

**YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF COMMERCE
MASTER OF BANKING AND FINANCE PROGRAMME**

**EFFECT OF CREDIT ACCESSIBILITY AND LOAN
UTILIZATION ON FARM PERFORMANCE
(DAIK-U TOWNSHIP, BAGO REGION)**

**THIDA MYINT
(MBF- 6th BATCH)**

DECEMBER, 2019

**EFFECT OF CREDIT ACCESSIBILITY AND LOAN
UTILIZATION ON FARM PERFORMANCE**

(Daik-U Township, Bago Region)

A thesis submitted as a partial fulfillment towards the requirements for the degree of
Master of Banking and Finance (MBF)

Supervised By;

Submitted By;

Dr. Tin Tin Htwe
Professor
Department of Commerce
Yangon University of Economics

Thida Myint
Roll No.62
MBF 6th Batch
2018-2019

DECEMBER, 2019

ABSTRACT

This study aims to identify credit accessibility and loan utilization of farmers especially in Daik-U Township. There are 44 group of village existing total population - 202,530 in Daik-U Township. The primary data were selected by using two stages. In the first stage, 5 villages were randomly selected among these 44 groups of village for the study and total population farm household is 1279 in this selected 5 villages. Among 1279 households, 125 households will be selected which are interviewed by using structured questionnaire at second stage. Then the secondary data was collected from the previous studies, reports and Ministry of Agriculture through interview and group discussion. This study used descriptive analysis and multiple regression methods to explain the results. Credit accessibility will be measured with four independent variables, loan amount, easiness of borrowing, credit terms and repayment. Loan amount is measured by kyats and the other three variables are measured by Likert scale. All four variables: land preparation, purchase farm inputs, labor hired and machine use are measured by kyats. Depended variables are paddy yield per acre and annual farm income which are measured by bushels and kyats respectively. It appeared that the agricultural credit amount significantly influenced the productivity of the paddy per acre. Loan amount, purchasing farm inputs such as fertilizer, pesticides, herbicides, labor hired and machine use are influencing factors on farm output to determine farm productivity improvement. It requires that the situation needs a focused effort to ensure that credit-related farmers use credit for the exact purpose they have obtained. To increase farm productivity, agricultural credit should be provided to farmers sufficiently and timely with the various types of loans. At a level of 1 percent, the value of F-test, the overall significance of the models, was highly significant. In addition, the use of machines has a highly significant effect on paddy yield per acre and income of farmers. It can be said that, due to agricultural credit, the spending in quality inputs of farm and use of machines are the greatest influence on paddy yield and farm income.

ACKNOWLEDGEMENTS

Firstly, I would like to thank Rector, Prof. Dr. Tin Win, and Yangon University of Economics and Prof. Dr. Daw Nilar Myint Htoo, Pro-Rector for giving me the chance to do this thesis as part of the requirement of Master of Banking and Finance program.

Secondly, my sincere gratitude goes to Prof. Dr. Daw Soe Thu, Program Director of the MBF Program and Head of the Department of Commerce, Yangon University of Economics for overseeing and kind guidance to enable me to complete this paper.

Thirdly, my deepest thanks go to my supervisor Prof. Dr. Daw Tin Tin Htwe, Department of Commerce for her continuous support of this thesis, for her patience, kindness, encouragement, eagerness and guidance. Her guidance helped me in all the time of conducting the research up to writing of the thesis.

Last but not the least, I am thankful to all professors and lecturers from MBF program who have given me tremendous knowledge throughout the years. MBF program has attributed me not only in financial skills but also in great leadership skill. In addition, I am grateful to farmers in Daik-U Twonship and heads of administrative offices, village heads for their patience and understanding in answering survey questionnaires. Finally, I would like to thank the staff of the MADB for providing the necessary background information.

CONTENTS

	Page
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
CONTENTS	iii
LIST OF TABLES	v
LIST OF FIGURES	vi
LISTS OF ABBREVIATIONS	vii
CHAPTER I	INTRODUCTION
1.1	Rationale of the Study 2
1.2	Objectives of the Study 3
1.3	Scope and Methods of the Study 3
1.4	Organization of the Study 4
CHAPTER II	HEORETICAL BACKGROUND OF THE STUDY
2.1	Importance of Agricultural Credit 5
2.2	Credit Accessibility 6
2.3	Effect of Agricultural Credit on Farms Performance 7
2.4	Previous Study 9
2.5	Conceptual Framework of the Study 11
CHAPTER III	OVERVIEW ON AGRICULTURAL CREDIT IN DAIK-U
3.1	Role of Agricultural Finance in Myanmar 13
3.2	The Lending Institutions in Myanmar. 13
3.3	Background Information of Daik-U Township 15
3.4	Financial Institutions in Daik-U Township 15
3.5	Credit Accessibility and Loan Utilization of Farmers in Daik-U Township 16

LIST OF TABLES

Table No.	Particular	Page
4.1	Sample Size of Respondents	18
4.2	Demographic Characteristics	19
4.3	Amount of MADB Loan Borrowed	20
4.4	Easiness of Borrowing	21
4.5	Credit Terms	22
4.6	Credit Repayment	23
4.7	Amount of Spending on Input Resources	24
4.8	Annual Household Farm Income	25
4.9	Estimated Values of Credit Accessibility for Farm Income	26
4.10	Estimated Values of Loan Utilization for Farm Income	27
4.11	Estimated Values of Loan Accessibility and Utilization for Annual Farm Income	28

LIST OF FIGURES

No.	Particulars	Page
2.1	Contribution of Agricultural Loans Accessibility to Performance of Small Holder Sugar Cane Farmers in Kenya	10
2.2	Utilization of Agricultural Credit for Agricultural Development	10
2.3	Conceptual Framework of the Study	11

LIST OF ABBREVIATIONS

ADB	Asia Development Bank
CBM	Central Bank of Myanmar
GDP	Gross Domestic Product
INGO	International Non-Governmental Organization
MADB	Myanmar Agricultural Development Bank
MEB	Myanmar Economic Bank
MFI	Microfinance Institutions
MIA	Myanmar Industries Association
MIMMU	Myanmar Information Management Unit
MMI	Myanmar Investment
MMK	Myanmar Kyat
MRF	Myanmar Rice Federation
NGO	Non-Governmental Organization

CHAPTER I

INTRODUCTION

Myanmar is an agricultural country, and the agriculture sector is the backbone of the economy. Agriculture contributes to 37.8% of gross domestic product (GDP), accounts for 25 to 30% of total export earnings and employs 70% of the workforce (FAO 2019). The majority (nearly 70 percent) of the population lives in rural areas and mostly rural people are engaged in agricultural activities. The rural sector plays a key role in the economic growth, social and political development of the country.

Farming requires finance for its farm operations like other business. Growth in agriculture is highly dependent on improving infrastructure facilities, providing enhanced irrigation water, reclaiming land, transportation, mechanical resources, and other essential inputs such as seeds, pesticides and fertilizers, etc. Timely availability of credit leads to the adoption of improved seeds, fertilizers and technologies that increase agricultural production and ultimately the rate of growth. Agricultural credit is therefore an essential element for agricultural modernization.

Agricultural credit is believed to be a key part of a country like Myanmar's entire agricultural development strategy. Agricultural credit is a loan advanced to farmers for purchase of enhanced seeds, compost, modern inputs and may likewise incorporate fluid resources for financing the reaping, transportation of products and other comparable farming activities (Mohan 2006).

