

**YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF ECONOMICS
MASTER OF ECONOMICS**

**A STUDY ON NON-FARM ECONOMIC ACTIVITIES IN
SELECTED VILLAGES IN HLEGU TOWNSHIP**

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SEPTEMBER, 2019

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**A Study on Non-Farm Economic Activities in Selected Villages in
Hlegu Township**

A thesis submitted in partial fulfillment towards the requirements for the degree of
Master of Economics, M.Econ (Economics) Degree

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September, 2019

ABSTRACT

Rural households rely on the agriculture for their livelihoods as a mean source of income and employment. This study focuses on non-farm economic activities in selected villages. The objective of this study is to analyze how non-farm businesses have an effect on the income and socio-economic conditions. By using random sampling method, 167 sample households from two villages were selected with structured questionnaire. It is found that non-farm businesses are important for rural households and provide additional income that enables households to spend more on their basic needs including food, education and health care. The average income of households with non-farm activities is higher than that of households with only farm activity. This study suggests that farmers should make an investment in non-farm businesses to overcome the impacts of market downturn and to facilitate the livelihoods.

ACKNOWLEDGEMENTS

First of all, I would like to express my deepest gratitude and heartfelt thanks to Professor Dr. Tin Win, Rector of Yangon University of Economics and Professor Dr. Daw Ni Lar Myint Htoo, Pro-Rector of Yangon University of Economics for giving the chance to do research. I would like to express my great appreciation to Professor Dr. Daw Cho Cho Thein, Head of Department of Economic, for her permission to write my paper and guidance to accomplish this paper.

I would like to express my sincere thanks to my supervisor, Daw Hla Theingi Swe, Lecturer of Department of Economic, for giving me all the necessary guidance, suggestions and advices to complete my paper. I want to express my gratitude to all professors, lecturers and tutors in Yangon University of Economics.

I would like to acknowledge the officer and staffs of Department of General Administration in Hlegu for providing the necessary data and information. Furthermore, my sincere thanks and appreciation goes to the village administrators. I am also very thankful to all my respondents for their contribution and patience to answer my questions.

Finally, I wish to say grateful thanks to my parents who were always supporting and encouraging me with their best wishes and my fellow classmates for their encouragement, helping, sharing knowledge and cooperation.

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LIST OF ABBREVIATIONS

ADB	-	Asia Development Bank
GDP	-	Gross Domestic Product
MOALI	-	Ministry of Agriculture, Livestock and Irrigation
NGOs	-	Non - Government Organizations
QSEM	-	Qualitative Social and Economic Monitoring
READZ	-	Rural Economy and Agriculture in Dry Zone
RNF	-	Rural Non-Farm
RNFA	-	Rural Non-Farm Activity
RNFE	-	Rural Non-Farm Economy
RNFS	-	Rural Non-Farm Sector
UNDP	-	United Nation Development Programme

CHAPTER I

INTRODUCTION

1.1 Rationale of the Study

Agriculture was formerly used as the main source of livelihood for many people in developing countries. Myanmar's economy mostly relies on agricultural sector as the back bone of economy. In Myanmar, 70% of total population is residing in rural areas. These rely on agriculture for their livelihood. Agriculture is the main source of income and employment in rural areas but it has been highly constrained by various constraints. Agricultural production in the rural areas is highly constrained by many factors such as environmental degradation, inadequate rainfall and lack of agricultural input, capital and credit.

On the other hand, since annual population increase and sown acreage decrease, farmer's size of farm holdings has been narrow. Myanmar' population is increasing steadily at an annual growth rate. As annual rate of population growth and limitation of arable land, population density on agriculture has been growing and underemployments increase. Thus, per capita productivity of agricultural sector diminished. Moreover, the weather condition unpredictable change. Thus, price of the agricultural products and the income from agriculture is not stable. Poverty rate is twice as much higher in the rural areas than in the cities or town (UNDP 2014). So, raising income and quality of living for rural people is one of the most important tasks to mitigate poverty and promote the economic well-being of the country.

The described above these conditions indicates that non-farm economic activity as an important instrument to generate welfare for rural households, to reduce poverty and to absorb the growing labor force in agriculture. Farm households are faced by unstable markets and low farm product prices are the greatest challenges facing the agricultural sector. Participation in non-agricultural income generating activities may not necessarily help to curb production problems. Farm households

need to harmonize growth of both farm and non- agricultural income generating activities. Therefore, farm households have to choose appropriate non-agricultural income generating activities that improve income.

Non-farm businesses can create job opportunities for surplus labor from agricultural sector. The participation in non-farm businesses can help the households to solve their socio-economic problems and to smooth the flow of income. Therefore, non-farm businesses are crucial to rural farm households. Under such conditions, this study is conducted in order to analyze how non-farm activities have an effect on income and socio-economic conditions.

1.2 Objective of the Study

The objective of the study is to analyze the effect of non-farm economic activities on income and socio-economic conditions in selected villages.

1.3 Method of Study

This paper employs descriptive method using primary and secondary data sources. Primary data obtained from a survey conducted in two villages of Hlegu Township in June and July 2019 by using a structured questionnaire. Secondary data were obtained from General Administration Department of Hlegu Township and World Bank's QSEM Survey.

1.4 Scope and Limitation of the Study

There are 168 villages at Hlegu Township in Yangon Region. Among them, two villages (Da Yel Bo and Htan Pin Chaung) were selected. In two villages, 20% of total households were chosen randomly as simple households. In Htan Pin Chaung, 47 households were selected from 237 households. In Da Yel Bo, 120 households were selected from 630 households.

This study includes location of two villages, number of households and demographic characteristics, population and sown area, type of business, belongings of sample households, housing conditions, education and income level.

1.5 Organization of the Study

This paper composes five chapters based on the available facts and information. Chapter 1 is introduction. Chapter 2 is based on literature review. Chapter 3 mentions the overview of non-farm economic activities in Myanmar. Chapter 4 explains the effect of non-farm economic activities on income and socio-economic conditions of two villages in Hlegu Township in Yangon Division. Chapter 5 composes findings and suggestions.

CHAPTER II

LITERATURE REVIEW

2.1 Concepts of Non-farm Activities

Rural households are increasingly earning for their livelihoods from different activities other than farming. The rural non-farm economy (RNFE) is growing through times. Effective development of the RNFE can make important contributions for the economic growth and poverty reduction in the rural areas, often by supporting multiply and spread the benefits from growth in sectors such as agriculture and by linking urban to rural areas (Wiggins and Hazell, 2011). Different studies have shown that agriculture is not the only important sector in the rural economy. Many researchers indicated that the non-farm sector plays a significant role in contributions of employment and income in the rural areas in developing countries. Wiggins and Hazell (2011) indicated that non-farm activities are increasingly important in rural areas.

The non-farm sector includes all economic activities in rural area except agriculture livestock, fishing and hunting (Haggblade, 2007). Non-farm activities include industry (e.g. mining, wood products, energy, food and beverages, textiles and leather and construction materials) and services (e.g, commerce, handicrafts, hotels and restaurants, transport, public works and private health). Although agro-processing is closely linked to agriculture it is classified as non-farm. Non-farm activities include all economic activities other than production of primary agricultural commodities. It include mining, manufacturing, utilities, construction, commerce, transport and a full gamut of financial, personal and government services. Agro-processing that is the transformation of raw agricultural products by milling, packaging, bulking or transporting which forms a key component of the rural non-farm economy (Haggblade, Hazell and Reardon, 2007).

Non-farm activities are crafts, weaving and sewing activities, breeding-enterprises, rice-mills, tea shops, machine-repairing workshop, fertilizer production, hair-dressing and beauty salon, grocery shops, brick-enterprises and so on. Although remittances cannot be considered as rural non-farm activities, it should be counted as rural non-farm income. Other unearned rural non-farm income could include pensions, dividends and interests and rents received by households.

The rural non-farm activities help rural communities to cope through non-agricultural wage labor or sale of household assets as an immediate response to a shock or simply as a survival strategy to maintain their livelihood. Non-farm activities include wage work or self-employment in income generating activities, manufacturing (e.g, agro- processing), a small business, micro and small-medium sized enterprises, trading, non-agricultural wage labor or sale of household assets (Junior Davis, 2001).

2.2 Types of Non-Farm Economic Activities

Rural non-farm activities can be divided into the following categories:

- i. small-scale industrial activities, such as rice mills, oil mills, food processing, soap making;
- ii. cottage industries, such as handicraft making, weaving, pottery;
- iii. artisanal activities, such as masonry, carpentry, blacksmith, constructing farm tools, tailoring and repair services;
- iv. commercial activities, such as trading and transportation;
- v. infrastructural development activities, such as special public works, feeder roads and irrigation works; and
- vi. formal employments, such as clerical works and waged labor in urban industries.

The RNFA can be classified on many dimensions: on-farm/off-farm, wage/self-employment, agriculturally related/otherwise, etc. An ideal classification of the RNFA should capture some or all of the following distinctions:

- Activities closely linked to farming and the food-chain and that are not part of the chain ; since agriculture linkages are often important determinants of the RNFA's potential for employment and income generation;

- Activities that produce goods and services for local markets and that produce tradable products for distant markets; since distant markets have the chance to create jobs and incomes independently of the rural economy; and
- Activities that are small-scales which use little capital and offer low return and those that are sufficiently large, productive and generate better income than farm activities.

2.3 Push and Pull Factors of Non-Farm Economic Activities

Push factors are the conditions that are adverse to the households when they try to involve themselves in farm-oriented activities such that they are often driven from the farm to non-agricultural income generating activities (Lusweti, 2007). A push scenario happens when participation in non-farm activities is driven by inability to earn enough from agricultural activities due to the poor asset base or risky agricultural environment. Imperfections in rural institutions, such as access to credit or insurance markets can also stimulate non-farm activities (Atamanov, 2011).

The push factors of RNFE are: (i) population growth, (ii) increasing scarcity of arable land and decreasing access to fertile land, (iii) declining productivity of land, (iv) declining return of farming, (v) decline of the natural base, (vi) lack of access to farm input markets, (vii) increasing monetarization of people's lives and (viii) absence of rural financial market. Canagarajah et al. (2001) argues that very poor households may be pushed into non-farm activities especially if they are landless and cannot work in agriculture.

Pull factors are better returns accumulating from non-farm activities as compared to the farm sector such that the households are attracted to pursue them against those that are farm oriented (Lusweti, 2007). A pull scenario means that participation in non-farm activities is driven by higher payoffs or lower risk in the non-farm sector compared to agriculture (Atamanov, 2011).

