's performance (Case Study in Kan Gyi Taung Township, Ayeyarwady Division). Primary data was collected by using well structured questionnaires. Secondary data

was collected from related textbooks, published reports, relevant websites etc. This study used both primary and secondary data.

The researcher did encounter the following limitations. The study covered Kan Gyi Taung Township (Ayeyarwady Division) and therefore a nationwide study covering the variables presented in this study is required. Despite these limitations, the researcher believes that the findings of this study will be useful in filling the knowledge gap that it set out to fill.

There is a need for further research on the external factors that have an impact on credit access by the agricultural factors such as entrepreneurial competence, managerial competence and financial performance. With lower correlation and predictive effect, credit terms components vary from country to country overtime. Future longitudinal studies should examine trends in credit terms and the financial performance of agriculture.

This thesis paper took reference on relationship between credit accessibility and effectiveness of loan farm's performance of agriculture and some previous research papers Master graduate. In previous research papers, they studied on credit accessibility and the effectiveness of loan on farm's performance (Case Study in Kan Gyi taung Township, Ayeyarwady Division). Therefore, Kan Gyi Taung Township, Ayeyarwady Division is chosen credit accessibility and the effectiveness of loan on farm's performance as as study.

1.4   Organization of the Study

This paper is organized by five chapters. Chapter One contains introduction, rationale of the study, objectives, scope and method of the study and organization of the study. Chapter two includes theoretical background of Credit Accessibility and the effectiveness of loan. Chapter three describes the profile of Kan Gyi Taung Township, Ayeyarwady Division. Chapter four includes analysis on Credit Accessibility and the effectiveness of loan on firm's performance (Case study in Kan Gyi Taung Township, Ayeyarwady Division). Finally, Chapter five is conclusion for showing findings, recommendations and suggestions and the need for further research.

CHAPTER II
THEORETICAL BACKGROUND

This chapter to make literature review regarding of the agriculture financing activities, the concept and theoretical perspective of farm, credit accessibility and performance of agriculture.

2.1   The Role for Agriculture Finance

Agriculture finance refers to public or private funds in the form of equity, gift or loan for improving social welfare through expansion of agricultural sector (Shreiner and Yaron, 2001). It encompasses not only government funds but also funds of non-governmental organizations that use matching grants to attempt to encourage community and sector development, income equal opportunity and local empowerment. Public funds are subsidized funds and private funds regardless of their price are not subsidized unless a contribution is tax free or the market price is affected by an explicit or implicit state guarantee of the liabilities of a development finance institution (Shreniner and Yaron, 2001).

2.1.1   Need for Credit

The Concise Mc Graw-Hill Dictionary of Modern Economics defines credit as an exchange of goods and services for a promise of the future repayment. It is also indicates that credit is necessary in a dynamic economy because of the time that elapses between the production of a good and its ultimate sale and consumption and credit bridges this gap. The risk in extending credit is the probability that future payment by the borrower will not be made (Greenwal & Associates, 1983).

Credit is the key input in every development program; this is particularly true for rural development because so long as sufficient credit is not provided to the development programs of poor sections of the society, the goal of development cannot be achieved. Access to capital in the form of either accumulated savings or a capital market is necessary in financing the adoption of many new agricultural technologies (Feder et al., 1985).

The importance of credit facilities to smallholders of less developed countries has been underlined by several authors (Adams and Graham, 1981; FAO, 1996;

Gonzalez-Vega, 1977; Pischke, 1980). Governments of less developed countries and aid agencies have extended a large amount of money in the form of agricultural loans. The motivation has been the belief that loans are an essential part of various input packages that are prescribed as part of agricultural investment projects designed to introduce modern technologies and thus stimulate change and growth in agriculture.

Generally, credit removes a financial constraint and helps accelerate the adoption of new technologies, increase productivity and improves national and personal incomes. In addition, it constitutes an integral part of the process of commercialization of the rural economy and a convenient means of redressing rural poverty (MOA, 1995).

2.1.2 Agricultural Credit in Developing Countries

Fertilizer consumption in developing countries is closely linked with access to input credit. 70-90% of the annual fertilizer sales in these countries is on credit bases as compared to less than 30% in the developed nations (K.Wierer & J.C.Abbott, FAO, 1995). Among other measures, unless otherwise input credit is made available for farmers, the low level of fertilizer consumption will not be improved us required.

In developing countries, there are a number of credit resources. Government banks, credit and saving institutions, fertilizer retailers etc are among the major ones. Though, public banks are the main sources of credit in many of the developing countries, unfortunately, in the greater number of cases, small farmers do not have easy access direct to bank credit as they lack land titles or other acceptable collateral. In the eye of banks, loans to small holders are too risky and costly to supervise (Zemen, 2005).

2.2 Source of Farmer

The expression "smallholders" is generally understood as smallholder farmers who cannot claim or solely manage the land they farm. There are various attributes of smallholders, regardless of whether they control the land they cultivate or the products they harvest; they harvest generally little produce on moderately little pieces of land. They can grow commodities for export as their main source of income or as portion of an investment of subsistence income generating activities. They are for the most part less all well equipped than commercial farmers. They are typically thought

to be a piece of the informal economy. They may rely on family labor, however may employ additional workers (ETI, 2005).

2.3   Credit Accessibility

The access to finance by SMEs is a subject of significant research to academics and policy makers and issue of great importance to policy makers for both developing and developed economies for many years. One of the factors is that there is some empirical evidence that the expansion of access may reduce prevailing poverty in developing countries (World Bank, 2008). Access to credit represents one of the most significant challenges for entrepreneurs and for the creation, survival and growth of small businesses. Financial access help SMEs start up and expand their businesses through development of new products and production processes and investment in human capital. A variety of financial services are crucial for growth in the SME. Ensuring that SMEs have adequate access to financial resources is a key talent of successful development strategies.

Most low income countries' economies are agriculturally based and thus credit is as a major component of agricultural and rural development programmes and also considered as an important instrument in helping small farmers and micro-entrepreneurs increase their income. Advocates of credit as a poverty alleviation measure (Howse 1978, Adam et. Al., 1984, Boomgard 1989, & Mutua 1996) contend that limited availability of credit services has undermined rural micro-enterprise activities due to lack of capital for investment and has prevented farmers to adopt improved farming practices because of their inability to purchase the necessary inputs required in the production.

Gilla and Lassalle (1994) show that rapid development reached in Europe and Asia was highly facilitated by the availability of credit to the majority. However, Guli and Berger (1999) point out that access to credit is important for micro-enterprise development but not necessarily the main constraint. This view is shared by Von Pischke (1992) who observed that lack of funds is not the most important problem of small farmers and micro-entrepreneurs noting that product prices, poor education system and training, low output, land tenure, modern input costs and availability and risk turn out to be more important factors limiting small farmers and micro-enterprise development.

