YANGON UNIVERSITY OF ECONOMICS
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IMPACT OF MICROFINANCE ON AGRICULTURAL PRODUCTION IN NGATHAYAUT VILLAGE, NYAUNG OO TOWNSHIP

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A research paper submitted as a partial fulfillment towards the requirement for the Degree of Master of Economics, M.Econ (Economics)

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This is to certify that this thesis entitled "**Impact of Microfinance on Agricultural Production in Ngathayauk Village, Nyaung Oo Township**" submitted as a partial fulfillment towards the requirements for the Degree of Master of Economics, has been accepted by the Board of Examiners.

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ABSTRACT

Microfinance is one of the effective mechanisms for improving agriculture sector. This study analyzes whether Microfinance assist farmers to improve agricultural conditions. This paper aims to study the impact of Microfinance on agricultural production in Ngathayauk village, Nyaung Oo township. In this study, the descriptive method is used to achieve the objective. The primary data were collected from sample 100 respondents from the survey conducted in Ngathayauk village. All respondents are farmers and take loans from PACT MYANMAR Microfinance institution. Farmers can buy additional land acres after borrowing credit. They can produce more crops after borrowing credit. Profit and seasonal income of farmers also increase. Microfinance institutions should lend long term loans and the loan amounts should be increase. There should be many other Microfinance institutions in Ngathayauk village for lower interest rate.

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LIST ABBREVIATIONS

CBM	Central Bank of Myanmar
FRD	Financial Regulatory Department
GDP	Gross Domestic Product
IFC	International Financial Corporation
INGOs	International Non-Governmental Organizations
K	Kyat
MADB	Myanmar Agricultural Development Bank
MAPCO	Myanmar Agribusiness Public Cooperation Organization
MBL	Microfinance Business Law
MFIs	Microfinance Institutions
MoPF	Ministry of Finance & Planning
NGOs	Non-Governmental Organizations
PGMF	PACT Global Microfinance Fund
SAB	State Agricultural Bank

CHAPTER 1

INTRODUCTION

1.1 Rationale of the Study

Developing countries have less develop industrial sector. Their economies depend on agricultural sector. Poverty is the main cause in improving the economic status of developing countries. Most people in developing countries survive with just $2 per day. They do not have enough capital to start their businesses. Microfinance is extending small loan or other form of credits, savings or insurance for people who do not have access to this type of capital. Microfinance is important for developing countries because it provides financial resources and access to capital to the grass-root of people. It assists agriculture sector by lending credits to farmers. It also helps poor people investing in their businesses. The objective of Microfinance is to reduce poverty.

For instance, in Bangladesh, the total population is 164.7 millions. 78.3% of population lives in rural areas and the development of Bangladesh depends on a large extent of the development of rural areas. There are 700 Microfinance institutions to help rural and urban areas especially in rural areas. These institutions help poor people by providing loans to do their businesses for the purpose of reducing poverty.

Myanmar is one of the poorest countries in South East Asia with GDP per capita is just over USD 1571. Myanmar has an ethnically diverse population of approximately 54 millions. 70 percent of the population lives in rural areas. Myanmar is an agricultural country and the agriculture sector is the main role of the economy. The agriculture sector contributes to 23.3 percent of gross domestic product (GDP), accounts for 25 to 30 percent of total export earnings and employs 70 percent of the labor force. In rural area, agricultural sector is the most important for rural people.

In November 2011, the Myanmar Microfinance Law was established in the country. At that time, there are 120 Microfinance institutions that are licensed to provide credits in rural and urban areas especially in rural areas for the purpose of reducing poverty. Currently, there are 176 licensed Microfinance institutions providing financial services to poor people. Microfinance is one of the approaches for supporting to develop agriculture sector in Myanmar. Myanmar Agricultural Development Bank (MADB) is a state-owned Microfinance institution that lends credit to farmers with the objective of agricultural production development. Mya Sein Yaung and PACT MYANMAR are well-known Microfinance institutions in Myanmar.

In Ngathayauk village, the total population is 43916. Among them, 87 percent of population is farmers. Myanmar Agricultural Development Bank (MADB), Mya Sein Yaung and PACT MYANMAR Microfinance institutions provide farmers by lending credits for agricultural conditions. This study presents evidence of the impact made by PACT MYANMAR Microfinance institution on agricultural production.

1.2 Objectives of the Study

The objective of the study is to study the impact of Microfinance on agricultural production in Ngathayauk village, Nyaung Oo township.

1.3 Method of Study

In this study, the descriptive method is applied to achieve the objective of the study. The primary data is collected from sample of 100 respondents from 4 small village tracts of Ngathayauk village by using face to face interview. Secondary data is also used from various websites and offices in Ngathayauk village.

1.4 Scope and Limitations of the Study

This study is focus on the impact of Microfinance on agricultural development in Ngathayauk village, Nyaung Oo township. This study limits 100 households of 4 small village tracts such as Ku Lar Te, Sin Thar Mway, Taw Pyar and Se inNgathayauk village, Nyaung Oo township.

1.5 Organization of the Study

This study is organized into five chapters. Chapter (1) explains introduction. It includes rationale of the study, objectives of the study, method of study, scope and limitations of the study and organization of the study. Chapter (2) explains literature review. It includes agricultural development, meaning and importance of agricultural finance, effectiveness of agricultural credit, definition and importance of Microfinance, role of Microfinance on agriculture, effectiveness of Microfinance institutions on agriculture and review on previous studies, Chapter (3) explains Microfinance on agricultural development in Myanmar. It includes agriculture sector in Myanmar economies, importance of Microfinance in Myanmar, agricultural finance in Myanmar, agricultural loan providers in Myanmar, importance of Microfinance on agriculture and PACT MYANMAR Microfinance organization. Chapter (4) explains analysis on survey data. It includes survey profile, survey design and analysis on survey data. Chapter (5) explains conclusion. It includes findings and suggestions.

CHAPTER 2

LITERATURE REVIEEW

2.1 Agricultural Development

Agricultural development means providing assistance to the crop procedures with the help of various agricultural resources. Providing protection, assisting in the research sphere, employing latest techniques, controlling pests and facilitating diversity are the kinds of agricultural development. Agricultural development is necessary for improving the supply of raw materials for the agro-based industries especially in developing countries. It will make the growth of country's economy. Agriculture is production of food for the rural and urban population and of cash crops for the export market, to earn foreign currency.

Agricultural sector plays a crucial role in the process of economic development of a country. Agriculture is a branch of the world economy and agriculture plays an essential role in human life. Its main goal is to meet the population's needs for food and provide the industry with raw materials. Agriculture also plays a main role in economic development of developing countries because most people in developing countries survive their living conditions from agriculture.

Agricultural development can stimulate economic development and lead to higher job opportunities and growth creation. Increased productivity of agriculture raises farm incomes, increase food supply, reduces food prices and provides greater employment opportunities in rural areas. Higher incomes of rural population lead to increase demand for industrial products, thus development of industrial sector. In this way, agricultural sector helps to promote economic growth by securing as a supplement to industrial sector.

Today, agriculture relies on global trade. As the human population approaches 10 billion people by 2050, agriculture is poised to continue growth to meet the demand for food. Farming creates opportunities for lifting people out of poverty in developing nations. Over 60 percent of the world's working poor work in agriculture. Farming creates more jobs, beginning with farmers and continuing with farm equipment makers, food processing plants, transportation, infrastructure and manufacturing.

2.2 Meaning and Importance of Agricultural Finance

Agricultural finance is the study of financing and liquidity services credit provides to farmers. Agricultural finance means an economics study of borrowing funds by farmers, the organization and operation of farm lending agencies and of society's interest in credit for agriculture (Murray, 1960). Agricultural finance also defined as a branch of agricultural economics, which deals with and financial resources related to individual farm units. (Tandon & Dhondyal, 1962).

Agricultural finance can study at both micro and macro level. Macro finance deals with different sources of raising funds for agriculture as a whole in the economy. It includes the lending procedure, rules, regulations, monitoring and controlling of different agricultural credit institutions. Macro finance deals with financing of agriculture at aggregate level. Microfinance means financial management of the individual farm business units. Therefore, macro finance deals with the aspects concern with total credit needs of the agricultural sector while microfinance deals with the financial management of individual farm business.

In modern times, the world's major economies have emerged with superpowers because of the countries' industrial development they have achieved. However, their economies started with agriculture sector. The role of agriculture sector is essential in the industrial sector along with its capacity to supply food to all the population. Technology is not only used in the industrial sector but it can be used in agriculture sector. Agricultural loans might be very important for adopting new technology to increase agricultural output.

Agricultural loans help to use better seeds of high quality that are specially created to increase output. It also helps to buy better technical equipments for

agriculture that will rise work's speed and increase productivity. Agricultural loans also help any unforeseen challenges like destroying of crops due to natural factors. Agricultural loans are available to the farmers from special agricultural banks and microfinance institutions.

These institutions provide part-time loans to farmers for the shorter span of time so that farmers may meet their immediate need for various kinds of expense. Since the loans are low interest loans, therefore, the burden on the farmer is less. If farmers are clients of a certain institution then they can get the loan easier. If there are not agricultural loans, farmers will be very difficult for farming because farmers get the returns only after harvest i.e. when they sell their crops so farmers would need the fund at the time of cropping.