The pull factors of RNFE are: (i) higher return on labors in the RNFE, (ii) higher return on investment in the RNFE, (iii) lower risk of RNFE compared to farm activities, (iv) generation of cash in order to meet household objective, (v) economic opportunities often associated with social advantages, offered in urban centers and outside the region or country and (vi) attractiveness of urban life especially to younger people.

A. Osei Mensch and S. Adams (2009) define that there is the need to establish the necessary linkage between non-farm and farm activities to improve the overall productivity of the rural economy. Paul Winters, Norsida Man and Sami Ismalia Sadiya (2009) argue that in Malaysia the farmers' age, gender and number of dependents, as well as other income and the type of farm influenced their likelihood to engage in non-farm employment.

2.4 The Role of Non-Farm Income Generating Activities on Poverty Education

Mduma and Wobsit (2004) claimed that the non-farm sector has great potential of increasing rural employment, contributing to economic growth, improving income distribution and poverty alleviation. Haggblade and Hazel (2010) found that the RNFE as a potential pathway out of poverty for their rural poor. Available evidence suggests that pro-poor rural non-farm growth does not occur automatically. For the poor to benefit from rural non-farm growth, policy maker must stimulate rural economies, with robust non-farm income growth, not simply low-productivity employment.

Mehmet Ali Ulubasoglu (2011) shows that non-farm activity helps the poor in rural Vietnam who need to own a minimum level of endowment to engage in non-farm activity, but not the poorest and non-farm activity plays an important role in poverty reduction. SitiHadijahChe Mat, Nor' Aznin Abu Bakar, and Ahmad Zafarullah Abdul Jalil (2011) found that non-farm income reduce the level, depth and severity of poverty in Kedah, Malaysia. Non-farm income has a greater impact on reducing the severity as opposed to the level and depth poverty in Kedah.

Tsepo A. Rantso (2016) suggests that many people make a living out of non-farm income. The contribution of non-farm activities to rural development in Lesotho, Southern Africa is increasing. People use non-farm income to finance subsistence agriculture and purchase the basic needs for their families. Although rural non-farm activities contribute positively to rural development in Lesotho, the sector is confronted with many challenges. The assistance to improve the available non-farm activities is highly encouraged. This is because the sector employs mostly the less educated people in society. In this regard, poverty, unemployment and food insecurity would be reduced.

Alain de Janvry, Elisabeth Sadoulet and Nong Zhu (2005) show that, in China, rural poverty and income inequality would be higher without non-farm employment.

They find that education, proximity to town, neighborhood effects, and village effects are important in helping particular households gain access to these opportunities. Non-farm activities continue to play a critically important role in rural development and poverty reduction in China.

Adewunmi O. Idowu (2011) seeks to empirically identify the impact of non-farm income through non-farm activities in alleviating poverty among rural farm households in rural Nigeria. It indicates that age, literacy level and family size affected the level and extent of poverty among rural farm households. The poverty incidence is high that the effect of aged and low educational households heads. Household size, age, education and gender are significantly in participation of non-farm activities.

2.5 Agriculture Led Growth Linkages of Rural Non-Farm Sector

Agriculture can have impacts on rural welfare. If productivity is increased, farmers receive benefits both through increased home consumption and through the income generated from farm product sale. If agricultural growth stimulates non-farm growth and employment, landless labors benefit from those employment opportunities. Agriculture is the prime mover behind the emergence, sustenance and growth of rural non-farm sector. The processes through which the stimuli of agricultural advancements are transmitted to RNFS are popularly known as agricultural growth linkages. The basic premise of Mellor (1976) is that increases in agricultural production through cost reducing technological innovation normally distribute the initial benefits largely to the already more prosperous and better endowed farmers. These incremental increases in the hands of relatively better-off farmers stimulate consumption of non-food goods which in turn gives rise to numerous non-farm local occupations; which are local, labor intensive and requiring low capital in the production process.

Agricultural growth linkages are normally divided into five categories. They are production, consumption, factor market, productivity and reverse linkages. Production linkages of agriculture with rural non-farm sector are of two types: (a) forward linkages reflect the need to process, transport and trade, distribute and sale, etc. of agricultural produce. Many agro-processing units like rice-shellors, flour mills, fruit processing units, and the like develop in the course of development; (b)

backward linkages are generated by the demand of agricultural production process itself.

Consumption linkages manifest themselves when the farm households spend their earnings from agriculture on non-farm goods and services. As their incomes increase, farm households increase the share of their expenditure devoted to non-food items (Mellor and Lele, 1973; Hossain, 2004). In rural labor markets, a strong seasonality of demand in agriculture generates corresponding surges in rural non-farm activity (Anderson and Leiserson, 1980; Fabella, 1986; Leons and Feldman, 1998) Tightening of labour markets caused by the expansion of RNF employment has been widely acknowledged (Bhalla, 1993).

Productivity linkages of agriculture with non-farm economy have emerged only recently in the growth linkage discussions (Haggblade et al., 2007). Increase in agricultural productivity may lower the price of foodstuffs and the resulting increase in absorption may increase the productivity of poor manual workers in non-farm sector. Rural non-agricultural sector also impacts agricultural production and productivity. Evans and Ngau (1991) note down that at the level of household, rural non-farm incomes have a positive impact on agricultural productivity.

2.6 Determinants of Rural Non-Farm Sector

(i) Infrastructure

Almost all the studies of rural non-farm sector, the development of infrastructure are one of the basic factors in promotion rural non-farm activities. Febella (1985) has emphasized population density, education, electrification, irrigation and high yielding varieties of rice as the main modernizing factors determining the development of RNF sector in Philippines. Rural electrification and telecommunication are again very important for the growth of rural non-farm sector (Ranis and Steward, 1993). Kada, Ho (1986) and Saith (1987) have showed that the importance of infrastructural facilities for promoting rural non-farm sector in East Asian countries. Shukla (1992) has estimated that infrastructural facilities of roads, electricity, posts and telegraph have statistically positive influences on the level and density of rural non-farm employment. It is not only physical infrastructure such as transport, communication, electric power which is important; but also social infrastructure such as educational, medical, and recreational facilities that is important (Oshima, 1986).

(ii) Education

Education is not only improves an individual's qualification for non-farm jobs, it also increases ability to allocate work time efficiently among alternative income-producing activities (Huffman, 1980). Education contributes to higher productivity in trading, construction, service and manufacturing activities. Secondary education stimulates entrepreneurial capacity, whereas primary education enhances the productivity of the workforce, including foremen, supervisors, and other middle-level personnel, makes it easier to impart on-the-job training. Education is an important factor in the choice of non-farm activity and it raises productivity in the non-farm sector (Khandker, 1995). In fact, a non-linear relationship between educational level and income has been found (Vijverberg, 1995). Reardon et al. (2001) showed that education determines participation and success in RNF employment and income. Higher level of education tended to more non-farm wage employment in high productivity, well-paying jobs.

(iii) Urbanization

Urbanization is another major factor for the expansion of rural non-farm activity. Ho (1986) and Kada (1983) argue that proximity to urban areas is an important determinant of both the extent of rural involvement in non-farm activities and the quality of that involvement. In India, the most dynamic growth areas in the rural non-farm sectors rely heavily on urban and export demand and possess negligible linkages with agriculture.

The linkages between rural based small scale units and urban based larger units have been note widely (Ho, 1986 b). Otsuka (2007) contends that these linkages are rather the defining characteristics of mature phase of rural industrialization of many countries like Japan, Taiwan and South Korea. Rural industry in many countries seems to develop most strongly near an urban industrial area (Yusuf and Kumar, 1996). There is evidence that productivity is greater for those located near large towns and cities (Lanjouw and Lanjouw, 1995).

(iv) Inequality in Land Distribution

Oshima (1986) lists greater inequality in the distribution of arable landownership accompanied by a much larger share of non-cultivating land owners and tenants (including the landless) as against owner-cultivators as one of the reasons

for much larger share of off-farm employment in the Philippines than in South Korea. Unni (1991), too, found that unequal land distribution was positively and significantly associated with the percentage of male non-agricultural workers. This could occur because of a positive stimulus of land concentration (via surplus generation) or due to distress diversification. Dev (1990) also confirmed the factor of inequalities in asset structure as an important variable explaining rural non-farm employment. Vaidyanathan (1986), however, found that higher inequality of operational holdings seem to go with lower incidence of non-agricultural employment.

(v) Public Investment

Direct public investment in rural areas is also one of the main sources of rural non-farm employment. Public investment in agricultural marketing, rural infrastructure, roads and bridges, and irrigation facilities has generally spurred RNF employment (Shukla, 1992). Visaria (1995) highlights the contribution of investment in public utilities resulting in higher involvement of rural labour force in nonagricultural employment. Men are the main takers of the jobs that arise from such investment. The contraction in agricultural investment in particular and in rural investment in general in India is said to be the main reason behind the wide spread decline in the rate of growth of employment in rural trade which was linked to slowdowns in agricultural growth through lower agricultural investment since the mid-1980s and specially after the 'reforms' period.

(vi) Commercialization of Agriculture

The higher percentage of commercial crops in the cropping pattern is said to create opportunities of tertiary employment (Dantwala, 1953). Increased commercialization and specialization in agriculture lead to general commercialization of rural economy also which, other things being equal, is likely to reduce rural nonfarm activity as a part time or secondary occupation but to encourage rural industry as a specialized activity. Sharma (2005) emphasizes the diversification of agriculture into commercial off-season vegetables and fruits in Himachal Pradesh as the main reason for the increase in rural non-farm employment in the state in recent period. Vaidyanathan (1986) also notes a significant positive association of percentage of area under non-food grain crops and census estimates of rural non-farm activities in India.

2.7 Reviews on Previous Studies

Maw MawLwin (2014) studied the non-farm activities of rural farm households in selected villages of Sagaing Region. The study found that non-farm economic activities are found to be most important for the poor, who are pushed out of agriculture due to limited and poor land resources. Non-farm employment provides additional income that enables farm households to spend more on their basic needs including food, education, clothing and health care. Farm households that participate in non-farm economic activities have short times to exit poverty compared to those who did not participate.

Aye Sandar Phyo, Clemens Grunbuhel, Liana Williams and Soe Soe Htway (2016) examined dynamics in the process of mechanization, farm labor shortage and non-farm activities based on a household survey and focus group discussions in the Ayeyarwaddy Delta (AD) and Central Dry Zone (CDZ) regions of Myanmar. Data shows that only a small percentage of landless households in either region rely on agriculture labor alone. Instead authors observe a shift towards more diverse livelihood portfolios and non-farm works. This creates a labor shortage in crop production but only a small percentage of farmers in both regions own the farm machines. The research highlights the farm labor shortage in process of non-farm development and argues for considering effectiveness of farm mechanization process of non-farm mechanization process without infrastructure development.

