YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF COMMERCE

MASTER OF BANKING AND FINANCE PROGRAMME

EFFECT OF CREDIT ACCESSIBILITY AND RESOURCE UTILISATION ON FARM PERFORMANCE IN KYAUNG KONE TOWNSHIP (AYERWADDY DIVISION)

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(MBF- 4th BATCH)

DECEMBER, 2018

EFFECT OF CREDIT ACCESSIBILITY AND RESOURCE UTILISATION ON FARM PERFORMANCE IN KYAUNG KONE TOWNSHIP (AYERWADDY DIVISION)

A thesis submitted as a particular fulfillment towards the requirements for the degree of Master of Banking and Finance

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ABSTRACT

This study investigates the effect of credit accessibility and resource utilization on farm performance in Kyaung Kone Township, Ayerwaddy Division, Myanmar. The sample size is 150 farmer respondents (10% of total households) from 5 villages among the 65 villages in the Township, using two staged random sampling technique. Descriptive statistics were used to evaluate demographic and socio-economic characteristics of the respondents while multiple linear regressions analysis was used to analyze the effect on farm performance. The survey data indicates that almost all farmers get an agricultural credit from MADB and farmers are accessible to certain amount of agricultural credit with easiness, acceptable term and repayment scheme. Farmers spend more on resources like seeds and fairly on fertilizers and pesticides. For farming techniques, spending on land preparation, weeding and labour is more than that on machinery and soil analysis. Analyzing the effect on yield per acre, it is found that credit amount and easiness of borrowing has direct effect on yield per acre while the other variables have no significant outcome, and the spending on resources utilization also has a positive significant effect on yield per acre. The analysis of effect on annual farm income reveals that both the credit accessibility and resources utilization significantly increase the farm income accordingly. These explains adequate credit amount with easiness of borrowing and increased resource utilization can push up the yield per acre as well as annual farm income of farmers in Kyaung Kone Township.

ACNOWLEDGEMENTS

This research aims towards fulfillment of M.B.F. (Master of Banking and Finance) program. It will not be accomplished without the help of a number of individuals and organizations.

Firstly, I would like to thank Prof. Dr. Tin Win, Rector of the Yangon University of Economics, for his concern and encouragement to the participants of the Master of Banking and Finance (MBF) Programme.

The Second will be Dr. Daw Soe Thu, Professor and Head of the Department of Commerce and Program Director, Master of Banking and Finance Programme, Yangon University of Economics, who offered me various intellectual and professional supports throughout the preparation and till the accomplishment of the thesis.

I hereby express heartiest thanks to my supervisor, Dr. Daw Tin Tin Htwe, Professor, Department of Commerce, Yangon University of Economics, for her directives, guidance and excellent critical suggestions in completing this thesis.

I also present my sincere gratitude to all Professors, Teachers, Lecturers, and Tutors of Yangon University of Economics, taking part in the Master of Banking and Finance Program for their time and valuable knowledge imparted during the course of study at the Yangon University of Economics.

Next thankful persons will be the farmers in the Kyaung Kone Twonship and head of administration departments, heads of villages to whom much appreciation should go for their patience and understanding, during survey data collection. I would also like to extend my thanks to staffs of - MADB (Myanmar Agriculture Development Bank), for providing the required secondary data and information.

Last but not the least, my sincere thanks will be towards Prof. Dr. Sein Min, who not only have taught the Research Methodology in MBF programme, but also help me out in the analysis, computation of data and interpretation of the results.

Many thanks will finally go to the classmates of MBF fourth batch for whose contribution towards the accomplishment of the thesis.

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CHAPTER 1
INTRODUCTION

From historical age to Modern era Myanmar being an agricultural country, the sector in combine with livestock and fisheries, represents 35 to 40 percent of gross domestic product (GDP) of Myanmar. (World Bank:MADB, 2017). And seventy percent of the population residing in rural framing areas is the major part contributing in Myanmar Economy. Beyond 2014, Agriculture accounted over 40% of total export earnings and thus the performance of agriculture is a top priority in socioeconomic development agenda of the government.

The favorable conditions of climates, geographical, ethnic diversity, all enhance the Myanmar's agricultural potential. These offer farmers the opportunity to produce wide range of agricultural products. As water availability becomes scarce in various part of the world, particularly in neighboring China and India, Myanmar's water resources offer a significant agricultural competitive advantage. The fertile soils and abundant water source are legendary in Southeast Asia. Almost anything can be grown in the country, from fruits to vegetables, from rice to pulses. Country's strategic location between the two enormously populated India and China, makes easy accessibility of the markets and opportunity to develop the agricultural sector and improve poverty alleviation that leads to the prosperity of Myanmar.

However, in terms of quality and quantity, productivity in Myanmar is low compared with most of South East Asia, in the evidence of disparity in relative incomes across the countries. This mismatch is obviously explainable to be lack of advanced technology, raw materials and input such as fertilizers, pesticides, skilled labor, quality seeds and machinery, which all need a particular initial cost and investment. Therefore, to come across these financial constraints, agricultural credit plays a crucial role for increasing productivity and improving technologies. Easily accessible loan and proper utilization becomes the important factors for the agricultural sector in Myanmar. Generally the loan system set by lending institutions determine the farm's accessibility to credit and, doing so, affect the performance achieved by firms. Financial institutions' lending policies often determine the access problem when credit terms and provision of supplementary services do not suit borrowers- they will not apply for loans or their

applications will be rejected (Guirkinger & Bocuher, 2006). Therefore the performance of the firms cannot be considered in terms of profitability and productivity alone but must also take into account the fact that farm's access to credit and how effectiveness of these loans will play a vital role in their performance. 'Credit accessibility' refers to the ease or difficulty of acquiring credit by borrowers for purposes such as to enhance business performance (Saladhuddin, 2006). The accessibility of formal credit is still fairly constrained and not enough makes the farmers to turn to more expensive and unreliable in formal credit sources whose rates are normally higher.

1.1 Rationale of the Study

Agriculture credit can contribute to poverty reduction beyond a direct effect on farmer's incomes. Agricultural development can stimulate economic development outside of the agricultural sector, and lead to higher job and growth creation. It can also raise farm incomes, increases food supply, reduces food prices, and provides greater employment opportunities in both rural and urban areas. Agriculture finance is strategically important for eradicating extreme poverty and boosting shared prosperity.

The rationale of this study is initialised at the following considerations;

(i) Affordable Farm Financing: Faced with limited financing and banking options, rural families are often forced to take out high interest loans from informal moneylenders, or to pawn their goods and land for necessary capital. Affordable farm financing help farmers, migrant workers and small business owners stabilize their finances, getting rid of high interest debt and beneficial effects on agricultural production and rural income.

(ii) Increase Resources Utilization and Increase Farm Productivity and Income: - The measures to raise agricultural productivity include those related to effective agricultural research and extension, sufficient use of agricultural inputs, efficient and sustainable practices and use of natural resources (land, water, soils and forests) and increased resilience to climate change and disasters. Increase in productivity requires innovation and dissemination of knowledge and productivity enhancements will also rely on timely availability of quality inputs.

In Agricultural loan cluster, 30% of Union Agricultural seasonality loans are related to Ayeyarwady Division and in agricultural loan by crop, paddy crop represent approximately 90% of total crop (2016/2017, MADB Report). Among the government

institutions supporting the agriculture sector, the Myanmar Agriculture Development Bank (MADB) plays a key role as largest provider of credit to rural household engaged in agricultural activities and funds 2 million farmer households at subsidized interest rates of 8 percent per year. However, it can only issue year-long loans of MMK150,000 per acre of paddy, for up to 10 acres.

The Delta Area, residing in South West of Myanmar, is often traditionally termed as the "RICE BOWL" due to its geographical advantage of having abundant water sources with streams and rivers flowing across the area. And thus, it becomes the major agricultural area which will be a good representation of the sector in Myanmar. According to 2016/17, Ministry of Agriculture, Livestock and Irrigation report, Ayeyarwady Division is the highest agricultural productivity among fifteen States and Divisions. In Ayeyarwady Division, paddy production is the highest (28%) of Myanmar paddy production three years continuously until 2016/17. (Ministry of Agriculture, Livestock and Irrigation Report)

This study is focused in Kyaung Kone Twonship, Pathein District, Ayeyarwady Division. The township has 118,016 Acres of paddy crop area which represents 31% of Pathein District that is the third largest volume in the District (Ministry of Agriculture, Livestock and Irrigation, planning department_2016/17) and the total population is 163,035 (General Administration Department, 2015). Geographically, Kyaung Kone is an important interlink junction for Pathein City as well as Other district of Ayearwaddy to Yangon. Being one of the most active sub-urban regions around the city, the area can be taken as a good representation of Pathein District.