Farmers need to purchase new inputs such as seeds, fertilizers, pesticides etc and they also need to purchase farming machines such as tractors to increase their production. Agricultural finance can help to make these purchases easier for farmers. If farmers use high yielding crops, then productivity of the farm is improved. If productivity improves, the farm income level will also improve and regional economic imbalances reduce. Therefore, agricultural finance provides higher productivity, increase farm income level and reduce regional imbalances. It also strengthens both input and output market development. Finally, it provides the agro-socio-economic development of the country both at micro and macro level.

2.3 Effectiveness of Agricultural Credit

Agricultural credit is the money provided to the farmers to stimulate the productivity of the limited farm resources. Agricultural credit is the process of obtaining control over the use of money, goods and services in the present in exchange for a promise to repay at a future date (Adegeye and Dittoh, 1985). Ogunfowora et al. (1972) reported that credit has not only needed for farming purposes, but also for family and consumption expenses, especially during the off-season period.

Credit supply is an important determinant of investment in agriculture (Shetty, 1990). The capacity of farmers to save and invest is very low. The agricultural productivity is low because of low use of inputs. The farmers, therefore, are necessary

credit to increase productivity and efficiency in agriculture. This need is increasing over the years with the increase uses of fertilizers, mechanization and rise in price. The need for agricultural credit becomes more important when it changes from traditional agriculture to modern agriculture.

Farmers need to the purchase of agricultural inputs which include seeds, fertilizers, pesticides, irrigation water and so on. The seed of high yielding varieties and other modern inputs help for farmers to increase productivity. If farmers will not have enough funds, the productivity of farm decrease and the income of farmers will reduce and the farmers will remain in poverty. Agricultural credit helps farmers to purchase these agricultural inputs. Therefore, farmers can buy these inputs by using credit and the agricultural productivity will increase. Moreover, the interest rate of agricultural loans is not high, the burden on farmers is less.

Farmers also need for the purchase of tractors, threshers, harvesters, water pumping and so on for increase productivity. The use of appropriate machinery will increase production. Agricultural credit also helps to purchase these machinery for the purpose of increasing productivity. Farmers are also necessary to make improvements in land like sinking of wells, land reclamation, horticulture and rotation of crops and so on. Agricultural credit can also help for these improvements in land process.

Sometimes, farmers do not want to sell their crops immediately after the harvest is over because the prices of agricultural goods are low in the market. Agricultural credit enables the farmers to withhold at the time of agricultural surplus and sell in the market when prices are high. And sometimes farmers face crisis. This crisis can be caused by failure of crop, drought of floods and so on. At that time, agricultural credit assists farmers to plant crops again and helps consumption smoothing for farmers.

Agricultural credit helps farmers for their needs for the purpose to increase productivity. If productivity increases, the income of farmers will increase. The increase in agriculture sector cause the more demand for industrial products. Therefore, the supply of industrial product will increase and the income of labor will also increase. The country’s gross domestic product (GDP) will also increase and the country economy will increase. Therefore, agricultural credit is a part of the growth of country economy.

2.4 Definition and Importance of Microfinance

Microfinance is the process of savings accounts, loans, insurance, money transfers and other banking services to customers that lack access to traditional financial services, usually because of poverty. Making small loans to individuals who lack of traditional credit is known as micro credit. When credit accessed, it is repaid in small agree installments.

Microfinance services are provided to unemployed or low-income individuals because most of these were in poverty, or who have limited financial resources, do not have enough income to do business with traditional financial institutions. Microfinance allows people to borrow reasonable small business loans safely and in a manner that is consistent with ethical lending practices. Although they exist all around the world, the majority of Microfinance operations are in developing countries, such as Bangladesh, Uganda, Indonesia, Serbia and so on. Many Microfinance institutions intent to helping women in particular.

Microfinance services are designed to be more affordable to poor and socially marginalized customers and to assist them become self-sufficient. The two main mechanisms for the delivery of financial services to borrowers are: (1) relationship-based banking for individual entrepreneurs and small businesses and (2) group-based models, where several entrepreneurs come together to apply for loans and other services as group. Microfinance is a key strategy for helping people living in poverty to become financially independent, which assists them become more resilient and better able to provide for their families in times of economic difficulty.

Microfinance is the process of a broad range of financial services such as deposits, loans, payment services, money transfers and insurance to poor and low-income households and micro enterprises. Microfinance services that provide loans to the poor are offered by three types of sources: formal institutions such as rural banks and cooperatives; semi-formal institutions such as nongovernment organizations and informal services such as money lenders and shopkeepers.

The demand for microcredit that originates from households and micro enterprises is large. Poor households require microcredit to finance livelihood activities such as consumption smoothening and to finance some lumpy nonfood

expense for purposes such as education, housing improvements and migration. Many Asian countries have numerous small farms and farmers also need Microfinance services. The other source of demand is nonfarm micro enterprises which cover a wide range of activities such as food preparation and processing, weaving, furniture making and petty trading.

Poverty is the main cause in improving the economic status of developing countries. A Microfinance institution is an organization that provides financial services to low income populations. A Microfinance institution offers account services to small-balance accounts that would not normally be accepted by traditional banks and provides transaction services for amounts that may be smaller than the average transaction fees charged by mainstream financial institutions.

Microfinance is being considered as one of the most effective tools for reducing poverty. Microfinance has a crucial role on bridging the gap between the formal financial institutions and the rural poor. The Microfinance institutions receive financial resources from the banks and other mainstream financial institutions and offer financial and support services to the poor.

The Microfinance sector focuses on understanding the requirements of the poor and on devising better ways of delivering services in line with their requirements, developing the most efficient and effective mechanisms to deliver finance to the poor. The idea is to offer grass-root of people with small loans so they can start and operate a business. The borrowers are able to save money and have to repay the loan over time. Loans are designed to force sustainable economic empowerment and capacity building for people in developing regions. Microfinance helps the poor to engage in self-employment and income-generating activities which help them become financially independent and better able to break out of poverty.

2.5 Role of Microfinance on Agriculture

The performance of agricultural sector is very important in the country's food security and poverty reduction measures because of the agriculture-based economic activities for the source of livelihood. Majority of rural folks depend on farming for their livelihood (GLSS, 2007). The expansion of credit facilities will have tremendous effects on agriculture production of community farmers and rural incomes because

credit would enhance the purchase of expensive inputs and adoption of alternative crops (Zeller et al, 2003).

The availability of credit can motivate the community farmers to use and apply modern technologies and procure inputs for farm use, thus leading to greater level of productivity and increasing income (Uanto, 2003). Increase in household incomes is largely necessary to ensuring food security and eventually will be realized from the gains in agriculture productivity through better technology and more production of yields. Therefore, farmers' access to financial markets is significant in influencing farm production and income (Zeller et al., 1998).

Microfinance is one of the strategic tools for smallholder farming. Microfinance, as a smallholder agricultural catalyst, is in both developed and developing economies. Microfinance access to finance by farmers who are usually in the poor category promotes their productive efforts (Zeller & Sharma, 1998). Microfinance is viewed as a way that can be employed for the promotion of smallholder farming for rural agricultural development.

Microcredit can play a crucial role in agricultural development. One element of an effective strategy for poverty alleviation is to promote the productive use of farm inputs. This can be helped by creating opportunities for raising agricultural productivity among farmers. Microcredit helps to increase productivity of rural economy, especially agricultural productivity in rural areas. Microcredit may help farmers to purchase the inputs they need to increase their productivity as well as financing a range of activities adding value to agricultural output.

Poor farmers have lack of traditional banking services. In developing countries, most of the banks do not have branches in rural areas. If there is bank, farmers need collateral for borrowing credit. If farmers will lend the informal money lenders, the interest rate is high. It is burden on farmers. If the interest rate is high, the profit will be low and farmers cannot break out of poverty. Microcredit is collateral free loan and its target on grass root of people. The objective of Microfinance is to reduce poverty.

Microfinance institutions loans are used for agricultural production, trading processing and transport resulting in an increasing agricultural production. This leads

to increase employment opportunities and reduction in the prices of such products due to increase supply. Trading activities provided by Microfinance institutions can help to establish new marketing links and increase the income of traders. This can lead to reduced migration due to increased employment opportunities and increase income (Zohir et al. 2004).

2.6 Effectiveness of Microfinance Institutions on Agriculture

The financial needs for farmers can be characterized as routine (short term) or occasional (long term). Short term needs consist of the cost of agricultural inputs, animal husbandry costs and the cost of rental storage space for post-harvested crops. The costs of agricultural inputs are the costs for seeds, pesticides, fertilizers, hired labor and sharecropped or rental land during the farming season. Animal husbandry costs are the costs for animals to breed for fattening for the purpose of increasing price at the time of resale. Farmers are eager the sale of their outputs avoiding surplus of supply but in some situation they wait for a higher sale price in future. In this case, they need storage space for their output and the cost for the rental storage space.

Microfinance institutions provide loans to farmers for the purpose of financing short term needs. Frank Girabi (2013) investigated the impact of Microfinance on smallholder farm productivity in Tanzania. Findings specified that farmers who borrowed loans from Microfinance institutions can use more qualify fertilizers, pesticides and improved seeds than those who did not borrow loan. A study was conducted by Gabriela Santos Eusebio, Aleixandre Gori Maia and Rodrigo Lanna Ffranco Da Silveria (2016) investigated the impact of microcredit on small-farm agricultural production from Brazil. The result of this study revealed that farms receiving microcredit have better socioeconomic and productive characteristics than farms with no access to microcredit.