Tsepo A. Rantso (2016) studied that the role of non-farm sector in rural development in Lesotho. This research used quantitative research methods to analyze the available data. This study found that many people make a living out of non-farm incomes and proposed that the rural non-farm sector should be given more priority by the government in rural development in Lesotho.

May Zin Thant (2009) examined that the importance non-agricultural businesses in rural development in two villages of Htantapin Township. The objective of this study is to examine the effect of non-farm businesses on the socio-economic conditions. This study showed that development of non-farm business leads to increase in income, education, and living standards of rural communities.

Alberto E. Isgut (2004) examined that non-farm income and employment in Rural Honduras. This study emphasizes the role of locational factors in the determination of rural non-farm employment possibilities in rural Honduras. He found that while RNF wage jobs are predominantly located close to urban areas, RNF self-

employment jobs are dispersed around the country, depending on local motors such as a profitable agricultural activity, an important road, or a tourist attraction. This study showed that there is good potential for the RNF sector to play an important role both in the alleviation of rural poverty and in the promotion of rural development.

CHAPTER III

OVERVIEW OF NON-FARM ECONOMIC ACTIVITIES IN MYANMAR

3.1 Agricultural Sector in Myanmar

Myanmar is one of the developing countries and the agriculture sector is the back bone of its economy. Myanmar has a huge land area and wide variety of growing conditions. It has more than 65 million hectares of terra firma, among the highest in Southeast Asia. But, only about 20 percent of its land area (12.6 million hectares) is actually used for agriculture. Myanmar has established 12 political, economic and social objectives in its effort to establish a peaceful, modern and developed country. One major objective is “Development of agriculture as a base and all-round development of other sectors of the economy as well. The following Table (3.1) shows the agricultural shares of GDP and annual growth of GDP in agricultural sector from (2006 – 2007) fiscal years to (2016 – 2017) fiscal years.

Table (3.1) Agricultural Shares of GDP

Year	Shares of GDP (%)	Annual Growth Rate of GDP (%)
2006 - 2007	29.7%	9.2%
2007 - 2008	18.7%	7.5%
2008 - 2009	12.6%	4.8%
2009 - 2010	13.4%	4.9%
2010 - 2011	36.8%	4.7%
2011 - 2012	32.5%	- 0.7%
2012 - 2013	30.6%	1.7%
2013 - 2014	29.5%	3.6%
2014 - 2015	27.8%	2.8%
2015 - 2016	26.8%	3.4%
2016 - 2017	25.5%	- 0.4%

Source: Myanmar Statistical Yearbook (2017)

The Agricultural sector comprising Agriculture, Livestock, Fisheries and Forestry, is the largest contributor to Gross Domestic Product (GDP). Agricultural shares of GDP have been changing over the study period. According to table (3.1), the share of agriculture has decreased from 29.7 percent to 25.5 percent. Myanmar was once one of the most important crop producers and exporters in the region. More recently its agricultural production has been characterized by low productivity and high volatility, though strong opportunities remain in the sector. The sector will suffer from a lack of effective infrastructure, financing and public agricultural services. This is compounded by issues such as complex and unresolved land issues, low levels of sector research and vulnerability to natural disasters and weather events.

Compare with international standards, agriculture in Myanmar is very low labor-intensive. Most agricultural activities are carried out on small farms, typically with low levels of mechanization, which results in low productivity and agricultural output and consequently low agricultural wages and farm profits. Farmers are applying fertilizers inefficiently or not using fertilizer with the correct nutrient balance, partly due to lack of knowledge and training. Farmers lack access to irrigation systems. Poor quality seeds hinder the agricultural sector's ability to reach its full potential. Although the government has seed distribution schemes, they are under-resourced. Agricultural land is currently under-capitalized and farmers must borrow capital at subsidized interest rates.

The Agricultural Policy (2016) is the most recent sector policy statement of Ministry of Agriculture, Livestock and Irrigation (MOALI) on which the formulation of the Agricultural Development Strategy and Investment Plan. MOALI has prepared an Agricultural Policy (2016) to guide implementation of the Second Five-Year Plan. The policy includes the objectives that are to improve food security and safety and balance diet intake during the period of the second five-year plan, to ensure farmers fully enjoy their rights and benefits from the emerging economic growth, smallholder farmer's socio-economic status improves through a target program of investment in rural road construction, rural infrastructure development, to secure needed technology and financial assistance from local and external sources for further improvement of crop and to develop an efficient agro-based industry, including small scale industries and associated vocational education.

3.2 Diversification and Growth of the Non-Farm Sector in Myanmar

Improvements in post-harvest systems, marketing and processing within all subsectors are necessary to take agriculture forward. Value addition processing linked to cash crop production will also contribute to non-farm sector growth. Rising agriculture and rural incomes help to promote growth in areas such as construction, retailing and services, further strengthening the non-farm sector. Opportunities in the non-farm sector will also become increasingly important in the farm household decision making.

A strong agricultural economy based on smallholder farmers' development will entail a growth of the rural non-farm economy. This can be accelerated through public investment in rural roads and electrification, and public-private investment in telecommunication and market infrastructure. Subject to a supportive policy and investment environment and improved social capital, a constellation of SMEs well integrated with their farm-based and with larger agribusiness concerns within the supply chain could stimulate the growth of an inclusive rural economy.

The trends in non-farm diversification highlighted the impact of economic structures, shock and external assistance on people's livelihood choices in the dry zone; there a slack non-peak agricultural labor market, a history of weather shocks and an increase in remittances combined with external assistance to drive up non-farm diversification. The unpredictability of agricultural outcomes and agricultural work opportunities identified in previous rounds had led to some increased efforts by villagers to diversify by investing in secondary, non-farm income streams.

Across Magway and Mandalay, local, non-farm diversification increased. There was a small but noticeable increase in small, non-farm businesses and reliance on non-farm income. Reliance on non-farm income varied by livelihood and socio-economic group, with land less, casual laborer and small landowner households more likely than medium or large farmer households to have some source of non-farm income.

Aid programs and remittances were important sources of technical know-how and capital for such businesses. Villagers benefited from three form of assistance in setting-up non-farm initiatives. First, aid programs provided training for vocational skills, which was successful in areas where there was already a pre-existing market for those skills or where outsiders, including NGOs, could facilitate networks to new markets. In several QSEM villages in Mandalay, villagers benefited from training

either in tailoring or in hairstyle products. Second, villagers were able to gain increased access to credit. Third, remittances from migration were also often an important source of capital in starting up new businesses.

3.3 Rural Non-Farm Economic Activities in Myanmar

The growth of rural non-farm economic activities is exposed by rapid change in numbers of non-farm businesses. Studies apparently show that rural non-farm and off-farm activities are important livelihoods for rural people in Myanmar.

According to AungHtun (2016), in the villages of the four townships near Yangon, off-farm employment provides an important contribution to the total income of the households. This is true even for the wealthiest and largest landholding households in those villages. It also creates employment opportunities and is the source of income earnings for households. The number of non-farm enterprises is rapidly increasing in those villages during 2011 and 2016. Significant increases in numbers of electronics and agricultural input stores which grew 157% and 114% respectively. Numbers of general village stores increased 53% and that of food businesses (eg, restaurants and tea shops) and personal services (eg, beauty salons) were also raised up 46% and 36%. But, craft based enterprises like thatching, weaving and some kinds of agricultural trading declined by 45% and 56%. This may be linked to improving transport services, which allow producers to market products more easily themselves as well as to the improved availability of manufactured goods from an expanding retail sector.

The Dry Zone is mostly a farm-based economy in Myanmar, but significant shares of inhabitants make a living by working off-farm. In the READZ survey, 1578 households were surveyed in four townships in Dry Zone which are Budain Township (Sagaing Region), Magway and Pwintphyu Townships (Magway Region), and Myittha Township (Mandalay Region). According to READZ (2017), off-farm activities are a major source of income. Only 31% of Dry Zone income is generated directly from farming; off-farm self-employment is equally as important. Non-farm enterprises account for 20% of income, and remittances 15%. The majority of enterprises operating today were established during the past ten years. The growth in non-farm enterprise numbers in dry zone are presented in table (3.2). According to table (3.2), the number of enterprises being established during that period increased year on year from just 3 businesses in 2006 to 38 businesses in 2016.

Non-farm enterprises are growing rapidly. The obvious growth in enterprise numbers is driven by businesses that meet local demand for goods and services. Since 2011, the numbers of retail stores more than doubled and agricultural trading and processing businesses are tripled. Non-farm income is the most important source of startup capital for these businesses. The rapid growth in numbers of enterprises that meet local consumer demand is indicative of increases in consumer spending power. The growth of agricultural processing and machine rental businesses is indicative of technological change in agriculture and downstream activities, as machinery is substituted for increasingly scarce labor.

The World Bank's QSEM survey conducted in 54 villages which are from delta region, dry zone, Shan State and coastal region in 2015 revealed that participation in non-farm enterprises increased steadily. Some villages benefiting from improved markets for specific goods, saw dramatic increases over time. In that study, 57% of total interviewed households of almost 500 had income streams from local, non-farm enterprises. However, levels of reliance on non-farm income vary significantly both across regions and across socio economic groups.

According to QSEM survey, a combination of factors is driving the increase in non-farm enterprises. Firstly, remittances have consistently played a role in enabling households to establish non-farm businesses. Better access to credit has also had an impact. NGO programs providing microfinance and revolving funds have played a role. Increasingly, this is being complemented through expanded government programs such as Mya SeinYaung program. These forms of credit have been particularly in providing poorer villagers with opportunities to invest in non-farm enterprises. Finally, government investment in public works has created non-farm opportunities in a small number of villages. Since early 2014, increased government rural development projects have been perceived by respondents as a factor contributing to non-farm businesses opportunities.

3.4 Development of Non-Farm Sector in Myanmar

In developing countries, the rural non-farm sector plays an important role in diversifying income for rural households. The expansion of the rural non-farm sector requires to increased flexibility in credit contracts. Microfinance can lend the required amount of credit to do businesses in rural areas. Microfinance is defined as a development tool that grants or provides financial services and products such as very

small loans, savings, micro-leasing, micro-insurance and money transfer to assist the very or exceptionally poor in expanding or establishing their businesses. Microfinance's activities are focused on reducing poverty level of community people. Rural poverty reduction requires both raising farm productivity and increasing nonfarm employment. Farming is the mainstay of the rural economy, so improving the productivity of agriculture must be emphasized in any rural development strategy. Moreover, expanding the rural nonfarm economy and improving rural infrastructure are imperative for broadly based growth in agriculture and non-agriculture.