There are two formal and informal sources of credit. Myanmar Agricultural Development Bank (MADB) and informal credit sources include friends, families, traders and private money lenders. MADB provides financial services for the production of farming, livestock and rural communities, as well as seasonal loans for crop cultivation and term loans for the purchase of agricultural machinery and equipment. Non-governmental organizations, international aid organizations, and many credit sources also assist poor rural families. Various kinds of credit accessibilities are made multiple improvements in their agribusiness and farm investment. Therefore, the credit accessibility for agriculture is in the vital role for improvement of farmers' life and country economy.

Accessibility of Agricultural credit by farms were set by lending institutions and, in doing so, affect the economic and social well-being of the farmers. The credit

accessibilities impact positively improvements in their agribusiness and loan utilized to be increased resources for farm investment. Generally, credit accessibility is important for improvement of quality and quantity of farm performance. However, the effect of the credit accessibility should take into account the quality of life of the farmers and how to use beneficially these credit obtained besides the productivity of the farm. Generally, credit accessibility and the efficient utilization of these credits are important for improvement of quality and quantity of farm performance.

1.1 Rationale of the Study

In Myanmar, rural sector accounts for 69% and 31% are urban sector (Worldometers, 2019). Agriculture is the cornerstone of Myanmar's economy that not only contributes to the country's overall economic growth, but also provides a living standard for more than 60% of Myanmar's population. Agriculture sector accounted for 37.8% of GDP (FAO 2019). However, the agricultural sector remains underdeveloped infrastructure and very slow in improvement compared with the neighboring countries such as China, India, Thailand, Cambodia, Vietnam, Indonesia and Philippines. Farmers are struggling by employing primitive ways of cultivation, lack of technical know-how and insufficient financing and investment are the major factors of underdevelopment in agricultural sector.

Poverty alleviation is one of the most important issue in developing countries. The rural areas in underdeveloping countries need credits to increase their living standard. Agricultural finance and credit are most important factors to develop rural areas in developing countries, including not only financial credit but also for improving economic well-being and living standard.

Facilitation to access credit easily can raise amount of productive investment. Financial resource is a basic need for other requirements and production of agricultural products. Credit has a vital role for elimination of farmer's financial constraints to invest in farm activities, productivity and technologies. The Myanmar Agriculture Development Bank (MADB) provides agricultural credit with low interest rate for financing of farmers' and farm related activities under general economic policies of government. However, the budget of the bank has constraints, so credits to farmers are also limited to access, resulting in the limits to optimize production and consumption.

Myanmar microfinance institutions also offer farmers small loans at interest rates as low as 30 percent per year, but many farmers also obtain financing through informal lenders, whose rates are normally high (The World Bank Group, 2014, Myanmar Agricultural Development Bank: Initial Assessment and Restructuring Options). Microfinance organizations lend the agricultural loan to the farmers who really do the farming and they do not need the ownership of the farm land.

Recently, most farms get the agricultural loan from MADB, microfinance such as Proximity, Mya Sein Yaung, Sathapana, Aceda, Shinhan, Good Brothers, Maha Agriculture Public Co., and other informal high interest loan. Farmers have the potential to grow rapidly if they have better access to credit, quality seeds, improved infrastructure and modern technology (Euro Chamber's Agriculture Guide 2018).

According to Department of Agriculture (DOA) statistics 2018 Annual Report, the Ayeyarwady region covers about 28 percent of total paddy (rice) production, followed by the Bago region at about 17 percent and the Sagaing region at 12 percent. Therefore, Bago District is the second highest paddy production region in Myanmar.

This study examined the effect of credit accessibility and the impact of loan utilization of farmer from Daik-U Township, Bago Division which area was experiencing the need of agricultural financing. This analysis focused on the identification of the credit accessibility for farmers, measure and the utilization of the loans and it also focused on the analysis of the relationship between loan utilization and improving economic well-being and living standard of the farmers.

1.2 Objectives of the Study

The objectives of the study are as follows:

- (1) To identify the credit accessibility and the loan utilization of farmers in Daik-U Township, Bago Region
- (2) To analyze the impact of the credit accessibility and the loan utilization on farm performance in Daik-U Township, Bago Region

1.3 Scope and Methods of the Study

This study focuses on the agricultural credit accessibility and impact on farm performance of farmer in Daik-U township by using descriptive method, regarding their socio-economic development and daily life progress statement after taking loan

from any source of fund including government loan, private bank loan, microfinance loan and other source. In the first stage, the data was collected from 5 villages among 44 groups of villages by using proportional sampling method. And then in the second stage sampling, a total of 125 households were collected from the selected 5 villages which have 1279 households, by using random sampling method.

The study used both primary and secondary data in order to fulfill the objective of the study. As the primary data collection, there are 125 respondents who were face to face interviewed by using structured questionnaire. Secondary data and Information took from corresponding places such as Department of Agriculture, Department of Land Administration and Statistics, Myanmar Agriculture Development Bank and General Administration Department of Daik-U Township, Chairman of the Villages, internet website reference and previous thesis papers. This research used descriptive analysis and linear regression method to meet objectives of this study.

1.4 Organization of the Study

This study is organized into five chapters; Chapter (1) is the introduction of the study, objectives of the study, scope and method of the study and organization of the study. In the chapter (2), theoretical background is main title and theories concerned with agricultural loan and effectiveness, conceptual framework for the study. Chapter (3) discusses about the background of Daik-U township and population, farmers, lands, crops, types of credit from any sources of finance. Chapter (4) describes research design, characteristics of the respondents, analysis on credit accessibility and impacts. The summary of the conclusion, findings, recommendation are mentioned in chapter (5). In the last part, there is a list of references for completing this thesis.

CHAPTER II

THEORETICAL BACKGROUND OF THE STUDY

This study discusses the theoretical context and literature review of the impact of the credit accessibility and effectively loan utilization. Nevertheless, the analysis should be further performed with respect to farm characteristics, perceived economic return, perceived package suitability, use of multiple methods of information communication, and access to credit. Nevertheless, it begins with the advent of methodologies for agricultural credit and lending.

2.1 Importance of Agricultural Credit

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). Credit is an important input in the production process. It helps both the bank and the borrower in strengthening their financial status (Banaijee, 1977). 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. It is the strategic input and integrated factor, which stimulates the growth impulses of the rural sector. Agricultural credit means money borrowed for farm investment as well as seasonal agricultural operations. 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.

In the past, agricultural credit was confined to a few needy farmers and a few elite moneylenders. During the drought conditions the farmers used to get food grains from rich farmers, on the conditions the same would be returned with interest after harvesting the next crop. Now days it has become a powerful instrument in bringing about agriculture and rural development. It has more significance in the case of marginal and small farmers as their savings are meager. They are in the vicious circle of poverty. Credit, if properly channelized, can break this vicious circle of poverty by providing them means to get productive assets or by providing employment

opportunities. Hence, credit has a crucial role to play in raising the rural incomes (Padmanabhan, 1986).

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 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. It has been pointed out by William G. 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. However, it serves as a useful means only when it is used judiciously for productive purposes otherwise it adversely affects on the repaying capacity of the farmers.

2.2 Credit Accessibility

Credit accessibility refers to the ease or difficulty of acquiring credit by borrowers for purposes such as to enhance business performance (Salahuddin, 2006). In order to ensure continuity and realized success, agricultural sector need to acquire the necessary financial resources/credit to allow investing now so that the farmers will obtain income in the future. Acquisition of such credit is difficult for farmers because of high rates of interest on lending, and it has constrains for the credit and limited farm progress Access to credit also reduces the opportunity costs of capital-intensive assets relative to family labor, thus increasing labor-profitability and raising labor productivity, a crucial factor for development, especially in many African countries (Delgado 1995; Zeller et al. 1997).