Long term financial needs consist of the costs for long term capital investment and the costs for perennial or plantation crop. Increases in production may need the purchase of the right or essential equipment, such as tractors, motorized pumps and other small machines or animal “equipment” such as oxen or horses for draught cultivation. Transportation equipment such as trucks for post-harvest delivery are also

needed for distant markets. Insufficient access to (productive) land can also be a major limitation for the development of agriculture.

Perennial or plantation crops such as coffee, cocoa, rubber, palm or fruit trees need long term for the farmers because of higher levels of production. Though these crops may be lucrative in the long term, several years are usually needed for farmers to witness any returns from them whatsoever. Without financing, such long term investments may not possible to make.

Microfinance institutions also provide loans to farmers for the purpose of financing long term needs. Joyce Ama Quartey and Abigai Asamoah (2018) investigated the effect of Microfinance on cocoa production in the Ashanti region of Ghana. The result of this study shows that although farmers are difficult for repaying the loans, microcredit is a positive impact on the output of coca. A study done by Anderson, K. Mbuba, Eric K, Bett, Charles Ndenga and Newton Nyairo (2018) analyzed the factors influencing microcredit uptake among smallholder coffee farmers in Tharaka Nithi, Kenya. The result of this study revealed that microcredit is a positive effect on the production of coffee.

It is obvious that Microfinance can truly serve small holder agriculture as an opportunity provider both for short-term and long-term financial needs. This will finally benefit for farmers as well as their community and the country's economy.

2.7 Reviews on Previous Studies

Emest Adu-Gyamfi and Kwame Attafuah Ampofo (2014) study effects of Microfinance credit on community farmers in Upper Denkyira East Municipality of Ghana. They examine the impact of microcredit on sunflower and maize farmers in Ghana. Primary data were used in this study. The result shows that there is significant difference in inputs uses and farm productivity between credit borrowers and non credit borrowers. Credit borrowers can use quality agricultural inputs such as seeds, fertilizers and pesticides and so on and modern farming technology such as tractors and ox-ploughs. The productivity of credit borrowers increases because of quality agricultural inputs and modern farming technology.

Irfana Noor Memon, Sanaulah Noonari, and Syed Taimoor Shah (2014) study impact of microcredit on agricultural development in District Mastung Balochistan that analyzed credit from Balochistan Rural Support Program (BRSP) in Pakistan. The Primary data were used in this study. Structural questionnaires were used in collecting data in this study. The result shows that microcredit assists for increased agricultural production and microcredit plays a positive role in agricultural development to great extent.

Glabirela dos Santos Eusebio, Alexandre Gori Maia and Rodrigo Lanna Franco da Silveria (2016) study impact of microcredit on small farm agricultural production in Brazil. They compare farmers' production value, controlling for farm, farms and production system characteristics that credits are from PRONAF credit. The secondary data were used 2006 Agricultural Census in this study. This study uses multiple linear regression model to estimate the net impact of PRONAF on total production value. The result shows that PRONAF had a positive and significant effect on production value.

Aminu Sulemana and Samuel Appiah Adjei (2015) study Microfinance impact on agricultural production in developing countries. This study specializes in Microfinance impact on agricultural production in Pru district, Ghana. The primary data were used in this study. This study focuses on farmers who produce yam. The result shows that there are major challenges such as credit access including unavailability of collateral securities, small loan amounts and release of agricultural loans. But Microfinance had a positive impact on the production of yam.

Eliasu Nuhu, Al-Hasson Inusah, Gasu Rose Ama and Zalaria Mohammed Sano (2014) study impact analysis of Microfinance on crop production in Ghana. The primary data were used in this study. Structural questionnaires were used in collecting data in this study. This study uses multiple regression model. The result shows that there is a significant relationship between Microfinance and crop production. The regression result shows that an increase in microcredit to farmers would increase crop production. This shows that microcredit has positive impact on crop production.

CHAPTER 3

MICROFINANCE ON AGRICULTURAL DEVELOPMENT IN MYANMAR

3.1 Agriculture Sector in Myanmar Economies

Myanmar has been facing challenges. Poverty is the main cause of concern in the economy, resulted from low income of Myanmar people. Myanmar is an agricultural country, with a wealth of resources. The national development policies are reflected the national economic objective which pointed that "Development of agriculture as the base and all-round development of other sectors of the economy as well". Agriculture including crops, livestock, fisheries and forestry, is important for the Myanmar economy in many ways. Agriculture is also the main role of raw materials and other source of inputs for domestic manufacture of goods. The development of agricultural sector is important for Myanmar to achieve food security and nutrition for the country as well as to be a significant contributor to the economic output, export earnings and employments in Myanmar. Agriculture sector is essential for Myanmar's economy and future sustainable growth.

Agriculture, through its role in supplying food for improving the real purchasing power of consumer, generating farm incomes and providing employment can play an significant role in economic progress and poverty reduction. Moreover, a majority of the country's ethnic groups are agriculturally dependent, developing the sector will also contribute to inclusive and regionally balanced growth and social stability. However, the share of gross domestic product (GDP) in agriculture sector has declining over time. The share of gross domestic product (GDP) in agriculture sector from 2010-2011 to 2017-2018 decrease from 36.7 percent to 22.3 percent while the share of gross domestic product in other sector has increasing over time.

Table (3.1) Shares of GDP by Sector

Year	Sectors (%)		
	Agriculture	Industry	Service
2010-2011	36.8	26.5	36.7
2011-2012	32.5	31.3	36.2
2012-2013	30.6	32.4	37
2013-2014	29.5	32.4	38.1
2014-2015	27.8	32.4	38.1
2015-2016	26.8	34.5	37.7
2016-2017	25.5	35	39.5
2017-2018	23.3	36.3	40.4

Source: Myanmar Statistical Yearbook (2018)

According to table (3.1), the share of gross domestic product (GDP) in agriculture sector in 2010-2011 (36.8 percent) is more than industry (26.5 percent) and service sector (36.7 percent). But the share of gross domestic product (GDP) has gradually fall over time, The agriculture sector which includes agriculture, livestock, fisheries and forestry, is the largest contributor to gross domestic product (GDP), accounting for 22.3 percent while the industry sector accounts for 36.3 percent and the service sector accounts for 40.4 percent. The normal growth rate of sectors is gross domestic product (GDP), the agriculture sector is 14.4 percent decrease from 2010-2011 to 2017-2018, the industry sector is 9.8 percent increase from 2010-2011 to 2017-2018 and the service sector is 3.6 percent increase from 2010-2011 to 2017-2018.

3.2 Importance of Microfinance in Myanmar

The origin of Myanmar's Microfinance sector is traced back to the mid-1990s when the government allowed large international NGOs to establish offering Microfinance services. In 1997, the United Nations Development Program (UNDP) implements its "Sustainable Microfinance to Improve the Livelihoods of the Poor's Project". The implementing partners were the INGOs, Grameen, Gret, EDA Save the Children and Pact. From 2006, Pact was the only one implementing partner. In 2009, Lift, USAID, the UK's Department for International Development and the Danish

International Development Agency become donors for the project, which would eventually evolve into the largest single Microfinance implementation in the country.

In 2011, the government gave Microfinance the legal framework in the form of the Microfinance Business Law (MBL), which was followed in subsequent months and years by a series rules and regulations. The MBL allowed local and foreign companies to start operating as private MFIs, and provided a licensing regime for entities that were already providing informal Microfinance services. The objectives of MBL are:

- to reduce poverty
- to develop social, education, health opportunities among the grass roots
- to create job opportunities
- to encourage the emergence of new small-scaled businesses
- to improve incomes in the agricultural sector and to encourage livestock breeding
- to help for improving technical know-how

Between November 2011, when the law was developed, and November 2012, almost 120 MFIs received license. It was due to low capital requirements which lowered the barrier for entry, although the regulatory environment remained quite restrictive. Among the existing entities to be licensed as MFIs were some 77 financial cooperatives, which until 2016 were under joint regulatory supervision from the Ministry of Finance &Planning (MoPF) and the Ministry of Cooperatives. In February of that year, the Financial Regulatory Department (FRD) placed the cooperative MFIs under the supervision of the Ministry of Cooperatives. In 2018, the FRD listed 176 licensed MFIs under its supervision including 107 local MFIs, 39 foreign MFIs, 3 joint-venture MFIs, 5 INGOs MFIs and 22 NGOs MFIs.

Myanmar is one of the least developed countries with per capita income of approximately just over US$ 1571. Myanmar has a population of 54 millions in which 32% of the population is living under the poverty line. Poverty in rural area is higher than that in urban area because 38.3% of the rural population is estimated to be poor compared to 14.5% of poverty in urban areas. According to Central Bank data, there are 4 state-owned banks and 19 private banks are dominant in the financial sector of

Myanmar. But the poor people in most rural areas cannot borrow loans to these banks because people have to pay mortgages for their loans and these mortgages are needed to be accepted for the banks to borrow loans.

