Chapter 2

Theoretical Framework and Literature Review

Economic theory states that financial development can contribute to economic growth, which also is important in helping to alleviate poverty (Barr, 2005).

The economic development of a nation can be said to fall into two parts: the short term and the long term. In the short term, a nation focuses on the fight against poverty and hunger. Not only governments, also development aid participates in these poverty alleviation issues, since the existing level of poverty is unacceptable. This approach cannot be completed without the participation of local people.

After this phase, the long term analysis of economic and social development concentrates on comparing developments across different countries, regions and the trend line of the economy, in order to understand the dynamics of socio-economic development.

The welfare of grassroots people should be more important than the economic development of the country as a whole, therefore the daily consumption of the people is the most important factor in the development of the Myanmar economy. Microfinance programs are just one of the development tools used in Myanmar to assist the poor with their economic situation, and a significant factor in helping to smooth-out their consumption.

**Figure 2.1:** Poverty Cycle of the Poor Household
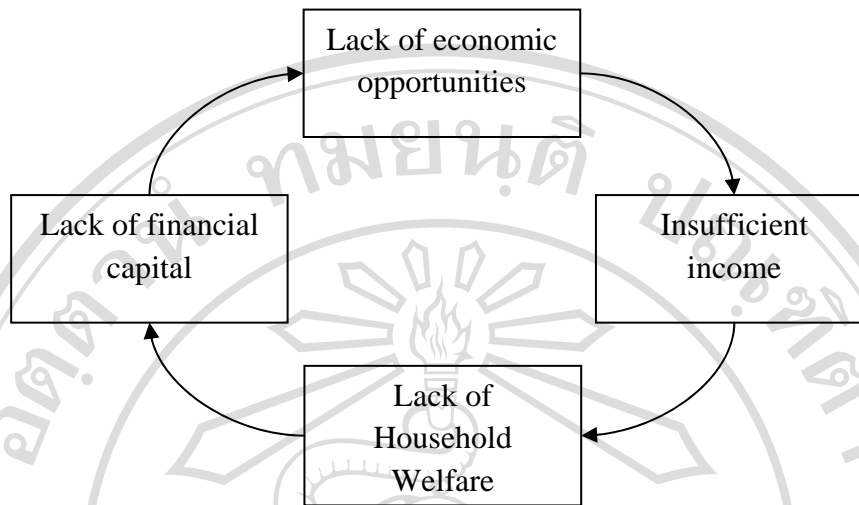
Source: Created by author

The poverty cycle of the poor shows that the welfare of a household cannot be fulfilled, without the financial capital being available to support the income generation activities essential for its survival. Thus, household income is indirectly dependent upon financial capital.

In rural areas, microfinance is a form of financial development that has its primary aim as alleviating poverty. Microcredit, which is the lending small sums to poor or near-poor households, achieved prominence in the 1980s (Barr, 2005).

Consequently, the effect of microfinance loans on household behavior can be evaluated by adopting the framework used by Sengourivong (2006), when studying the impacts of microfinance on household welfare in Lao PDR. Pitt and Khandker (1996) were the developers of that framework.