Furthermore, SMEs have access to well-designed credit services can avail themselves of capital to finance the inputs, labor and equipment they need to generate income; can afford to invest in riskier but more profitable enterprises ans=d asser portfolios, can reach markets more effectively and can adopt more efficient strategies to stabilize their food consumption (Zeller et al., 1997).

2.4   Credit Access for Agricultural Productivity

According to Auma and Mensah (2014), local credit is considered a viable source of poverty reduction as well as development in rural areas. Agricultural credit is used to provide farmers in developing countries the resources they need in cases where their income is not sufficient. Most often, credit determines access to most of the resources on which smallholder farmers depend for agricultural production because of lack of adequate capital to access these resources (Ololade and Olagunju, 2013).

The provision of credit is an important aspect of local development because it helps to achieve sustainable growth of agriculture. Local credit acts as a catalyst for agricultural production as it covers for deficit in individual savings. Local credit enables farmers to afford expensive agricultural technologies which boost agricultural production. The financing of agricultural activities requires liquid cash which in most cases small-scale farmers lack. As a result, the expansion of local credit amounts is efficient in increasing agricultural productivity (Briquette, 1999).

Farmers may demand credit if there are adequate financial institutions. Improved technology, enabling policies on land security, access to markets and extension services also create incentives for farmers to demand credit in order to increase farm productivity. Taking into consideration the fact that farming households are resource poor in the study area, limited access to credits is assumed to cause vulnerability to various stuns, for example, plant or livestock infection, absence of reception of new farming innovations and food insecurity. Then again, it is assumed that farming households who are able to access credit have the potential to adopt new and improved technology, hire labor, increase farm productivity and reduce food insecurity and poverty.

2.5   Relationship between Credit Accessibility and Performance of Agriculture

The growth of a farm is dependent on its productivity and the farmers' effectiveness in the use of the inputs to operate it (Bolo, 1996). For small and medium scale farmers to improve their performance, they have to improve their productivity by employing techniques such as the use of fertilizers, spraying their crops against pests and diseases, training labor, quality seeds and machinery (Klaus, 1994). Small and medium scale farmers have limited capital to afford such techniques and limited access to credit, putting the agricultural sector in a vulnerable situation.

Yet studies show that improvement in rural credit encourages improved resource allocation. Loans also follow farmers to make better allowance for risks associated with nature of the agricultural production such seasonality issues. They are also enabled to afford larger investments (Stevens et al, 2001). In addition, access to credit is an important instrument for improving the welfare of the poor directly (consumption smoothing that reduces their vulnerability to short term income shocks) and for enhancing the productive capacity through financing investments (Binswanger and Khandker, 1995).

Availability of finance determines the capacity of an enterprise in a number of ways, especially in choice of technology, access to markets and access to essential resources which in turn greatly influence the viability and success of a business (Wole, 2009). Wole further states that securing capital for business start-up or business operation is one of the major obstacles every entrepreneur faces particularly those in the SME sector. Within the SME sectors lack of access to credit is one of the major factors accountable for hindering the emergence and growth of their businesses.

The ability of SMEs to grow depends highly on their potential to invest in restructuring and innovation. All these investments require capital and therefore access to finance. Against this background, the consistently repeated conception of SMEs about their problems regarding access to credit is a priority area of concern, which if not properly addressed, can endanger the survival and growth of SMEs sector. According to Evans and Carter (2000) and Whincop (2001), large firms benefit from established capital markets where small firms cannot raise funds. Owing to lack of well-developed finance information systems, the financial sector is the main source of SMEs external funds.

2.6   Previous Studies

Interest in access to credit has led to a number of impact studies published in scholarly journals. The impact of credit access can be economic, social-cultural or personal. For the purpose of this study, emphasis will be laid on the impact of credit access on the SMEs. A number of studies have been carried out to ascertain the impact of credit access on SMEs. Some of the variables that have been investigated are indicators of change on the enterprise such as increased production, level of sales, net profit, fixed assets and working capital. Some of the studies are discussed below.

From a study carried out in India Banerjee and Duflo (2004) studied financial performance of small and medium sized firms both before and after they accessed loan. The study concluded that these firms began to expand their sales proportionately to the additional loan sources which suggest that these firms must have previously been credit constrained.

Bolnick and Nelson (1990) conducted a study in Indonesia to evaluate the impact of credit programs on small enterprises. They found that those who participated in programs their production level increased as well as sales. Copestake et al. (2001) found that those borrowers who were able to obtain two loans experienced high growth in profits and household income compared to a control sample but borrowers who never qualified for the second loan were actually worse off.

Dunn (2001) conducted a study on the impact of micro credit or micro-enterprises in Peru. She found that program client enterprises performed better than non client enterprises in terms of profit, fixed assets and employment. In Bangladesh Khandker et al. (1998) found that program participation has positive impact on household income, production and employment particularly in rural non-farm sector and that the growth in self employment was achieved at the expense of wage employment which implies an increase in rural wages.

Zeller et al. (2001) presents evidence that credit access has a significant and strong effect on income generation and food and calorie consumption. In the Philippines Mahabub and Catila (1997) compared older borrowers of card microfinance with newer borrowers. They found that productive capital as well as ability to finance expansion from borrowers own funds increased with the number of loans taken from CARD microfinance. Income from older borrowers micro enterprises was 3.5 times higher than for newer borrowers enterprises. Older borrowers also increased income from other sources.

2.7   Conceptual Framework of the Study

This framework represents a model of credit accessibility and performance of agriculture. The model describes credit accessibility as the independent variable, and the performance of agriculture as the dependent variable.