The Microfinance Law of November 2011 underlines the poverty reduction and defines Microfinance institutions (MFIs) as local and foreign institutions, NGOs, INGOs, banks and non-banking financial institutions funded with own capital, charity and grant, to operate Microfinance business in order to reduce the poverty of the grass-root people and to improve their socio-economic life. Microfinance is a financial institution in which many poor and near-poor households are possible to get an appropriate source of high quality financial services. It provides a valuable tool in poverty reduction. It delivers credit to the areas in which the traditional banking system fails to operate through smoothing consumption, financing micro enterprises that drive growth and create jobs. Microfinance institutions discourage lending to luxury consumers but they encourages lending in rural areas. 50% of credit provide in rural areas.

The aim of Microfinance business in Myanmar is to support the development of rural area and poverty reduction. So that Microfinance business cannot be the only focusing on the profit but also for the development of social welfare. Almost all of the clients are poor and they have lack of financial services of the bank. That is the reason why government allows Microfinance institutions as an intermediary to offer financial services to the poor people.

The earliest Microfinance in Myanmar was established in Sagaing Region since 1905, then many saving and credit societies were silently operating in alive for many years. INGOs have been delivering Microfinance services to provide the financial assistant to grass root of people in both rural and urban of Myanmar. However, a legal framework for Microfinance operation was only developed in 2011.

There are many evidences of the benefits of Microfinance institutions in Myanmar. Jason Meikle, deputy director of PACT GLOBAL Microfinance Fund (PGMF), which has been operating in Myanmar since 1997, stated that “improved housing, improved nutrition, improved investment and education, improved

governance and improved standing for women in their house and village" in the areas of PGMF is present.

3.3 Agricultural Finance in Myanmar

Myanmar is an agricultural country, and agriculture sector is the main role of the economy. The economy is mainly based on agriculture. Agriculture is central to economic growth of Myanmar. Agriculture sector is the basic sector in the economy of Myanmar. 70% of total populations live in rural areas and work in agriculture and animal husbandry for their earning. Recently, agriculture sector contributes 22.3% of GDP, 35% of total export earnings and 70% of 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 modern technology and the high use of fertilizers and pesticides. Rural and agricultural finance in Myanmar represent many profound challenges but a great opportunity. By learning the experiences from other countries, Myanmar might be able to shorten the time it takes to develop an efficient and effective rural finance system.

Myanmar's financial sector and banking system are small and quite underdeveloped. It is estimated that about 10% of population have used formal financial services, with a much lower ratio in rural areas. There are four state-owned banks, seven semi-government bank and local government-owned banks and twelve private banks, some of them are recently operated at the request of Government. There are many institutions providing Microfinance in Myanmar. Most of them are small and NGO type and were operated and supported by donors. The larger one, especially the UNDP initiated and supported is PACT that developed into significant sustainable and nation-wide institutions. There are many new entrants into the Microfinance field. The German Savings Bank Foundation is working with CARD and local partners to operate two Microfinance banks. IFC is supporting Acleda Bank of Cambodia to operate Microfinance bank in Myanmar. There are many Microfinance institutions provided by LIFT.

Myanmar's formal rural financial sector is less developed than the financial sector in general and provide agricultural production credit from formal sources is nearly non-existent. Large trading companies and processors borrow some credit

through bank branches of commercial banks in Township centers. However, formal credit do not sufficiently offer to many farmers.

The Myanmar Agricultural Development Bank (MADB) is the major financial institution that operates in rural area for agriculture credit. MADB is the second largest financial institution in Myanmar with 206 branches. Its maximum credit amount for paddy production is K 150000 per acre and the interest rate is between 13 and 18% per annum. The informal money lenders charges interest rate about 10% per month. In Myanmar, most farmers borrow from MADB and MADB is the main lender of agricultural credit for farmers in Myanmar. The MADB is state owned bank and established with the name of State Agricultural Bank (SAB) which started in 1953 which latterly become the Myanmar Agricultural Development Bank in 1976. It has a countrywide network of 14 regional offices, 207 branches and 44 agency offices offering loans to 2.3 million farmers. MADB lends agricultural credits to farmers as the total of K 742 billion in 2018.

Governments bank loans require collateral but majority of farmers cannot have collateral so farmers are difficult to borrow loans from government banks, MADB's provide loans to farmers for K 150000 per farmer and the majority of loan types do not need collateral. But the loan amount is not enough for the farmers for the cost of farming such as the costs for agricultural inputs like seeds, fertilizers, pesticides, the costs for modern farming machines such as tractors, the cost of hiring labor, the cost for fuel and so on. The loans is necessary to pay back after harvesting their crops and farmers have no chance to wait getting the highest price of their crops. Other institutional loans such as loans from Microfinance institutions usually collect the part of loan amount and interest amount two times per month or monthly. Farmers have no way to get fund during cultivated season. Informal source of loans are the loans from informal moneylenders such as loans from friends, relatives, village shopkeepers, traders, commission agents and so on charge high interest from farmers. However the majority of farmers rely on such loans because the loan repayment period is convenient for farmers.

3.4 Agricultural Loan Providers in Myanmar

In Myanmar, the agriculture sector has the potential for rapid growth if farmers are offered with the better access to capital, quality seeds, improved

infrastructure and modern technology. Myanmar's agriculture sector mainly produces rice, beans and pulses, sesame, oil crops and rubber. Agricultural loans assist farmers to operate their farms more efficiently. Farmers face difficulties for the costs associated with operating farms, they need agricultural loans with loan interest. The government provides low interest loans and other subsidies that assist farmers to turn a profit.

Table (3.2) Agricultural Loans by Crops

Crops	**2010-2011 (million kyat)**	**2013-2014 (million kyat)**	**2014-2015 (million kyat)**	**2015-2016 (million kyat)**	**2016-2017 (million kyat)**	**2017-2018 (million kyat)**
Paddy	156495	1035841	1047681.7	993009.8	1535351.1	457545.7
Maize	1042.05	3311.94	3346.3	1041.30	1046.82	3825.95
Groundnut	7101.94	17145.1	15867.66	12953.66	12271.54	34672.3
Sesame	10059.7	24962.3	25205.4	22639.9	23320.86	58018.6
Mustard	347.18	1112.26	1272.2	1183.84	1145.24	2351.25
Cotton	1405.39	2348.44	1780.9	1440.44	1397.18	3196.15
Pulses	14229.2	59674.3	57250.28	51853.14	49182.74	140556.3
Sugarcane	-	14333.6	15081	7282.8	6908.4	7542.8
Total	190680	1158729	1167485.4	1091405	1630623.9	1707709

Source: Myanmar Statistical Yearbook (2018)

Agricultural loans provided for crops increase year by year. The majority of agricultural loans are provided for paddy. In 2017-2018, the agricultural loan provided for paddy is 1457545.7 million kyat, the loan provided for maize is 3825.95 million kyat, the loan provided for groundnut is 34672.3 million kyat and the loan provided for sesame is 58018.6 million kyat respectively. The agricultural loan provided for mustard is 2351.25 million kyat, the loan provided for cotton is 3169.15 million kyat, the loan provided for pulses is 140556.3 million kyat and the loan provided for sugarcane is 7542.8 million kyat respectively. Agricultural loans increase from 190679.9 million kyat in 2010-2011 to1707709 million kyat in 2017-2018.

There are six kinds of agricultural loan providers in Myanmar. They are:

(1) Myanmar Agricultural Development Bank (MADB)

(2) International Non-Government Organizations (INGOs)

(3) Agricultural Co-operatives

(4) Rice Specialized Companies

(5) Agricultural Input Providers

(6) Unregulated Providers

(1) Myanmar Agricultural Development Bank (MADB)

Myanmar Agricultural Development bank is a state-owned bank and under the supervision of Ministry of Agriculture. MADB is the largest formal provider in Myanmar lending loans to an estimated number of 2.3 million farmers. It is also the second largest bank branch with 206 branches. MADB offers K 742 billion loans to farmers and the farmers can borrow loans according to their farm acres. The loan size for paddy is K 150000 per acre and K 70000 for other crops per acres. The interest is charged between 13% and 18% per annum on its loans.

MADB lends seasonal loans, short-term loans and farm machinery loans. Seasonal loans are offered across three seasonal cycles such as pre monsoon, monsoon and winter. Seasonal loans are the largest of MADB's credit that is 93% of loans are seasonal loans. 76% of seasonal loans are provided in the monsoon cycle. Seasonal loans are the group loans with five to ten farmers in each group. Loans are approved by Village Tract Committee and farmers can borrow from the MADB branch, while guarantees have to be provided as part of the group liability model. The interest is charged 8.5% per annum on its seasonal loans. Farmers can borrow and pay back loans at MADB branches. Both the interest and the capital have to be repaid at the end of the loan term i.e. after harvesting.

MADB lends the remaining 5% of loans for short-term loans. Short-term loans consist of loans from sugarcane and for special projects like salt mining, tea and coffee farming and citronella gas production and so on. These loans have to be paid back at the end of a year. MADB also lends farmers the remaining 2% of loans for

farm machinery loans. Farm machinery loans are individual loans for asset purchase where the asset is used to collateralize for the loan in addition to the cash collateral requirement. Two guarantors are necessary when borrowing loans. These loans are provided to farmers with plots in excess of 10 acres and loans are approved at MADB head office. The loan term is 3 years and interest is charged at 35% per annum. Loan amount and interest have to be repaid at the end of 3 years.