Figure 2.2: Conceptual Framework of the Behavior of Agricultural Household
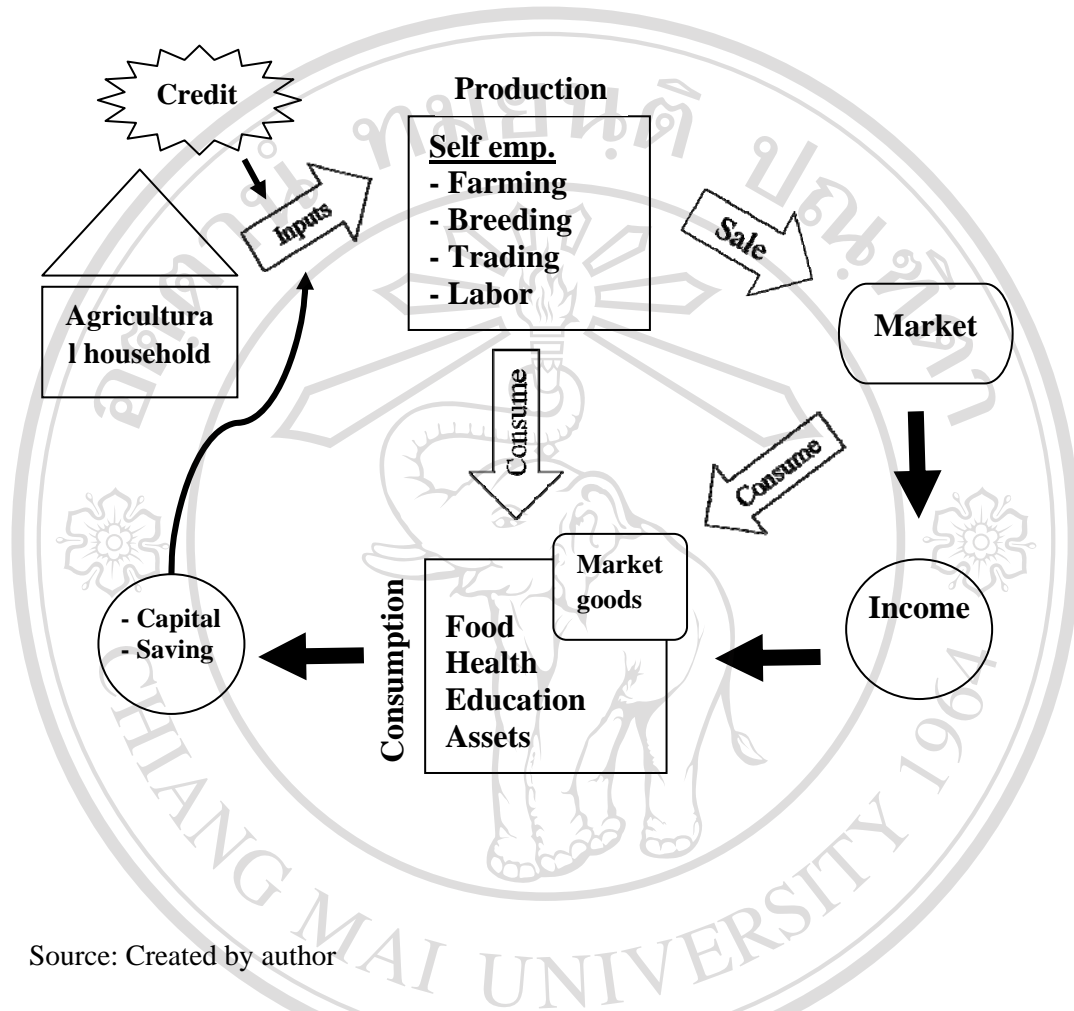
Source: Created by author

2.1 Characteristics of Agricultural Households

The agricultural household plays the role of both consumer and producer at the same time. According to consumer theory, households maximize the utility of their consumption, subject to budgetary constraint.

Agricultural households not only produce agricultural goods to sell in the market to generate income, but also produce for their daily consumption.

In accordance with the work of Pitt and Khandker (1996), the utility function at the household level is described in the next section.

2.1.1 Household Utility Function

A budget represents the constraint on the utility maximization of the household. The present-discounted value of expenditure on goods and leisure is equal to the present value of all the wealth of the household's assets, and the discounted value of the time endowments and the production function. The household's ability to borrow has a significant influence on the time path of household consumption.

Without the minimum capital available, a household cannot generate the production activity required to produce Z-goods. It is assumed that the household which has a very low level of initial assets as collateral, may not be able to receive a loan. Consequently, households with very low levels of income and consumption, who reduce their current consumption in order to build up assets for this purpose, may seriously threaten their health, production efficiency and life expectancy. The labor activity of woman required to produce Z-good activity, is zero where she is assigned to produce non-market H-goods and to carry out leisure activities.

The credit program participation is dominated by these following characteristics:

- The prices of market time,
- The price of the purchased market goods Q,
- The prices of the market inputs into H-goods production including the cost of prevention a birth and other inputs into Z-goods production,
- The price of capital goods, age and education levels of the borrowers and spouse,
- Access to transfers from non-resident relatives and
- Village level characteristics

The loan use on consumption and inefficient business may be a risk for the borrowers.

$$U_t = U(n, Q_i, H_i, l_i) \tag{2.1}$$

Q_i = a set of market goods consumed by household member i

H_i = a set of non-market household-produced goods allocated to member i (Non-market household-produced goods (H) include household care activities such as preparation of food, childcare and the gathering fuel)

l_i = leisure time consumed by household member i

Suppose that there are two workable aged adult household members; male head (m) and his wife (f). The household-produced goods (H) can be formed as:

$$H = H(L_{mh}, L_{fh}, G; F) \tag{2.2}$$

L_{mh}, L_{fh} = time devoted to the production of H by male and female

G = a vector of market goods used as inputs of the production of H

F = a vector of technology parameters that affect efficiency in H good production

Household produced goods H depends on the time devoted to the production by male and female, market goods used as inputs in the production such as fertilizer for the agriculture household and food for piglets for breeding and technology.