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 (Okurut et. 2004).Lack of credit is one of the key constraints in agricultural production. Internal factors

limiting credit access are lack of or poor quality farm assets, lack of ownership of assets for farmers, poor financial management, and risky nature of farming. External factors are high interest rates; high cost of service delivery to the sector, and perception of financial service providers about farming as being highly risky (FASDEP II 2009). Again, there is high interest rate on the loans, which discourages borrowing.

Apart from these, substantial barriers in credit market exist in developing countries in the informal sectors, which hamper borrowing. In many cases, high risk of default, misuse of credit facilities, extravagance and lack of regular money income restrain financial intermediaries from giving out loans (Badu, 1994). It is sad to notice that most farmers all over the country lack access to credit facilities, notably among them are rice farmers. Zeller *et al.* (1997) found that policy makers agree generally that poor people in developing countries lack access to credit facilities.

Accessibility to credit is said to have occurred when the individual enlists with a credit institution and actually borrows. On the other hand, lack of access to credit is said to occur when a person makes concerted efforts to acquire credit without success. The premise is that, rural households can improve upon their main source of livelihood (mainly farming, if they have access to small loans (Ayamga, 2006). According to Feder *et al.*, (1985) with the provision of credit, the cost of technology (capital intensive) and assets will be reduced relative to family labour. Thus, instead of growing low yielding local varieties, with low level of fertilizer, access to credit may allow for the use of improved varieties, fertilizer and high yield per unit labor and land.

2.3 Effect of Agricultural Credit on Farms Performance

Agricultural development is mainly due to the widespread use of credit. In the process of agricultural modernization, agricultural credit is considered an important factor. This generates and manages a sufficient flow of inputs, improves farm production efficiency and is capable of using advanced technologies and practices. For the growth of rural and agricultural production, credit facilities are critical. Agricultural credit plays a major role in driving production and raising the living standards of rural families and thus increasing economic growth and development.

According to Freeman et al.(1998), farmers' access to credit is also very crucial in the scene that it can facilitate the levels of input use closer to their potential levels when capital is not a constraint. Farmers need loans at low interest rates to meet their needs. Affordable farm financing that allows farmers, migrant workers and small business owners to stabilize their economies, get rid of high interest debt, and get into a financial upward curve for good. Appropriate farm funding can have beneficial effects on farm growth and rural income.

Improved land and labor productivity is at the heart of the agricultural credit. Agricultural productivity requires the introduction of appropriate technologies and know-how to improve agricultural production's efficiency and sustainability in line with market demand. Measures to increase agricultural productivity include those related to successful agricultural research and expansion, productive use of agricultural inputs, effective and sustainable practices and use of natural resources (land, water, soils and forests) and increased resilience to climate change and disasters. Increasing productivity would involve creativity and diffusion of information and improvements in productivity will also rely on the timely availability of quality inputs. Agricultural inputs and mechanization services largely carried out by the private sector and public sector providing the regulations, the enforcement, and the public goods needed for the input market to work efficiently (EkoWicaksono). The marginal contribution of credit brings input levels closer to the optimal levels, thereby increasing output and productivity (Feder et al., 1990).

Agricultural credit can help reduce poverty without having a direct effect on farmers' incomes. Agricultural development will stimulate economic development outside the agricultural sector, leading to increased job creation and growth. It can also boost farm income, increase food production, lower food prices, and provide greater opportunities for employment in both rural and urban areas. In order to eliminate extreme poverty and improve shared prosperity, agricultural finance is strategically important. (Lyanda et., al, 2014) have pointed to the immense role of adoption of these technologies in enhancing productivity, poverty eradication and attainment of food security in developing countries. Credit may provide opportunity of earn more money and improve the standard of living.

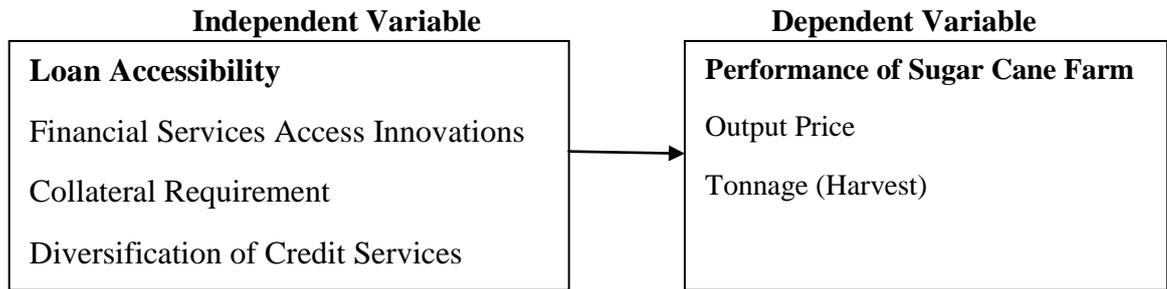
2.4 Previous Studies

There are several reports on the accessibility of farm results to agricultural credit. Byaruhanga (2013) analyzed the credit terms, credit accessibility, and agricultural output in Rwanda among the various studies. The study found that there was a significant positive relationship between credit terms, credit accessibility and agricultural cooperative performance, and showed that the combination of credit terms and credit accessibility has an impact on agricultural cooperative performance. The findings showed a strong and meaningful relationship between credit accessibility and farm cooperative success. The study concluded that credit accessibility is the most important determinant of the production of agricultural cooperatives.

Jumare (2006) who had larger farm sizes for the three years pooled, used more inputs (seeds, fertilizers, pesticides and herbicides), had higher output from their farms, produced more revenue, and also had higher production costs. Agricultural credit increases productivity and improves living standards by breaking small-scale farmers ' vicious cycle of poverty. Modernizing agriculture by using improved technology involves a significant amount of investment in resources. Small farmers can't generate enough of this credit from their own savings, especially in developing countries like ours. Therefore, this study shows that microcredit has the ability to fuel agricultural production over the long term. It must be routine and maintained, however, while limitations such as the lack of collateral and high interest rates must be tackled.

In Kakamega County, Kenya, Wanjawa (2017) examined the agricultural loan accessibility contribution to the success of small holder sugarcane farmers. The study concluded that loan accessibility has a significant effect on smallholder sugar cane farmers ' performance based on the conceptual framework shown in Figure (2.1). It has been found that the impact of agricultural loans on output is moderate. The repayment period for various agricultural loans differs, which makes it easier for sugar cane farmers to service their loans while increasing annual returns by increasing tonnage. The common hypothesis of empirical studies is that credit, growth and poverty reduction are positively correlated (Feder et al. 1990; Petrick 2005).