(2) International Non-Government Organizations (INGOs)

Agricultural loans are also provided from international non-government organizations (INGOs). These organizations are Microfinance institutions and owned by international donors and Microfinance operators. The international non-government organizations consist of PACT MYANMAR Microfinance institution, Pact Global Microfinance Fund (PGMF), Proximity, World Vision and Save the Children. The most popular international non-government organization for agricultural loans is PACT MYANMAR Microfinance institution. The exact number of agricultural loans clients is unknown, but is estimated to be less than 100000 agricultural loans clients. Microfinance agricultural loans are relatively small loans. The loan size is K 250000 for each farmers with the term of 5 months. The interest is charged about 2.5% per month. Some Microfinance agricultural loans products are not particularly matched the farmers' needs, for instance, the term of some loans is actually shorter than the production season which makes farmers difficult to repay these loans.

(3) Agricultural Co-operatives

Agricultural co-operatives operate under the supervision of Ministry of Co-operatives. While most financial co-operatives operate largely in urban areas, agricultural co-operatives operate in most rural areas. There are about 7000 agricultural co-operatives in Myanmar and about 400000 agricultural loans clients. Agricultural co-operatives provide K 24.2 billion loans to its 400000 member farmers. Only member farmers can apply for loans and credit is mostly used for agricultural production, with most common types such as paddy, beans and pulses. The loans for farming are lended on a case by case basis, but these loans require collateral. The loan size varies between K 10000 to K 50000 per acre because this loan size is based on

the size of the co-operatives. The interest rate is 18% per annum for farmers. The repayment schedule depends on the period of production or length of season.

(4) Rice Specialized Companies

Rice Specialized companies offer agricultural loans for farmers. There are 60 agricultural companies though 57 companies have been registered since 2008. But there are only 5 companies that are still operating. These companies are GolDelta, Khittayar Hinthar Rice Specialization, Ayeyarwaddy Greenland, Maha and Myanmar Agribusiness Public Cooperation Organization (MAPCO). These companies lend credits to estimate 15500 farmers. Rice specialized companies are very limited to reach in most regions and they usually operate in three regions such as Ayeyarwaddy region, Pyay region and Bago region. In Ayeyarwaddy region, rice specialized companies operate mostly in Danu Phyu township, Phyar Pon township and Nyaung Done township. Rice specialized companies offer seasonal loans such as monsoon and summer paddy loan. The loan size for monsoon season is around K 1.8 billions. The interest rate is around 15% per year. The repayment schedule is the period after harvesting.

(5) Agricultural Input Providers

Agricultural input providers lend agricultural loans for the purpose of industrial process. Agricultural input providers offer loans to approximately 1.5 million farmers, with a credit amount of K 50000 per farmer. Agricultural input providers mainly focus on higher value crops and areas with less weather irregularities and they mostly tent to rice farmers. Farm sizes of their clients must have between 5 and 10 acres and loans are offered to farmers who can prove that they own the land. The interest rate is between 2.5% and 3% per month and the repayment period is about 140 days but varies between 120 and 180 days depending on the type of crops.

(6) Unregulated Providers

Both farmers and farm workers extensively borrow unregulated sources of credit. In total 25% of farmers and 33% of farm workers borrow unregulated credit, while the largest source of unregulated credit comes from unregulated moneylenders, with 17% of farmers and 18% of farm workers using this source. According to Fin

Scope data, there are about 400000 moneylenders, constituting 1% of the adult population, operation in Myanmar. Moneylenders charge interest rates around 10% per month.

3.5 Importance of Microfinance on Agriculture

In Myanmar, the agriculture sector is the backbone of the country's economy. Agricultural goods are Myanmar's second largest export commodity. Agriculture is a major source of income in Myanmar which represents 22.3 percent of the country's GDP, employs 70 percent of its labor force and generates 25 to 30 percent of total export earnings.

To develop the agriculture sector, rising agriculture productivity and new market penetration other than neighboring countries will be necessary to reduce poverty and that will lead to the prosperity of Myanmar. By doing so, it is necessary to provide farmers with better access to enough capital with low interest rates during before farming period, quality seeds, improved infrastructure and modern technology.

There are three sources that largely provide credit to farmers. They are Myanmar Agricultural Development Bank (MADB), financial cooperatives and other Microfinance institutions (MFIs). But their purposes are the same. The objectives of these institutions are to develop agriculture sector, to reduce poverty and to develop rural community.

Myanmar Agricultural Development Bank (MADB) offers seasonal loans, short-term loans and farm machinery loans to farmers. Seasonal loans are provided across three seasonal cycle such as pre-monsoon, monsoon and winter. Seasonal loans are group loans with five to ten farmers in each group. Short-term loans are the loans that farmers have to pay back within a year. Farm machinery loans are individual loans for buying machines that are used in farming process.

Financial cooperatives operate under the supervision of Ministry of Co-operative. Financial cooperatives provide loans to only member farmers and credit is mainly used for agricultural production with the common crop types such as paddy, beans and pulses. The loan size varies between 10000 kyats and 50000 kyats per acre

based on the size of the cooperative. The repayment schedule depends on the period of production or length of season.

Other Microfinance institutions consist of NGOs, INGOs and specialized agricultural development companies. These institutions offer individual loans and group loans to farmers. The group loans are structured with five to ten members of farmers in each group. But the loans are short-term loans. Farmers have to pay back loan within a year.

All three Microfinance institutions provide loans to farmers for the purpose of agricultural development with low interest rates. Farmers can use more qualify agricultural inputs such as seeds, fertilizers and pesticides for their farm by using microcredit. They can buy animals such as cows and oxen and purchase modern farming machinery such as tractors and ploughs by using microcredit. The agricultural production can increase because farmers use quality inputs and modern farming machines. Therefore, Microfinance institutions assist to get agricultural development and help farmers out of poverty.

3.6 PACT MYANMAR Microfinance Organization

A nonprofit international development organization originated in 1971, PACT operate in nearly 40 countries for the purpose improving the lives of those who are challenged by poverty and marginalization. Since 1997, when Myanmar adopted closed society under military dictatorship, PACT, with the support of UNDP, has been providing small loans to the country's rural poor to help them for building their incomes and improving their lives. PACT's longstanding Microfinance operations in Myanmar were turned over in 2012 at the time of the new government-licensed entity PACTMYANMAR as a result of new national Microfinance regulations that PACT played a leading role in developing.

PACT MYANMAR offers agricultural loans to 19% of its borrower i.e. 71600 borrowers. PACT MYANMAR implements Microfinance activities in 51 townships in dry, Shan and delta region. PACT MYANMAR lends K 18.2 billion agricultural loans to farmers. PACT MYANMAR lends K 500000 per farmer. The interest rate is at 2.5% per month. PACT MYANMAR offers seasonal loans for various crops to farmers. Most of the seasonal loans are group loans with five to ten members in each

group, while guarantees have to be provided as part of the group liability model while borrowing and repaying loans. Agricultural loans period and repayment period depend on crop type and beneficiary negotiation.

With the support of an international partner, PACT started working in 2015 with nine Myanmar-based NGOs for developing their own Microfinance operations in particularly remote areas of the country. Today, PACTMYANMAR is one of the largest Microfinance institutions. In 2018, PACT MYANMAR provided more than 1.3 million loans worth with $408 million with repayment rate of 99.4 percent. For most of those it serves, PACT MYANMAR is the only access to affordable credit available. Each client have to attend business education classes where they learn how to save and use their loans for the purpose developing and grow their income-generating activities.

PACT use locally developed and owned solutions and work closely with citizens, local government and civil society. With partner including USAID, UNDP, The Rockefeller Foundation, Chevron, Coca-cola, Ooredoo, Sell, 3MDG, LIFT, and thousand of local organizations and community groups, PACT designs and operates projects that maximize local ownership and leverage existing systems and networks. PACT operate covers a broad spectrum of interventions, including health, livelihoods, local government, civil society strengthening, renewable energy, water and sanitation.

PACT provides community education with grassroots governance through Village Development Committees (VDCs) and financial sustainability through Village Development Funds (VDFs). PACT strengthen local communities through promoting inclusive and particularly village decision-making, supporting transparent and accountable community development and mentoring organizations for developing their institutional capacity. Through Smart Power Myanmar, PACT is helping to accelerate access to renewable energy in off-grid areas by bringing together main players in the public and private sectors, spurring economic growth and transforming lives in rural communities.

CHAPTER 4

ANALYSIS ON SURVEY DATA

4.1 Survey Profile

This survey was conducted in Ngathayauk village, Nyaung Oo township for studying the impact of Microfinance on agriculture in the study area. This research was designed for face to face interview with farmers who borrow loans from PACT MYANMAR Microfinance institution. The data were collected from 35 male and 65 female in the study area. It has focus on agricultural production, profit and options of respondents upon Microfinance impacts on agriculture.

Ngathayauk village is located in the middle of Myanmar. The area is 347.8 square mile wide. It is situated at 826 feet above from sea level. Ngathayauk village is bordered on the east by Taung Thar Township and on the south by Kyaut Pan Taung Township. It is bordered on the west and north by Nyaung Oo Township. Ngathayauk village is a village which is plenty of streams. The famous streams are Ouyintaw Stream, Sawkhan Stream and Laypway Stream flow into the Ayeyarwaddy River.