It is assumed that the minimum level of capital is necessary to produce positive household-produced goods. Production function of the agricultural household is:

$$Z = Z(K, L_{mz}, L_{fz}, A; J) \tag{2.3}$$

Capital K, labor time of household head and wife L_{mz} and L_{fz} devoted to

production of Z, a vector of variable inputs A and technology J are the functions of the production of Z goods.

2.1.2 Conditional Demand Equation

The impact of microfinance loans on household outcomes, such as household income and consumption, is the main focus of this study. The quantity of credits borrowed is estimated using the conditional demand equation. After that, the household participation level in the savings group is estimated based on the result of the outcomes. This methodology is developed by Pitt and Khandker (1996).

The level of participation will be estimated by the following equation:

$$C_{ij} = \alpha_{1c}X_{ij} + \alpha_{2c}V_j + \alpha_3Z_{ij} + \varepsilon^c_{ij} \tag{2.4}$$

where C_{ij} is the level of household participation in credit program by household (i) in village (j).

X_{ij} = a vector of household characteristics (e.g., age, education, sex),

V_j = a vector of village characteristics (e.g., prices and infrastructure)

Z_{ij} = a set of household or village characteristics distinct from the X's and V's in that they affect C_{ij} but not other household behaviors condition on C_{ij},

α_{1c}, α_{2c} and α_3 = unknown parameters,

ε^c_{ij} = a random error having three components

The following equation expresses the random errors.

$$\varepsilon^c_{ij} = \mu_j + \eta_{ij} + e^c_{ij} \tag{2.5}$$

μ_j = the unobservable village-specific effect

η_{ij} = the unobservable household-specific effect

e^c_{ij} = a non-systematic error uncorrelated with the other error components or the regressors.

2.1.3 The Outcome Variables

The outcome of the household can be estimated according to the vector of household and village characteristics, and the credit demand of the household.

$$Y_{ij} = \alpha_{1y}X_{ij} + \alpha_{2y}V_j + \alpha_3 C_{ij} + \varepsilon^y_{ij} \tag{2.6}$$

α_{1y}, α_{2y} and α_3 are unknown parameters and ε^y_{ij} is:

$$\varepsilon^y_{ij} = (\alpha\mu_{j} + \mu^y_j) + (\theta\eta_{ij} + \eta^y_{ij}) + e^y_{ij} \tag{2.7}$$

α and θ are parameters corresponding to the correlation coefficients, μ^y_j and η^y_{ij} are additional village and household-specific errors uncorrelated with μ_j and η_{ij} respectively.

If $\alpha \neq 0$, $\theta \neq 0$ the errors ε^y_{ij} and ε^c_{ij} are correlated.

Econometric estimation that does not take this correlation into account will yield biased estimates of the parameters due to the endogeneity of credit program participation C_{ij} (Sengsourivong, 2006).

The impact equation can be formed as follows:

$$Y_{ij} = \alpha_1 X_{ij} + \alpha_2 V_j + \alpha_4 LC_{ij} + \alpha_3 M_{ij} + \mu_{ij} \tag{2.8}$$

LC_{ij} represents the loan cycle of member; the number of months participants has gained benefit from participation of the saving groups. LC_{ij} is zero for all non-members in both old and new Village Credit Scheme (VCS). If the independent variable is correlated with the error term in the regression model, the Ordinary Least Squares (OLS) regression is biased.

2.1.4 Impact Assessments of Microfinance

The definition of microfinance provided by the Asian Development Bank (ADB) is "Microfinance is the provision of a broad range of financial services

such as deposits, loans, payment services, money transfers, and insurance to poor and low-income households and, their microenterprises. Microfinance services are provided by three types of sources: formal institutions, such as rural banks and cooperatives, semi-formal institutions, such as non-government organizations, and informal sources such as money lenders and shopkeepers".

Being poor, it is difficult to get a loan from a formal financial source. A lack of capital for household investments is the most serious problem for the poor. Without financial assistance, the lives of the poor cannot be improved. Therefore, in developing countries, microfinance institutions have been established mostly by NGOs, acting as an informal financial sector. According to a report by the Grameen Foundation in 2007, there are 113 million poor families were served by the microfinance institutions in the world. However, there are still more than three billion people left in the world whose income is less than one dollar per day and with no access to electricity or safe drinking water.