Policies and carefully targeted investments are needed to (i) enable rural nonfarm enterprises (RNFE) to diversify and grow in size and productivity, (ii) provide the infrastructure base (roads, power, and water supply) for greater economic dynamism in the countryside and rural townships, and (iii) help workers make the transition from farm to nonfarm activities (enhance their mobility) (ADB, 2007). Furthermore, through implementing rural development programs and project, quality education and health care can reach for all in rural areas. Education and health promote the development of human capital that is essential to increase rural farm and nonfarm productivity, and better equip the rural poor for entry into the nonfarm workforce.

Infrastructure plays a vital role in the process of economic development as it facilitates trade and transportation, encourages entrepreneurs to set up new business, and supports industrial activities as well as tourism. It is necessary to improve infrastructure especially transportation to help move local products such as preserved food, handicrafts, cane and bamboo furniture, etc. produced by non-farm workers.

Improved infrastructure, availability of raw materials and low labor cost give an incentive to entrepreneurs to establish small industry in rural areas contributing to additional employment and earning opportunities for the rural people. Strategic plans have been laid down and implemented to build a network of motor ways and railroads linking all parts of the nation. More roads are under construction to be added to the network. River crossing bridges have been built wherever necessary. For these development projects, more labor are required thus providing employment and earning opportunities for local rural people. As a result, non-farm activities become increasingly concentrated in rural areas as infrastructure improves and markets grow.

Improved infrastructure in rural areas promotes tourism. Myanmar is rich in natural resources. Some parts of the country offer pleasant and interesting places

worth visiting. Tourism industry can be promoted in areas where there are pleasant, clean and pristine beaches and resorts, and where ancient pagodas, religious buildings and beautiful surroundings can be found. Tourism brings about income/employment. Economic returns aside, the development activities also have an impact on social and cultural environment in the areas where tourism is promoted. When tourism thrives, service jobs such as guide for jungle trekking and bird watching, bellboy, receptionist and watchman, etc. are available. Apart from this, restaurants, souvenir shops, snack shops and shops for renting things such as bicycle, shops for natural local products, etc. can be opened and rural people will benefit from non-farm employment in these rural areas.

3.5 Geography of Hlegu Township

Hlegu Township is a small city in Yangon Division, Myanmar about 45 km north-east part of Yangon. It is located on both sides of the Ngamoyeik River. Hlegu is the administrative seat of the Hlegu Township. The area of Hlegu Township is 576.918 square miles. Hlegu Township is 13.5 miles long from east to west and 35 miles long from south to north. Hlegu Township is bordered by Bagon Division to its east and north, Yangon Division, Thanlin Township and Dagon Myothit Towhship to its south and Hmawbi Township and Taikkyi Township to its west. It is located 45.5 feet above sea level. Hlegu Township has mainly three seasons; the rainy season, the winter season and the summer season. The weather is hot, wet and dry. The maximum temperature is 38 Degree Celsius and minimum is 25 Degree Celsius.

Hlegu Township comprises of 5 wards and 52 village tracts and 168 villages. The total number of households are 50,140 and total population is 234,229 in 2018 (Department of General Administration). The township's Paunglin Dam and Ngamoeyeik Reservoir supply water to over 28,300 hectares (70,000 acres) of farmland between Hlegu and Yangon, and nearly 340 million liters (90 million gallons) of water a day to the people living in Yangon. The Yangon-Mandalay Highway cuts through the township.

3.6 Economic Conditions of Hlegu Township

Hlegu Township is located in Yangon Region. Agriculture is mainly performed and others livestock breeding, horticulture and trade are also performing. By exporting local products to near other townships, the economy of Hlegu Township

is reasonable. A wide variety of economic activities both in agriculture and non-agricultural sector can be found in the township.

3.6.1 Agricultural Production in Hlegu Township

The acreages of main crops in the township are presented in Table (3.2). The major crop of the township is paddy and 31,657 acres of summer paddy and 83,625 acres of monsoon paddy are grown in the fiscal year 2017 – 2018. Apart from paddy farmers grow 3,840 acres of groundnut and 130 acres of sesame. There are also 2,566 acres of mung bean and 8,719 acres of green gram in township.

Table (3.2) Acreages of Main Crop in the Township (2017 – 2018)

No.	Crop	Season	Acreage
1.	Paddy	Summer	31,657
		Monsoon	83,625
2.	Groundnut	Monsoon	-
		Winter	3,840
3.	Sesame	Monsoon	-
		Winter	130
4.	Mung Bean	-	2,566
5.	Green Gram	Monsoon	-
		Winter	8,718

Source: General Administration Department

Furthermore, a wide variety of perennial crops are also cultivated on uplands of the township. The major of perennial crops grown in the township are mentioned in Table (3.3). Rubber and cashew are major perennial crops in this township. There are also 155 acres of nut.

Table (3.3) Production of Perennial Crops in Hlegu Township (2017 – 2018)

No.	Perennial Crops	Acreage
1.	Rubber	24,888
2.	Nut	155
3.	Cashew	10,212

Source: General Administration Department

The main livestock breeding for meat in the township are chicken and pork which is produced 11259.4 vissees and 2792.422 vissees. Beef and duck are also productive livestock breeding in the township which produce 809.673 vissees and 790.369 vissees. The township produces 42.4 vissees of mutton and 12.902 vissees of quail in this 2017 – 2018.

Beside farming and livestock breeding, fishery is also an important agricultural sector of the township. There are 477 fish ponds which produce 13470 vissees of fishes. There are no prawn farms in the township.

3.6.2 Non-Farm Production in the Township

The types of factory in the Township are presented in Table (3.4). Shoe and garment factories are the most prominent kind of factory. There are four rice mills and two oil mills. There are also a few numbers of other types of factories.

Table (3.4) Factories in the Township (2017 – 2018)

No	Types of Factory	Number of Factory
1.	Vaccine	1
2.	Dairy	1
3.	Biltong	1
4.	Shoe	4
5.	Fiber	1
6.	Garment	2
7.	Puttee (Bandages)	1
8.	Rice Mill	4
9.	Oil Mill	2

Source: General Administration Department

The following Table (3.5) shows the types of non-farm businesses in the township. Among of these businesses, most of the businesses are stores (82) and cottage industries, sewing, carving and tea shop are serving mostly. At least blacksmith and agricultural product shop are serving.

Table (3.5) Non-Farm Businesses in the Township (2017 – 2018)

No	Type	Number
1.	Cottage Industries	41
2.	Store	82
3.	Gold & Jewelry Shop	4
4.	Mobile Shop	10
5.	Book Shop	3
6.	Pharmacy	13
7.	Goldsmith	7
8.	Blacksmith	2
9.	Sewing	30
10.	Weaving	8
11.	Restaurant	16
12.	carving	47
13.	Tea Shop	29
14.	Hard Ware	8
15.	Agricultural Product Shop	3
16.	Construction Materials Shop	8
17.	Rice Shop	10
18.	Fashion Shop	4
19.	Car/ cycle Workshop	8
20.	Lathe	7

Source: General Administration Department

3.6.3 Gross Domestic Product (GDP) of the Township

According to data from General Administration Department which is presented in Table (3.6), in the year 2017-2018, manufacturing sector's production is worth 103684.2 million kyats, contributing 60.48% in total GDP, service sector produces 28342.3 million kyats which is 16.53% of total GDP and trade sector produces 39419.8 million kyats which contributing 22.99% in total GDP. Therefore, manufacturing is the sector that takes the largest share in total GDP of the township in 2017 – 2018 fiscal years.

Table (3.6) Gross Domestic Production of the Township (in million kyats)

No.	Title	GDP Value	% of Share in GDP
1.	Manufacturing	103684.2	60.48%
2.	Service	28342.3	16.53%
3.	Trade	39419.8	22.99%
4.	GDP	171446.3	100.00%

Source: General Administration Department

The following table (3.7) mentions the per capital income of Hlegu Township.

Table (3.7) Income per Capita of the Township

Fiscal Year	Income Per Capita (in kyats)
2015 – 2016	878,909
2016 - 2017	966,166
2017 - 2018	10,523,423

Source: General Administration Department

According to Table (3.7), per capital income of the township are increasing year by year. It has increased from 966,166 kyats in 2016-2017 to 10,523,423 kyats in 2017 – 2018. As garment and shops factories are built in Hlegu Township, new employment and job spring out. And then, this township is situated beside No.1 Highway. So the people there can do businesses easily to some extent. Moreover, the villages alongside the highway can set up retail stores, car/cycle workshops and restaurants to raise the economic conditions of the villagers. The result is that people can earn more income. As there is a good communication system, people there can go to Yangon and work in the industries, factories and companies. Because of these facts the income per capita of the township has increased.

3.6.4 Employments in Various Sectors in the Township

Employments in various sectors of the economy in the township are mentioned in table (3.8).

Table (3.8) Sectorial Employment in the Township (2017 – 2018)

No.	Sector	No of Employment
1.	Public Service	14,157
2.	Service	3,588
3.	Agriculture	26,404
4.	Livestock Breeding	46,216
5.	Trade	464
6.	Industry	1,732
7.	Fisheries	170
8.	Casual Labor	48,032
9.	Other	17,904
Total		148,667

Source: General Administration Department

According to Table (3.8), the first largest sector is casual labor sector which employs 48,032 employments. Livestock breeding sector is the second largest sector and it provides 46,216 employments. The third largest sector is agriculture that employs 26,404 people. 17,904 people are also employed in the various activities which are not clearly defined. There are 4157 employments in the public service and service sector provides jobs to 3588 people. Industrial sector creates jobs to 1732 employments. The trade and fisheries sectors take part a small portion of total employment, 464 and 170 employments each.

CHAPTER IV

SURVEY ANALYSIS

4.1 Survey Profile

4.1.1 Profile of Da Yel Bo Village

Da Yel Bo Village is 2 miles long from east to west and 2 miles long from south to north. The area of Da Yel Bo village is 2.7 square miles. It shares border with Naung Ta Chan village in east, KyunKone village in south, Pyay Taw Tar and AungMingalar Quartz in west and KhaYaung village in north. It lies on flatness plain and OhhnNae Gone River flows through that village. It is situated 45.5 feet above sea level. The maximum temperature is 30 Degree Celsius and minimum temperature is 23 Degree Celsius. The rain trees grow naturally in that village. The main transportation of the village is road way transport. Transportation is not only easy for normal travel but also for health, education, information and communication opportunities.