Despite the favorable geopolitical, climate, environmental and population condition, and the support from government and bank, the agricultural sector in Myanmar is still underdeveloped far beyond expectation. Massive investment is needed to carry out major and minor irrigation projects, rural electrification, installation of fertilizers and chemical plants, implementation of agricultural promotion programme and poverty alleviation programme in the country. This study, therefore, intends to find out the possible effect of credit and resource utilization on farm performance, in terms of profitability and productivity.

1.2 Objectives of the Study

The objectives of the study are as follows:

- To identify the accessibility of agricultural aredit to farmers;
- To identify the resources utilisation in terms of spending amount;
- To analyse the effect of credit accessibility and resources utilisation on farm performance - in Kyaung Kone Township, Pahtein District (Ayeyarwady Division).

1.3 Scope and Method of the Study

This study uses Descriptive Statistics Research Methods and Multiple Regression Analysis. Interviews with structured questionnaires were conducted. A sample size of 10% of population in 5 villages was selected from 65 villages in the township on random basis using two-stage random sampling method. Before collecting the data, village heads, financial institutions, government officers from Ministry of agriculture, livestock and irrigation were consulted. Secondary Data of respective journals, websites, research papers and literatures which are relevant to this thesis were referred as well. Major type of information used is primary survey data. A Pilot survey of over sixty farmer households in Pathein and Phyar Pon Township, Ayeyarwady Division also also conducted in May 2018. This study is geographically restricted only to certain villages in Kyaung Kone Township, Pathein District, Ayeyarwady Division. The sample size is not large due to the specified reasons. Findings are based on sample survey through interview and structured questionnaires method. Hence there is a scope for the respondents to be biased or, pretentious.

1.4 Organization of the Study

This study is organized into five chapters. The first chapter concerns about the introduction, objective of the study, scope and method of the study and organization of the study. In the second chapter, literature review on agricultural loan is presented. The third chapter presents the background study of Kyaung Kone Township, Ayeyarwady Division. Analysis on credit accessibility, resources utilization and the effect on farm's performance in Kyaung Kone Township, Ayeyarwady Division, is presented in chapter four. In chapter five, conclusion, recommendation and suggestions will be described.

CHAPTER 2
THEORETICAL BACKGROUND OF THE STUDY

In this chapter, it states the theoretical background and literature review on the credit accessibility and how credit and resources utilization affects farm performance. The study though should be further conducted regarding farm attributes, perceived economic return, perceived package appropriateness, use of multiple information communication methods, and access to credit. However, it begins with emergence of agricultural credit and lending methodologies.

2.1 Importance of Agricultural Credit

The agricultural sector engages 2.5 out of the 3 billion rural inhabitants in the world (World Bank, 2008). The strong linkages between agriculture and poverty are never doubted. It has been established that 1% GDP growth in agriculture in developing countries increases the expenditures of the poor at least 2.5 times more than the growth emanating from other sectors (Ligon & Sadoulet, 2007). Agriculture sector has satisfactory upheld growth to guarantee food security for the increasing population of Myanmar. Increased agricultural production and high crops yield is essential for food security which make the farming systems less vulnerable to climate change.

Nevertheless, the agriculture sector faced challenges such as low returns to farmers because of high cost of inputs, fertilizers and pesticides. Rural credit can help reduce poverty indirectly by the adoption of new technology and increase of the available credit facilities. Agricultural production can be increased easily and quickly through the provision of agricultural credit. Therefore, credit provision to farmers was central in all government policies. The aim of credit disbursed to farmers to meet their financial needs. Its ability to provide financial resources to farmers, especially for the purchase of input materials of farm. Farmers can get loan upon all of their cultivated area is the most important thing to meet their financial needs. Agricultural household models suggest that farm credit is not only necessitated by the limitations of self-finance, but also by uncertainty pertaining to the level of output and the time lag between inputs and output (Janvry & Sadoulet, 1995).

Agricultural credit plays an important role in enhancing the agricultural productivity in developing countries like Myanmar. Credit is the back bone for any business, more so for agriculture which has traditionally been a nonmonetary activity for the rural population in Myanmar. The introduction of easy and cheap credit is the quickest way to give boost to the agricultural production.

The existence of credit in Myanmar's agriculture has long been significant even before independence, at that time most of the farmers to a great extent were depending on the credit. Moreover it was rather a non-institutional form of credit. Credit was mainly provided to support farmers purchase agricultural inputs including seeds, fertilizers, cattle and implements to comfort the miserable farmers and increase the cropped area and change the cropping pattern. Myanmar agriculture is still traditional subsistence and stagnant in nature, hence credit is needed to create the supporting infrastructure for adoption of new technology.

2.2 Concept of Agricultural Credit

Credit plays a critical role in the process of commercialization and modernization of agriculture sector, and especially of rural economy. Credit is an important tool for getting the inputs in time thereby increasing the productivity of the farms particularly those of small ones. The use of credit facilities would therefore translate to higher resource employment and capacity utilization, increased output and income, and reduce poverty in the rural economy, especially among the farmers and be helpful to increase the food production which would lead to an improvement in the welfare of the farmers and consequently a reduction in their poverty and food insecurity levels (Olagunju, 2007)

Agricultural credit may be defined as the amount of investible funds made available for the farm business and farmers' family needs. In other words, Agricultural credit means money borrowed for farm investment as well as seasonal agricultural operations, to stimulate the productivity of the limited farm resources. It is not a mere loan or advance; but is an instrument to promote the well-being of the society.

Agricultural credit is a sectorial concept that comprises financial services for agricultural production, processing, and marketing. There are plenty of potential financing opportunities in the agricultural sector. It includes short, medium and long-term loans, leasing, savings, payment services, and crop and livestock insurance. Short-term

agricultural credit is for covering a seasonal shortage of money for farm expenses such as plowing, harvesting, irrigation and fuel, cost of inputs, for small tools and for animal feeds and veterinary medicines. Intermediate term loans are used to finance depreciable assets such as machinery, equipment, breeding livestock and improvement. Long-term agricultural credit is aimed at increasing the fixed assets of farm. Depending on risk profiles, certain farmers may be attractive clients for a direct financing on a standalone basis. These farmers typically have relatively diversified sources of income, limited seasonality and ability to smooth cash flow throughout the year, irrigation or limited exposure to weather risks, use of good agricultural practices and strong access to markets and favorable prices.

Loan size ought to be sufficient to justify individual credit assessments and other overhead costs associated with direct lending. Identifying farmers for direct financing show that farmers, for whom finance is the dominant constraint, usually have established wholesale or retail channels and strong relationships with a substantial number of suppliers. From the perspective of evaluating repayment risks, these small farmers should produce the bulk of their output for commercial sales. The best target commodity groups are those competitive farmers with good yields and growing demand for their products.

One of the financial institutes has an important role in financing agriculture sector is agricultural bank. This bank can direct the agricultural credit flow such that helps general economic policies of government. So, duty of agricultural bank is financing of farmers and related industries and participation in activities that private sector can`t invest in it. In fact, access to credit for farmers is accompanied with some problems (Ghorbani, 2005).

2.3 Credit Accessibility

'Credit accessibility' refers to the ease or difficulty of acquiring credit by borrowers for purposes such as to enhance business performance (Saladhuddin, 2006). 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. al. 2004). 'Credit accessibility' was measured in terms the amount the lender is willing to lend and the amount the borrower is willing to borrow at exogenously given interest rates (Freixas and Rochet 1997, Chakra-borty 2006). This is reflected in the institutions' strict lending policies, displayed in the form of collateral requirement, repayment period, first account operating requirement and maximum loan amounts. Consequently, access to credit is restricted to a small proportion of the population who can overcome significant barriers to credit such as high minimum balance for account opening, onerous collateral requirements and a long and costly bureaucratic process (Okurut, 2004).