Figure 2.1 Conceptual Framework of the Study

Credit Accessibility		Performance of Agriculture
• Frequency of borrowing • Loan Coverage% • Period of loan received • Amount of credit	→	• Farm Income • Yield Per Acre
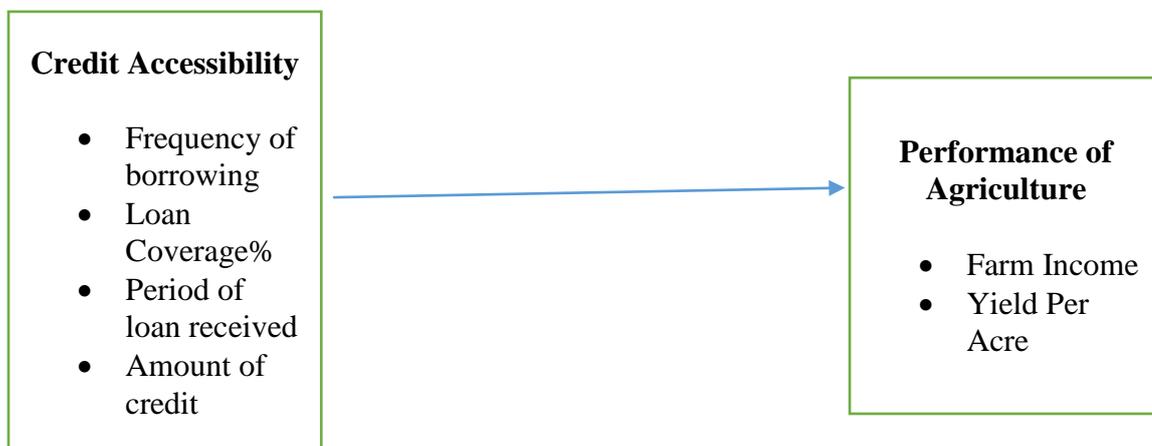
Source: Own Compilation, 2018

It is posted that influence credit accessibility, and access to credit improves the performance of agriculture, all other factors remaining constant. Credit accessibility was measure of the frequency of borrowing, amount of loan coverage percentage, period of loan received amount of credit. In this framework, performance of agriculture was measured of profitability and productivity.

CHAPTER III

BACKGROUND STUDY ON AGRICULTURE FINANCE IN MYANMAR

In this chapter there is overview agriculture sector, financial sector in Myanmar and background study of Kan Gyi Taung Township and an account of how the research was conducted. The research method is described, followed by a description of the research location. The sampling procedure and the choice of samples are discussed as also are the processes used for data collection and data analysis is.

3.1   Overview on Agriculture Sector in Myanmar

Agriculture is the dominant sector of Myanmar economy. It employs 65% of the labor force, accounts for 76% of total commodity production and contributes about 50% of GDP. In addition, about 40% of exports consist of agricultural goods.

Though fairly richly endowed with agricultural resources, Myanmar economy exhibited, in the last three decades, only a slow and sluggish performance in its agricultural sector. Myanmar still possesses unexploited land and water resources and enjoys favorable climatic conditions for both tropical and subtropical agriculture, located close to the zones of large potential market. Myanmar agriculture obviously suffered from the excessive government controls and also from the underdevelopment of its market system. Its technological basis is weak and almost underdeveloped. It is felt that developing the agriculture to its fullest potential should be the main task of Myanmar development at this juncture.

The agricultural sector of Myanmar has lagged behind that most other countries of the region and has fallen far short of its potential. The most glaring result of 2 million tons in 1962 to a fraction of that 35,000 tons in 1995. In that same year,

Thailand exported 5 million tons of good quality rice. Myanmar's export of rice has been relegated to a minor position only 23% of the total agriculture export, replaced by beans and pulses as the sole major export product, whereas Thailand in 1995 has diversified well into fruits, feeds, vegetables, sugar, each constituting a major part of agriculture exports.

The fact that productivity is low in the dominant sector has been a constraint on the economy as a whole. On the other hand, the low level of the national economy means that people spend a high proportion of their incomes on food, and hence a high proportion of the labor force has to work in the agricultural sector. Among other proximate causes of the shortfall of agricultural development, three factors are particularly important. The first factor is the pressure of population on the land; and second the low level of technology and support services; and finally the very extensive intervention of the market in the whole agriculture sector.

Myanmar's current agricultural performance offers opportunities for successful agricultural development. Average yield and labor productivity is still one of the lowest in Asia but at the same time labor costs are low. Rapid gains can be made by better inputs, better seeds and improvement of logistical and marketing arrangements. It is paramount that improvement of agri-finance is urgently needed to capitalize this emerging demand.

3.2   Financial Instituation in Myanmar

The Myanmar government aims to develop horticulture, among other agricultural sectors, by improving access to credit. Farmers can access finance from various finance providers, such as banks, credit associations, private money lenders, relatives, micro finance institutions (MFI), traders. This section discusses in detail the requirements to obtain finance, which are set by the different finance provider types in Myanmar.

3.2.1   Bank of Finance

Farmers can access finance from banks by applying for commercial credit. The loan duration depends on the policy of the bank, the type of commercial credit and the amount of credit applied for. For instance, farmers may apply for working capital credit for a duration of 12 or 36 months, dependent on the amount of credit needed. A farmer can apply for commercial credit by completing a credit application

form and providing supporting documents. The supporting documents are required to provide identity and provide evidence of collateral. Examples of supporting documents include such as photocopies of the identity cards of the applicant and his/her partner in case of marriage and photocopies of land certificates, salary slips, deposits or a certificate of vehicle ownership. Banks then analyze the credit application by interviewing the applicant or conducting a farm visit.

Farmers can also apply for a subsided credit programmed, offered by banks collaborating with the Indonesian Government. An example is the programme of micro credit loans. Looking forward, Myanmar's agricultural potential is enormous given the country's rich natural resources and favorable geographical location. Among the government institutions supporting the agriculture sector, the Myanmar Agriculture Development Bank (MADB) plays an important role. MADB is currently the largest financial institution serving the rural areas and financing agriculture activities. At the end of 2012, MADB served 1.87 million customers, mostly farmers and had a network of 206 branches. Since its creation, MADB has played an important economic and social role by providing loans to a large segment of low-income households engaged in agricultural activities. Loans are the main financial product offered by MADB to its clients. MADB offers two types of loans to its customers nationwide: the seasonal crop production loan (designed to cover the working capital needs of smallholder farmers at the beginning of agriculture season) and the term loan (short term loan, farm machinery loan and special project loan). Most trade loans are collateralized.

3.2.2 Micro Finance Institutions (MFI)

MFI plays an important role in the provision of credit to farmers in Indonesia. To obtain credit from MFI, farmers are required to register as a member of the MFI. Following membership, a farmer is allowed to submit a credit application. The financing from MFI benefits small farmers who cannot obtain credit from banks.

Microfinance is widely seen as a key development tool to promote financial inclusion and alleviate poverty in Myanmar. A recent survey of 4000 households conducted by LIFT found that only 16 percent of households used formal financial services. According to the survey, the most common sources of loans were family, friends, and moneylenders. This recent survey supports earlier claims that a large section of the population relies on informal lenders to meet its cash flow needs. Most

notably, while the agricultural sector represents 43 percent of GDP and employs 54 percent of population, only 2.5 percent of all outstanding loans are made to this sector. Even a small working capital loan of $100 can be enough to launch a small business in a developing country that could help the benefactor pull themselves and their family out of poverty. Micro financing can help create new employment opportunities, which has a beneficial impact on the local economy.