Total population of the village is 2847. Among them male population is 1299 and female population is 1548. Most of the people are Buddhist and few people are Christianity. Total population of the village is divided into two groups – under 18 year age and above 18 age as mentioned in Table (4.1). There are 1109 persons in the group of less than 18 year and 1738 persons in the group of above age 18.

Table (4.1) Age-Sex Distribution of Da Yel Bo Village (2018)

Age Group	Male	%	Female	%	Total	%
18 years and below	544	41.9%	565	36.5%	1109	39%
18 years above	755	58.1%	983	63.5%	1738	61%
Total	1299	100%	1548	100%	2847	100%

Sources: General Administration Department

4.1.2 Socio-Economic Conditions of Da Yel Bo

Da Yel Bo Village is a village of agriculture based livelihood. However, cultivable lands decrease because villagers sell the land area to solve their daily social problems. Moreover, agricultural production is highly constrained by factors such as degraded environment, inadequate rainfall, and lack of input. In 2014, total sown lands are 1200 acres but there are 950 acres of sown land in 2018. Population and population growth rate is increasing steadily however sown areas of Da Yel Bo Village is decreasing. As annual rate of population growth and decreasing cultivable land, productivity of agricultural sector diminished.

In Da Yel Bo Village, the main crops are rice and other crops are such as groundnut, green gram and black gram. Furthermore, farmers breed domestic animals such as pig, ducks and chickens as complementary business with agriculture. Some villagers breed commercially. Multiple cropping can be carried out in fields near water sources. Apart from agriculture, non-farm businesses can be found in the village.

In the health sector of Da Yel Bo Village, there is one rural clinic which is built by the government in 2016. The house can be seen systematically and this village use fly proof latrine. So there have no many cases of epidemic diseases. In the educational sector, there is one Basic Middle School with a total of 450 students and total of 10 teachers, student- teacher ratio is 1:44. For higher education, students have to go to the Hlegu Township.

In transportation, there are respective motor car lines for Hlegu, Yangon and Bagon. Thus, the rural people in the region can easily travel from one region to other region smoothly by saving times. A village library is opened for improving the knowledge of the villagers. For exchange and trade of goods, there is no market in Da Yel Bo Village. It has access to electricity and households can be used electronic for home consumption.

4.1.3 Profile of Htan Pin Chaung Village

Htan Pin Chaung is 14.5 miles away from the Hlegu Township. The area of Htan Pin Chaung is 7.14 square miles. Htan Pin Chaung Village borders with Ma Au Village in east and south, Shan Tae Gyi Village in west and Dar Pein (South) Village in north. It situated 45.5 feet above sea level. Climate condition is hot and dry and the

temperature is also same as the Da Yel Bo Village. Livelihoods of the villagers mostly rely on agriculture.

Total population of the village is 994. The majority is Buddhist and there are no different people. There are 237 households in the village. There are 481 males and 513 females. Total population of the village is divided into two groups – under 18 year age and 18 year above as presented in Table (4.2). There are 460 persons in the group of under age 18 and 534 persons in the group of above 18.

Table (4.2) Age-Sex Distribution of Htan Pin Chaung Village (2018)

Age Group	Male	%	Female	%	Total	%
18 years and below	227	47.2%	233	45.4%	460	46.3%
18 years above	254	52.8%	280	54.6%	534	53.7%
Total	481	100%	513	100%	994	100%

Source: General Administration

4.1.4 Socio-Economic Conditions of Htan Pin Chaung

There are 2300 acres of sown land in Htan Pin Chaung Village. The villagers are specialized in farming and non-farm businesses are few. Cultivable lands do not increase. But productivity of agricultural sector decreased because in the years of heavy rain fall and flood, crop production decreased. Even some farmers must purchase rice for their consumption. On the other hand, the main economy of the village is farming. So, the landless laborers and some farmers work in the factory in Yangon. Since the total sown areas of the farmers from Htan Pin Chaung village do not increase proportionately with the growth of the population. Average of sown area per capita has decreased gradually from year to year.

In livestock, there is no professional livestock breeding. But some villagers breed commercially such as ducks, cows, pigs and chickens. There are few non-farm business such as grocery.

In the role of education, there is one Basic Primary Education School. A total of 118 students are attending school, student-teacher ratio is 1:18 in Htan Pin Chaung Village. For middle and high school level, the student have to go to Ma Au village and Dar Pein(South) village. In the health sector, there is even no rural clinic. Some of the villagers do not use fly proof latrine however there have no many cases of

epidemic diseases during the immediate period. The nearest health sector is Ma Au rural clinic and Da Pein (South).

For trade and exchange of goods, there is no market in the village. Thus, villagers have to go to Dar Pein (South) market for exchanging and purchasing their commodities. Some households utilize battery-light and candle for lighting even though there is supply of electricity. The streets in the village are neat and clean, and it can be visited by bicycle, motor cycle and car.

4.2 Survey Design

Villages were selected based on the geography location, farming patterns and high concentration of non-farm economic activities. In selected villages, households were selected by using random sampling. Sampling unit for this study is households. In selected households, there are households engaged only in farm activities or non-farm activities in selected villages. Field Surveys have been conducted in July 2019. Data information is collected through a structured questionnaire. Household heads or a suitable household member was interviewed for each household.

Data collected are divided under two categories. The first category of data was on socio-economic conditions of households. It includes demographic characteristics which are sex, age, household size, education, ownership of land resources and households' assets. The second category of data was on household income. It included monthly income of sample households from economic activities such as farm, non-farm activities and self-employment.

4.3 Survey Results

4.3.1 Demographic Characteristics of Sample Households

(i) Population

Table (4.3) represents that the sample population in Htan Pin Chaung Village was 47 (26 males and 21 females) and Da Yel Bo village was 120 (59 males and 61 females). This implies that total sample population of two villages is 167 of which 85 males and 82 females.

Table (4.3) Gender Distribution of Sample Households

No.	Villages	Gender				Total	%
		Male	%	Female	%		
1.	Htan Pin Chaung	26	55%	21	45%	47	100%
2.	Da Yel Bo	59	49%	61	51%	120	100%

Source: Survey Data, 2019

In addition, age group is classified into five groups that are 18-30 age , 31-40 age, 41-50 age, 51-60 age and above 60 age as mentioned in Table (4.4). According to table 4.4, in Hatn Pin Chaung village, 21% of total samples are in 18-30 age group, 26% of the samples are in 31-40 age group, 19% of sample households are in 41-50 age group and 51-60 age group and 7% of the sample are in above 60 age group. In Da Yel Bo Village, , 10% of total samples are in 18-30 age group, 22% of the samples are in 31-40 age group, 23% of sample households are in 41-50 age group and 32% of the sample households are in 51-60 age group and 13% of the sample are in above 60 age group. So, Da Yel Bo village has more persons in every age group than Htan Pin Chaung village. Thus, Da Yel Bo has more labor force than Htan Pin Chaung.

Table (4.4) Age Distribution of Sample Households

No.	Age Group	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	18-30	10	21%	11	10%
2.	31-40	12	26%	27	22%
3.	41-50	9	19%	28	23%
4.	51-60	9	19%	38	32%
5.	Above 60	7	15%	16	13%
Total		47	100%	120	100%

Source: Survey Data,2019

(ii) Marital Status of Sample Households

Marital Status is the distinct options that describe a person's relationship with a significant other. In this study, marital status is divided into four groups which are single, married, divorced and widowed.

Table (4.5) Marital Status of Sample Households

No.	Marital Status	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	Single	9	19%	18	15%
2.	Married	36	77%	87	73%
3.	Divorced	-	-	3	2%
4.	Widowed	2	4%	12	10%
	Total	47	100%	120	100%

Source: Survey Data, 2019

According to Table (4.5), there are 36 persons who are married in Htan Pin Chaung Village and 87 persons who are married in Da Yel Bo Village. In terms of the percentage 77% of sample households in married group in Htan Pin Chaung Village and 73% of the sample in married group in Da Yel Bo Village.

(iii) Household Size of Sample Households

In this study, household size refers to the household members who live under the same roof and share expenses of the household. It may include household head and its spouse, children, parents, siblings, and other relatives. Mostly, rural households tend to have greater size than urban households. This may be because rural households have relatively poor knowledge in family planning or the needs for labor of children to help parents in the farm, in taking care of younger siblings and in household chores.

Table (4.6) Household Size of Sample Households

No.	Size of Household	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	1-3	19	41%	49	41%
2.	4-6	26	55%	60	50%
3.	7-9	-	-	11	9%
4.	10 and above	2	4%	-	-
	Total	47	100%	120	100%

Source: Survey Data (2019)

In this study, household size is classified into four groups. The first group is 1-3 person, the second is 4-6 person, the third is 7-9 person and the last one is 10 and above as mentioned in Table (4.6). In Htan Pin Chaung village 41% of sample households have 1-3 members, 55% of the sample households have 4-6 members and 4% of the sample households have 10 and above members. In Da Yel Bo village, 41% of sample households have 1-3 members, 50% of the samples have 4-6 members and 9% of the samples have 7-9 members. Thus, at 1-3 groups, Da Yel Bo village has more than Htan Pin Chaung. At 4-6 groups, Da Yel Bo village has more households than Htan Pin Chaung. At 7-9 groups, Da Yel Bo village has 11 households but there are no households in Htan Pin Chaung village. And then at 10 and above groups, Htan Pin Chaung has 2 households however in Da Yel Bo there are no households.

4.3.2 Economic Conditions of Selected Villages

In order to study the economic conditions of the two villages, we need to express the income and occupation of sample households.

Table (4.7) Occupation of Sample Households in the Study Area

Village	Total Households	Total Sample Households	Engaged only in farm activities		Engaged only in non-farm activities		Engaged in both farm and non-farm activities	
			No	%	No	%	No	%
Htan Pin Chaung	237	47	19	40%	21	45%	7	15%
Da Yel Bo	603	120	17	14.2%	85	70.8%	18	15%
Total	840	167	36	21.56%	106	63.47%	25	14.97%

Source: Survey Data, 2019

According to Table (4.7), 14.97% of total sample households engaged in both farm and non-farm economic activities and 21.56% of total sample households engaged in only farm activity in selected villages. The total engagement in non-farm activities is 63.47%. In Da Yel Bo and Htan Pin Chaung village, there are 840 total households and 167 total sample households.

Farm size owned by sample households are studied by dividing as 5 acres and below, 5-10 acres, 10-15 acres and 15 acres and above. There are 5 sample households that own 5acres and below in Htan Pin Chaung village and 8 households in Da Yel Bo. There are 65% at 5-10 acres, 4% at 10-15acres and 12% at 15 acres and above in Htan Pin Chaung and 48.6% at 5-10 acres, 11.4% at 10-15 acres and 17.1% at 15 acres and above in Da Yel Bo village as presented in Table (4.8). Most of the households own 5-10 acres in both villages.