One constraint which has received considerable research attention (e.g. Feder et. al. 1989, 1990; Petrick 2005; Akudugu 2012; Kuwornu et al. 2013) but still remains inconclusive is the issue of access to credit by smallholders. According to the World Bank global financial inclusion report, 2.5 billion people in the world lack access to financial services (World Bank, 2013) and majority of such are engaged in agriculture and related activities (World Bank, 2008). It is reported that only 5% of farmers in Africa and about 15% in Asia and Latin America have access to formal credit, and on an average, across developing countries, 5% of the borrowers receive 80% of applied credit (Owusu-antwi & Antwi, 2010). Furthermore, a survey in India shows that 87% of marginal farmers lack access to formal credit and 71% had no access to savings account (World Bank, 2007). Elsewhere in Central and Eastern Europe, 50% of smallholders report credit constraint as a major barrier to growth and expansion of small and medium scale businesses (Sarris, Savastano, & Tritten, 2004). Meanwhile, the capacity of rural households and agricultural firms to invest and make timely calculated risk decisions to a larger extent is determined by access to credit facilities (World Bank, 2008)

In Myanmar, MADB is currently the largest financial institution serving the rural areas and financing agriculture activities. 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. Every year, MADB disburses a large volume of short-term loans to farmers both during the monsoon and the winter agricultural seasons.

2.4 Effect of Agricultural Credit on Farms Performance

Credit can help farmers through the alleviation of capital constraints and thus enables farmers to make timely purchases of inputs that they cannot afford from their own resources. Expansion of credit institutions is a prerequisite for technological change, which will facilitate agricultural prosperity. Use of credit might have positive relationship with farmers' satisfaction. The agricultural productivity can be boosted by the easy and cheap availability of credit. According to (Freeman et. tal., 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. It has been pointed out by (Murray) since 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 their farm on more profitable basis. In order to adopt high yielding varieties, farmers need huge amount of loan, since their own savings are negligible.

2.4.1 Previous Studies

Credit is regarded as a key requirement for enhancing economic growth and rising living standards in rural areas and a major means by which rural households liquidity problem can be solved (Petrick, 2004). (Feder, Lau, Lin, & Luo, 1990) point out that in production systems, credit is critical in that it determines how much inputs can be used. (Carter, 1989) summarizes the critical role of credit in performance of agriculture in three ways: (i) it encourages efficient resource allocation by overcoming constraints to purchasing inputs and using them optimally; (ii) it shifts input-output frontier if used to acquire modern farm technology and (iii) it increases the use intensity of fixed resources such as land, labour and management. The marginal contribution of credit brings input levels closer to the optimal levels, thereby increasing output and productivity (Feder, Lau, Lin, & Luo, 1990)

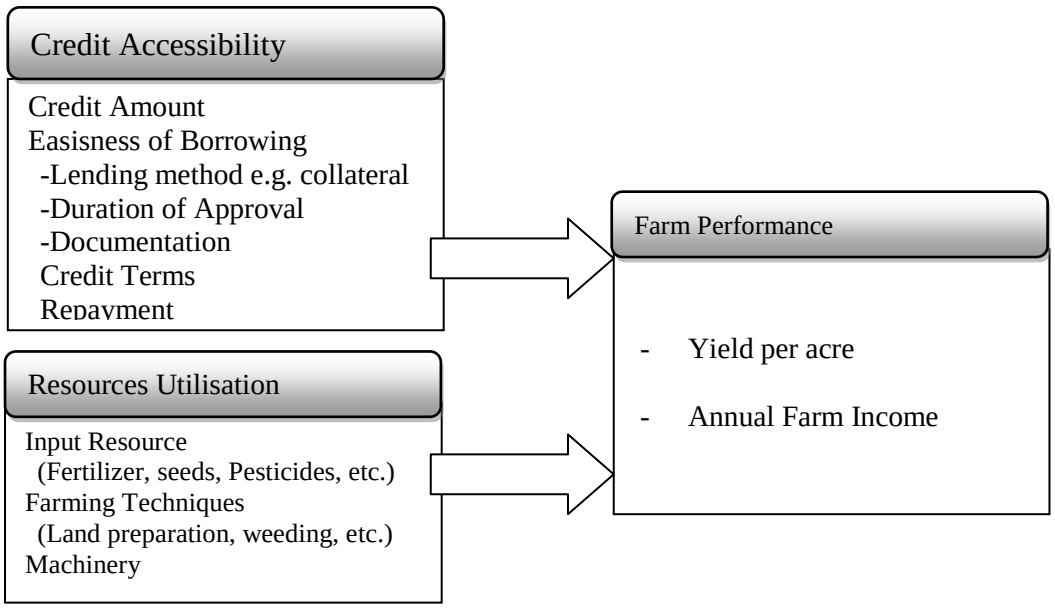
The emerging conclusion from empirical studies is that there is a positive correlation between credit, productivity and poverty reduction (Feder et al. 1990; Petrick 2005). For instance, the study of Bashir et. Al. (Bashir, Mehmood, & Hassan, 2010) showed that a percent increase in credit increases wheat yield by 0.245%. The belief is that productivity led growth can be achieved if smallholders get access to requisite inputs necessary for production activities. Improvement in productivity through effective allocation of inputs could be critical in enhancing household welfare.

Official report indicates that inadequate access to credit remains a central challenge to smallholders and is a major constraint to agricultural productivity maximization efforts (MoFA, Ghana, 2011). The smallholders comprising 90% and producing 80% of the sectors output (Ministry of Food and agriculture, 2011) are not only resources constrained but also the most vulnerable poverty group (46%) (National Development Planning Commission, 2012). In their recent study, Kuwornu et al. (2013) report that 95% of maize farmers lack access to credit. Little is known about rural credit constraint across the globe. The few existing studies mentioned earlier in addition to the following Ghana specific studies (Owusu-Antwi and Antwi 2010; Akudugu 2012; Kowornu et al. 2013; Dzadze et al. 2012) are not only empirically inadequate, it is also not comprehensive enough to allow us understand the dynamics and complexities of rural credit accessibility. Meanwhile, the connection between credit and agricultural productivity is implicit. Furthermore, little attention has been given to micro level analysis.

2.5 Conceptual Framework of the Study.

Referring the above studies, the conceptual framework for this proposed study is constructed as shown in figure (2.1). With the correlation between 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. The credit accessibility to farmers is characterized by the Credit Amount, easiness of borrowing in terms of lending method (collateral, document), approval period, etc. The utilization of resources, techniques, machinery is considered as supportive factors using the conclusion of (Carter 1989). Therefore effect of Credit Accessibility supported through resources utilization on the performance of farm analyzed in two ways with Farm Yield and Farm income. The income of the farm is calculated at the end the year and therefore it can be affected with market price.

Figure. 2.1. Conceptual Framework of Credit Accessibility, Resource Utilization and Effect on Farm Performance



Source: Own Compilation Model

CHAPTER 3
OVERVIEW ON AGRICULTURAL CREDIT IN KYAUNG KONE

This chapter presents brief description of the study area. Knowledge of the study area is essential to have first-hand information on background of the area, demographic and geographic facts and and type of available credit and lending instituions for later use.

3.1 Role of Agricultural Finance in Myanmar

The Union of Myanmar is an agricultural country, and agriculture sector is the back-bone of its economy. The sector is the basic one in the national economy of Myanmar, 75% of total populations residing in rural area and basically engaged in agriculture and animal husbandry for their earning. Recently, agriculture sector contributes 36% of GDP, 35% of total export earnings and employs 63% of the labor force. And the progressive achievement in agriculture sector such as production, services and trade, are being shared to national development. The credit requirement of farmers in Myanmar is increased over time, mainly due to technological advancement and the high use of fertilizers and pesticides. Rural and agricultural finance in Myanmar at this time in its development represent many profound challenges but also a great opportunity. By using a comprehensive instead of a piecemeal approach and learning from the experiences in other countries Myanmar might well be able to shorten the time it takes to develop an efficient rural finance system.

Myanmar's financial sector and banking system are small and quite under-developed. It is estimated that only about 10% of the population have access to formal financial services, 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 access to agricultural production credit from formal sources is nearly non-existent. Large trading companies and processors report having access to some credit through bank branches of commercial banks in Township centers. However, formal credit is not sufficiently available to almost any farmer, let alone smallholder farmers. While the agricultural sector in Myanmar represents 43% of GDP and employs 54% of the population, only about 2.5% of all outstanding loans are made to this sector.