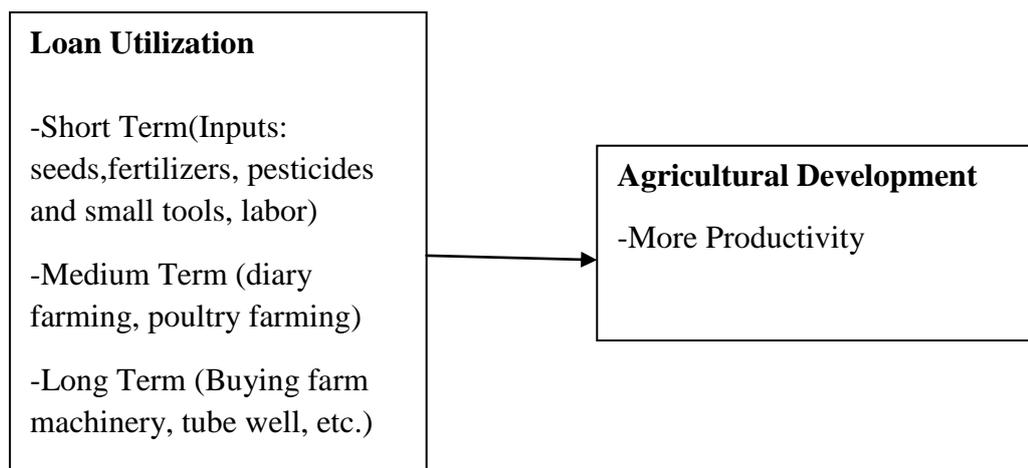
Figure (2.1) Contribution of Agricultural Loans Accessibility to Performance of Small Holder Sugar Cane Farmers in Kenya



Source: Wanjawa, D. S. et al., (2017)

Adebayo and Adeola (2012) studied farmers' difficulties in returning credit to lending institutions and the farmers' use of farm credit. The study classified the credit utilization: (i) short term-up to one year to facilitate the farmers to purchase agricultural inputs (ii) medium term-three to five years related to finance dairy farming and poultry farming (iii) long term-buying farm machinery, etc as shown in Figure (2.2). On the basis of empirical evidences, it is inferred that credit obtained for specifically agricultural purposes was also being utilized for fulfilling the farmers' needs. The study concluded that productivity per unit could be improved by farmers, bringing prosperity not only to the farming community, but also to the nation.

Figure (2.2) Utilization of Agricultural Credit for Agricultural Development



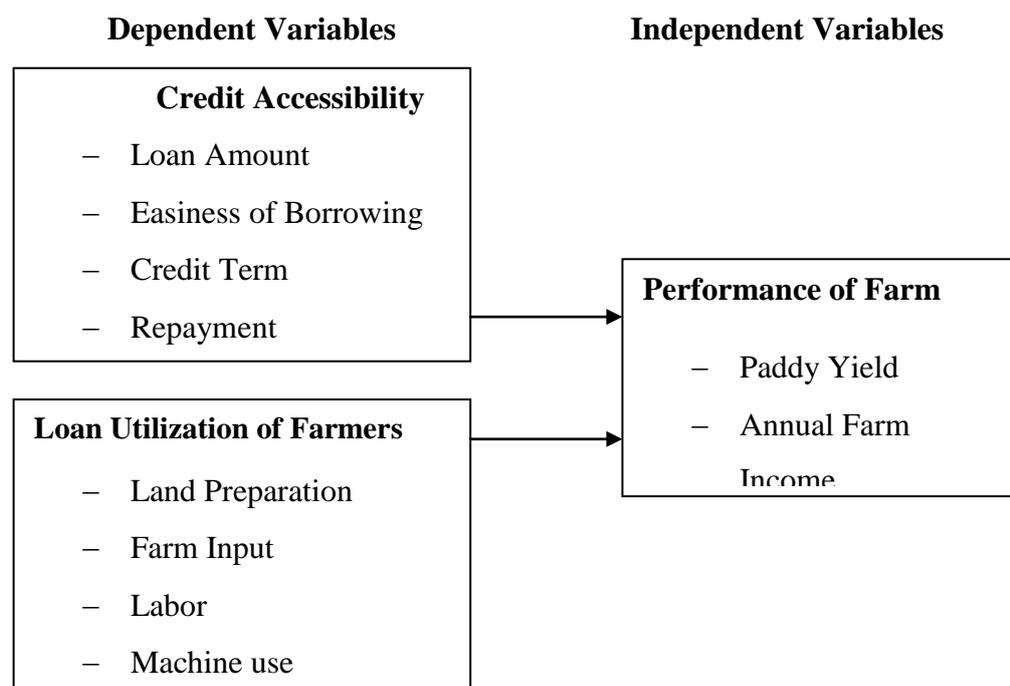
Source: Adebayo and Adeola (2012)

2.5 Conceptual Framework of the Study

Referring the above studies, the conceptual framework for this proposed study is constructed as shown in Figure (2.3). With the correlation between credit, productivity and poverty reduction (Feder et al. 1990; Petrick 2005), credit accessibility of farmers is assumed as having an effect on the farm performance in this study. Credit Amount, simple borrowing in terms of lending system (collateral, document), credit term, approval time, repayment etc. define credit accessibility to farmers.

The study of Adebayo and Adeola found that the utilization of credit could improve the productivity of farmers. In this study, the credit utilization was classified purchase agricultural inputs, dairy farming and poultry farming and buying farm machinery, etc. Referring to this study, it assumes that land preparation, farm input, labor, machinery as the utilization of credit, in this study. Consequently, there are two ways to evaluate the impact of Credit Accessibility and Utilization of resources on farm production with Farm Yield and Income of Farmers. The income of the farm is calculated at the end of the year, so it will be affected by the market price.

Figure(2.3) Conceptual Framework of the Study



Source: Own Compilation (2019)

In order to improve the annual income of farmers, it is important that the loan is sufficient to cover agricultural expenses in order to invest the better agricultural inputs for farms. Moreover, there is a need for convenient credit accessibility for farmers and to use such credits efficiently to increase farm productivity. Therefore, in this analysis, to investigate the loan utilization and farm performance, the dimensions such as the loan coverage amount and agricultural inputs are used and they are specified as independent factors. All variables of credit accessibility are assessed by a five-point likert scale to determine their impact except for the amount of credit. Loan utilization variables are evaluated by specified amount of kyats.

CHAPTER III

OVERVIEW ON AGRICULTURAL CREDIT IN DAIK-U

This chapter provides a brief description of the area of study. Knowledge of the study area is important to have first-hand information about the region history, demographic and geographic details and the type of credit and lending institutions that are available.

3.1 Role of Agricultural Finance in Myanmar

Myanmar's Union is an agricultural nation, and its economy's agriculture sector is the backbone. The sector is the main industry in Myanmar's national economy, with approximately 70 percent of the total population residing in rural areas engaged for their earnings in agriculture and animal husbandry. Previously, agriculture accounted for 37.8% of GDP, 25-30% of overall export earnings, and 70% of the workforce (FAO 2019). And the progressive achievement is shared with national development in the agricultural sector, such as manufacturing, services and trade. Agricultural credit requirements for farmers in Myanmar are growing over time, mainly due to advances in technology and heavy use of farm input resources.

The financial sector and banking system in Myanmar are limited and still underdeveloped. Access to formal financial services is measured at just about 10 percent of the population, with a much lower ratio in rural areas. Myanmar's formal rural financial sector is even less developed than the financial sector in general, and there is almost no access to credit from formal sources for agricultural production. Large trading firms and processors record access to certain credits in Township centers through commercial bank branches. Nonetheless, almost every farmer has not enough formal credit. Although the agricultural sector in Myanmar accounts for 43 percent of GDP and employs 54 percent of the population, only about 2.5 percent of all outstanding loans make up this sector.

3.2 The Lending Institutions in Myanmar

The only major financial institution operating in agricultural credit in rural areas is the Myanmar Agriculture Development Bank (MADB). MADB is Myanmar's

second largest branch-based financial institution and the biggest by assets and loans. Most farmers in Myanmar are borrowing from MADB, Myanmar's farmer's largest agricultural lender. The MADB is owned by the state and the successor to the 1953 established State Agricultural Bank (SAB), which later became Myanmar's Bank for Agricultural Development in 1976. It has a nationwide network of 14 regional offices, 169 branches, and 44 agency offices offering over two million farmers short-term and long-term credit.

