

**YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF ECONOMICS
MASTER OF DEVELOPMENT STUDIES PROGRAMME**

**THE RURAL NON-FARM ECONOMY: INCOME AND
EMPLOYMENT OPPORTUNITIES
(A CASE STUDY OF THAPYAYCHAUNG VILLAGE,
KYAIKLATT TOWNSHIP, AYAYARWADDY REGION)**

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EMDevS – 27 (18th BATCH)**

SEPTEMBER, 2024

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Master of Development Studies (MDevS) Degree

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This is to certify that this thesis entitled “**THE RURAL NON-FARM ECONOMY: INCOME AND EMPLOYMENT OPPORTUNITIES (A CASE STUDY OF THAPYAYCHAUNG VILLAGE, KYAIKLATT TOWNSHIP, AYAYARWADDY REGION)**” submitted as the requirement for the Degree of Master Development Studies has been accepted by the Board of Examiners.

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ABSTRACT

This study investigates the contribution of the Rural Non-Farm Economy (RNFE) to household income and employment in Thapyaychaung Village, Kyaiklat Township, Ayeyarwaddy Region, Myanmar. With agriculture being the primary livelihood, rural households increasingly depend on non-farm activities such as retail, small-scale manufacturing, and services to supplement income. The study, based on a survey of 143 households, explores the relationship between non-farm employment and household income. The findings suggest that non-farm activities are crucial for income diversification, particularly for landless and small-scale farmers, but challenges like poor infrastructure, and limited financial access impede growth. The study concludes that promoting the RNFE through investments in infrastructure, skill development, and credit facilities can reduce rural poverty and stimulate sustainable development in Myanmar's rural areas.

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LIST OF ABBREVIATIONS

ADS	Agriculture Development Strategy
EU	European Union
GDP	Gross Domestic Product
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
INGO	International Non-Governmental Organization
LIFT	Livelihoods and Food Security Fund
MOALI	Ministry of Agriculture, Livestock and Irrigation
NGO	Non-Governmental Organization
RNFE	Rural Non-Farm Economy
UN	United Nation
UNDP	United Nations Development Programme
QSEM	Qualitative Social and Economic Monitoring

CHAPTER I

INTRODUCTION

1.1 Rationale of the Study

Rural areas in developing countries face multiple challenges, including poor infrastructure, limited access to education and healthcare, and a heavy reliance on agriculture as the primary source of income. While agriculture sustains many rural households, it is insufficient to meet the growing needs of the population, leading to widespread poverty and economic stagnation. The over-reliance on agriculture exposes these regions to numerous risks, such as fluctuating global market prices and adverse weather conditions, making rural incomes unstable and unpredictable (Food and Agriculture Organization [FAO], 2018). This volatility contributes to deepening poverty and inequality.

One major issue in rural areas is land scarcity. Land ownership is often concentrated in the hands of wealthier households, while poorer families struggle to access sufficient land for farming. This inequity exacerbates income inequality, as those with larger plots of land can produce surplus crops, sell them for higher incomes, and reinvest in their farms (World Bank, 2020). Conversely, poorer households, with limited land access, cannot produce enough food for themselves let alone generate income. This creates a cycle of food insecurity and poverty, where families are forced to rely on external aid or purchase food at unaffordable prices (International Fund for Agricultural Development [IFAD], 2019).

Land limitations and lack of income opportunities compel many rural inhabitants to migrate to urban areas or even abroad in search of better livelihoods. However, this migration brings its own set of challenges. Rural migrants often find themselves working in low-wage, informal jobs in urban centers, where city infrastructures are overwhelmed, resulting in overcrowding, poor living conditions, and social instability (United Nations, 2021). Moreover, rural areas lose their young and able workforce, leaving behind an aging population that struggles to maintain agricultural productivity. This population shift further exacerbates economic stagnation in rural areas (UN, 2021).

In cases where migration is not a feasible option due to landlessness or financial constraints, households experience absolute poverty. Children in these families are often forced to leave school prematurely and enter the labor force to supplement household income, perpetuating the cycle of poverty and limiting their long-term opportunities (FAO, 2018).

Despite the challenges, rural areas require a diverse range of economic activities to sustain social life and improve living standards. Agriculture alone cannot fulfill these needs. Activities such as construction, market trading, transportation, healthcare services, education, and other non-farm sectors are essential for balanced economic development (IFAD, 2019). A diversified rural economy, with both farm and non-farm activities, provides the necessary income and employment to improve rural livelihoods (World Bank, 2020).