3.2.3   Farmers' Associations

Farmers' associations generally exploit many activities, including selling the products of their members. Farmers' associations have access to finance, especially through government programmes. Farmers' associations channel government aids to farmers who are members of the farmers' associations. The government provides the associations with cash aids, seed and fertilizer aids, farm equipment and subsidies to purchase seed and fertilizer. Cash aids are provided through the rural agribusiness development programme. This programme targets farmers' associations to motivate farmers to increase productions.

For upgrading the Social Economic life of the farmers, Myanmar Farmers Association under the direction of Myanmar Rice Federation will deduce the farmers' unity in supporting and performing the all-round sectors. Myanmar Farmer Association seriously believe that the farmers are the important primary class people of the state. As the increase development in Socio Economic Sectors of the farmers has been found related with the increase production of farm, meat, fish and also related with independently marketing and gaining appropriate values, the Myanmar Farmers Association will all round support the increase production of the farmers agriculture production, independently marketing, servicing the appropriate values and transforming to the modern agriculture technology sector.

3.2.4   Financial Sector Overview in Myanmar

The financial sector in Myanmar has been growing since the introduction of financial sector reforms in 2008. Banking assets as a percentage of GDP have increased from 8% in 2008 to 21% in 2012 and operational costs ratios have decreased from 52% to 41% over the same time (CBM, 2012). However, the growth

has been off a small base and does not yet translate into widely available regulated financial services. Myanmar still lags behind its Southeast Asia neighbors. The financial sector landscape includes providers that can be broadly categorized into regulated and unregulated institutions.

Regulated financial services providers are registered legal entities that are regulated for the provision of financial services. Regulated financial services providers include banks, Microfinance Institutions (MFIs), state-regulated pawnshops. Banks in Myanmar include local and foreign owned private banks, purely state-owned banks, banks considered as semi-private as they are co-owned by the government and banks with government representation on their boards. There are four types of MFIs operating in Myanmar and include International Non-Governmental Organizations (INGOs) and domestic Non-Governmental Organization (NGOs) that are donor funded and dictated to by donor interests, local for-profit MFIs, foreign-owned MFIs. Regulated pawnshops are divided into two categories, Myanmar Small Loans Enterprise's network of pawnshops and other pawnshops that are licensed by local government across Myanmar.

Unregulated financial service providers are not registered with any public authority and are not subject to any institutional, prudential or market conduct supervision in their provision of financial services. Even though legislation or regulation may exist that govern their provision of financial services, unregulated providers are not registered under such regulation. Unregulated financial service providers include agricultural input providers, unregulated money-lenders, community-based assistance groups, and unregulated pawnshops.

3.3   Background Study of Kan Gyi Taung Township

Kan Gyi Taung Township is located in eastern part of Pathein District, Irrawaddy Division, Myanmar.

Figure 3.1 Map of Kan Gyi Taung Township
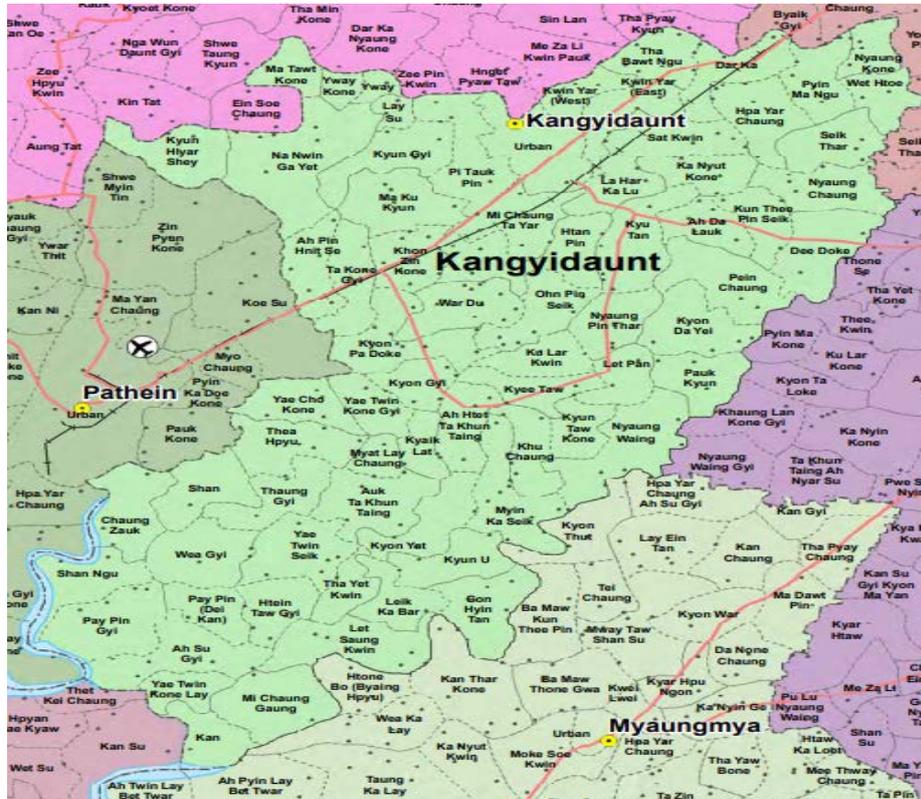
The township is located at about 27 feet above sea-level. It was formally called as "Kan Gyi" by the water lake located in the area of township. The area of the township is 19 miles from east to west and 28 miles from south to north. There are Kyaung Kone Township, Einme Township and Myaung Mya Township at the east side of Kan Gyi Daunt Township, Nga Pu Taw Towship at the southern part and Thar Paung Towship at the northern side. The township has a population of 176,114 according the official records of 2017. The majority of the population are Bamar and Karen ethnicity and the minority are Rakhine ethnicity.

3.4 Economic Background

Kan Gyi Taung has a Tropical Monsoon climate. Highest temperature is 32°C and the lowest temperature is 13°C. The weather of Kan Gyi Taung Township experiences a rainy season from June through August and the dry season is from December through April.

Table 3.1   Climate of Kan Gyi Taung Township

Climate Data for Kan Gyi Taung Township (2011-2017)			
No.	**Year**	**Rainfall**	**Temperature**

		Total raining days	Total rainfall (inches)	Summer (°C)	Winter (°C)
				Highest	**Lowest**
1.	2011	126	88	32	13
2.	2012	108	110	32	13
3.	2013	124	86	32	13
4.	2014	115	99	32	13
5.	2015	116	92	34	13
6.	2016	123	110	39	15
7.	2017	98	70	39	15

Source: Administrative Division, Kan Gyi Taung Township, Pathein District, Ayyewarwaddy

3.5 Economy in Kan Gyi Taung Township

Kan Gyi Taung Township is one of the economic developing regions in Ayeyarwaddy Division.