This Government Bank loan requires a Form 7 as collateral for which it is difficult for small and marginal farmers to obtain from the relevant authority. Although MADB is providing 150,000 Kyats per farm acre owned, the farmers are unable to receive full loan about their owned farm acres because of a maximum loan amount, 1,500,000 Kyats for up to 10 Acres with interest rate is 8%. This represents roughly 25-50 percent of the total funding needs per acre. With costs of farm product such as seeds, fertilizer, labor charges, fuel and pesticides, expenditure of one hundred and fifty thousand per acre is not adequate. The balance is funded largely by informal loans with high interest rates.

MADB has provided farmers with loans for 50 years, but not much has grown in the sector. The way to increasing agriculture is by transforming MADB into a real development bank that supports the entire supply chain, including farmers, factories and traders (Union Planning and Finance Minister, 2018). Despite the current shortcomings in its IT, infrastructure, and operations network, MADB is providing a large volume of short-term loans to farmers for the monsoon seasons and the winter seasons.

Mya Sein Yaung is also an inexpensive lending source and provides farmers with low interest rate loans over unloaned acres. Not all farmers will apply for this loan because of their internal policies. Many MFIs also provide the credit to farmers with 30% interest rates. Upon harvesting the crops, the loan must also be repaid as planned, so farmers have no chance to wait for the ceiling price of their farm products. Therefore, the farmers have to get formal loan from MFIs and the informal loan with high interest rates from friends, family, village shopkeepers, merchants, and commission officers. Despite the problems, even informal lenders have played an important role in Myanmar rural areas since traditional times.

3.3 Background Information of Daik-U Township

This research focuses primarily on the Daik-U Township, Bago District, Bago Division. Daik-U Township is between 87° 50' north latitude and east longitudes 97° 48'. It is 1287.3 kilometer square area and bounded on Nyaunglebin and Waw Township to its East, Bago Township at its west and Daik-U Township, Kyauktaga Township at its North.

There are 44 villages group and 45,753 private households. Total population is 202,530, males is 47.6%, and females is 52.4%. The majority of the people in the township live in rural areas with only 19% living in urban areas and population density of Daik-U township is 157.3 persons per square kilometer. There are 4.3 persons living in each household and elderly population is 5.4% and economically productive population is 63.4% and rest of 31.2% are children. (The 2014 Myanmar Population and Housing Census)

Daik U Township area was 90,236 hectares and 80,820 hectares of cultivated area, 89.57 percent of total area. The paddy land area was approximately 77,984 hectares, and the dry land was approximately 897 hectares. The main output product of Daik-U township is paddy which occupies over two-thirds of the available agricultural land and it is the second largest rice acreage. Sin Thu Kha, Hmawbi and Yadana Aung and Manaw Thukha, Sin Thwe Latt, Pyi Taw Yin, Yadanar Toe, Kyaw Zeya, Paw Sann Yin, Yar Kyaw, Kauk Hyinn, Vietnam and Pale Thwe are the main varieties planted by sample farmers.

The other crops are gram groundnut, sesame, sunflower, watermelon and industrial crops such as jute, sugarcane and cotton. Marketable cultivated crops are watermelon, peanut, corn, turmeric, mango, chili, pepper, banana and sweet potato and some farmers are gardening in cold season.

3.4 Financial Institutions in Daik-U Township

In Daik-U Township, there are private and government banks as formal institutions such as Myanmar Agricultural Development Bank, Mya Sein Yaung, Cooperatives and Microfinance and as informal institution such as money lenders, agents, friends and relatives. Among them, the Myanmar Agricultural Development Bank (MADB) is actively involved in rural and agricultural financing, and

commercial banks are unwilling to finance agriculture directly. However, two types of their seasonal loan are lent to most farmers: monsoon and winter loan.

According to the survey data on 2019, MADB is the largest lender of agricultural credit and over 90% of farmers in Daik-U Township borrow from MADB to raise their paddy and seasonal crops. The interest rate on MADB loans is the most competitive for farmers. The average duration of the MADB loan for the monsoon season was seven months and for the dry season was six months.

In addition, microfinance usually provides the village community and small business loan program. Individuals must join a group of five members and guarantee each individual loan collectively. The maximum loan amount for individuals is 500,000 Kyats and it has an interest rate of 30% per annum. Loans collect installments and only a five-month loan duration. Current informal lenders charge the highest rates at 5% and 10% per month respectively. Although most farms get the agricultural loan from MADB, there are a lot of microfinance such as Proximity, Mya Sein Yaung, Sathapana, Aceda, Shinhan, Good Brothers, Maha Agriculture Public Co., and other informal lenders.

3.5 Credit Accessibility and Loan Utilization of Farmers in Daik-U Township

Credit Accessibility is access to financing that is the willingness of individuals or businesses to receive financial services, including credit, deposit, payment, insurance, and other resources for risk management. Similarly, all the farmers in Daik-U Township, the farmers were provided credit based on four variables. They are credit amount, ease of borrowing, credit terms and repayment of the credit. Moreover, credit amount was measure in terms of kyat and other remaining variables were measured in terms of mean values. All the credit accessibility were analyzed using regression analysis.

Credit utilization was measured with the four variables as well. They are, land preparation, input resources, labor and use of machine. On the other hand, it needs to find out whether accessed credits were well-utilized in respective areas. Analysis of utilization is important to know whether farmers are truly benefitted by the credit utilization. Moreover, the farmers truly utilized the credit obtained in their agricultural activities or not. All the four variables were measured by Kyats. Regression analysis was used for measurement of loan utilization of the farmers.

CHAPTER IV

ANALYSIS THE IMPACT OF THE CREDIT ACCESSIBILITY AND LOAN UTILIZATION ON FARM PERFORMANCE IN DAIK-U TOWNSHIP

Findings from survey data analysis are presented with four sections in this chapter. For this study, the first part is concerned with research design, and the second part mentioned demographic characteristics of respondents, the third part is farmers' credit accessibility and part four analyzes the effects on farm efficiency in Daik-U Township.

4.1 Research Design

This study focused on farm loan in Daik-U Township in Bago Region in order to investigate the credit accessibility and utilization and the performance of farm. In this research design, the primary data were selected by using two stages. There are 44 group of village existing total population - 202,530 in Daik-U Township.

In the first stage, 5 villages were randomly selected from these 44 groups of village because they are the majority of the farmers in these villages. The total household of borrowing farmers is 1279 households in these 5 villages, Kan Nyi Naung, Ka Toke, Lat Khot Kwin, Wan Bae Inn and Pyin Ma Village.

In this research design, the primary data were selected by using two stage. In the first stage, 5 villages were randomly selected because that is the most farmers in the group of 44 villages. So, the total borrowing farmers' households got 1279 households. Then, in the second stage, 15 % of each village of borrowing farmers' household was randomly selected as the sample size of borrowing farmers' households. Then there got 125 respondents as the borrowing household as show in Table (4.1).

Table (4.1) Sample Size of Respondents

Villages	Total Farming Households	Respondent Farmers
Kan Nyi Naung	284	28
Ka Toke	243	24
Lat Khot Kwin	264	25
Wan Bae Inn	235	23
Pyin Ma	252	25
Total	1279	125

Source: Survey data, 2019

4.2 Demographic Characteristics of Respondents

This section is to analyze some of the important and relevant socio-economic characteristics of the sampled respondents. The respondents are categorized as gender, age, level of education, marital status, member of the household, and year of farming and cultivated land.