Ngathayauk village has hot and dry climate and the highest temperature is 45 Degree Centigrade and the lowest temperature is 10.2 Degree Centigrade. The average highest drainage is 45 Degree Centigrade and the lowest drainage is 13 Degree Centigrade. The natural vegetations are acacia, colocasia, jujube tree, neem tree, kokko tree, tamarind tree, palm tree and banyan tree. Ngathayauk village is organized with 4 wards and 15 small village tracts. The total households and population in this village are 9902 and 43916. All villagers are Burma and Buddhist. The main livelihood of this village is farmers and the crops are groundnuts and sesames. The total agricultural land is 6002 acres. Among them, the usage acres are 2202 acres and the non-usage acres are 3800 acres.

PACT MYANMAR Microfinance institution lends loans in this village since 2011. There are other institutions such as Mya Sein Yaung and agricultural co-operatives lend loans to household. PACT MYANMAR Microfinance loans are short-term loans. The maximum amounts that lend from PACT MYANMAR Microfinance institution are K 900000 for farmers and K 2000000 for small businesses. The loans are group-base loans and a group needs 5 members of borrowers. The member who borrows the first time is not paid the maximum loan amount. The loans for farmers are collateral free and the loans for small businesses are necessary collateral. When a member of a group borrow or repay loan, the remaining members need to guarantee. The interest is charged 1.5% per month. The borrowers have to repay loans with installment system. The part of loan amounts and interest have to be paid 2 times in each month. The repayment period is one year. Although the interest is charged 1.5%, the interest amount is the same for all months. The borrowers have to save at least 2000 kyats in a month. These savings (2000 kyats) are to be used for member who is seriously sick, who has pregnant and who have funeral.

4.2 Survey Design

This study was started in July 2019 and has gone through studying for the impact of Microfinance on agricultural development in Ngathayauk village, Nyaung Oo township. The questionnaires design is prepared to know the present conditions for agriculture and impact of Microfinance on agriculture in the study area. This research was designed for face to face interview with farmer households in this region. In this survey, 100 respondents were selected from 4 village tracts such as Ku Lar Te, Sin Thar Mway, Taw Pyar and Se and respondents were borrowing loans from PACT MYANMAR Microfinance institution. Each 25 respondents were selected with the method of simple random sampling from 4 village tracts.

The questionnaires design was prepared for the farmers who borrow from PACT MYANMAR Microfinance institution to know whether PACT MYANMAR Microfinance institution assist for agricultural development. These questionnaires consist of open and close questions including gender, age, marital status, education, family size, agricultural land acre, crop type, loan amount, using loan amount, interest rate, input quality, profit, agricultural production and so on. The objectives of this survey are to obtain some information associated with the profile and agriculture

conditions of respondents who are beneficiaries of PACT MYANMAR Microfinance institution in the study area.

4.3 Analysis on Survey Data

In Ngathayauk village, the total population is 43916. The survey is conducted from 100 respondents in this village. This section concerns with analysis of data that has been collected from 100 respondents in selected village. This section includes the analysis of demographic characteristics of respondents and the analysis of the impact of Microfinance on agricultural production in selected village.

4.3.1 Gender Distribution of the Respondents

Microfinance institutions cannot make gender discrimination. This means that Microfinance institutions lend credit to both male and female borrowers. But women make up a large proportion of Microfinance beneficiaries. Women invest the loans in productive activities or improving family welfare more than men who are assumed to consume rather than invest loan funds.

Table (4.1) Gender Distribution of the Respondents

Gender	Number	Percentage (%)
Male	35	35%
Female	65	65%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.1) shows the gender distribution of the respondents from sample households. It is found that 35% of respondents are males and 65% of respondents are females. It is found that women borrow loans more than men. And it is also found that PACT MYANMAR Microfinance institution do not make gender discrimination. It is good for community because gender discrimination is one of the major sources of poverty.

4.3.2 Age Group of the Respondents

Microfinance institutions do not limit the age group of borrowers. But in many developing countries, most of the Microfinance borrowers are the age under 50 years.

Most of these take loans for operation their businesses and for consumption smoothening.

Table (4.2) Age Group of the Respondents

Age (Year)	Number	Percentage(%)
18-30	15	15%
31-50	50	50%
51-70	35	35%
Total	100	100%

Source: Survey data (July, 2019)

In term of age, the majority of respondents who borrow loans from PACT MYANMAR Microfinance institution are the age between 31 and 50 years (50% of respondents). 15% of respondents are the age between 18 and 30 years and 35% of respondents are the age between 51 and 70 years respectively.

4.3.3 Marital Status of the Respondents

Microfinance institutions do not limit the marital status of its agricultural clients. Agricultural clients who are single, married, divorced and windowed clients can borrow loans from Microfinance institutions.

Table (4.3) Martial Status of the Respondents

Marital Status	Number	Percentage(%)
Single	16	16%
Married	73	73%
Windowed	11	11%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.3) shows the marital status of the respondents from sample household. It is found that 16% of respondents are single and married respondents are 73%. We can see that 11% of respondents are windowed. It is found that married respondents borrow loans more than single and windowed respondents.

4.3.4 Education Level of the Respondents

Microfinance institutions do not limit the education level of their clients. The majority of clients are primary education level, secondary education level and high school level. Most graduate rarely borrow loan from Microfinance institution because they work in various cities and they have enough income for their lives.

Table (4.4) Education Level of the Respondents

Education Level	Number	Percentage (%)
Primary Level	46	46%
Secondary Level	30	30%
High School Level	17	17%
Graduate Level	7	7%
Total	100	100%

Source: Survey data (July, 2019)

According to table (4.4), it is found that 46% of respondents are primary level, 30% of respondents are secondary level, 17% of respondents are high school level and 7% of respondents are graduate level respectively. We can see that the respondent who is post graduate level does not borrow loan from PACT MYANMAR Microfinance institution. Most of the respondents are primary level and work in their farms and borrow loans from Microfinance institutions. Most graduate work companies, offices in Yangon, Mandalay and other cities.

4.3.5 Size of Family of the Respondents

Microfinance institutions do not limit the size of family. The majority of Microfinance institutions provide loans in rural areas. In rural areas, the members of family are more than those in urban areas. Therefore, they use microcredit for their business and for their household expenses.

Table (4.5) Size of Family of the Respondents

No. of Family Size	Number	Percentage (%)
3	4	4%
4	7	7%
5	11	11%
6	13	13%
>6	65	65%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.5) shows that size of family of the respondents from sample households. It is found that 4% of respondents have 3 members in their families, 7% of respondents have 4 members in their families and 11% of respondents have 5 members in their families respectively. 13% of respondents have 6 members in their families and 65% of respondents have above 6 members in their families. Most respondents have many family members. They use family expenses more than other families. That is why they borrow loans from Microfinance institutions to use their farm expenses.

4.3.6 Agricultural Land Acres of the Respondents

Microfinance institutions provide loans for farmers for the purpose of agricultural development and reducing poverty. Most Microfinance institutions provide loans according to the agricultural land acres.

Table (4.6) Agricultural Land Acres of the Respondents

Agricultural Land (Acres)	Number	Percentage (%)
1-5	26	26%
6-10	68	68%
11-15	3	3%
Total	100	100%

Source: Survey data (July, 2019)

According to table (4.6), 68% of respondents have between 6 and 10 agricultural land acres, 26% of respondents have between 1 and 5 agricultural land acres and 3% of respondents have between 11 and 15 agricultural land acres respectively. It is found that most respondents have between 6 and 10 agricultural land acres. The major crops are groundnut and sesame.

4.3.7 Loan Amount of Respondents

Microfinance institutions provide loans to farmers. But most of the loan amounts are small. The loans are seasonal loans and short-term loans. The repayment periods are one year or after harvesting the crops.

Table (4.7) Loan Amount of Respondents

Loan Amount	Number	Percentage (%)
0-100000	6	6%
100001-200000	9	9%
200001-300000	7	7%
300001-400000	11	11%
400001-500000	21	21%
>500000	46	46%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.7) represents loan amount that respondents borrow from PACT MYANMAR Microfinance institution. About 6% of respondents take loan between 0 and 100000 kyats, 9% of respondents take loan between 100001 and 200000 kyats. About 7% of respondents take loan between 200001 and 300000 kyats, 11% of respondents take loan between 300001 and 400000 kyats, 21% of respondents take loan between 400001 and 500000 kyats and 46% of respondents borrow loan above 500000 kyats respectively. It is found that the majority of respondents take loan above 500000 kyats.

4.3.8 Utilizing Loans of Respondents

Microfinance institutions provide loans to farmers for their agricultural conditions. Farmers use these loans in farming expenses because they want to increase productivity and profit.

Table (4.8) Utilizing Loans of Respondents

Utilizing Loan	Number	Percentage (%)
Using for agricultural inputs	59	59%
Using for farming machines	11	11%
Using for animals such as cows, cattle and so on	14	14%
Using for additional agricultural land	9	9%
Using for household property and expense	7	7%
Total	100	100%

Source: Survey data (July, 2019)

According to table (4.8), 59% of respondents use loans for agricultural inputs. 11% of respondents use loans for buying farming machines, 14% of respondents use loans for buying animals, 9% of respondents use loans for buying agricultural land and 7% of respondents use loans for household property and expense respectively. The respondents do not use loan for settling other loans. PACT MYANMAR Microfinance institution provides loans to farmers maximum 900000 kyats. The interest rate is 1.5 percent per month. In Ngathayauk village, the majority of people work as farmers and they use loans in their farms. The major crops are groundnuts and sesames. The government institutions do not provide loans for these crops. The government institutions mostly provide loans for paddy. Therefore, farmers take loans from Microfinance institutions. The farmers take loans for the purpose of using agricultural conditions.