3.2 The Lending Institutions in Myanmar.

The Myanmar Agriculture Development Bank (MADB) is the only major financial institution that operates in rural space for agriculture credit. MADB is the second largest financial institution in Myanmar by branches (205) and the largest by assets and loans. Its maximum credit amount for paddy production is 150,000 kyats per acres and is limited to ten acres per farmer. It covers about 25-50% of the overall financing needs per acre at a rate of 8% p.a. In Myanmar, most farmers borrow from MADB, main lender of agricultural credit to farmer in Myanmar. The MADB is state owned and the successor to the State Agricultural Bank (SAB) established in 1953, which latterly became the Myanmar Agricultural Development bank in 1976. It has a countrywide network of 14 regional offices, 169 branches and 44 agency offices with 3357 staff providing short term and long terms credit to over two million farmers. MADB lend agricultural credit to farmers total Kyats 1,658,861.75 million in 2017-2018. (MADB, 2017-2018).

This loan from Government Bank needs a Form 7 as collateral for which small and marginal farmers have difficulty to get from related authority. Expense of one hundred fifty thousand for one acre is not sufficient for high cost of farm input such as seeds, fertilizer, labor charges, fuel and pesticides. The balance is primarily financed through informal loans carrying an interest rate between 5 to 10% per month. The loan also need to be repaid as per schedule after harvesting of the crops and farmers have no chance to wait getting the ceiling price of their farm products. There are other lending firms like microfinance institutions collect the interest two times per month or monthly for which farmers have no cash flow during cultivated season. Informal sources of loan from friends, relatives, village shopkeepers, traders, and commission agents with high interest rate from farmers. However most of the farmers have to rely on such loan due to lack of facility and access to formal credit in adequate amount.

To enhance credit accessibility, MADB revised the farmers' loan system from the current group-based lending system to an individual based system so that farmers can provide their own guarantees. In new system, if a farmer successfully pays off his loans, he can apply for a fresh loan. In old System, the problem is that if one farmer in a group is unable to repay his loan, the others hold off from repaying as well as they are worried that they will not be able to get loans again. Changing to a system of paying loans

individually should have been done much earlier ((Khin, 2018). MADB has provided loans for 50 years to farmers but the sector has not grown by much. The way for agriculture to grow is that MADB becomes a real development bank which supports the entire supply chain, including farmers, factories and traders (Kyaw Win, 2018) Union Minister of Planning and Finance).

3.3 Background Information of Kyaung Kone Township

This study mainly focus on Kyaung Kone Township, Pathein District, Ayeyarwady Division which is a suburban township in Pathein District, Ayeyarwady Division. It cultivates 118,016 acres of paddy crop area which represents 31% of Pathein District. The main product of Kyaung Kone township is Paddy distributed to whole country. The township is included in top 10 list of high agricultural production in delta zone due to large cultivated area and high rate of rice production.

It is also the third largest rice producing township in Pathein District (Ministry of Agriculture, Livestock and Irrigation, planning department_2016/17) and total population of 163,035 (General Administration Department, 2015). Geographically, Kyaung Kone is an important interlink junction between Pathein and Other district of Ayearwaddy and also to Yangon City. Being one of the most active sub-urban regions around Pathein City, the area could be a good representation of Pathein District.

3.3.1 Geographic Characteristics

The Altitude of Kyaung Kone township is 19.239 feet and it is between North latitude 17 degree 5 minutes and, East longitude 95 degree 9 minutes. It is 262.79 square mile area and bounded on Pan Ta Naw township to its East, Tha Paung township, Kan Gyi Daung township at its west and Kyaung KoneTownship, Yay Kyi Township at its North. It has temperate climate zone and between (20’C and 37’C).

3.3.2. Demographic Characteristics

Total population is 163,035 and population of males is 48.8%, population of females is 51.2%. The majority of the people in the township live in rural areas with only 7.0% living in urban areas and population density of Kyaung Kone township is 261 persons per square kilometer. There are 4.1 persons living in each household in Kyaung

Kone township all data gathered by Population figures for Kyaung Kone township is as of September 2017. There are 65 villages group and 42,254 private households, it includes Elderly population is 5.3% and Economically productive population is 54.0% and rest of 30.7% are children. (General Administration Department, 2015)

3.3.3 Economic Characteristics

The main output product of Kyaung Kone township is paddy and cultivated crops for long term are sunflower, bean, sugar cane, coconut, palm, nipa palm, mango, lime, lemon, plum and tamarind. Marketable cultivated crops are peanut, corn, turmeric, taro, chili, pepper, banana, pineapple and sweet potato and some farmers are gardening in cold season. In Kyaung Kone township, there are total farm land 141,992 acres and it include farm 131,246 acres and gardening 10746 acres. Cultivated for paddy is 143,010 acres in rainy season and planning to cultivate 70,880 acres in cold season. The output of the paddy 86.85 per acre and total output of the paddy is 210,504 Tin and it is sufficient to total consumption of people who lived in Kyaung Kone Township. There are a few of livestock such as pig farming, dairy farming and aqua farming business in. Rice mill is main business of the Township and it has 28 rice mills being operated by 417 people. Other popular business is supply of agricultural inputs product such as fertilizer, pesticide, quality seeds and farm equipment. Being unaffected from Nargis Cyclone, the township is abundant of rice production due to the fair climate and rich soil farm land so that it is one of economically developed townships in Ayeyarwaddy division. The map of Kyaun Kone Township can be seen in Appendix. as Fig. 3.1.

3.4 Financial Institutions in Kyaung Kone Township

Credit disbursement to farmers in Myanmar has two main objectives, first, to reduce poverty and second to enhance food security, this policy is consistent with other developing countries of the region. In this regard Myanmar. Agricultural Development Bank is authorized by government to advance credit to farmers at lower interest rates through different organization. However, most of the studies show that majority of the farmers, more than 90 percent get their credit from informal sector. There are basically two types of agricultural Loans for farmers these are non-institutional and institutional sources of credit.

In Kyaung KoneTownship, MADB is the main lender of agricultural credit and 100 % of farmers borrow from MADB to cultivate their paddy and seasonal crops. MADB loan interest rate is most affordable to farmer and receive maximum amount of loan. The farmers of Kyaung Kone Township got the total loan of Kyats 14,388.09 million from MADB in 2017-2018. MADB lend to farmer two times in a year which are May and November to cultivate the rainy crops and winter crops. The following data are Agricultural credit and Paddy Yield of Kyaung Kone Township by MADB.

Table (3.1). Agricultural Credit and Paddy Yield in Kyaung Kone

Year	Rainy Season (Kyats in Million)	Cold Season (Kyats in Million)	Paddy Yield (hundred bushels)
2016	14,425.90	500.00	99505
2017	13,868.40	519.69	95921
2018	13,155.00		87700

Source: MADB Kyaung Kone Branch, October 2018

According to Table 3.1, MADB's Loan volume decline 1.27% between 2016 and 2018 due to default of loan repayment. MADB can disburse loan to farmer who success to repay the previous loan. In Kyaung Kone township, total cultivated area is 213,890 acres in 2017-2018 and MADB can lend total 183,621 acres in 2017-2018 (not including winter cultivated area of 2018). Farmers cannot get full acres of loan and MADB restricted to loan maximum limit 1,500,000 Kyats for maximum 10 Acres of each farmer. So that the rest areas are cultivated for seasonal crop and some are loan limit over acres

for farmer who are not apply for loan. Mya Sein Yaung is also one affordable source of loan and they provide low interest rate loan to farmer. All farmer cannot apply to this loan due to their internal policy. Other MFI provide agricultural credit to farmer with fair interest rate and there are a lot of micro finance institutions in Kyaung Kone Township. Farmer didn't apply to micro finance loan according to their interest payment policy. Other source of loan is informal institution like shark and pawn and they lend to farmer with high interest rate.

3.4.1 Institutional Credit

In Kyaung Kone township, Farmers mainly on Government's credit and some other formal credits provided through established institutions like 'Mya Sein Yaung', provincial government's cooperatives and micro finance along with NGO and INGO organizations for agriculture development. These loans are provided with specified procedure, terms and conditions. There are many institutional credits such as co-operative firm, Pact (microfinance), World Vision, Mya Kyun Tha, Mya Sein Yaung, Good brother microfinance and Chan Myae microfinance in Kyaung Konetownship and most of their interest rate are same. There are also other sources of non-institutional with longer credit term than the other institutional and microfinance firm's credit. These credits are of more preference by farmers who have no other income during cultivating season to repay interest and principal of shorter term.