In Table (4.2), classification by gender shows the sample of 125 farmers, 89 percent are male and the rest are female. Farmers' age is divided into four groups, most of which are between 46 years of age and 65 years of age, being 52% of the respondents, and are therefore the majority of working age. Regarding education level, most farmers are 59% of middle-educated. The married respondent is 93% higher than 7% of the single respondent.

The number of household members is divided into three ranges and as majority of households is having between four and six household members accounting for 66% of the total respondents. 86% of farmer respondents have over 15 years of experience in farming. 41% of respondents cultivate eleven to twenty acre.

Table (4.2) Demographic Characteristics of Respondents

Demographics Characteristics		Respondents	Percent
Gender	Male	111	89
	Female	14	11
	Total	125	100
Age (Years)	18 - 25	1	1
	26 - 45	44	35
	46 - 65	65	52
	66 - 85	15	12
	Total	125	100
Education Level	Primary	27	22
	Middle	92	74
	High	27	22
	Graduate	0	0
	Total	125	100
Marital Status	Single	9	7
	Married	116	93
	Total	125	100
Household Member	1 - 3	22	18
	4 - 6	82	66
	Over 6	21	17
	Total	125	100
Farming Experiences (Years)	Under 20	40	32
	21 - 30	60	48
	31 - 40	20	16
	Over 40	5	4
	Total	125	100
Cultivated Acres	Under 5	6	5
	6 - 10	36	29
	11 - 20	51	41
	21 - 50	31	25
	Above 50	1	1
	Total	125	100

Source: Survey Data, 2019

4.3 Credit Accessibility of Respondents

The credit accessibility of Daik-U Township is analyzed in terms of credit amount accessibility, borrowing facility, credit term, and repayment period.

4.3.1 Sources of Credit

Many farmers are borrowing agricultural credit from institutional ,MADB because of low interest rates. If the farmer haven't earned enough credit from MADB to cultivate, they're trying to get another loan sources, for example microfinance company. Farmers who are unable to have collateral, they borrow from other lenders such as pawns, village shopkeepers, traders, commission officers and so on with high interest rate.

With regard to the amount of credit, MADB bank lends 150,000 kyat per acre to the seasonal loan at a maximum of 10 acres per farmer. The amount of the loan depends on the cultivated acres. Although MADB limits a maximum loan amount of 1,500,000 Kyats, the amount of 2,250,000 Kyats is exceedingly obtained by those respondents who have their loan with the farm land they own in different names of family members. According to the survey data, almost half of borrowing farmers from six to twenty cultivated acres borrows 150,000 to 2,250,000 kyats. The loan of respondents is divided into five categories.

Table (4.3) Amount of MADB Loan Borrowed

Paddy Cultivated Acres	Loan Amount (000' Kyat)	Number	Percent (%)
≤ 5	150 - 750	6	4.80
6 – 10	150 - 1500	36	28.80
11 – 20	150 - 2250	45	36.00
20 – 50	150 - 2250	24	19.20
> 50	150 - 2250	1	0.80
Total		112	89.60

Source: Survey data, 2019

4.3.2 Easiness of Borrowing

When accessing loans from structured sources such as MADB, the main requirement is the need to send legal documents such as (Form-7) as collateral in the borrowing process. Consequently, collateral and documentation in easy borrowing is an important consideration. In addition to the period of approval, the borrowing process, position of borrowers and convenient cash in and out are also included in easy borrowing. Five statements therefore calculate the Farmer's level of simple borrowing agreement. The results of the level of interest rate decided by farmers are presented in Table (4.4).

Accessibility of credit to the farmer depends on the loan term being appropriate for the farmer, loan amount is sufficient for the farmer, clear loan documentation process and low interest rate on loans. Credit Accessibility Analysis on Farmers is provided in Table (4.4).

Table (4.4) Easiness of Borrowing

Item	Particulars	Mean Value	Standard Deviation
1	Collateral and documention	3.69	0.47
2	Approval Time	3.79	0.41
3	Easiness of Borrowing process	3.97	0.18
4	Convenience location	3.81	0.40
5	Easiness of cash withdraw	3.54	0.50
	Overall Mean Value	3.76	

Source: Survey data, 2019

The result in Table (4.4) shows easiness for borrowing is the highest means scores of 3.97 while convenience for cash out and repayment has the lowest mean score of 3.54. The overall mean score on easiness of borrowing is 3.76. The result appears as almost equally all respondents agree that borrowing is acceptable.

4.3.3 Credit Term

Agricultural credits, depending on their maturity, are graded as short, intermediate or long term. It should cover in the farming process such as planting, harvesting and sale up to the entire processing period. Credit terms are regarded as a crucial role in credit accessibility in this country. It covers for harvesting, selling, and has acceptable and sufficient periods of time. Four statements are used to access the level of Farmer's credit term agreement showing a result of the level of farmers' credit term agreement in Table (4.5).

Table (4.5) Credit Terms

Item	Credit Term	Mean	Standard Deviation
1	Cover up to harvesting	3.70	0.57
2	Covers for selling with favorable price	2.88	0.50
3	Acceptable term	3.54	0.58
4	Enough time	3.04	0.50
	Overall Mean Scores		3.29

Source: Surveyed Data, 2019

Table (4.5) reveals that the credit term cover up to harvesting period is the highest mean score of 3.70, while the term covers for selling period is the lowest mean score of 2.88. The overall average credit terms is 3.29. It is suitable for fair agreement on the credit term for farmers.

4.3.4 Loan Repayment

Regarding the loan repayment, the figures show that with the maximum mean scores of 3.65, acceptance of early payment is highest. The average mean repayment score is 3.07, which means that farmers are equally in compliance with repayment for acceptable access to credit.

Table (4.6) Credit Repayment

Item	Loan Utilization of Farmer	Mean	Standard Deviation
1	Convenient term and frequency	2.82	0.67
2	Reasonable amount per frequency	2.74	0.57
3	Early repayment	3.65	0.48
	Overall Mean Scores	3.07	

Source: Surveyed Data, 2019

4.4 Credit Utilization of Respondents

This section is to present the utilization of credit on farming resources typically included the amount spent on fertilizer, seeds, pesticides, land preparation and rental of machinery. Respondents were asked to indicate the extent to which it is used for these resources.

Use in quality farm inputs and farming machinery support to be more profitable and more production. The respondents' spending amount on input resources such as fertilizers, seeds, and pesticides are shown in Table (4.7).

In addition, farm performance is relying on sufficient labour, using farming machinery. Among these spending, land preparation, machinery, and sufficient labor were selected in this study, as shown also in Table (4.7).

Most of the respondents spend above 30,000 Kyats spending on fertilizer with 59.20% of the total. Regarding the spending on quality seed, it is over 25,000 kyats with 62.4% and the spending amount on pesticides is 56% with a majority of amount spent over 10,000 kyats.

Regarding on land preparation, labor and machinery are spending 22,000 kyats, 24,000 kyats and 40,000 kyats respectively and their each percentage are 48, 52.8 and 71.

Table (4.7) Amount of Spending on Input Resources

Particular (Kyats)		Number	Percent
Fertilizers	≤ 25,000	28	22.40
	25,001– 30,000	23	18.40
	> 30,000	74	59.20
	Total	125	100
Seed	≤ 15000	26	20.80
	15,001 – 25,000	21	16.80
	> 25,000	78	62.40
	Total	125	100
Pesticides	≤ 8,000	32	25.60
	8,001–10,000	23	18.40
	> 10,000	70	56.00
	Total	125	100
Land Preparation	≤18,000	32	47.20
	18,001 – 20,000	27	21.60
	20,001 – 22,000	60	48.00
	> 22,000	6	4.80
	Total	125	100
Hire Labor	≤16,000	32	25.60
	16,001 – 20,000	27	21.60
	> 20,000	66	52.80
	Total	125	100
Rental of Machinery	≤ 40,000	71	56.80
	> 40,000	54	43.20
	Total	125	100

Source: Surveyed Data, 2019

4.5 Regression Analysis of Farm Performance through Annual Farm Income (Kyats)

Annual farm income of farmers is from 1,350,000 to over 20,000,000 Kyat. The following Table (4.8) shows the annual income distribution among respondents.