4.3.9 Receiving and Repaying Loan Time

Microfinance institutions lend loans to farmers in right time i.e. these institutions lend loans to farmers at the time that they set time for lending loan time. Farmers repay loans with installment system. But farmers have to repaid loans on time that these institutions set time for repaying loan time.

(a) Table (4.9) Receiving Loan Time

Respondent's Option	Number	Percentage
Farmers receive loan in right time	100	100%
Farmers do not receive loan in right time	0	0%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.9) shows receiving loan time. It is found that all respondents receive loan in right time.

(b) Table (4.10) Repaying Loan Time

Respondent's Option	Number	Percentage
Farmers can repay loan on time	100	100%
Farmers cannot repay loan on time	0	0%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.10) shows repaying loan time. It is found that all respondents can repay loan on time.

4.3.10 Times of Borrowing Loan of Respondents

Microfinance institutions assist credits to farmers for the purpose of agricultural development. Microfinance institutions lends loans to farmers more and more time but farmers have to repaid loan amounts and interest for previous

borrowing before they borrow loans again. Farmers borrow loans more and more time because they want to use modern technology and increase productivity.

Table (4.11) Times of Borrowing Loan of Respondents

Times of Borrowing Loan	Number	Percentage (%)
1	5	5%
2	9	9%
3	13	13%
4	15	15%
5	18	18%
>5	40	40%
Total	100	100%

Source: Survey data (July, 2019)

According to table (4.11), 5% of respondents start borrowing loan in this year. 9% of respondents borrow 2 times, 13% of respondents borrow 3 times, 15% of respondents borrow 4 times, 18% of respondents borrow 5 times and 40% of respondents borrow above 5 times respectively. The PACT MYANMAR Microfinance institution starts its project in Ngathayauk village in 2011.

4.3.11 Comparison of Agricultural Land Acres before and after Borrowing Credit

Most researches of Microfinance on agriculture indicate that Microfinance assists farmers to own more acres of agricultural land acres. These researches show that farmers own more acres of agricultural land after borrowing credits relatives to before borrowing credits because of increasing profit and income.

Table (4.12) Comparison of Agricultural Land Acres before and After Credit

Agricultural Land (Acres)	Before Borrowing Credit		After Borrowing Credit	
	Number	Percentage (%)	Number	Percentage (%)
1-5	53	53%	26	26%
6-10	47	47%	68	68%
11-15	0	0%	3	3%
Total	100	100%	100	100%

Source: Survey data (July, 2019)

Table (4.12) shows the comparison of agricultural land acres before and after borrowing credit from PACT MYANMAR Microfinance institution. It is found that before lending credit, 53% of respondents own between 1 and 5 acres, 47% of respondents own between 6 and 10 acres respectively. After lending credit, 26% of respondents own between 1 and 5 acres, 68% of respondents own between 6 and 10 acres and 3% of respondents own between 11 and 15 acres respectively. Thus, respondents have more agricultural land acres after borrowing credit than before borrowing credit.

4.3.12 Costs of Crops of Respondents

Agricultural costs are costs for agricultural production. It includes items such as costs for seeds, fertilizers, pesticides, labor, machines and so on. Farmers want to operate agriculture with minimum cost.

Table (4.13) Costs of Crops of Respondents

Costs (kyats)	Number	Percentage (%)
0-600000	14	14%
600001-1200000	58	58%
1200001-1800000	18	18%
Total	100`	100%

Source: Survey data (July, 2019)

Table (4.13) shows costs of crops of respondents. According to this table 14% of respondent costs between 0 and 600000 kyats for their farms, 58% of respondent

costs between 600001 and 1200000 kyats and 18% of respondent costs between 1200001 and 1800000 kyats respectively.

4.3.13 Comparison of Groundnut and Sesame Production before and after Borrowing Credit

Most researches indicates that microcredit increase agricultural production because farmers can use more quality inputs such as seeds, fertilizers and pesticides and so on and they can purchase modern farming machines such as tractor, water pumping and so on.

Table (4.14) Comparison of Groundnut Production before and after Credit

Production (tons)	Before Borrowing Credit		After Borrowing Credit	
	Number	Percentage (%)	Number	Percentage (%)
0-3.5	81	81%	16	16%
3.6-7	19	19%	73	73%
7.1-10.5	0	0%	11	11%
Total	100	100%	100	100%

Source: Survey Data (July, 2019)

Table (4.14) shows the comparison of groundnut production before and after borrowing credit from PACT MYANMAR Microfinance institution. It is found that before borrowing credit, 81% of respondents produce groundnuts between 0and 3.5tons, 19% of respondents produce groundnuts between 3.6 and 7 tons respectively. After borrowing credit, 16% of respondents produce groundnuts between 0and 3.5 tons, 73% of respondents produce groundnuts between 3.6 and 7 tons and 11% of respondents produce groundnuts between 7.1 and 10.5 tons respectively. Thus production of groundnuts increases after borrowing credit. Production increases because farmers can use more quality agricultural inputs such as seeds, fertilizers, pesticides and so on.

Table (4.15) Comparison of Sesame Production before and after Credit

Production (tons)	Before Borrowing Credit		After Borrowing Credit	
	Number	Percentage (%)	Number	Percentage (%)
0-0.5	75	75%	15	15%
0.6-1	23	23%	76	76%
1-1.5	0	0%	9	9%
Total	100	100%	100	100%

Source: Survey data (July, 2019)

Table (4.15) shows the comparison of sesame production before and after borrowing credit from PACT MYANMAR Microfinance institution. It is found that before borrowing credit, 75% of respondents produce sesame between 0 and 0.5 tons, 23% of respondents produce sesame between 0.6 and 1 tons respectively. After borrowing credit, 15% of respondents produce sesame between 0 and 0.5 tons, 76% of respondents produce sesame between 0.6 and 1 tons and 9% of respondents produce sesame between 1 and 1.5 tons respectively. Thus production of sesame increases after borrowing credit. Production increases because of using quality agricultural inputs and increasing agricultural land acres.

4.3.14 Revenues of Respondents

Agricultural revenue is the sale of agricultural outputs. Farmers want to receive highest revenue because they want to receive maximum profit.

Table (4.16) Revenues of Respondents

Revenue (kyats)	Number	Percentage (%)
0-1500000	18	18%
1500001-3000000	73	73%
3000001-4500000	9	9%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.16) shows the revenue of respondents. According to this table, 18% of respondents receive between 0 and 1500000 kyats revenue, 73% of respondents

receive between 1500001 and 3000000 kyats revenue and 9% of respondents receive between 3000001 and 4500000 kyats respectively.

4.3.15 Profits of Respondents

Profit is a financial benefit that is realized when the amount of revenue gained from a business activity exceeds the expenses, costs and taxes needed to sustain the activity. Agricultural profit obtain revenue of farmers exceeds the expense of farmers that are use in agricultural production.

Table (4.17) Profits of Respondents

Profits (kyats)	Number	Percentage (%)
0-1000000	28	28%
1000001-2000000	66	66%
2000001-3000000	6	6%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.17) shows profits of respondents. According to this table, 28% of respondents receive between 0 and 1000000 kyats profits, 66% of respondents receive between 1000001 and 2000000 kyats profits and 6% of respondents receive between 2000001 and 3000000 profits respectively. Most respondents receive profits between 1000001 and 2000000 kyats. The profit is high because they use quality agricultural inputs and additional agricultural land acres to increase profit.

4.3.16 Benefit of Microfinance on Profit

The productivity of farmers increases by using microcredit. If the productivity increases, the profit will be increase. Therefore, microcredit assists farmers to increase profit.

Table (4.18) Respondents' Option upon Profit

Respondents' Option	Number	Percentage (%)
Profit is high	94	94%
Profit is low	0	0%
Stay the same	6	6%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.18) shows respondents' perception upon Microfinance impact on profit. It is found that 94% of respondents accept the perception that profit is high due to microcredit and 6% of respondents accept the perception that profit is stay the same. All respondents reject the perception that the profit is low due to microcredit. The majority of respondents accept profit is high because they use more quality farm inputs or they have additional agricultural land.

4.3.17 Benefit of Microfinance on Seasonal Income

Microfinance assists to increase the productivity of farmers. The profit increases due to increasing productivity. So, the income of farmers will increase. The increasing income level of farmers assists to growth industrial sector. Finally, the country's economy will be growth.

Table (4.19) Option of Respondents upon Seasonal Income

Respondents' Option	Number	Percentage (%)
Increase Income	94	94%
Decrease Income	0	0%
No Effect	6	6%
Total	100	100%

Source: Survey data (July, 2019)

In table (4.19), 94% of respondents accept microcredit assist indirectly to increase income. The remaining 6% agree that there is no effect between microcredit and income. All respondents reject microcredit decrease income. The income increases because of increasing productivity. One of the objectives of Microfinance institutions is to increase income among community members and improve their

overall well-being. The PACT MYANMAR Microfinance institution gives loans that assist indirectly to increase agricultural production and to increase income.