3.4.2 Non-Institutional Credit

Informal credit market in Kyaung Kone comprises of credit form friends, relatives, village shopkeepers, traders, commission agents and many more. These sources of funds are for short period of time at a high interest. These loans are mostly used for consumption as well as for some purchase of agricultural inputs. However, the major problem with these kinds of loans is they are inadequate and high interest rate although there is no proper documentation or others rule and regulations. However, despite these problems, still informal lenders are playing significant role in the rural areas of Myanmar since traditional times. Informal sectors have comparative advantage in providing better services at relatively low cost than formal sector yet higher return.

CHAPTER 4
ANALYSIS OF EFFECT ON FARM PERFORMANCE IN KYAUNG KONE TOWNSHIP

In this chapter, finding from analysis of the data from survey are presented with four sections. The first part is concerned about research design for this study, and the second part mentioned demographic characteristics of respondents and the third one is credit accessibility of farmers in Kyaung Kone Township. In part four, the effect on farm performance is analyzed.

4.1 Research Design

This study is based on objectives of identifying accessibility to agricultural credit and effect on farm performance in Kyaung Kone Township. To carry out this objective, empirical research design is used by collecting required data through survey sampling. The target population of the study is borrowing farmers in Kyaung Kone Township, Ayeyarwaddy Division. There are (65) group of villages in Kyaung Kone Township. This township is the third largest rice production in Pathein District and most of population in that township is cultivating in rice. Therefore the distribution is assumed as across the township and Ayeyarwaddy region. For data collection, a structured questionnaire in brief and simple terms was used and administered personally. The respondents were asked to answer openly and with complete sincerity.

As a sampling design, two stage sampling procedure was used to collect for evaluating the farm performance of farmers on credit accessibility and other supportive factors of farm performance. In the first stage of sampling process, five groups of villages among 65 village groups were selected. After selecting five villages as the simple random sample, namly Ywar-Thar-Kone, Kine-Thar, Lel-Thi-Su, Pyaw-Bwel-Kone, and Shwe-Hlay-Gyi, the 150 farmers are chosen as a second stage from 1485 farmers that reside in these villages. The detail selecting sample sizes from selected villages are as shown in Table (4.1). The selected respondents were then asked by using structured questionnaires with face to face interview to fill up.

Table (4.1) Sample Size of Respondents

Villages	Total Farming Households	Respondent farmers
Ywar-Thar-Kone	360	38
Kine-ar	104	10
Lel-Thi-Su	420	41
Pyaw-Bwel-Kone	271	28
Shwe-Hlay-Gyi	330	33
Total	1485	150

Source: Survey data, 2018

4.2 Demographic Characteristics of Respondents

An attempt has been made here to investigate into some of important as well as relevant socio-economic characteristics of the sampled respondents to rationalize the distribution. Demographic characteristics of farmers are classified gender, age, education level, marital status, household member and year of farming and cultivated acres.

In Table (4.2), it shows the sample of 150 farmers when categorized by gender, 64% of the farmers are male and the rest are female. The age of farmers are grouped into four classes amongst which most of the farmers are age between 46 years to 65 years being 56.7% of the respondents and are therefore majority in working age. Regarding education status, most of farmers are with primary education, 57.3% of the respondents. The married respondent is in larger portion of 80.7% than single respondents of 19.3%.

The numbers of household members are grouped into three categories one to three, four to six and over six whereby a majority of households have between four to six household members as 62.7% of the total respondents. Looking at the farming experiences, 70% of the farmers in the respondents have over 15 years of farming experiences. With regard to the farm size, 42% of the respondents cultivate a land area of 50 and above acres which possibly make the township to be third largest paddy producing area.

Table (4.2) Demographic Characteristics

Demographics Characteristics		Respondents	Percent
Gender	Male	96	64
	Female	54	36
	Total	150	100
Age	Under 25	1	1
	26-45	56	37
	46-65	85	57
	66-85	8	5
	Total	150	100
Education Level	Primary	86	57
	Middle	51	34
	High	11	7
	Graduated	2	1
	Total	150	100.0
Marital Status	Single	29	19.3
	Married	121	80.7
	Total	150	100.0
Household Member	1 – 3	40	26.7
	4 – 6	94	62.7
	Over 6	16	10.7
	Total	150	100.0
Years of Farming	Under 5	32	21.3
	5 - 9	13	8.7
	10 - 14	45	30.0
	Over 15	60	40.0
	Total	150	100.0
Cultivated Acres	Under 5	7	4.7
	5 – 9	30	20.0
	10 – 19	30	20.0
	20 – 49	20	13.3
	50 and above	63	42.0
	Total	150	100.0

Source: Survey Data, 2018

4.3 Credit Accessibility

The credit accessibility of Kyaung Kone Township is studied in accessibility of credit amount, easiness of borrowing, credit term and repayment period.

4.3.1 Accessibility of Finance Sources by Farmers

In this study, most of the farmers borrowing agricultural credit are from institutional sources that they prefer to borrow from MADB probably due to low interest rate. Some farmers did not receive sufficient fund from MADB for their full cultivated area and they try to receive other source of loan from microfinance firm with fair interest rate. Farmers who cannot provide collateral, they are borrowing from other lender, which include pawn, shark and their relatives with highest interest rate. The information of agricultural credit sources from which the sample size 150 of farmers in five villages of Kyaung Kone Township taking loan are as shown in Table (4.3). From the responses, three types of financial institutions are noted in Kyaung Kone Township. Among which farmers borrowed mostly from MADB and in addition, some of farmers borrowed loans from other organizations according to the Table (4.3).

Table (4.3) Number of Farmer by Sources of Credit

Sources of Credit	Number of Farmer	Percentage
MADB	136	90.7%
MFI	13	9%
Both MFI and MADB	12	8%
Others Lenders	40	26.7%

Source: Survey Data, 2018

Regarding the credit amount, MADB bank lends the seasonal loan 150,000 kyats per acre at a maximum of 10 acres per farmer. The loan amounts are divided into five groups. The loan amount depends on cultivated acres. Table (4.4) shows amount of loan received from MADB, the range being 150,000 to 2,250,000 kyats. Although MADB provides a maximum of one million kyats loan amount, the 2.25 million amount is obtained exceptionally by those respondents having their loan in different names of family members with the farm land he owns.

Table (4.4) Amount of MADB Loan Borrowed

Paddy Cultivated Acres	Loan Amount (000' Kyat)	Number	Percent(%)
1-3	150-450	65	43.3
4-6	600-900	33	22.0
7-9	1,050-1,350	20	13.3
10-12	1,500-1,800	17	11.3
13-15	1,950-2,250	15	10.0
Total		150	100.0

Source: Survey Data, 2018

According to the survey data, almost half of borrowing farmers from one to three cultivated acres borrows 150,000 to 450,000 kyats. One third of farmers from four to six acres borrow 600,000 to 900,000 kyats which amount is the second highest percent. MADB loan interest rate is learnt to be 8% per year.

Other sources of finance include MFI and credits from friend and relatives. The smallest amount is Kyats 50,000 and the highest amount is Kyats 300,000. Table (4.5) shows amount of loan received from other sources.

Table (4.5) Amount of Loan Borrowed from Other Sources

Loan Amount (000' Kyat)	Number	Percent
50	3	4.6
100	5	7.6
120	3	4.6
150	3	4.6
180	13	20.0
200	3	4.6
220	3	4.6
250	26	40.0
300	6	9.2
Total	65	100.0

Source: Survey Data, 2018

According to survey research, nearly one-third of farmers (65 respondents) borrow from other organizations. Over two-third of respondents do not borrow from other organizations. The borrowing amounts are from a range of 50,000 kyats to 300,000 kyats. Other organizations loan interest rates are answered to be 18%, 24%, 30% and 36% respectively which is obviously greater than MADB.

4.3.2 Easiness of Borrowing

Farmer always consider how easy it is to obtain a loan for a good farming. While getting loan from formal source such as MADB, the necessity to present legal documents such as (Form-7) in borrowing process as collateral is main requirement. Therefore, the collateral and documentation is an important consideration in easiness of borrowing. Apart from that approval duration, borrowing process, location of lenders and convenient cash in and out are also considered in easiness of borrowing. Therefore, five statements measure Farmer's agreement level of easiness of borrowing. The results of farmer's agreement level of interest rate are presented in Table (4.6).