Table (4.8) Size of Farm of Sample Households

No	Size of Farm	Htan Pin Chaung		Da Yel Bo	
	Holding acres	Frequency	Percent	Frequency	Percent
1.	5 acres below	5	19%	8	22.9%
2.	5acres-10acres	17	65%	17	48.6%
3.	10acres-15acres	1	4%	4	11.4%
4.	15acres above	3	12%	6	17.1%
	Total	26	100%	35	100%

Source: Survey Data, 2019

In addition, non-farm businesses have been found in the study areas except for agriculture. As mentioned in Table (4.9), there are some non-farm businesses which are linked with farming in the study areas. These businesses can be identified into forward linkage and backward linkage businesses. Forward linkage businesses are agricultural value added productions such as rice milling and trading those products and backward linkage businesses are for example repairing of farm machineries. According to Table (4.9), Da Yel Bo has more non-farm businesses than Htan Pin Chaung Village. Then, Da Yel Bo has been serving not only agriculture bust also non-farm economic activities. So, the socio-economic condition in Da Yel Bo is much better. The types of non-farm business in the study areas are-

(1) Agriculture-Processing Businesses

These businesses include fruit juice production, flour milling, groundnut and honey processing and oil etc. There are rice mills and mills in the study area.

(2) Services

The services include hair saloon, battery refilling shop, hostel renting, speaker rental, sewing, photo/copy shop and driver. Staffs are workers of private and public organization. In Agriculture-Processing Businesses include only rice mills.

(3) General Crafts

The general crafts of the villages are car/cycle workshop, tyre repairing, Steel structure, carpenter, bricklayers and so on.

(4) Trade Businesses

Trade businesses in the study areas include tea shop, grocery, store, koneyar shop, electronic shop, fertilizer shop, vendor, pharmacy and petrol shop.

Table (4.9) Non-Farm Business in Study Areas

No	Type of Non-Farm Business	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	Rice Mill	-	-	3	2.5%
2.	Tea Shop	-	-	4	3.3%
3.	Grocery	6	12.8%	20	16.7%
4.	Store	-	-	12	10%
5.	Battery Refilling	2	4.3%	1	0.8%
6.	Beauty Saloon/ Hair Cutting	1	2.1%	3	2.5%
7.	Petrol Shop	1	2.1%	-	-
8.	Hardware	-	-	2	1.7%
9.	Bricklayers	4	8.5%	3	2.5%
10.	Car/Cycle Workshop	1	2.1%	8	6.7%
11.	Tyre Repairing	-	-	2	1.7%
12.	Hostel Renting	-	-	2	1.7%
13.	Fertilizer Shop	1	2.1%	-	-
14.	Kone Yer	-	-	2	1.7%
15.	Vendor	-	-	13	10.8%
16.	Staff	4	8.5%	8	6.7%
18.	Pharmacy	-	-	2	1.7%

Table (4.9) Non-Farm Business in Study Areas (Continued)

No	Type of Non-Farm Business	Htan Pin	Da Yel	Frequency	Percent
		Chaung	Bo		
		Frequency	Percent		
19.	Tailor	-	-	3	2.5%
20.	Pharmacist (animals)	1	2.1%	-	-
21.	Small Textile Industry	-	-	1	0.8%
22.	Electronic Shop	-	-	1	0.8%
23.	Photo/Copy Shop	-	-	1	0.8%
24.	Random	7	15%	7	6.36%
25.	Driver	-	-	7	5.8%
26.	Steel Structure	-	-	1	0.8%
27.	Carpenter	-	-	4	3.3%
28.	Mill	1	2.1%	-	-
29.	Speaker Rental	1	2.1%	-	-

Source: Survey Data, 2019

4.3.3 Factors Influencing Household Participation in Non-Farm Economic Activities

Rural households may decide to participate in non-farm economic activities in response to economic hardship or in response to emerging economic opportunities. Participation by rural households in non-farm economic activities is caused by many factors. Table (4.10) mentions the factors that lead to households in making decisions to participate in the non-farm economic activities in the study areas. The pull factors of non-farm economic activities in the study areas are that low income from farming activities, labor shortage and high capital in farming sector and hedging risk of crop failure due to unreliable rainfall. And then push factors are increased opportunities in non-farm sector.

According to table (4.10), the majority of the factors to participate in non-farm economic activities that is the minimize risk of crop failure due to rainfall (39 percent). Following above factor, 27 percent of households decide to participate in non-farm economic activities because they earned low income from farming activities. In addition, the third majority is that the labor surplus and high capital in

farm sector with 24.6 percent to participate in non-farm economic activities due to get back a less profit compared to the cost of farming. Other factors include increased opportunities (19.2%) and other factors (7.2%).

Table (4.10) Factors that Influence Households to Participate in Non-Farm Economic Activities

Particular	Htan Pin Cahung		Da Yel Bo		Total	
	No	Percent	No	Percent	No	Percent
Pull Factors						
Low income from farming activities	10	21.3%	35	29.2%	45	27%
Labor shortage and high capital in farming sector	15	32%	26	21.7%	41	24.6%
Hedging risk of crop failure due to unreliable rainfall	25	53.2%	40	33.3%	65	39%
Push Factor						
Increased Opportunities in NFS	17	42.6%	15	12.5%	32	19.2%
Others	5	10.6%	7	5.8%	12	7.2%

Source: Survey Data, 2019

In the other side, a discussion with non-participating households revealed that main factors which limit households not to participate in non-farm economic activities include lack of initial capital, limited number of family labor to serve both in farm and non-farm economic activities, inability to access financial credits and aversion of risks involved in investing in non-farm economic activities. Moreover, the discussion with respondents revealed that some non-farm economic activities such as carpentry, tailoring and masonry require skills, as such not all households or individuals can engage in such activities.

4.3.4 Monthly Income of Sample Households in Da Yel Bo Village

In the following Table 4.10, sample households operations of farm, non-farm, and both combination are described with their monthly average income levels. In the calculation of income of some sample households, the prices of the crops are based for their annual income. Monthly incomes are calculated by dividing the total value of crops into 12 months.

Sample households involving in non-farm businesses do not have accurate accounts and balance sheets for their businesses. In the interview, it is found that some households answer more expenditure and less profit from which they earned. The earnings from their businesses of farming and non-farming are analyzed and compounded together as income of each sample household.

Table (4.11) Monthly Income of Sample households in Da Yel Bo

No	Monthly Income (Kyats)	Farming		Non-Farming		Combination		Total	
		No	%	No	%	No	%	No	%
1.	10,000 – 50,000	-	-	-	-	-	-	-	-
2.	50,001 – 100,000	3	2.5%	6	5%	-	-	9	7.5%
3.	100,001 – 150,000	3	2.5%	12	10%	-	-	15	12.5%
4.	150,001 – 200,000	5	4.2%	31	25.8%	1	0.8%	37	30.8%
5.	Above 200,000	6	5%	36	30%	17	14.2%	59	49.2%
	Total	17	14.2%	85	70.8%	18	15%	120	100%

Source: Survey Data: 2019

According to Table (4.11), there are 17 households in farming, 85 households in non-farming and 18 households in combination of both. In farming, there are 2.5% of sample households at kyat 50,001 – 100,000 and 100,001 – 150,000 income level. And then, there are 4.2% of sample households at kyat 150,001 – 200,000 and there are 5% of sample households at above 200,000 income level. The number of farmers increased gradually in level of high income.

In Da Yel Bo village, it can see that there are also non-farm businesses. There are 85 households in non-farm businesses as presented in Table (4.10). In non-farming, there are 5% of sample households at 50,001 – 100,000 kyat, 10% at 100,001 – 150,000 kyat, 25.8% at kyat 150,001 – 200,000 income level and 30% at

above 200,000 kyat income level. Moreover, there are 1% of sample households at kyat 150,001-200,000 and 14.2% at kyat above 200,000 income level in the combination of farming and non-farming. When the incomes from farming and incomes from non-farming are compared, the incomes from farming and non-farming are increased in higher income level. But incomes from non-farming are increased more than incomes from farming. Therefore, non-farm businesses are more than farming in Da Yel Bo village.

4.3.5 Monthly Income of Sample Households in Htan Pin Chaung Village

Based on the data from field survey in Htan Pin Chaung village, as regards with monthly income of households the following table is compiled as sample households which are doing farming, non-farming and combination both

Table (4.12) Monthly Income of Sample Households in Htan Pin Chaung

No	Monthly Income (Kyats)	Farming		Non-Farming		Combination		Total	
		No	%	No	%	No	%	No	%
1.	10,000 – 50,000	1	2.1%	-	-	-	-	1	2.1%
2.	50,001 – 100,000	5	10.6%	-	-	-	-	5	10.6%
3.	100,001 – 150,000	-	-	3	6.4%	-	-	3	6.4%
4.	150,001 – 200,000	5	10.6%	10	21.3%	-	-	15	31.9%
5.	Above 200,000	8	17%	8	17%	7	15%	23	49%
	Total	19	40.3%	21	44.7%	7	15%	47	100

Source: Survey Data, 2019

According to Table (4.12), there are 40.3% of total sample households in farming, 44.7% in non-farming and 15% in both. Among those, 2.1% of sample household in farming and both can earn 10,000 -50,000 income level. There are 10.6% of total sample households in 50,001 – 100,000 income level. It can be compared with those of Da Yel Bo village. 10.6% of sample households doing only farming businesses have earned between kyat 150,001 – 200,000 and 21.3% in non-farming earn at 150,001-200,000 kyat. There are 17% of sample in farming and non-farming and 15% in both at kyat 200,000 and above income level. In general, Htan

Pin Chaung village has less income in non-farming than Da Yel Bo village. Again, there are 19 households in farming, 21 households in non-farming and 7 households doing combined both businesses.

Non-farm businesses in Htan Pin Chaung are 44.7% of sample households which is less than Da Yel Bo village. Income earnings depend on type of businesses and investments. By comparing incomes of non-farm businesses, Da Yel Bo has 30% and Htan Pin Chaung have 17% at Kyat 200,000 above. The villages mostly depend on agriculture. Agriculture is main economy in Myanmar and is important for rural people. But agriculture alone should not depend for rural development because agriculture is no longer the primary occupation or income source of most rural inhabitants. Agriculture is depending on weather condition. In some years of heavy rain fall and flooded years, crops and plants were damaged and crop yield was diminished. Farmer's incomes were diminishing. Some poor tenants and some farmers with small capital money cannot grow their farm. So they faced problems of decreasing income and increasing unemployment. Moreover, the purchasing power of farm wages continues to decline. The peasant farming sector therefore continues to absorb the largest share of labor, whose productivity is low. This has encouraged migration to the cities with the result that rural problem of under employment has been transferred to the urban sector. The cause of this phenomenon is because of decreasing income, less job opportunities, and less agricultural businesses and mostly depending on agriculture.