Table 3.2 Usage of Agricultural Land in Kan Gyi Taung Township

No.	Type of Land	Area (Acre)
1.	Total Agricultural Land	156,071
	- Paddy Fields	141,560
	-Garden	13,059
	-Rain forest	1,435
2.	Feedlots	19,571
3.	Industrial	259
4.	Urban Development	942
5.	Villages	2,575
6.	Others	15,728
7.	Wasted Land	39,075

	Total	195,147

The main business of local people is agriculture, mainly rice production. As Kan Gyi Taung is located in central place for transportation paths, local people also do business concerning transportation services.

Since Agricultural is the main business for people in Kan Gyi Taung Township, locals grow rice and export to other states and divisions in Myanmar. Local people also grow other agriculture plants such as Peanut, Sesame, Sunflower, Peas, Beans, and Green Peas. The following tables include the data of agricultural plantation in Kan Gyi Taung Township. There are also some long-planning agriculture plants like rubber, pepper, palm, coconut, banana, mango, lime, pineapple and betel.

3.6 Sample Size and Sampling Technique

Due to sparsely distributed population, time constraint and resource constraints, a combination of convenient and judgmental sampling procedure has been used to select 120 farmers out of all the farmers who used the credit facility for agricultural production and 30 farmers out of the farmers who did not use credit facility. The farmers who did not use credit facility were selected from the vicinity of the farmers using agricultural credit facility and having similar socioeconomics characteristics (income level, amount of wealth, access to education and health facilities, farming practices) as the credit users.

3.6.1 Data Collection Instruments

A structured questionnaire was used as the major instrument for data collection. The questionnaires were filled up by the researcher for recording the responses of the farmers. Besides this, interview technique was also used to extract detailed information wherever needed for open end questions. The purpose is to ensure the data are in the standard of quality. Ayeyarwady Region is a region of Myanmar, occupying the delta region of the Ayeyarwady River. The Ayeyarwady division is Pathein. Pathein district is a district of Ayeyarwady Division, Myanmar. Pathein District contains nine cities such as Pathein, Kan Gyi Taung Township, Thabaung, Yekyi, Ngathain Chaung and Kyaungoon. In Kan Gyi Taung (13), Shan Village (10), Kyo Kalet Sakhan Chote (10), Kan Village (6),Ta Kone Gyi (6), Myin

Ka Seik (6), and Khaunt Island (8). Among them, the survey are collected only five villages such as Bel Gayet, Shan Village, Kyo Kalet, Ta Kone Gyi and Myin Ka Seik.

The key informants' interviews were conducted to obtain the necessary data on the availability of credit services in the research area and the processes involved in obtaining credit. The key informant interviews were used to validate the results obtained from the farmers' interviews. To address the objectives of the key informant interviews, a guideline was prepared prior to the interviews. The interviews were conducted in the local dialect.

3.6.2 Data Analysis

150 sets of questionnaire distributed are returned from the farmers and the data is processed via SPSS. The processes include checking, editing, coding and transcribing. Initially, the researchers check and review each questionnaire to verify its completeness and incomplete questionnaire will be discarded. After receiving the raw data, the next step step was to input the data in software to get the frequencies, the software used for input the data is SPSS. Frequencies and percentages are used to analyze the socioeconomics and demographic characteristics of the sample farmers. The quantitative research method especially frequency distribution, percentage distribution, measure of central tendency, measure of variability and regression analysis are used in this study.

The socio-economics data from the questionnaires were tabulated and categorized. Responses to the questions on the socio-economic characteristics of farmers were first categorized. The following variables such as gender, age, education level, household size, number of farmers, duration of farming, annual household income, main source of earning were tabulated. The frequencies and corresponding percentages for the different socio-economic characteristics were described and compared.

The responses to the questions regarding access to credit were categorized. Similar responses were classified, grouped and connected to other responses. Responses from the key informant interviews were described and connected to the responses of the farmer respondents in the analysis. The secondary data cover the profile of the study area such as the geographical characteristics, availability of rural financial institutions and rural credit programmes and the credit status of the small farmers in the research area.

CHAPTER IV
ANALYSIS OF AGRICULTURAL EFFECT OF CRDIT ACCESSIBILTY ON FARM PERFORMANCE

This chapter presents agricultural credit accessibility of farmer and the effect on farm performance in Kan Gyi Taung Township, Ayeyarwady Divistion. This analysis is based on empirical data collected from Kan Gyi Taung Township, Ayeyarwady Division. There are four main parts in this chapter. They are resarch design, background characteristics of respondents, credit accessibility of farmers and farm performance.

4.1 Research Design

This study is conducted with the objective of examining and analyzing the determinants of performance of agricultural loan in Kan Gyi Taung Township and making critical assessment of the relative importance of the factors in determining

performance of agricultural loan. Although there are 26 township of Ayeyarwady Division in different parts of Myanmar, Kan Gyi Taung Townhsip are studies. 120 farmer who are getting agricultural loan (borrower) and 30 farmers who are not getting agriculture loan (non-borrower) are collected as size of sample for this study. After the identifying the required sample size, two methods of data collection are in general used to collect data, primary and secondary method. In this section, the primary data are collected by interview, questionnaire method. 150 sets of questionnaire distributed are returned from the sampled farmer and the data is processed via SPSS version.

The purpose is to ensure the data are in the standard of quality. The process includes checking, editing, coding and transcribing. Initially, the researchers check and review each questionnaire to verify its completeness and incomplete questionnaire will be discarded. The total of the response rate was 100 percent. After receiving the raw data the next step was to input the data in software to get the frequencies, the software used for input the data is SPSS version 22. It took 12 hours to input the data. The quantitative research method especially frequency distribution, percentage distribution, measure of central tendency, measure of variability and regression analysis are used in this study.

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).