Table (4.6) Easiness of Borrowing

Sr.	Statements	Mean Value	Standard Deviation
1	Collateral and multiple documents	4.27	0.20
2	Duration of Approval is fast	3.31	0.24
3	Borrowing process is not complicated	3.71	0.87
4	Lending organization is within reachable vicinity	4.20	0.61
5	Cash out and Repayments are convenient	3.54	0.53
Overall Mean Scores		3.81	

Source: Surveyed Data, 2018

The result in Table (4.6) shows that farmers have great easiness in aspect of collateral and multiple documents which has highest mean scores of 4.27 while faster duration of approval has the lowest mean score of 3.31 meaning the duration of approval is prolonged. The overall mean score on easiness of borrowing is 3.81. The result appears as all respondents almost fairly accepts that there is easiness of borrowing in the area.

4.3.3 Credit Term

Agricultural credits are categorized as short-term, intermediate-term or long term, depending on their maturity. It should cover up to the completely processing period in farming process such as cultivation, harvesting, selling. In this condition, credit terms are considered as crucial role in credit accessibility. It covers up for harvesting, selling and it have acceptable and enough periods. Four statements are use to access Farmer's agreement level on credit term showing a result of farmers' agreement level on credit term in Table (4.7).

Table (4.7) Credit Terms

Sr.	Statements	Mean Value	Standard Deviation
1	The credit period convers up to harvesting period of paddy	3.20	0.54
2	Credit period covers for selling with favorable price	3.39	0.83
3	Credit period is acceptable for me	3.32	0.90
4	Money lender are provided loan to me with enough time	3.22	0.54
Overall Mean Scores		3.28	

Source: Surveyed Data, 2018

Table (4.7) shows that credit term covers for selling period is the highest means scores of 3.39 while term covers harvesting period has the lowest mean score of 3.20. The overall mean score of credit terms is 3.28. From this outcome, it is obvious that farmers has fair agreement on the credit term as acceptable.

4.3.4 Loan Repayment

Loan repayment is also one of the considering points for the farmer when borrowing loan. It should be convenient, reasonable and in amortization. Four statements measure Farmer's agreement level on repayment is as in Table (4.8).

The values indicate that most of credit repayment is in amortization with the highest means scores of 3.78. The overall mean score for repayment is 3.61., implying that farmers fairly agree to the repayment for reasonable credit accessibility.

Table (4.8) Repayment

Sr.	Statements	Mean Value	Standard Deviation
1	The Repayment term and frequency is convenient	3.57	0.92
2	The repayment amount per frequency is reasonable	3.61	0.96
3	Amortization is the best repayment method	3.78	0.87
4	Early repayment is accepted	3.47	0.96
Overall Mean Scores		3.61	

Source: Surveyed Data, 2018

4.4 Utilization on Farming Resources

This section is to present the utilization on farming resources in terms of the amount spent in two sections: on input resources and farming techniques where input resources typically included the amount spent on fertilizer, seeds and pesticides and farming techniques included the amount spent on land preparation, weeding, soil analysis, machinery. Respondents were asked to indicate the extent to which it is used for these resources of fertilizer, seeds, pesticides, land preparation, weeding, soil analysis and machinery.

4.4.1 Input Resources

Investments in the resources aim to increase farmer access to and effective use of quality inputs like seeds, fertilizers, livestock, and equipment, thereby supporting higher, more profitable and more sustainable production. Assuming the higher the amount spent, the quality of input sources are of higher. The respondents spending amount on input resources such as fertilizers, seeds, and pesticides are shown in Table (4.9).

Most of the respondents spend between 20,001-30,000 Kyats spending on fertilizer with 38.7% of the total. Regarding the spending on quality seed, it is between 30,001-40,000 kyats with 52.7% and the spending amount on pesticides is 37.3% with a majority of amount spent between 20,001 to 30,000 kyats. It appear as the farmers spend more on seeds but fairly on fertilizer and pesticides less than 30,000 kyats.

Table (4.9) Amount of Spending on Input Resources

Particular		Respondents	Percent
Fertilizers	Under 10,000	26	17.3
	10,001-20,000	25	16.7
	20,001-30,000	58	38.7
	30,001-40,000	4	2.7
	Over 40,000	37	24.7
	Total	150	100.0
Seed	Under 10,000	5	3.3
	10,001-20,000	46	30.7
	20,001-30,000	19	12.7
	30,001-40,000	79	52.7
	Over 40,000	1	0.7
	Total	150	100.0
Pesticides	Under 10,000	-	-
	10,001-20,000	34	22.7
	20,001-30,000	56	37.3
	30,001-40,000	12	8.0
	Over 40,000	48	32.0
	Total	150	100.0

Source: Survey Data, 2018

4.4.2 Use of Farm Techniques

Several international studies, as well as recent survey have shown that farm performance depend on sufficient labour, using mechanized farm equipment and other advance farming technology. In this study, the amount of spending on farming techniques is classified into each category namely land preparation, weeding, soil analysis, machinery, and sufficient labor. as shown in Table (4.10).

From the results appearing in table, most of the respondents use over 40,000 Kyats on land preparation with a portion of 42%. Regarding the spending on weeding, most of the respondents are spend between 30,0001 and 40,000 kyats on weeding with 56.7% and for soil analysis, 58.7% of the total respondents spend between 20,001 to 30,000 kyats. And for machinery, the respondents are mostly spending 20,0001 and 30,000 kyats. In the aspect of spending on labour, most of the respondents are spending between 30,001-40,000 kyats with 30% of the total. The numbers imply that farmer

spends more for land preparation, weeding, and labour; fairly on soil analysis and machinery In general, majority of respondents are spending between 20,001 and 40,000 on farming techniques by the survey results.

Table (4.10) Amount of Spending on Farming Resources

Particular		Respondents	Percent
Land Preparation	Under 10,000	11	7.3
	10,001-20,000	43	28.7
	20,001-30,000	19	12.7
	30,001-40,000	14	9.3
	Over 40,000	63	42.0
	Total	150	100.0
Weeding	Under 10,000	11	7.3
	10,001-20,000	27	18.0
	20,001-30,000	23	15.3
	30,001-40,000	85	56.7
	Over 40,000	4	2.7
	Total	150	100.0
Soil Analysis	Under 10,000	25	16.7
	10,001-20,000	18	12.0
	20,001-30,000	88	58.7
	30,001-40,000	19	12.7
	Over 40,000	-	-
	Total	150	100.0
Machinery	Under 10,000	26	17.3
	10,001-20,000	38	25.3
	20,001-30,000	42	28.0
	30,001-40,000	22	14.7
	Over 40,000	22	14.7
	Total	150	100.0
Labour	Under 10,000	1	0.7
	10,001-20,000	28	18.7
	20,001-30,000	42	28.0
	30,001-40,000	45	30.0
	Over 40,000	34	22.7
	Total	150	100.0

Source: Survey Data, 2018

4.5 Analysis of Farm Performance in term of Paddy Yield per Acre

This section pinpoints the analysis of paddy yield per acre of farmers. Paddy yield per acre of respondents are within the range between 40 to 200 bushels. Table (4.11) shows paddy yield per acre of respondents. It shows that the farmers has attained a paddy yield per acre within the range between 40 and 200 bushels. The majority of farmers taken a credit is able to produce over 120 bushels per acre.

Table (4.11) Paddy Yield per Acre

Paddy Yield per Acre	Number	Percent
Under 50	3	2.00
60	4	2.67
70	4	2.67
80	13	8.67
90	4	2.67
100	15	10.00
120	28	18.67
Over 120	79	52.67
Total	150	100

Source: Survey Data, 2018

4.5.1 Effect of Credit Accessibility on Paddy Yield per Acre

This study analyzes the effect of credit accessibility on paddy yield per acres in bushels(“ tin ”). The four indicators namely number of amount of credit (as kyats in thousand), easiness of borrowing, credit terms and repayment are used to measure the farm performance that measured by paddy yield per acre. In order to analyze the effect of each of indicators of credit accessibility on paddy yield per acre, the multiple linear regression model is applied to this study. The output from generating multiple linear regression models is shown in following Table (4.12).