In studying of employment, the village economy is agro-based economy and the main crop is rice. During crop planting and harvesting period, villages earn job and have not job after planning period. Therefore, some villagers look out for their job into the cities. So, non-farm businesses should also be conducted except for agriculture. Development of non-farm businesses is also important as a component for rural development.

4.3.6 Educational Status in Selected Villages

Education is the most important tool for developing human skills, knowledge and rural development. Education is often the most decisive factor for rural people to be able to participate in non-farm businesses, to obtain highly salary or to migrate. Education is directly proportion with income level.

Table (4.13) Educational Status of Sample Household in the Study Area

Sr. No.	Educational Status	Htan Pin Chaung		Da Yel Bo	
		No.	%	No.	%
1.	Can Read/ Write	-	-	4	3%
2.	Monistic	6	13%	15	13%
3.	Primary School Level	23	49%	17	14%
4.	Middle School Level	14	30%	47	39%
5.	Higher School Level	2	4%	21	18%
6.	University/ Graduate	2	4%	16	13%
	Total	47	100%	120	100%

Source: Survey Data, 2019

The level of education of sample households in the study areas are classified into 6 categories as presented in Table (4.13). In the education status of two villages, 13% of sample households are monistic. There are 49% of sample households are in primary education level in Htan Pin Chaung while 13% of that are also are primary education level in Da Yel Bo. In middle education level, Hatn Pin Chaung has 30% and Da Yel Bo has 39%. In the Htan Pin Chaung, 4% of total sample covered by survey are high school level and 18% of Da Yel Bo are high school level. In the university/graduate level, Htan Pin Chaung has 4% and Da Yel Bo has 13%. Thus, Da Yel Bo has more educated persons than Htan Pin Chaung.

In education, there is high school and university/graduate level in Da Yel Bo more than Htan Pin Chaung. Because Da Yel Bo villagers conduct not only agriculture but also non-farm businesses, they earn regular income and more increase income. So they can learn higher education part from basic education. As a result, more educated person can work mostly non-farm businesses.

Htan Pin Chaung mostly depends on agriculture and incomes from farming are insufficient income for some farmers. Thus, some farmers can provide primary education only for their children. Because of lower income, they cannot attend higher education mostly.

4.3.7 Social Conditions

(i) Conditions of Housing

Conditions of housing of the sample households is classified the types of houses as presented in Table (4.14). According to the table, 45.8% of houses are brick houses in Da Yel Bo village but there are 14.9% brick houses in Htan Pin Chaung village. In the houses of Da Yel Bo, 50% are wooden houses and 76.6% are wooden houses in Htan Pin Chaung respectively. There are 4.2% of houses are made of bamboo in Da Yel Bo and 8.5% of those in Htan Pin Chaung village.

Table (4.14) House Conditions of Sample Households

No	Types of House	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	Brick House	7	14.9%	55	45.8%
2.	Wooden House	36	76.6%	60	50%
3.	Bamboo House	4	8.5%	5	4.2%
	Total	47	100%	120	100%

Source: Survey Data, 2019

In Da Yel Bo, most of the houses are new and brick houses. Because of better income households can build new houses. And then, there are more bamboo and wooden houses in Htan Pin Chaung. It can be seen that Htan Pin Chaung is lower than income of Da Yel Bo. According to conditions of housing, we can know that living standards of villagers. To compare the housing conditions of the sample households in two villages, the housing conditions of Da Yel Bo is better than Htan Pin Chaung village. So the economic condition of Da Yel Bo is more than Htan Pin Chaung village

(ii) Facilities Owned by Sample Households

Facilities owned by sample households in Da Yel Bo and Htan Pin Chaung village are presented in Table (4.15).

Table (4.15) Facilities Owned by Sample Households

No	Particular	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	Radio	18	38.3%	9	7.5%
2.	Bicycle	36	76.6%	57	47.5%
3.	Sewing Machine	7	14.9%	43	35.8%
4.	Television	39	83%	103	85.8%
5.	Motor Cycle	84	72.3%	105	87.5%
6.	Telephone	72	153.2%	250	208.3%
7.	Electric Iron	21	44.7%	109	90.8%
8.	Electric Fan	29	61.7%	110	91.6%
9.	Freezer	8	17%	81	67.5%
10.	Air-con	-	-	15	12.5%

Source: Survey Data, 2019

According to Table (4.15), in Htan Pin Chaung village, most of houses have telephones, televisions and Motor Cycle as first most facilities and they also own bicycle, electric fan and electric iron as second most in their facilities. Other facilities such as radio, sewing machines and freezer are also owned by small proportion of sample households. Most of the sample households own telephones, electric fan and televisions in Da Yel Bo. They also own radio, bicycle, sewing machines, motor cycle, electric iron, freezer and air-con.

Therefore, when two villages are comparatively studied, Da Yel Bo owned facilities more than Hatn Pin Chaung village. Because of electricity supplied in Da Yel Bo village, more households own electric appliances. Due to accessibility of electric power, mechanical and workshops can be operated as non-farm businesses. Generally, it can be seen that Da Yel Bo can utilize more facilities than Htan Pin Chaung because of increase income.

(iii) Farm Machinery Owned by Sample Households

Farm machineries are owned by sample households from the two villages are presented in the following table.

Table (4.16) Farm Machinery Owned by Sample Households

No	Particular	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	Hand-Tiller	12	25.5%	6	5%
2.	Power-Tiller	1	2.1%	6	5%
3.	Water-Pump	6	12.8%	10	8.3%
4.	Thresher	1	2.1%	3	2.5%

Source: Survey Data, 2019

According to table (4.16), among the sample households from Htan Pin Cahung village, 25.5% of sample households own hand-tiller, 2.1% of those own power-tiller, 12.8% sample households own water-pump and 2.1% of sample households also own thresher. In Da Yel Bo, 5% of sample households own hand-tiller and power-tiller, 8.3% of those own water-pump and 2.5% of sample households own thresher respectively. In two villages, farmers are more utilized farm machineries to increase agricultural production. So farmers save time and expenditure cost, can prevent waste crops, increase agricultural production, can grow two crops in one year by utilizing farm machines. Thus, farm machineries are important for farmers.

(v) Transportation Vehicles of Sample Households

For two villages, transportation vehicles of sample households are mentioned in the following table.

Table (4.17) Transportation Vehicles Owned by Sample Households

No	Type	Htan Pin Chaung		Da Yel Bo	
		Frequency	Percent	Frequency	Percent
1.	Car	-	-	12	10%
2	Trailer-jeep	1	2.1%	8	6.7%
3.	Cart	2	4.3%	11	9.2%
4.	Three-wheeled Motorbike	2	4.3%	1	0.8%

Source: Survey Data, 2019

In Htan Pin Chaung village, 2.1% of 47 sample households own trailer-jeep, 4.3% own carts and tri-wheels. In Da Yel Bo village, among the 120 sample households, 10% own cars, 6.7% of those own trailer-jeeps, 9.2% of sample households own carts and 0.8% own tri-wheel.

According to the above data, there are more transportation vehicles in Da Yel Bo village because of better transportation, more non-farm businesses and better economic conditions. In Da Yel Bo village, better transportation facilities, accessibility of electric power and many non-farm businesses can be worked more than Htan Pin Chaung village. Because there are more non-farm businesses in Da Yel Bo, transportation businesses are better vice versa.

4.3.8 Opportunities and Challenges of Non-Farm Sector in Selected Villages

The selected villages are specialized in agricultural sector even though some of the households engaged in non-farm economic activities for their livelihoods. In the study areas, both farmers and landless households engaged in non-farm activities such as grocery, store, beauty saloon, tailoring, car/cycle workshop, casual labor, formal non-farm employment, bricklayers and carpentry. But these businesses are not common among land owners and practiced to cover expenditures of households. For some farmers, non-farm economic activities engagements are even fulfilled in off-

seasons when there is no agricultural activity. The main livelihood strategies for landless households are non-farm economic activities except agriculture. Households from Da Yel Bo village more engaged in non-farm economic activities than households from Htan Pin Chaung village.

As Da Yei Bo village is beside the highway, the flow of goods and services is better. So the villagers have better chances to do non-firm business. As it is situated near Hlegu Township, the agriculture products and non-farm goods can be sold in the town. The villagers have better opportunities to do their own businesses because they have more chances to get loans and knowledge. On the other hand, Htan Pin Chaungvillage is far away from Hlegu Township and agriculture is the main job of the villagers. Besides agriculture, non-farm business can be found in this village, but only a handful of the villagers can do it. Compare with Da Yel Bo village, it has fewer opportunities to do non-farm businesses.

Most of the households want to do non-firm business but they have no enough investment to start up the business in selected villages. Beside, households cannot get enough amount of money from the microfinance and other sources of loans to start up their businesses. As there is little chance to get investment, they cannot do own business. Households cannot do agro-processing business and cannot change into value-added products because of the shortage of technology and they have to sell out as raw-materials. The households have little chance getting technology and raw materials. The labors are not skilled ones so they cannot do their business effectively.

In selected villages, households have met challenges in engagement in non-farm economic activities. The challenges are scarcity of capital to start up a non-farm business, lack of skill training and knowledge, lack of market, lack of technology for doing business, lack of infrastructure and lack of raw materials. Some households get loans from microfinance and do non-farm businesses. Some land owners work non-farm businesses together with agriculture. Households can get opportunities by doing non-farm economic activities. After doing these activities, households earn better income. Households contribute income to education, health and basic needs. So households support their children to continue higher education. And thus their standard of living can be raised. The non-farm sector becomes an important role as the livelihood strategy in rural areas for farmers and landless households.

CHAPTER V

CONCLUSIONS

5.1 Findings

In studying about the economic development of developing countries, the innovation of non-farm businesses are most important for rural development. The main objective of this study is to analyze the effect of non-farm economic activities on income and socio-economic conditions. The growth of rural non-farm economic activities is exposed by rapid change in numbers of non-farm businesses. The number of non-farm businesses is rapidly increasing in villages during 2011 and 2016. Village stores, food businesses, services were raised up. The growth of non-farm economic activities is driven by businesses that meet local demand for goods and services.