Table (4.2)   Demographic Characteristics of Respondents

Characteristics	Borrowers		Non-borrowers	
	Number	Percent	Number	Percent

Gender				
Male	85	71	21	70
Female	35	29	9	30
Age (Year)				
35-44	32	27	10	34
45-54	58	48	16	53
55-64	30	25	4	13
Education Level				
Primary	40	33	6	20
Middle	66	55	21	70
High	14	12	3	10
Household Size				
2-4	64	53	28	93
5-7	56	47	2	7
Number of Farmer				
1	30	25	20	67
2	55	46	10	33
3	16	13	-	-
4	19	16	-	-
Duration of Farming (Year)				
<10	9	8	12	40
11-20	52	43	11	37
21-30	35	29	7	23
31-40	24	20	-	-

Source: Survey Data (2018)

According to Table (4.2), gender ratio of loan borrowers is 71:29- and non-borrowers are 70:30. The age distribution of most borrowing farmers is from 45 to54 years as nearly 48% of total respondents and over 30% are the age level of 35 to 44 years and 55-64 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.

Regarding the education, all the respondents are literate, of which most of the farmers (55%) are with middle education level and for non-borrowers group, 70% are with middle education level.

For household size, 53.3 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 farmer. 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	
	Number	Percent	Number	Percent
15-24	33	27	22	73
25-34	42	35	8	27
35-44	20	17	-	-
45-54	23	19	-	-
55-64	2	2	-	-
Total	120	100	30	100

Source: Survey data (2018)

Annual household income of most borrowing farmers is from 2500,000 to 3400,000 kyats as over 42 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	
	Number	Percent	Number	Percent
Farming	111	92	22	74
Government employee	8	7	4	13
General Workers	1	1	4	13
Total	120	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	
	Number	Percent	Number	Percent

Living Properties				
Home	120	100	30	100
Motorcycles	79	78	18	60
Bicycles	54	53	7	23
Water-Pump	23	23	2	7
TV	78	77	20	67
Farming Properties				
Farmland	120	100	30	53
Cows	78	77	11	37
Bullock Cart	71	70	11	37
Ploughing Machine	9	9	-	-
Water Pump	24	24	1	3
Business Properties				
Shop	11	11	5	17

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 famers 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	
	Number	Percent	Number	Percent
1-3	69	58	21	70
4-6	37	31	8	27
7-9	10	8	1	3
10-12	4	3	-	-
Total	120	100	30	100

Source: Survey data (2018)

Table (4.6) shows that half of borrowing farmer's cultivated 1 to 3 paddy acres as 57.5% 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 1to 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	
	Number	Percent	Number	Percent
40	1	1	8	27
45	3	3	8	27
50	28	23	13	43
55	11	9	1	3

60	36	30	-	-
65	1	1	-	-
70	25	21	-	-
80	15	12	-	-
Total	120	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, and 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, Myanmar Apex bank, Sathapana microfinance limited, and friend and relatives. The situation is showed in Table (4.8).

Table (4.8)   Sources of Finance

Source of Finance	Borrower	
	Number	**Percent**

MADB	120	100
Apex	10	8.30
Sathapana Limited	5	4.20
Friend and Relative	4	3.90

Source: Survey data (2018)

According to Table (4.8), all borrowers borrowed from MADB. In other sources of finance, Apex bank are the second sources of finance for farmers. Moreover, over 8% of respondents borrowed from Apex Bank and only 4.2% of the respondents are borrowed from Sathapana Limited. At least, farmers borrowed from Friend and Relatives with 3.9%. Therefore, it can be conclude that almost all of farmer rely on MADB.

Year of Connection with MADB

Year of connection with MADB include 3 categories. They are 1 to 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	
	Number	**Percent**
1-10	76	63
11-20	33	28
21-30	11	9
Total	120	100

Source: Survey data (2018)

In Table (4.9), 1 to 10 years is the most connection with MADB as 63.3%. 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.

Amount of Loan Borrowed

In Kan Kyi Taung Township, as described in chapter 3, there are four 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)	Number	Percent
1-3	150,000-450,000	69	58
4-6	600,000-900,000	37	31
7-9	1050,000-1350,000	10	8
10-12	1500,000	4	3
	Total	120	100

Source: Survey data (2018)

According to the survey data, half of borrowing farmers from 1to3 cultivated acres borrows 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 Apex Bank, Sathapana microfinance limited and friend and relatives. The smallest amount is Kyats 50,000 and the highest amount is Kyats 500,000. Table (4.10) shows amount of loan received from other organizations.

Table (4.11)   Amount of Loan Received from Other Organization

Amount(Kyat)	Number	Percent
50,000	2	2
100,000	2	2
120,000	1	1
180,000	20	20
200,000	1	1
240,000	20	20
300,000	5	5
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.

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. Therefore, farmer's farm machinery is weak for farmer.

Table (4.12)   Loan Coverage Percent

Loan Coverage Percent	Borrowers	
	Number	**Percent**
30	3	3
40	4	3
50	48	40
60	25	21
70	40	33
Total	120	100

Source: Survey Data (2018)

Table (4.12) 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%.

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 (4.13)   Constraints for Procurement of Agricultural Credit

Characteristics	Number	Percent
Difficulty of Credit		
Easy	78	77
Difficult	24	23
Waiting Time for Credit		
Half of day	59	58
More the half of day	43	42

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.

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

Barriers to Credit Accessibility	Number	Percent
Insufficiency Document Required	20	67
Missing Deadline	7	23
Lack of Farmland Owned	3	10
Total	30	100

Source: Survey data (2018)

In Table (4.14), 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

Table (4.15)   Paddy Yield per Acre and Farmer's Income

Variable	Borrowers	Number Borrowers	t-value	Sig
Paddy Yield per Acre (bushels)	72.300	48.140	13.241	.000
Farming Income (Kyat lakh)	32.500	15.200	16.480	.000
Annual Household Income (Kyat lakh)	36.200	16.930	8.257	000

Source: Survey Data (2018)

This section analyses paddy yield per acre and annual household income of farmers. It shows in Table (4.15).Table (4.15) 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 farmer's average yield per acre, average farming income and average annual household income are more than non-borrowing farmers.

4.4.2 Regression Analysis on Paddy Yield per Acre

In this study, regression analysis is applied in order to analyse the effects on paddy yield per acre. The dependent variables (paddy yield per acre) are explained by four independent variables (amount of credit, credit percent, period of loan received, frequency of borrowing).

According to Table (4.16), 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 (4.16) 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.

Model	Unstandardized	Standardized		

Table (4.16)   Regression Result for Paddy Yield per Acre

	Coefficients		Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	44.450	1.260		35.100	.000
Frequency of borrowing	.990	.360	140	2.490	.020
Loan Coverage Percent	4.920	1.630	.200	3.010	.000
Period of Loan Received	9.610	1.840	.360	5.230	.000
Amount of credit	11.980	1.700	.400	7.020	.000
n=120, R^2=.657, Adjusted R^2=.646, F= 59.468 (p value = 0.000)					

Source: Survey Results

Table (4.16) describes regression results among dependent variable (paddy yield per acre and independent variables (amount of credit, credit percent, period of loan received, frequency of borrowing). These results show that the coefficients for frequency of borrowing at 5% level, loan coverage percent, and amount of credit and period of loan received is significant at 1% level.