Table (4.12) Effect of Credit Accessibility on Paddy Yield per Acre

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	12.870	3.201		4.027	.000
Credit Amount	4.920	0.302	.678	16.4	.000
Ease of Borrowing	19.021	2.935	.339	6.480	.000
Credit Terms	2.463	4.058	.033	.607	.545
Repayment	3.097	2.618	.052	1.183	.239
Adjusted R^{2} =	.708				
F Value	91.234 (P value = .000)				

Source: Survey Result 2018

The results of the analysis are presented in Table (4.13), the model explains a variation of 70.8% on paddy yield per acre with each credit accessibility dimension namely credit amount, ease of borrowing, credit terms, and repayment. The value of F-test, the overall significance of the models, came out highly significant at 1% level. It can be clearly seen that the coefficients such as credit amount, ease of borrowing, credit terms in the models are jointly significant at 1% level on paddy yield per acre.

Credit amount is significant coefficient value at 1 percent level since the resulted p value is less than 0.01. the interpretation is that one thousand kyats increase in credit amount, while other thing remain unchanged, will have the effect on yield per acres increase by 4.92 bushels.

Ease of borrowing has significant coefficient value at 1 percent level since the resulted p-value is less than 0.01. This means that the increase in ease of borrowing will have increasing effect on paddy yield per acre by 19.021 bushels, while other thing remain unchanged.

Credit term and repayment does not appear significant with significant value greater than 5 percent level since the resulted p value are greater than 0.05. Among the four variables, credit amount and ease of borrowing have an effect on paddy yield per acres.

4.5.2 Effect of Utilizing Farming Resources on Paddy Yield per Acre

In this section it analyzes the effect of utilization of farming resources on paddy yield per acres. The two indicators namely spent amount on input resources and farming techniques are used to measure the effect on the farm performance towards paddy yield per acre. In order to analyze the effect of each of indicators of utilization farming resources on paddy yield per acre, the multiple linear regressions model is applied to this study. The output from generating multiple linear regressions model is shown in following Table (4.13).

Table (4.13) Effect of Utilization Farming Resources on Paddy Yield per Acre

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	3.790	.119		33.360	.000
Input Resources	12.699	0.951	10.126	13.35	.000
Farming Techniques	11.182	0.683	9.050	16.37	.000
Adjusted R^2	.679				
F Value	45.26 (P value = .000)				

Source: Survey Result 2018

From the results of the analysis in Table (4.13), the model explains 67.9% of the variation among each farming resources factor viz. input resources and farming techniques. The value of F-test, the overall significance of the models, came out highly significant at 1% level. It can be clearly seen that all the coefficients such as input resources and farming techniques in the models are jointly significant at 1% level on paddy yield per acre.

Utilization of input resources variable has significant coefficient value at 1 percent level since the resulted p value is less than 0.01. It means that a step-up increase in spending amount on input resources and farming techniques have significant effect on yield per acres to increase 12.699 and 11.182 bushels respectively.

4.6 Analysis of Farm Performance through Annual Farm Income

Farmer's annual farm income is from 500,000 to over 10,000,000 Kyat. The following table (4.14) shows the annual income distribution amongst the respondents.

Table (4.14) Annual Household Farm Income

Annual Household Farm Income (Kyat in 00,000)	Frequency	Percent
5 – 14	41	27.33
15 - 24	33	22.00
25 – 34	15	10.00
35 – 44	36	24.00
Over 45	25	16.67
Total	150	100.00

Source: Survey Data, 2018

According to table (4.14) annual income of most borrowing farmers is from 500,000 to 1,400,000 kyats as over 27 percent of total respondents. Annual household income of borrowing farmers from 2,500,000 and 3,400,000 are the smallest percent.

4.6.1 Effect of Credit Accessibility on Annual Farm Income

In this study analyzes the effect of credit accessibility on annual household farm income. The four indicators namely credit amount, easiness of borrowing, credit term, and repayment are used to measure the farm performance that measured by annual household farm income. In order to analyze the effect of each of indicators of credit accessibility on annual household farm income, the multiple linear regression model is applied to this study. The output from generating multiple linear regression models is shown in following Table (4.15).

The results of the analysis for the model explains 22.5% variation of the annual household farm income on each credit accessibility dimension 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. It can be clearly seen that all the

coefficients such as credit amount, eases of borrowing, credit term and repayment in the models are jointly significant at 1% level on annual household farm income.

Table (4.15) Effect of Credit Accessibility on Annual Farm Income

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	38.89	8.133		4.78	.023
Credit Amount	2.039	.421	.374	4.841	.000
Ease of Borrowing	8.667	2.484	.149	3.489	.003
Credit Terms	6.017	1.128	.102	5.240	.021
Repayment	8.735	3.291	.073	2.654	.042
Adjusted R^2	.225				
F Value	11.826 (P value = .000)				

Source: Survey Result 2018

Credit amount is significant coefficient value at 1 percent level since the resulted p value is less than 0.01. It can be denoted as one thousand increase in the credit amount, while other thing remain unchanged, will increase the income by 2.039 million kyats.

Ease of borrowing is significant at 1 percent level since the resulted p value is less than 0.01. The means that the increase in ease of borrowing have an effect on annual farming income. Regarding the magnitude of meaningful coefficient, it can be noted that one unit increase in ease of borrowing, while other thing remain unchanged, has the effect on annual farming income to increase by 8.67 million kyats.

For the credit term, the significant coefficient value is at 5 percent level since the resulted p value is less than 0.05. This means the increase in credit term in the constant of other factors, will have an increasing effect of income by 6.02 million kyats.

Similarly, repayment is also significant 5 percent level since the resulted p value is less than 0.05. meaning that the effect of repayment on annual farming income is one unit towards 8.74 million kyats.

4.6.2 Effect of Utilizing Farming Resources on Annual Farm Income

In this study analyzes the effect of utilization of farming resources on annual farm income. The two indicator - input resources and farming technique are used to measure the farm performance in the aspect of annual farm income. Applying the multiple linear regression model the analysis output is as in Table (4.16).

Table (4.16) Effect of Resources Utilization on Annual Farm Income

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	6.20	.346		17.92	.000
Input Resources	7.26	.813	6.114	8.92	.000
Farming Techniques	7.09	.839	6.102	8.45	.000
Adjusted R^2	.570				
F Value	70.017 (p value = .000)				

Source: Survey Result 2018

There is 57% of variation on the annual farming income for each factor of utilizing farming resources - input resources and farming techniques. The value of F-test, the overall significance of the models, is highly significant at 1% level. Both of the coefficients of input resources and farming techniques in the models are jointly significant at 1% level on annual farming income.

The interpretation would be as such utilization of input resources and farming techniques have significant effect on farm income with coefficient value at 1 percent level. It therefore means that a step-up increase in spending of input resources and farming techniques will have increasing effects on annual farming income to be 7.26 kyat in million and 7.09 kyat in millions respectively.

CHAPTER 5
CONCLUSIONS

In this chapter, finding of the study is described and suggestions are provided to consider on effect of credit accessibility and utilization of resources on Farm performance of Kyaung Kone Township.

5.1 Findings

According to analysis of the respondent's characteristics, distribution of land shows that 42 percent of farmers cultivated more than 50 acres of farming field. The majority of the respondents in the study is between 45 and 65 years old age, which is within working age, and major part is married male leading a household. The result mentions that education levels in the study group are fair, mostly are primary and middle school level.

Regarding the effect of credit accessibility, almost all respondents have accessibility for credit mainly from MADB bank and a small portion from other resources like MFIs and other lenders. The respondents agree that borrowing is easy enough for them to getting a loan. Analysis on credit accessibility factors show that credit term is appropriate and repayment is acceptable to farmers. The results from analysis of utilization of farming resources show that farmers utilized more expense input resources like seeds but fairly on fertilizers and pesticides. The spending on land preparation, weeding and labour is more than spending on farming techniques like machinery and soil analysis.

The farm performance in terms paddy yield per acre reveals a majority of 120 bushels which is high for the area and the performance in annual household income is between 500,000 to 10,000,000 kyats. The credit accessibility and resources utilization has a positive relation on yield per acre and annual income of farmers. Analysis on productivity, i.e., yield per acres reveals that except the credit term and repayment scheme, all other variable such as credit amount, easiness of borrowing, utilization of farming resources, input resource and farm techniques have an increasing effect on the yield per acre. The analysis on profitability in annual household farm income express that

all the credit accessibility and resources utilization has individual significant effect on annual household farm income to increase accordingly.

5.2 Suggestions

The fact which need attention of both governmental agencies and financial institutions is to utilize the agricultural credit in an efficient way so that farmers may get maximum profits and their increase farm output.