Since microfinance programs have had to rely on donors, so most analyses focus on the sustainability of the institutions and the empowerment of women. However, the sustainability of microfinance institutions alone is not enough to appraise their real effects on the communities. If the welfare of the households improve, the goal of microfinance should be achieved through poverty reduction. Thus, the effect of microfinance on household welfare needs to be analyzed.

The recent large number of innovatory microfinance programs, often based on group-lending methods, has been inspired largely by the belief that such programs reach the poor and have a positive impact on various measures of their welfare, including economic measures such as wealth and income, social measures

like educational attainment and health status, and less tangible measures such as empowerment. Some argue that access to credit is not a significant problem faced by small agricultural households. Product prices, land tenure, technology and risk, are the factors that limit small farmer development. Yet, despite the proliferation of these programs and the outpouring of support by donors, there has been little sound empirical research that tests the hypotheses that they reach and benefit the poor (Coleman, 2002).

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Since microfinance programs have to rely on donors, most of the analysis focuses on the sustainability of the institutions and empowerment of women. However, the sustainability of microfinance institution alone is not enough to appraise the real effects on the communities. If the welfare of the households improved, the goal of microfinance could be achieved regarding the poverty reduction. Thus, the effect of microfinance on household welfare is needed to analyze.

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2.2 Literature Review

2.2.1   Impact of Microfinance on Welfare of Borrowers

According to the survey analysis in Bangladesh, there is positive correlation between income and saving i.e., if income increases, the ability to save of a client also increases. Thus, there is a positive impact on the households. Since income, savings and economic opportunities are interrelated with each other, the opportunities to run business has also a linear relationship with the former two components (Khan & Rahaman, 2007).

The poverty is related to the low food consumption and unsaved housing conditions. Consequently, the household welfare such as improvement in education and health cannot be achieved. Thus, income is important for a household to fulfill the welfare of every single household member. The impact on income studied by Augsburg (2008) proved that microfinance had negative impact on income in rural India.

A recent research on a welfare economic analysis of the impact of

microfinance in Bangladesh has been conducted by Hussain and Nargis (2008). The researchers used the longitudinal data of the 2700 households with two periods 1998 and 2004. They focused on the overall economic growth performance that participants and non-participants of the microcredit program have been shared. Furthermore, they investigated on the self-employment and income generation activities which are stimulated by the microcredit programs. Regarding the poverty analysis, both between and within participants and non-participants were analyzed. Quasi-experimental design was used for the comparison between program and control villages as well as participants and non-participants. However, there is no control village because of the rapid extension of the microcredit program.

The annual income of households in every level increased at the end of the observation period compared to the beginning. The income of the regular participants increased the least whereas the income of the non-participants increased the highest.

The findings of the research can against the belief on that the microfinance is an instrumental to uplifting of the rural to a higher economic status. In reality, it can contribute the households at the lower side of the economic status to continue with the rest of the society possessing comparable initial endowments. Moreover, it is concluded by the researchers that microfinance intervention did not contribute to bridging the inequality between participants and non-participants.

In Ghana, the effect of microfinance institutions on the income inequality is different from Bangladesh according to Mathew (2007). Microfinance intervention in a community can increase of its participants without increasing the level of income inequality within the community. There may even be a slight decrease

in inequality after the microfinance institution is introduced and positive spillover effects on non-participants. It proved that participation in microfinance programs increased income as 12 percent. In this case, the researcher used a rich data set of Freedom from Hunger (FFH), Credit with Education Program in Ghana and the inequality method was used as a tool to analyze whether microfinance program had successful in reaching the poor. Regarding the spillover effect, the regression model had been used. It proved that there was no increase in inequality after participation and spillover effect. However, there was no evidence of a correlation between future participation and income (Mathew, 2007).

The analysis of the effect of microfinance on household welfare completed in Vietnam by Nghiem, Coelli and Rao (2007) found that the small operational scale of microfinance is the main source of inefficiency of the program. It is recommended to analyze the effectiveness of microfinance in poverty reduction by measuring changes in the welfare of participants. The result shows that the microfinance has the positive effect on income and consumption although it is not statistically significant and the marginal effect of microfinance decreased over time.

That study used the agricultural household model. In this case, production function and utility function of household is used to estimate the effect of microfinance on household. The goal of the household is to maximize its utility on consumption as well as maximize their home produced goods for the production.