In Table (4.16), 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, amount of credit, credit percent, period of loan received, frequency of borrowing. These results suggest that the four variables have significantly explained 64.6% of the variance in paddy yield per acre. The regression coefficient of frequency of borrowing is .990 at 5% significance level. The regression coefficient of loan coverage percent is 4.921 at 1% significance level. The regression coefficient of period of loan receive is 9.618 at 1% significance level. The regression coefficient of amount of credit is 11.983 at 1% significance level. These variables are positively correlated with paddy yield per acre.

Furthermore, the value of standardized coefficients for amount of credit (.40) is highest among variables. It can be said that the effect of amount of credits is greatest among variable on paddy yield per acre.

4.4.3   Regression Analysis on Farm Income

In this study, regression analysis is applied in order to analyse the effects on paddy yield per acre. The dependent variables (paddy yield per acre) are explained by four independent variables (amount of credit, credit percent, period of loan received, frequency of borrowing).

Table (4.17)   Regression Result for Farm Income

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	5.450	0.260		20.440	.000
Frequency of borrowing	.540	.040	.320	12.970	.000
Loan Coverage Percent	.420	.080	.280	5.130	.040
Period of Loan Received	3.210	.240	.620	13.410	.000
Amount of credit (Kyats)	10.490	1.700	.850	6.170	.000
n=120, R^2=.751, Adjusted R^2=.692, F= 85.680 (p value = 0.000)					

Source: Survey Results

According to Table (4.16), 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 (4.16) 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 (4.17) describes regression results among dependent variable (farm income) and independent variables (amount of credit, credit percent, period of loan received, frequency of borrowing). These results show that the coefficients for loan coverage percent at 5% level, frequency of borrowing and amount of credit and period of loan received is significant at 1% level.

In Table (4.17), the value of adjusted R^2 is .692 that revels 69.2% of total variation in farm income are explained by four factors, amount of credit, credit percent, period of loan received, frequency of borrowing. These results suggest that the four variables have significantly explained 69.2% of the variance in paddy yield per acre. The regression coefficient of frequency of borrowing is .54 at 1% significance level. The regression coefficient of loan coverage percent is .42 at 5% significance level. The regression coefficient of period of loan receive is 3.21 at 1% significance level. The regression coefficient of amount of credit is 10.49 at 1% significance level. These variables are positively correlated with farm income of farmer.

Furthermore, the value of standardized coefficients for amount of credit (.85) is highest among variables. It can be said that the effect of amount of credits is greatest among variable on farm income of farmer.

CHAPTER V
CONCLUSION

In this chapter, there has the combination of theory with empirical study to analyze and discuss the results of most significant factors affecting credit accessibility and the effectiveness of loan on farm's performance in Kan Gyi Taung Township. This study only focus on farmers in Kan Gyi Taung Township and credit accessibility of loan borrowing farmers and non-borrowing farmers and the effectiveness of farm's performance. To explore these credit access and the farm performance practices, primary data was collected by conduction personal interview with sample farmers by using structural questionnaire. Secondary data was obtained from conversation with people in the township and annual report from Ayeyarwady Division.

5.1 Findings and Discussions

Based on the data analysis, we have two main parts for credit accessibility: loan borrowing farmers and non borrowing farmers. For loan borrowing farmers, the main sources of finance are Myanmar Agriculture and Development Bank (MADB), Myanmar Apex Bank, Sathapana Microfinance and friends and relatives. Base on the results, almost all of farmers heavily rely on MADB Bank. In years of connection with bank, most of the farmers have connection in one to ten years with MADB. It is the most connection with MADB. For the amount of loan borrowed, mostly farmers borrowed from MADB and some of farmers borrowed from loan by other organizations. From the survey data, half of borrowing farmers from one to three cultivated acres borrow loan and MADB loan interest rate is eight percent per year. From other organizations, only half of respondents borrow from them because their loan interest rate is greater than MADB. For loan coverage percent, most of the farmers are more used their loan in farming and small number of respondents used for machinery. But there have constraints for borrowing agriculture loan such as documentation required, waiting time. The results found that most of the farmers said that it is easy to obtain credit and for the waiting time more farmers answered that it only takes half of the day to get loan. For non borrowing farmers, they have some barriers for not getting loan. Because of insufficiency document required, most of the farmers did not get loan.

For the farm performance of farmers, borrowing farmers' average yield per acre, average farming income and average annual household income are more than

non borrowing farmers. There are four variables to indicate paddy yield per acre. They are frequency of borrowing, loan coverage percent, period of loan received and amount of credit. For the analysis of paddy yield per acre based on these four variables, all of the factors are positively correlated with yield per acre. But the effect of amount of credit is greatest among those variables. For the farm's income, it also has four variables to indicate it. These four variables and farm's income of farmers are positively correlated. The effect of amount of credits is also greatest for farm income of farmers.

5.2   Suggestions and Recommendations

Since Myanmar is an agricultural country, and agriculture sector is the backbone of its economy. Investment in agricultural research has a very high rate of return and has a key role in improving productivity and competitiveness. Despite the country's richness in resources and having a strategic location, agriculture has underperformed in Myanmar especially in terms of productivity, equity and stability. Myanmar's agriculture is characterized by low productivity, extreme inequality and high volatility. Government should see agricultural growth as critical for inclusive development so it aims to ensure that food security is achieved throughout the country, and develop strategies that improve the welfare and income of farmers, farm labors and their dependent families.

Weak rural financial systems, high levels of indebtedness and heavy dependence on informal financing at high interest rate are a constraint to agricultural production and marketing. Most of the farmers did not get their loans because of insufficiency document required. So the transaction should provide faster to get loan for their farm production. Many famers borrowed their loans only from MADB because its interest rate is lower than other banks, microfinance. So, it is suggested that other banks and microfinance should provide vehicles for savings and opportunities for rural households to manage debt by refinancing consumer loans at more manageable rates of interest.

Given the limited government credit programmes in the area, accessibility to credit by small farmers could be improved by providing innovative credit schemes that address problems of small farmers who lack collateral, and by minimizing long processing times and other requirements. Also, farmer access to credit could be improved by eliminating the specific commodity requirements for credit. The

government may need to consider conducting an informative drive aimed at promoting credit awareness and the establishment of strong and viable farmer organizations. So, savings mobilization programmes should be developed and promoted in the area, which will encourage participation and provide incentives for farmers to save and recycle their funds. Activities of credit organizations rooted in the autonomy of the farmers can be a powerful tool in the improvement of their credit accessibility.