The development of the Rural Non-Farm Economy (RNFE) is especially critical for rural economic resilience. The RNFE encompasses activities such as small-scale manufacturing, services, and agro-processing, all of which are indirectly related to agriculture but can offer substantial employment opportunities and income (FAO, 2018). Furthermore, the RNFE can support agricultural modernization by providing essential services like farm machinery, technology, and infrastructure (IFAD, 2019). Countries such as Vietnam, Ghana, and Bangladesh have successfully reduced poverty by promoting the RNFE through policies that encourage entrepreneurship, improve access to financial services, and invest in rural infrastructure (World Bank, 2020).

Myanmar's rural economy faces similar challenges. More than 70% of Myanmar's population lives in rural areas, where poverty is widespread, with about 50% of rural people living below the poverty line (United Nations, 2021). This situation has led to significant internal and external migration, as rural inhabitants seek better opportunities elsewhere. According to the 2022–2023 Statistical Yearbook, millions of Myanmar citizens have migrated abroad, with many working in Thailand, Malaysia, China, and other neighboring countries (Statistical Yearbook, 2022–2023). Similarly, internal migration is prevalent, particularly to Yangon and Mandalay, where industrial jobs in garment and food processing sectors attract rural workers. However, this migration often leads to slum dwellings and poor living conditions, particularly in cities like Yangon (United Nations, 2021).

Agriculture remains a vital part of Myanmar's economy, contributing around 25-30% of the country's Gross Domestic Product (GDP) and employing a large portion of the population (World Bank, 2020). However, this dependence on agriculture is unsustainable due to the risks posed by changing weather patterns, global market fluctuations, and the limited availability of arable land (FAO, 2018). Myanmar's rural economy must diversify, with a stronger emphasis on the RNFE to reduce poverty and promote sustainable development (IFAD, 2019).

In Myanmar, the RNFE holds the potential to improve household incomes, particularly for landless and small-scale farmers who rely on non-farm activities for their livelihoods. However, the RNFE in Myanmar faces several obstacles, including inadequate infrastructure, limited access to finance, regulatory barriers, and a shortage of skills (World Bank, 2020). To foster growth in the RNFE, Myanmar must focus on creating an enabling environment that supports rural entrepreneurship, improves access to credit, and invests in education and skill development (UN, 2021).

The objective of this study is to assess how the RNFE influences household income and job prospects in Thapyaychaung village. The village is mainly relied on the agriculture and facing challenges the flooding every year. The landless families have to find the job opportunities outside of the area mainly in Urban Cities. Therefore, the study aims to determine the earnings from farm and non-farm work, analyze the connection between household income and non-farm jobs, and look for ways to encourage RNFE activities which are essential to improve livelihood opportunities in the area.

1.2 Objective of the Study

The objectives of the study are as follows:

- To identify the household income based on Farm and Non-Farm activities.
- To examine the relationship between household income and non-farm employment and
- To explore the opportunities to promote RNFE activities in the study area.

1.3 Method of Study

In this study, descriptive analysis, correlation, and regression methods were utilized to thoroughly explore and interpret the data. To achieve the research objectives, primary data were collected through a structured questionnaire survey conducted with 143 households from Thapyaychaung Village in Kyaiklat Township. Additionally, secondary data were obtained from various sources, including the Ministry of Cooperatives & Rural Development, the Department of Rural Development, the Ministry of Agriculture, Livestock, and Irrigation, World Bank, IFPRI, ILO, and IFAD.

1.4 Scope and Limitation of the Study

This study focuses on assessing the Rural Non-Farm Economy (RNFE) in Thapyaychaung Village, Kyaiklat Township. It examines household income derived from both farm and non-farm activities and analyzes the relationship between non-farm employment and household income. While this sample represents a significant portion of the population, the study may not capture the full range of experiences or conditions within the entire village. Furthermore, the study is geographically limited to Thapyaychaung Village and may not be generalizable to other rural areas with different socioeconomic conditions. The study focuses on the current situation and does not evaluate the long-term potential of RNFE activities or their future growth prospects.

1.5 Organization of the Study

This study is organized with five chapters. Chapter one is the introduction, including rationale, objectives, method, scope and limitations, and organization of the study. Chapter two is literature review and chapter three provides overview of rural economy in Myanmar. Chapter four contains the survey analysis, while chapter five concludes with the findings and suggestions.

CHAPTER II

LITERATURE REVIEW

2.1 Definition and Concept of Rural Non-Farm Economy

The rural economy, including both farming and non-farming industries, is an essential part of a country's overall economic well-being. The economy of rural areas is a complex system that plays a crucial role in the economic health of a nation. Mainly fueled by farming, it serves as the primary provider of food, such as meat and vegetables, essential for human survival. Nevertheless, non-agricultural industries within rural economies also play a role in the overall economic structure, as stated by M. Briones in 2017.