Table (4.8) Annual Household Farm Income

Annual Farm Income (Kyat in 00,000)	Number	Percentage
≤ 25	6	4.80
26 – 50	42	33.60
51 – 100	58	46.40
101 – 150	15	13.60
151 – 200	2	1.60
> 200	2	1.60
Total	125	100.00

Source: Survey Data, 2019

According to Table (4.8), most borrowing farmers' annual income amounts to more than 58 percent of total respondents from 5,100,000 to 1,000,000 kyats. The smallest percent is the annual household income from borrowing farmers over 20,000,000.

4.5.1 Effect of Credit Accessibility on Annual Farm Income

In this study, the effect on annual household farm income of credit accessibility is analyzed. The four variables, namely credit amount, borrowing easiness, credit term, and repayment, are used to analyze the performance of farms by farmers' annual income. Annual farm income and the credit amount is measured by Kyat and the three variables are measured by mean value except credit amount. The multiple linear regression models are applied to this analysis to evaluate the impact of each of the measures of credit accessibility on annual household farm income. The performance of multiple linear regression models is shown in the Table below (4.9).

The model explains 46.4% variation of the annual household farm income on each credit accessibility of credit amount, eases of borrowing, credit term and repayment. The value of F-test, the overall significance of the models, came out highly significant at 1% level.

Table (4.9) Estimated Values of Credit Accessibility for the Farm Income (Kyats)

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	66.75	5.23			0.079
Credit Amount (Kyats)	0.34	0.94	0.23***	2.95	0.005
Ease of Borrowing (Likert Scale)	0.05	0.96	0.20*	4.99	0.078
Credit Terms (Likert Scale)	0.07	5.59	0.67**	3.89	0.032
Repayment (Likert Scale)	0.01	7.35	0.53**	5.91	0.083
Adjusted R ²	0.464				
F Value	4.83 (P value = .000)				

Note: *, **, *** indicates that it is statistically significant at the 0.1, 0.05 and 0.01 level

Source: Survey Result 2019

Credit amount variable amount is significant with coefficient value at 1 percent level since the resulted p value is less than 0.01. It can be denoted as 10,000 Kyats increase in the credit amount, while other thing remain unchanged, will increase the income by 23,000 Kyats..

The significant coefficient values of the credit term and repayment are 5 percent level since the resulted p value is less than 0.05. This means that when increasing in credit term and repayment in one unit and other factors remain unchanged, the annual farm income will have an increasing effect of income by 67,000 kyats and 53,000 kyats respectively.

4.5.2 Effect of Utilizing Farming Resources on Annual Farm Income

In this study analyzes how to effect of credit utilization on annual farm income. Applying the multiple linear regression model the analysis output is as in Table (4.10).

Table (4.10) Estimated Values of Credit Utilization for the Farm Income (Kyats)

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	54.70	7.29		7.50	
Cost of Land Preparation (Kyats)	0.08**	2.08	0.268	2.04	0.043
Cost of Input Resources (Kyats)	0.35***	1.94	0.352	1.97	0.002
Cost of Labor (Kyats)	0.06*	1.34	0.511	6.16	0.062
Rental of Machine (Kyats)	0.05**	2.42	0.161	1.56	0.025
Adjusted R ²	0.525				
F Value	33.19 (P value = .000)				

Note: *, **, *** indicates that it is statistically significant at the 0.1, 0.05 and 0.01 level

Source: Survey Result 2019

Under loan utilization, there are four variables and all their measurement is kyats. There is 52.5% of variation regarding the annual farming income for each variable of utilizing farming resources. The interpretation would be as such utilization of input resources and uses of machine have significant effect on farm income with coefficient value at 1 percent level and 5 percent level each. It therefore means that increasing in spending of input resources by 10,000 Kyats will have increasing effects on annual farming income to be 35,000 and 5,000 Kyats respectively.

4.5.3 Effect of Credit Accessibility and Utilization on Annual Farm Income

In addition, this study analyzes the impact on annual farm income of credit accessibility and the credit utilization. The findings of the research are as shown in

Table (4.11) when applying the multiple linear regression models. According to the survey, the maximum yield per acre is 110 bushels and the minimum is 70 bushels. And annual farm income of respondents is between 1,350,000 Kyats and 32,400,000 Kyats.

Table (4.11) Estimated Values of Loan Accessibility and Utilization for Annual Farm Income (Kyats)

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	31.14	11.97		2.6	0.010
Credit Amount (Kyats)	0.29***	0.94	0.389	3.16	0.002
Input Resources (Kyats)	0.26**	1.94	0.281	2.27	0.025
Machinery (Kyats)	0.40***	2.42	0.247	3.93	0.000
Adjusted R ²	0.54				
F Value	48.32 (P value = .000)				

Note: *, **, *** indicates that it is statistically significant at the 0.1, 0.05 and 0.01 level

Source: Survey Result 2019

There is 54 percent variance on the annual farming production for both factors after combination the factors of credit accessibility and utilization. At 1 percent, the amount of credit is a significant coefficient value. It can be denoted as 10,000 Kyats increase in the amount of credit, while other things remain unchanged, the profit would increase by 29,000 Kyats. Therefore, the farmers should be provided more credit to improve their farm income. Moreover, the cost of input resources and the rental of machine would have a significant effect on farm income with a coefficient value of 5% each. Increase in spending of input cost and rental of machine expense by 10,000 Kyats will have positive effects on annual farming income to be 26,000 and 40,000 Kyats respectively. Therefore, the farmers should spend the agricultural credit for quality inputs for farms and more using in machine for farm activities to increase the paddy yield.

CHAPTER V

CONCLUSIONS

This chapter describes the study findings and recommendations to consider the impact of credit accessibility and resource utilization on Daik-U Township's farm results.

5.1 Findings

The distribution of land indicates, according to the study of the characteristics of the respondent, that 51 percent of farmers cultivated between 11 to 20 acres of farming area. The majority of respondents in the sample are between the ages of 46 and 65, which are within working age. The results indicate that the educational level of the research group is mostly middle school.

With regard to the impact of credit accessibility, almost all respondents have access to credit mainly from MADB banks and a small portion of other options such as MFIs and other lenders. The respondents agreed that accessibility of credit is easy for them to obtain a loan, but the amount of the credit is not enough and only one-third of total farm expenses can be enough to cultivate because total farm expenses cost nearly 500,000 per acre and the credit obtained is 150,000 per acre. Credit accessibility factors analysis shows that the credit term is adequate and that repayment is acceptable to farmers. The findings of farming resource use analysis indicate that farmers have used more input tools such as crops, but equally on fertilizers and pesticides. The spending on land preparation and labor are more than spending on rental of machinery.

Farm performance in terms of paddy yield per acre reveals a majority of 91 between 100 bushels high for the area, with annual household income performance ranging from 450,000 to 10,000,000 kyats. Accessibility of credit and use of resources has a positive relationship to farmers' yield per acre and annual income. Analysis of productivity, i.e. yield per acre, shows that all other variables such as credit amount, easy borrowing, usage of farm resource, input resource and farming techniques, except for the credit term and repayment scheme, are increasingly having an impact on yield per acre. The annual household farm income productivity report reveals that the resulting rise in all credit accessibility and resource usage has a major impact on annual household farm income.