5.3   Needs for Further Research

This study is made only upon in Kan Gyi Taung Township, Ayeyarwady Division. There are many other areas that can do agriculture. There are many ways of studying about agriculture but this study only focus with finance and overall agriculture sector. So, the research can be made detail in about how to improve in rice, peanut, corns, bean etc. it can also be studied how to sustain the agriculture with analysis, policy and planning.

The research was limited by time and resource constraints and the researcher would like to suggest that a further detailed study on the exploration of small farmers' credit perceptions at the regional or possibly national level be undertaken. This research covered only on one municipality which may differ from other municipalities in the country. The available of credit terms, credit accessibility and the performance of agriculture may also differ from other municipalities.

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APPENDIX

Questionnaire for Farmers to Agricultural Credit Accessibility and Its Effect on Farm Performance in Kan Gyi Taung Township

Village Name…………………..   **CODE No…………….**

Part A

1. **Interviewer Name**   ………………..
2. **Name of Household Name** ………………..   **Gender**…………..
3. **Age**

   (   )<25

   (   )26-45

   (   )46-65

   (   )66 and above

4. **Education**

   ( ) Primary

   ( ) Middle

   ( )High School

   ( ) Under Graduate

   ( ) Graduate

   ( ) Others

5. **Family Number (……………)**

   ( )Farmer

   ( ) Government Staff

   ( )Selling

   ( ) Abroad Worker

( ) Dependent

( ) Others

6. **Family's Income (Average income per year) (…………………)**

7. **Main Source of Income**

    ( ) Agriculture- Paddy

    ( )Agriculture- Other Fruits

    ( )Animal Husbandry

    ( )Merchant

    ( ) Shop

    ( ) Industry

    (   ) Others

8. **Doing Agriculture of Length of time …………………**

9. **Farming Paddy Life Span ………………….**

10. **Farming Acre**
    (A) Own……….acre   (B) Context …………acre

11. **Types of Paddy ………………….**

Part B

12. **Own Farm**

No	Names	Quantity	Category	Note
1	Tractor			
2	Save Harvest threshers			
3	Water Pump			

4	Trolly			
5	Truck			
6	Cows, Bulls			
7	Others			

13. Types of Crops had grown in the last year

( ) Grain (Rain)

( ) Grain (Summer)

( ) Beans

( ) Corn

( ) Others

14. Crop Yields

Crops	Counting		Outturn per One Acre	Selling Price	Notes
	Unit (Tinn)	Unit (Viss)			
Grain (Rain)					
Grain (Summer)					
Bean					
Corn					
Others					

15. **Types of Harvests that Cultivated** …………………….

16. **Borrow Loans**   Yes (………..)   No (………..)

17. If Borrowed Loans,

Loan Association	Period	Interest	Collaterals	Loan per acre
MADB				

Microfinance				
Cooperative				
Friends and Relatives				
Others				

18. Where do you borrow loans past three years?

No	Loan Association	Amount of Loan (Kyats)		
		2016	2017	2018
1	MADB			
2	Microfinance			
3	Cooperatives			
4	Friends and Relatives			
5	Others			

19. Given Interest in past three years?

No	Loan Association	Interest		
		2016	2017	2018
1	MADB			
2	Microfinance			
3	Cooperatives			
4	Friends and Relatives			
5	Others			

20. If you borrow loans from associations, do you give collaterals?

    A. MADB   ( ) Yes   ( ) No

    B. Microfinance   ( ) Yes   ( ) No

    C. Cooperative   ( ) Yes   ( ) No

    D. Friends and Relatives   ( ) Yes   ( ) No

E. Others   ( ) Yes   ( ) No

21. If you do not borrow loan,

(A) Not Getting Loan (   )

(B) No Submission for Loan Application (   )

22. Reasons for Not Getting Loan

(1) No returning loan   (   )

(2) No own land for cultivation   (   )

(3) No complete vitae   (   )

(4) No guarantor   (   )

(5) Cannot submit collaterals   (   )

(6) Cannot apply in time   (   )

(7) Others   (   )

23. Reasons for No Submission for Loan Application

(1) Having Own Capital   (   )

(2) High Interest Rate   (   )

(3) Not getting loan in time   (   )

(4) Intricacy of bank process   (   )

(5) Not getting information   (   )

(6) Far away from bank, No contact with bank   (   )

(7) Others   (……………………..)

Part C

24. Utilize the loan Enough   Yes or No   (……………..)

25. If not, how do you find income?

………………………………………………………………………………………

………………………………………………………………………………………

26. Difficulty of credit when you apply for loan

    (1) Submission of Vitae   (Needed Vitae / Ownership Identities)

    (2) Having Interpreter   Yes (……..)   No (……..)

    (3) Costs   (………………..)

    (4) Time to get loan   (……………………)

    (5) No Collateral   (……………………)

    (6) Others difficulties   (……………………)

27. Methods (or) Places to get Information about Credit

    (1) Newspapers   (…………)

    (2) Leaflets   (…………)

    (3) Radio   (…………)

    (4) Friends   (…………)

    (5) Village Administer   (…………)

    (6) Farmers   (…………)

    (7) Inform from Loan association   (………….)

28. Which associations' interest rate is more affordable?

    (1) MADB   (………….)

    (2) Microfinance   (………….)

    (3) Cooperatives   (…………..)

    (4) Friends and Relatives   (…………..)

    (5) Others   (………….)

29. Advantages of Borrowing Loans

Social Impact

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	**2**	**3**	**4**	**5**

Reasons	1	2	3	4	5
Education					
Health					
Home					
Other Ownership					

Economic Impact

Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	**2**	**3**	**4**	**5**

Reasons	1	2	3	4	5
Amount of own land					
Own Cultivation Accessories					
Can Cultivate Extra Crop					
Advance Technology					
Improve other ownerships					

30. Outturn for Crops

Crops	Counting	Outturn			Selling Price			Notes
		2017	2016	2015	2017	2016	2015	
Grain (Rain)								
Grain (Summer)								
Peanut								
Sesame								
Others								

31. Tenure of Loan

   (1) MADB   (   )

   (2) Microfinance   (   )

   (3) Cooperatives   (   )

   (4) Friends and Relatives   (   )

   (5) Others   (   )

32. To write your expectations for this region credit plan?

………………………………………………………………………………………….

…………………………………………………………………………………………..

…………………………………………………………………………………………..

………………………………………………………………………………………….

………………………………………………………………………………………..

33. If there is good suggestion, please express it.

……………………………………………………………………………………………

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