4.3.18 Benefit of Respondents on Agricultural Land

Microfinance assists farmers to increase production. If production increases, the profit and incomes of farmers will increase. Farmers can buy additional agricultural land acres by using microcredit and income. Therefore, Microfinance assists farmers to purchase additional agricultural land acres.

Table (4.20) Respondents' Option upon Buying Additional Agricultural Land

Respondents' Option	Number	Percentage (%)
Buying more acres of agricultural land	67	67%
No effect	33	33%
Total	100	100%

Source: Survey data (July, 2019)

According to table (4.20), 67% of respondents can buy more acres of agricultural land due to microcredit. The remaining 33% of respondents agree that there is no effect between microcredit and buying agricultural land. Some respondents buy additional agricultural land acres by using microcredit and profits and other respondents buy additional agricultural land by using incomes.

4.3.19 Perception of Respondents on Agricultural Production

Most researches indicate that Microfinance has positive impact on agricultural productivity because Microfinance assists to use quality inputs such as seeds, fertilizers and pesticides and so on and additional agricultural land acres.

Table (4.21) Perception of Respondents on Agricultural Production

Extent	Number	Percentage (%)
Great Extent	71	71%
Some Extent	22	22%
No Effect	7	7%
Total	100	100%

Source: Survey data (July, 2019)

Table (4.21) shows perception of farmers on agricultural production. It is found that 71% of respondents accept the perception that microcredit assists great extent in agricultural production. 22% of respondents accept microcredit assists some extent in agricultural production. 7% of respondents accept microcredit has no effect on agricultural production. We can see that microcredit assists indirectly in agricultural production and to increase profit and seasonal income. Finally, it will meet its objective that is to reduce poverty.

4.3.20 Opportunities and Challenges of Farmers in Selected Village

In Ngathayauk village, there are three institutions that are Myanmar Agricultural Development Bank (MADB), Mya Sein Yaung and PACT MYANMAR provide farmers by lending credits for agricultural productions. Farmers in this village can borrow credits from these three institutions although the lending methods and the interest rate of these institutions are not the same.

Ngathayauk village has hot and dry climate and the highest temperature is 45 Degree Centigrade and the lowest temperature is 10.2 Degree Centigrade. The average drainage is 45 Degree Centigrade and the lowest drainage is 13 Degree Centigrade. The weather is good for growing groundnut and sesame. Ouyintaw Stream, Sawkhan Stream and Laypway Stream and Ngathayauk Dam is used for irrigation for the farms to increase production.

Ngathayauk village is near with Pakokku market. Farmers sell groundnuts and sesames in this village. Since the market is near the village, farmers can save transportation cost. Farmers receive higher price because they do not sell brokers who buy crops with low price. The revenue and profit of farmers can increase.

Sometimes the climate change. If the climate is bad and the drainage is not enough for growing groundnuts and sesames, the production of these crops will decrease. If the production decrease, the revenue and profit will decrease. The institutions that lend loans to farmers do not move repaying period of loans or do not reduce loan amount, farmers have difficulties to repay loans in right time.

Sometimes the farm will be infested with worms, insects, weevils and so on. At this situation, the production will decrease. If the production decrease, farmers are difficult to repay loans in right time. Moreover, if the institution change the lending method, the farmers will have difficulties for receiving and repaying loans. At last, farmers do not have as much knowledge such as modern farming technologies for highest crop production.

CHAPTER 5

CONCLUSION

5.1 Findings

In Myanmar, the share of gross domestic product (GDP) in agriculture sector is gradually decrease year by year. In 2010-2011, the share of gross domestic product (GDP) in agriculture sector is 36.8 percent and in 2017-2018, the share of gross domestic product (GDP) in agriculture sector is 23.3 percent. But the agricultural loans by crops increase year by year. In 2010-2011, the total agricultural loans is 190680 million kyats and in 2017-2018, the total agricultural loans is 1707709 million kyats. The majority of agricultural loans are provided to paddy production.

The PACT MYANMAR Microfinance institution starts its project in Ngathayauk village in 2011. It lends to each farmer up to 900000 kyats in a year. The interest rate is 1.5 percent per month. But the interest amount is the same for all month. The members have to pay loans with installment system. The member must repay loans 2 times in each month. And the members have to save at least 2000 kyats in each month. These savings (2000 kyats) are to be used for the members who is seriously sick, who have pregnant and who have funeral. The loans have to be repaid 24 times within a year.

According to this study, about 65 percent of the respondents of PACT MYANMAR Microfinance institution are women and 35 percent are men. In the age group, it is found that the majority of members are the age between 31 and 50 years because 50 percent of respondents are the age between 31 and 50 years. Most members are married because 73 percent of respondents are married and 46 percent of them are primary education level. About 65 percent of respondents have over 6 member of family. The majority of members have agricultural land between 6 and 10 acres.

In case of microcredit, 46 percent of respondents take loan over 500000 kyats and the majority of respondents use their loans for purchasing agricultural inputs such as seeds, fertilizers, pesticides and so on. There are other uses of loans like buying farming machines, purchasing animals such as cows, cattle and so on, buying agricultural land acres and using household property and expense. All respondents said they receive loan in the right time and must repay loan on time. It was found that 40 percent of respondents borrowed loans over 5 times.

In case of agricultural conditions, the production of crops increases after borrowing credits relative to before borrowing credits. 58 percent of respondents cost for agriculture between 600001 and 1200000 kyats and 73 percent of respondents receives between 1500001 and 3000000 kyats from the sale of crops. 66 percent of respondents receive profit between 1000001 and 2000000 kyats. About 94 percent of respondents agree microcredit assists to increase profit and income. 67 percent of respondents agree microcredit assists to purchase additional agricultural land and the remaining 33 percent of respondents agree there is no effect between microcredit and purchasing agricultural land acres. It was found that 71 percent of respondents accept Microfinance assists great extend in agricultural production. From our survey and research, there is a noticeable and positive impact of Microfinance activities on the agricultural production among the people in Ngathayauk village.

5.2 Suggestions

In this study, farmers cannot get enough money to buy modern equipments such as tractors, ploughs and so on. The PACT MYANMAR Microfinance institution gives loan to farmers up to 900000 kyats. But the modern equipments are very expensive and over 900000 kyats. Therefore, the PACT MYANMAR Microfinance institution should lend long-term loans and the loans amount should increase. There should be many other Microfinance institutions in Ngathayauk village. If there are many Microfinance institutions, these institutions will have more competition. It is good for farmers. At this situation, the interest rate will be low and these institutions will lend long-term loans and then the loan amount will be high. Finally, to develop agricultural sector, farmers need to know modern technology. The PACT MYANMAR Microfinance institution should share not only loan utilizing knowledge but also modern farming technology.

To be concluded, if there are many microcredit programs for agriculture sector entire the country, the agricultural production will be improved, national economy will be improved and finally the country will be develop.

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Questionnaires

Respondents Profile

1. Name ----------

2. Male/ female ----------

3. Age

- ☐ 18-30
- ☐ 31-50
- ☐ 51-70

4. Marital status

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Windowed

5. Education

- ☐ Primary Level
- ☐ Secondary Level
- ☐ High School Level
- ☐ Graduate Level

6. Size of family

- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ Above 6

7. Agricultural land acres

- ☐ 1-5 acres
- ☐ 6-10 acres
- ☐ 11-15 acres

8. Crop type ----------

Loan Utilizing and Savings, Interest Rate of Respondents

10 Loan amount ----------

11 Times of repaying loan amount within a year ----------

12 Loan amount is used for agricultural inputs such as seeds, fertilizers, pesticides and so on.

- ☐ Yes
- ☐ No

13 Loan amount is used for buying farming machines.

☐ Yes

☐ No

14 Loan amount is used for buying animals such as cows, cattle and so on.

☐ Yes

☐ No

15 Loan amount is used for purchasing extra land acres

☐ Yes

☐ No

16 Loan amount is used for settling other loans.

☐ Yes

☐ No

17 Loan amount is used for household property and expense.

☐ Yes

☐ No

18 Monthly saving amount ----------

19 Interest rate ----------

23 Production of groundnut before borrowing credit ----------

24 Production of groundnut after borrowing credit ----------

25 Production of sesame before borrowing credit ----------

26 Production of sesame after borrowing credit ----------

27 Costs of Crops ----------

28 Revenue of Crops ----------

29 Profit of Crops ----------

30 Microfinance impact on profit

☐ Increase profit

☐ Decrease profit

☐ Stay the same

31 Microfinance impact on income

☐ Increase income

☐ Decrease income

☐ Stay the same

32 Agricultural Land Acres before borrowing credit ----------

33 Agricultural Land Acres after borrowing credit ----------

34 Microfinance impact on buying extra agricultural land acre

☐ Buying additional agricultural land acre

☐ No effect

35 Farmers receive loan amount in right time

- ☐ Yes
- ☐ No

36 Farmers repay loan amount on time

- ☐ Yes
- ☐ No

37 Times of borrowing loan

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ Above 5

38 Extent of the role of microfinance in agricultural development

- ☐ Great extent
- ☐ Some extent
- ☐ No effect

39 Suggestion ----------