It is impossible to estimate the amount of loan that household is willingly to borrow because the loan provided by the microfinance institution is fixed. According to the theory, household will borrow until the discounted marginal benefit of the loan is zero.

The effect on household financial capital, physical capital, human capital and social capital are varied according to the household characteristics such as household size, endowments, remittances, production technology and market prices.

Regarding the assessment of the impact of microfinance on empowerment and vulnerability, Thapa and Raghav (2006) found that there is very few analysis on participants and mostly the academics as well as the experts focused on the rates of return and sustainability of the institutions.

A minor filed study conducted in Bangladesh by Calles (2005) showed the different lending methods of microfinance. Compared to the formal financial institution, a group-based approach to lending is more effective in small scale microcredit programs in Bangladesh. Although all the researchers do not agree that microcredit helps in fighting poverty, most of them are convinced that the vulnerability of poor is reduced.

Long run impact of microfinance on household consumption and poverty is conducted in Bangladesh by Khandker (2003). The researcher identified the outcomes of the microfinance program as per capita total expenditure, per capita food expenditure, per capita non-food expenditure, household non-land assets, and the incidence of moderate and extreme poverty. It is noted that the impact on food expenditure was less pronounced than the one on non-food expenditure.

The impact of microfinance program on household welfare is conducted by Sengsourivong (2006) in Lao PDR. The impact assessment methodology that the researcher used is the survey design and research methodology of Coleman (1999). 251 households in six villages in a semi-urban area of Laos are sampled for the survey.

Saving group members in treatment villages is compared to the saving group members in the control groups. To define the control group, the researcher sampled on the nonmembers in treatment villages as well as new members in control villages. The duration of the saving group available on members in both treatment and control villages is taken into account for the impact estimates.

The quasi-census survey of member and nonmember households in both old and new saving groups was conducted. Household characteristics, assets, income, expenditure, deposits and borrowing are used as the variables for the data analysis. The village characteristics such as available of school and prices of goods in each village are surveyed by interviewing the village head and saving group members. The in-depth interview to village committee provided the general information on saving groups such as sources of funds, group deposit balances, deposit and credit methods, and methodology of solving bad debts.

It is shown that the microfinance has significant impact on assets, income, expenditure, educational status, and health as well as gender empowerment. The household status is improved in terms of wealth by the microfinance program. It is suggested that the microfinance loan might be a viable strategy for the poverty reduction according to the positive significant effects of the saving group on income generation activities particularly on livestock and agriculture in terms of rental on rice fields.

Microfinance is a partial solution to fight poverty by providing credit and other non-financial services such as health and education. In the study of Ohri (2004) that poor people could not be out of the poverty cycle without improving in health and education. It is suggested that microfinance should also target on basic needs of the

poor including health and education. If there is no improvement in health and education, poverty alleviation cannot be successful (Ohri, 2004).

Change in income alone is not sufficient. Grammen Bank reports that among its clients, illness and related expenditures are the leading cause for micro-business failures and loan default.

The minimalist approach is called if the microfinance program provides only financial services whereas the integrated approach defined that microfinance program provides not only financial services but also other additional services are offered.

2.2.2   The Role of Government in Microfinance Programs

Since microfinance is not appropriate for the extremely poor people, grants are more efficient way to provide them first rather than microfinance loans. Later on, microfinance program should be implemented after these poor have had stable income by using the grants. Basic requirements such as food, shelter and employment are urgently needed than financial services and these should be funded by the government and donor subsidies.

The government can control instability of domestic market and high inflation by setting the macroeconomic policy.

In 1960s and 1970s, the governments in developing countries increased the agricultural production by facilitating the adoption of improved technologies by farmers. Since access to capital and new technologies are the major constraints for the farmers, the government supported credit packages including fertilizers, seeds, and equipment in rural areas through the public institutions. However, since the average of rural farmers is poor, they need to depend on moneylenders for their access to capital

to finance their inputs. Besides, the saving scheme could not be implemented among the rural population (Lapenu, 2000).

According to the objective of the government which is to introduce funds into the rural areas, but there is little concern for building an efficient rural financial market. Since the Economic policies focused on the direct intervention of the state rather than on developing a conductive economic environment, most of the developing countries developed the agricultural development banks or credit program within the agricultural development projects.

Anyhow, the public agricultural development banks are failed because of the low payment rates. Thus, these kinds of institutions were not sustainable and relied more and more on subsidies. Furthermore, they did not reach to small farmers.