According to survey result, in the study area, 54.2% engage in only farming activities, 115.8% engage only in non-farm activities and 30% engage in both farm and non-farm activities. Although farming remains the main source of income for rural households, non-farm income is playing a more and more significant role in total income. The average income of households that participate in non-farm activities is higher than that of participation in only farm activities. By studying income level of Da Yel Bo, 7.5% of sample households are at the 50,000 – 100,000 kyat level, 12.5% are at 100,000 – 150,000 kyat level, 30.8% are at 150,000 – 200,000 kyat level and 49.2% are at 200,000 kyats above level. In studying employment pattern, 14.2% of sample households earn income from farming, 70.8% from non-farm economic activities and 15% from the combination of farm and non-farm activities. For Htan Pin Chaung village, 40.3% of sample households earn income from farming, 44.7% from non-farm economic activities and 15% of sample earn income from the combination of both farm and non-farm. In Htan Pin Chaung, the village economy is agro-based economy so the employment of villages depended only on farming. In some years, bad weather conditions worsen the agricultural production and the income of farmers as well as laborers. Farming is specialized and non-farm business does not exist much, thus non-farm businesses are less than Da Yel Bo.

Compare with the Da Yel Bo and Htan Pin Chaung, the income from non-farming in Da Yel Bo is higher than that of Hatn Pin Chaung. Villagers use non-farm incomes to finance subsistence agriculture and purchase more the basic needs for their families. In studying of two villages, Da Yel Bo village has more non-farm businesses and better transportation. Because of these facts, Da Yel Bo village is higher living standards and income than Hatn Pin Chaung village. In Da Yel Bo village, larger proportion of households in the higher levels of income than Htan Pin Chaung. This is because of doing more non-farm businesses as the results of more employment opportunities and income earning. The study has established that pull factors lead households to participate in non-farm economic activities. They include low income from farming activities, the need to hedging risk of crop failure due to unreliable rainfall, increased opportunities and other reliable means of survival.

The major source of finance for non-farm investment comes from own saving and loans from relatives, friends and microfinance. Lack of flexible credit services and high interest rates are also the major challenges to engage in non-farm economic activities. And then, lack of skill and training, lack of infrastructure, lack of technology and knowledge, lack of raw materials and limited entrepreneurial skill are the constraints of rural non-farm livelihood diversification in the study areas.

Education is the most important tool for developing human skills, knowledge and rural development. . Education is often the most decisive factor for rural people to be able to participate in non-farm businesses, to obtain highly salary. As a regard with education status, Htan Pin Chaung have 4% of sample households at the higher level and at the university/ graduate which are less than Da Yel Bo village. That is because income is higher and more non-farm business activities are evolved in Da Yel Bo Village. Thus, if incomes and employment will improve, more people can afford to proceed to the higher education level.

In the education level of two villages, proportion of higher education for Da Yel Bo is more than for Htan Pin Chaung. Because of lower income, Htan Pin Chaung village cannot attend higher education mostly. Thus, job opportunities, income, and living standards can be raised for rural households by establishing of non-farm businesses in rural areas.

It can be concluded that development of non-farm business is needed as a component in the rural development. Establishing of non-farm business can create

more job opportunities solve unemployment problems, and increase income for rural households.

5.2 Suggestions

The study found that income of Da Yel Bo village is more than the income of Hatn Pin Chaung village because Da Yel Bo village is serving not only farming but also non-farm businesses. Rural households should engage in non-farm economic activities to improve their income and to reduce the risk of loss from farming activities. Farming is an activity which is heavily depended on weather condition. Nowadays, the weather is more unpredictable and market is unstable and as a consequence, farmers face the many problems. Thus, farmers should make an investment in some non-farm businesses to cover the impacts of market downturn and to facilitate the livelihoods. If it will conduct not only agriculture but also non-farm businesses mostly, it can earn better income, living standards and socio-economic conditions. More participation in non-farm businesses leads to increase in income, education and living standards in rural areas. Access to credit enables rural households to expand their non-farm economic activities. So, new strategy should be devised to strengthen and expand rural financial services that ensure access to credit for rural households as to engage in non-farm economic activities.

Infrastructure is an important factor for rural development. Good infrastructure facilitates the linkages between urban and rural areas. So, rural people easily connect to the markets in urban to export their farm and non-farm products. Moreover, it provides rural people with more occupational choices by allowing them to join urban jobs as commuters without leaving home. In order to get the higher education level, participate more in non-farm businesses, earn income more and improve their living standards of rural households, government need to invest more in basic infrastructure such as education and health care center. Therefore, in considering the rural development, in both farm and non-farm sectors, infrastructure development is basic requirement.

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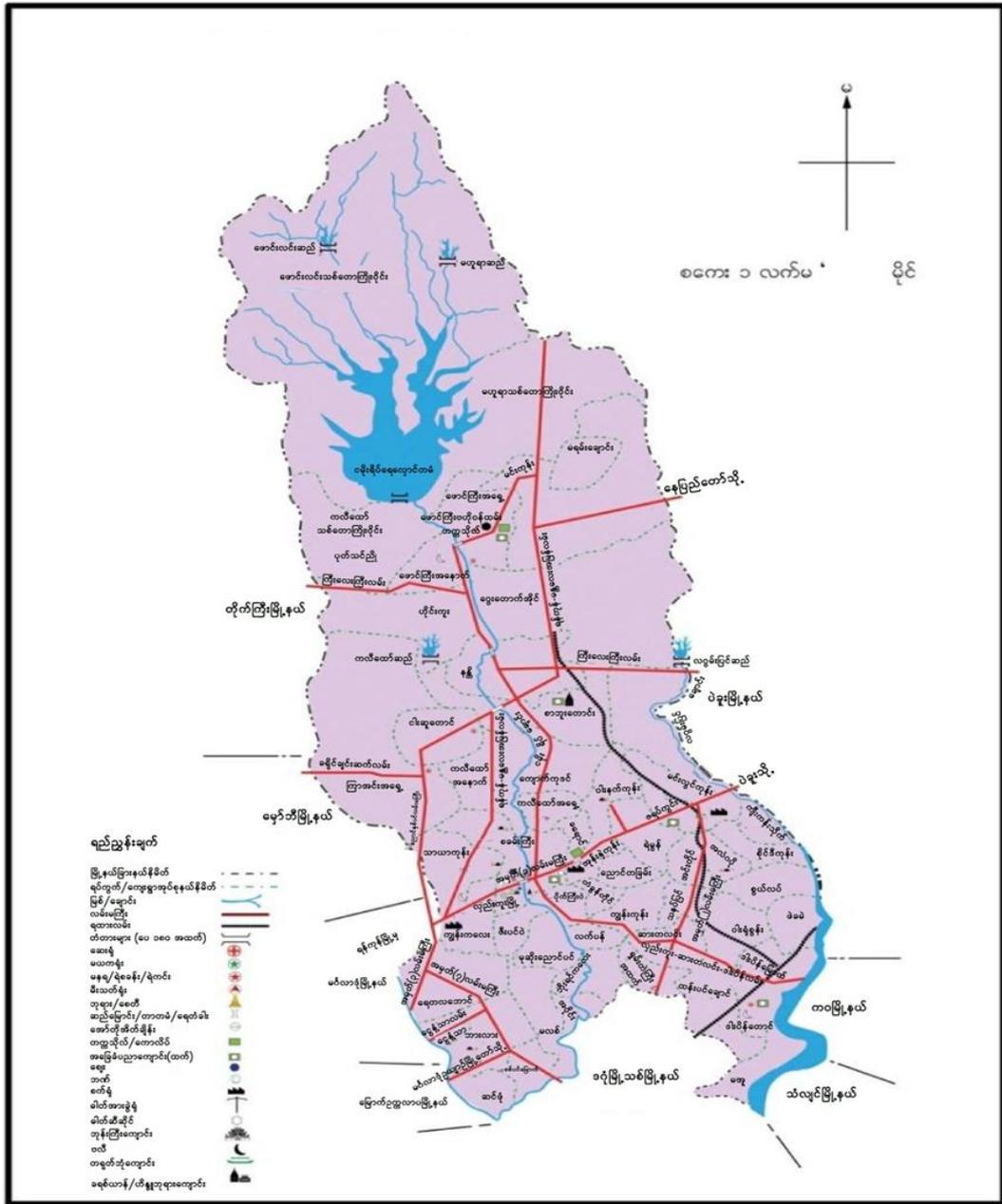
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Appendix I

Map of Hlegu Township

လှည်းကူးမြို့နယ်မြေပုံ



Source: General Administration Department

(2). Occupation of Household

No.	Primary Occupation	Secondary Occupation
1.		
2.		
3.		
4.		
5.		

(3) Monthly Income of Household

No.	Average Income(Kyats)	Farming	Non-Farming	Combination
1.	10,000 – 50,000			
2.	50,001 – 100,000			
3.	100,001 – 150,000			
4.	150,001 – 200,000			
5.	Above 200,000			

(4) Type of House

No.	Type of House	
1.	Brick House	
2.	Wooden House	
3.	Bamboo House	

(5) Size of Farm of Household

Holding acres	
Below 5 acres	
5acres – 10acres	
10acres – 15acres	
Above 15 acres	

(6) Type of Non-Farm Businesses

No.	Type	Number	Yes	No
1.	Rice Mill			
2.	Brick Shop			
3.	Grocery			
4.	Store			
5.	Tea Shop			
6.	Battery Refilling			
7.	Mohinga Shop			
8.	Car/Cycle Workshop			
9.	Beauty Saloon/Hair Cutting			
10.	Video Rental			
11.	Tailor			
12.	Vendor			
13.	Bricklayers			
14.	Blacksmith			
15.	Pharmacy			
16.	Carpenter			
17.	Other			

(7) Ownership of Household's Assets

No.	Type	Number	Yes	No
1.	Radio			
2.	Bicycle			
3.	Sewing Machine			
4.	Television			
5.	Motor Cycle			

6.	Telephone			
7.	Electronic Iron			
8.	Electronic Fan			
9.	Freezer			
10.	Air-con			

(8) Farm Machineries Owned by Household

No.	Type	Number	Yes	No
1.	Power - Tiller			
2.	Water - Pump			
3.	Thresher			
4.	Other			

(9) Transportation Vehicles Owned by Household

No.	Type	Number	Yes	No
1.	Car			
2.	Trailer - jeep			
3.	Cart			
4.	Motorbote			
5.	Three-Wheeled Motorbike			

(10) Factors that Causes Households to Participate in Non-Farm Economic Activities

No.	Factors led to participate in Non-Farm Activities	
1.	Low income from farming activities	
2.	Labor shortage and high capital in farming sector	
3.	Hedging risk of crop failure due to unreliable rainfall	
4.	Increased Opportunities in NFS	
5.	Others	