The first suggestion is to increase the accessibility of small and marginal farmer to formal agricultural credit through commercial banks with easiness of borrowing and acceptable repayment scheme. Financial institutions need to develop sound tracking and monitoring system to do regular supervision and monitoring such as regular visit to the farmer's field so that the credit be used for the right purpose of spending on farming resources.

Another important thing is credit should be provided on time because in agriculture, timing is crucial; delay in credit time will not help to get maximum benefits from credit. An amortized repayment scheme will help farmers to reduce the interest cost so that the profitability from farming can be improved. Regarding repayment, an allocating grace period shall be of good consideration because farmers have little or no cash flow during the cultivating seasons.

The farmers should also be encouraged to use high quality input resources and modernized farming techniques and mechanical cultivation. The Development Banks like MADB should provide credit to farmers according to their actual needs and importance of crops and should target and advance loans to rural farmers, as they are the marginalized section of the society. In facts government banks can reserve special quota for small farmers to support their effective cultivation.

In preparation of this research, there exists time constraints and some difficulties. Therefore, the scope of data is limited to collect the farmers in Kyaung Kone Township. This study focused on credit accessibility and effect on farm performance only in Kyaung Kone Township. Thus, the result for the study may not reflect the overall situation in Myanmar. Only paddy crops have been taken in to consideration. This research does not specifically explore farmer's credit needs for farming. Benefits of getting optimal prices for paddy product are lacking in this study which is worth to dig out for profitability.

5.3 Conclusions

Myanmar is an agricultural country. Majority of people live in rural areas and are dependent directly or indirectly on agriculture pursuit. Majority of the farmers of our country are landless marginal and small ones. They don't have enough money to run the various production activities related to agricultural production. Seed, fertilizer, Irrigation technology to a greater extent has enhanced production exposing extra cost to the rural poor. Mechanization in agriculture has added for the cost to production of crops, livestock and fisheries. It is therefore, nowadays with no attempt possible to meet up such huge cost of producing agricultural commodities, poor farmers had been financially pressed out of own pocket. People, especially farmer, therefore, need to get borrowings for the initial investment of these farming resources.

The sluggish growth in rural institutional lending in Myanmar which include certain factors and there are the policy makers are facing is the lack of efficiency in agricultural credit disbursement is one of the most important issues. Other main difficulties faced by the farmers obtaining agricultural credit from the formal institutions are cumbersome procedure and limitation of loan amount. It is considered the prime restriction in securing loans from institutional sources. The maximum loan limit one hundred fifty thousand kyats per acre by MADB is insufficient amount for farmer to buy their input of farms. Formal institutions always ask for collateral when they issue credit. However, majority of farmers are resource poor and this makes cheap accessibility difficult for small farmers. Banking institutions have difficult credit rules which obstruct small and marginalized farmers from accessing the loan.

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APPENDIX

QUESTIONNAIRE: CREDIT ACCESSIBILITY AND EFFECT ON FARM'S PERFORMANCE IN KYAUNG KONE TOWNSHIP (AYEYARWADDY)

FORE WORDS

(i) I guarantee the information is for academic use only, not commercial.

(ii) The name will never be revealed in any of my study.

(iii) The researcher asks for your cooperation for the success of this study.

(iv) I assure I will share the result that I get with you in the end.

INSTRUCTIONS

There are two sections of answering questions.

I. Questions which require you to put tick to the box provided.

II. Question which required you to express yourself.

(a) Please answer all questions as instructed.

(b) All your answers will be treated as confidential.

Village Name…… Date of Interview …….

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

II. Please to put tick to the box provided the following statement.

1.Details of Credit		
From	Amount	Remark
Banks		
MFIs		
Pound Shop		
Relatives		
Informal		
Total		

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					
Repayment is in Amortization (Amount of Outstanding Credit and Interest are reduced after each repayments)					
Early repayment is accepted by lenders					

(1= strongly disagree, 2= disagree, 3 Neutral, 4= agree, 5 = strongly agree

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Section: C Performance

Part (A) Utilisation of Farming Resources

1. What is your spending on Farming Resources.

Particular	Average Amount per acre	Remark
1. On Input Resources		
a. Fertilisers		
b. Seeds		
c. Pesticides		
2. Farming Techniques		
a. Land Preparation		
b. Weeding		
c. Soil Analysis		
d. Machinenary		

Part (B) Productivity & Profitability

Farm Yield and Income from Farming

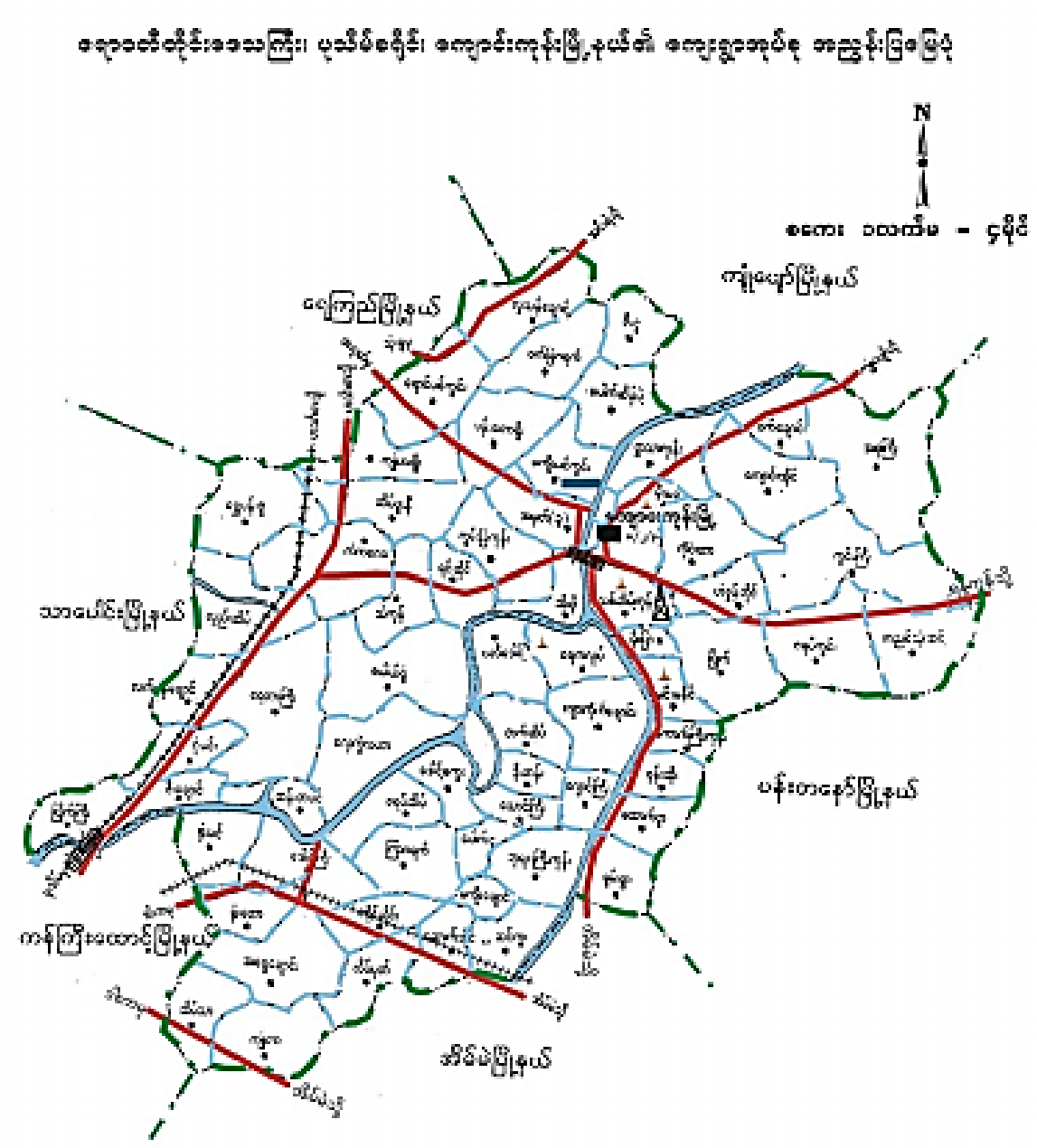
1. What is your yield per acres in a year?

   Bushels _____ per acre.

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

   MMKs_____

Figure. Map of Kyaung Kone Township



Source: Township Administration Office.