5.2 Recommendations

In this study, farmers are unable to get enough loan amounts from government bank (MADB) during the farming time with low interest rates. Government needs to support more financial aid to get enough loans to escape from high-interest informal lenders from farmers lending. For each acre owned by farmers, the existing 150,000 MMK is not adequate not only for cultivation but also for market sales and distribution. In addition, the loan should be given to farmers on the basis of their own farm acres. A farmer who owns more than 10 acres is currently only able to borrow 1,500,000 MMK as a maximum. Farmers still need to send Form 7, which is owned by the farm to MADB, and some farmers do not own the farm which they cannot submit Form 7 and do not have access to the loan at a low interest rate of 8.5 percent per year. So the government needs to think about providing loan not only to the farmers who own the farm land, but also to the farmers who are not the farm land owner but are hiring the farm land for cultivation.

In addition, farmers should be allowed to use high-quality input tools and modernized farming and mechanical cultivation techniques. The subsistence farming practices used by the farmers are one reason for such low productivity. Thus, by using better farming practices and better inputs, farmers should be provided with technical know-how on how to use credit to improve farm productivity.

Apart from loans for farming, farmers need the long-term loan that depends on the investment they have made in farming for more than a year, such as buying the automatic farming equipment for themselves. Currently most of the credit is for the roughly 6-month seasonal loan. According to findings, livestock income and crop farming income are higher than rice farming income, which needs to be promoted to farmers for high-income to increase farmers' profitability, leading to poverty alleviation in the country and leading to Myanmar's prosperity.

In addition, the introduction of a crop insurance scheme to protect farmers in Myanmar is very relevant and a two-year pilot crop insurance project was approved by the Ministry of Planning and Finance in January 2018 to cover crop damage as a result of unpredictable weather in Myanmar. Meanwhile, the production cost of paddy is also higher in Myanmar because of poor infrastructure and technology compared to neighboring countries. Farmers are at the mercy of unpredictable weather and crop damage resulting from pests and disease. The State-owned Myanmar Agricultural

Development Bank (MADB) is currently providing loans to farmers suffering losses from poor crop yields. It is difficult for them to pay off their loans if their crops are damaged because of the erratic weather conditions that put them in a debt trap. That being so, the crop insurance system based on the weather index will be introduced to help farmers address these issues.

To expand and strengthen the market of rice can be done by improved communication among all those in the supply chain, accurate information for sellers and farmers and other participants, better preparation and increased input. Through the collective efforts of farmers, local traders, rice millers and exporters, all farmers are encouraged to make suggestions to the Union government on how to continue the progress in agriculture. Only then can the government know how to provide the industry, which is desperately needed to improve the supply chain so that it can penetrate with high-quality rice into further foreign market.

5.3 Needs for Further Research

This study only focused on credit accessibility and effect of agricultural loan in Daik-U Township. The study area covers Daik-U Township only. Therefore, the result study may not represent Myanmar's overall situation. This work can not directly examine the use of loans for farming by farmers, details the study of category expenses for paddy production. Due to time constraints, it is required to perform more survey area as well as collect more randomly selected farmers. Therefore, if further study on more sample size and whole Myanmar areas can be performed.

REFERENCES

- Aamir Riaz, Ghazanfar Ali Khan and Munir Ahmad.(2013). Utilization of Agriculture Credit by the Farming Community of ZTBL for Agriculture Development.Pak. J.Agri. Sci. 49(4)
- Ankur Agrawal (August, 2007). Agriculture Lending by Public, Private and Co-Operative Banks.
- Aye Khant Khant ((Master of Banking and Finance, Yangon, University of Economics, Myanma), (2018). Effect of Credit Accessibility and Loan Utilization on Farm Performance in Eain Me Township)
- M.R. Kohansai, M. Ghorbani and H. Mansoori, (2008). Effect of Credit Accessibility of Farmers on Agricultural Investment and Investigation of Policy Options in Khorasan-Razavi province.
- Abdullah, Deyi Zhou, Sher Ali Khan, Khalil Jerbran, Asad Ali, (2006). Agricultural Credit in Pakistan: Past Trends and Future Prospects.
- Jackline WaitheraIrungu, (October, 2013). Relationship Between Agricultural Credit Financing and Financial Performance of Small Scale Farmers in Kiria Division in Muranga Country.
- Hannah Gyabea, (November, 2015). Rural Banking and Agricultural Financing of Kwamanman Rural Bank
- Ismael Byaruhanga (2013). Credit Terms, Credit Accessibility and Performance of Agricultural Cooperatives in Rwanda .International Journal *JEIEFB*, 1(6)
- Spio, Kojo, (August, 2012). The impact and accessibility of Agricultural credit: a case study of small-scale farmers in the Northern Province of South Africa.
- LIFT (MADB), (2014). Agricultural Development Strategy and investment plan.
- Zin Mar Htoo (Master of Banking and Finance, Yangon, University of Economics, Myanmar), (2017). Effectiveness of Agricultural Loan of Maha Agriculture Microfinance institution on Farmers in Nattalin Township.

Than Htun Oo ((Master of Banking and Finance, Yangon, University of Economics, Myanmar), (2018). Effect of Credit Accessibility and Loan Utilization on Farm Performance in Kyaung Kone Township)

Wanjawa.D .S , Dr Yugi. C. T, Muli. M .W (2017). Contribution of Agricultural Loans Accessibility to Performance of Small Holder Sugar Cane Farmers in Kakamega County, Kenya. *IJRR International Journal*, 4(10)

APPENDIX
Effect of Credit Accessibility and Loan Utilization of Farmer
Questionnaires

Section (A)

Demographic Factor

I. Personal and House Details

1. Respondent ID
2. Respond Name
3. Male / Female
4. Head of Family
5. Occupation
6. Ages (Year)
 18-25 26-45 46-65 > 66
7. Education
8. Primary Middle High School Graduated
9. Marital Status
 Single Married
10. No. of Household Member (.....)
11. No. of Agriculture Workers (.....)
12. Farming Experiences (Years) (.....)
13. Farming Acres (.....) acres
14. Type of paddy

Section (B)

Credit Accessibility

Sources of Credit	Amount
MADB	

5 Points Likert Scale Measurement

5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree

2 - Easiness of Borrowing	1	2	3	4	5
Collateral and multiple documents not needed					
Duration of Approval is fast					
Borrowing process is complicated					
Lenders are located within reachable vicinity					
Cash out and Repayments are convenient					

3- Credit Terms	1	2	3	4	5
The credit period covers up to harvesting period of paddy					
Credit period covers for selling with favorable price					
Credit period is acceptable for me					
Money lender are provided loan to me with enough time					

4- Repayments	1	2	3	4	5
Repayment term and frequency is convenient					
Repayment amount per frequency is reasonable					
Early repayment is accepted by lenders					

Section: C
Performance

Part (A) Utilisation of Farming Resources

1. What is your spending on Farming Resources.

On Input Resources

Particular	Average Amount per acre
a. Fertilisers	
b. Seeds	
c. Pesticides	
d. Land Preparation	
e. Labor Hired	
f. Machinery	

Section: D
Farm Yield and Income from Farming

1. What is your yield per acres in a year?

Bushels _____ per acre.

2. On average, how much income did you earn in a year?

MMKs _____