Initially, the word "rural" appears simple, typically bringing to mind images of rice fields, primitive housing, animals, and open pastures. Nevertheless, the delineation of rural regions is intricate and includes a range of demographic, economic, ecological, and socio-cultural factors. Usually, rural areas consist of spacious land with scarce population, creating settlements comprised of small villages. The infrastructure and economic activities are the key distinctions between rural and urban areas. Cities are characterized by structures such as buildings, airports, railways, highways, and ports, enabling trade, business, and various amenities. On the other hand, rural areas frequently do not have this kind of infrastructure, resulting in restricted availability of logistics, electricity, and information and communication technologies. Urban employment remains consistent and year-long, whereas rural employment fluctuates seasonally and primarily relies on agricultural cycles.

Countryside provides a more tranquil, cleaner atmosphere when compared to the hustle and bustle and contaminants found in cities. Green areas, fresh air, and presence of natural elements such as soil and water are defining features of these places. This ecosystem facilitates a way of life closely tied to the natural world, placing emphasis on farming and raising animals as the main sources of income.

2.1.1 The Definition of Rural Non-Farm Economy

The rural non-farm economy (RNFE) refers to any earning activities in rural areas that are not related to agriculture, including wage work or self-employment

(Lanjouw 1999). Non-farm activities like manufacturing (such as agro-processing) can be either gradual (like starting a small business) or responsive (such as switching from growing cash crops to trading commodities due to drought, relying on non-agricultural jobs or selling household items in times of crisis, or using survival tactics in response to a livelihood setback). The composition is mainly diverse, including freelance work, micro and small/medium-sized businesses (SMEs), merchants, and movement. The non-farm rural economy sector includes occupations that need substantial access to resources like education or credit, as well as self-employment ventures like selling goods by the roadside, which may have minimal or no entry barriers and low asset requirements.

2.1.2 Components of the Rural Non-Farm Economy

The Rural Non-Farm Economy consists of various sectors and activities including Manufacturing and Processing, Services, Construction, and Trade and Commerce. Manufacturing and Processing encompass small-scale industries and businesses involved in the processing of agricultural products, textiles, handicrafts, and other goods. (Haggblade and colleagues, 2010). The rural service sector includes different activities like retail trade, transportation, education, healthcare, and financial services (Lanjouw & Shariff, 2004). Construction activities in rural areas involve constructing and up keeping essential infrastructure like roads, houses, schools, and healthcare facilities (Reardon et al., 1998). Trade and Commerce include the purchase and sale of goods and services in rural regions and between rural and urban areas (Barrett et al., 2001).

2.1.3 Concept of Rural Non-Farm Economy

Various theoretical perspectives, such as structural transformation theory and livelihood diversification, can help explain the RNFE. According to structural transformation theory, economic advancement leads to a transition from farming to non-farming sectors due to improvements in technology and productivity in agriculture (Lewis, 1954). This change occurs as the non-agricultural sector expands, absorbing excess labor from farming and helping drive economic growth as a whole (Timmer, 2009). To a certain degree, views have been shifting away from this stance. Reasons

for focusing on the non-agricultural industry typically revolve around its ability to accommodate an increasing rural workforce, reduce rural-urban migration, boost national income, and support fairer income distribution. The fluctuations in job availability in agriculture result in many individuals in rural areas being without work during certain times of the year. Therefore, a large portion of employment outside of farming is considered secondary.

Excess labor within the household can be utilized to create earnings. The group's non-farming incomes create widespread multi-job arrangements in rural areas, allowing for several forms of multi-employment. These provide a great amount of flexibility simultaneously. In numerous developing nations, rural households rely on not only agriculture for income and employment, but also place significance on non-farm activities. In rural areas, most households participate in farming, but a significant number also earn income from non-farm activities (World Bank, 2008).

2.1.4 The Categories of Rural Non-Farm Economy (RNFE) for Employment

The types of Rural Non-Farm Economy (RNFE) employment can be categorized as Non-Farm Wage Employment, Non-Farm Self-Employment, Rural Services, Rural Industries, and Rural Commerce and Trade. Non-farm wage employment refers to rural workers who are paid for non-agricultural work in sectors such as construction, transportation, and services (Ellis, 2000; Reardon, Berdegue, Barrett, & Stamoulis, 2007).

- (i) **Construction:** Jobs in rural road-building projects, housing, or infrastructure development (Haggblade, Hazell, & Reardon, 2010).
- (ii) **Transport:** Employment as drivers, conductors, or mechanics in rural transport services (e.g., trucks, buses, boats) (Lanjouw & Feder, 2001).
- (iii) **Services:** Work in rural shops, healthcare facilities, or hospitality (e.g., hotels or guesthouses) (Barrett, Reardon, & Webb, 2001).

Non-farm self-employment involves individuals running their non-agricultural businesses or engaging in self-employment activities that generate income (Start, 2001). Examples include:

- (i) **Retail Trade:** Running small grocery stores, market stalls, or kiosks selling consumer goods (Davis & Bezemer, 2004).

- (ii) **Crafts and Small-Scale Manufacturing:** Producing handicrafts, textiles, or furniture in home-based businesses or small workshops (Haggblade et al., 2010).
- (iii) **Food Processing:** Small-scale production of processed food items like rice milling, oil extraction, or bakery items (Reardon et al., 2007).

Rural Services include both wage labor and self-employment in the service sector, often related to agriculture or tourism (Haggblade et al., 2007). For example:

- (i) **Agriculture-Related Services:** Providing equipment repair, marketing, transport, and distribution services for agricultural products (Lanjouw & Feder, 2001).
- (ii) **Tourism Services:** Running guesthouses, offering local tours, or providing hospitality services in rural areas that attract tourists (Barrett et al., 2001).

Rural Industries cover small-scale manufacturing or cottage industries that operate in rural areas, contributing to local economies by creating jobs and adding value to agricultural products (Anderson & Leiserson, 1980). For example:

- (i) **Textile and Clothing:** Producing traditional garments or textiles in small factories or workshops (Reardon et al., 2007).
- (ii) **Woodworking:** Crafting furniture, tools, and building materials from local resources (Ellis, 2000).
- (iii) **Food Production:** Factories produce processed food items like noodles, jams, or snacks from locally sourced materials (Davis & Bezemer, 2004).

Rural Commerce and Trade include non-farm activities related to trade in goods and services within local markets, often involving the buying and selling of consumer goods, agricultural inputs, and livestock (Haggblade et al., 2010). For example:

- (i) **Livestock Trading:** Buying and selling livestock such as cattle, goats, or poultry in local markets (Barrett et al., 2001).
- (ii) **Agricultural Input Sales:** Selling seeds, fertilizers, or farming tools to local farmers (Reardon et al., 2007).
- (iii) **Consumer Goods Trade:** Trading household items, clothing, or electronics in rural markets (Ellis, 2000).

2.2 Theoretical Background of Rural Non-Farm Economy for Rural Economic Development

Economic theory suggests that risk-neutral farmers will divide their labor supply between on-farm and non-farm employment opportunities such that the expected marginal returns to all activities are equal. If farmers are risk averse, less time will be allocated to the more risky jobs when the expected returns are the same, or the farmer will accept lower wages in a less risky environment (pay a risk premium). Off-farm labor can be used by farmers to reduce the total variance of their income, i.e., the overall risk, or to increase the total returns to labor.

This shift is due to several reasons: (1) the surplus of the rural labor force and the lack of employment in rural areas; (2) the households who don't have land to cultivate; (3) the farm income cannot be sufficient for household's consumption, and (4) finding higher income sources and improving household's income.

Studies in Africa, however, have seldom explored systematically the factors influencing the direction and nature of reinvestment. To help fill that gap, the study addressed three questions: (a) in theory, what effects would one expect nonfarm activities to have on-farm investment, (b) what factors condition those effects, and (c) what practical implications flow from the answers to these questions.

The theoretical basis for studying diversification in rural-urban linkages draws from urban-rural interdependence theories and regional development models. Urban-rural linkages describe the economic, social, and environmental interactions between urban and rural areas, emphasizing the flow of goods, services, capital, people, and information (Tacoli, 2003). These interactions are crucial for regional development, as they facilitate resource distribution, enhance market access, and promote balanced growth across regions (Douglass, 1998). Theories of regional development highlight the role of diversified rural-urban linkages in reducing regional disparities and fostering inclusive growth (Rodríguez-Pose, 2018).

(i) Structural Transformation Theory

Understanding the RNFE's role in rural economic development is primarily dependent on the structural transformation theory. As economies progress, there is a notable transition from agricultural activities to other sectors, as proposed by this theory

from Lewis in 1954. Technological progress and higher agricultural productivity are fueling this shift, freeing up excess labor from farming. The excess labor is consumed by the non-agricultural sector, assisting in driving economic expansion and variation (Timmer, 2009). In this situation, the RNFE plays a vital role in changing the structure of rural areas by offering different job options and aiding in rural development.

(ii) Livelihood Diversification

The theory of diversification of livelihood highlights the methods used by rural families to handle risk and improve financial stability. Expanding to non-agricultural pursuits is a popular approach among rural families to manage risks like crop failure or price changes, and to benefit from emerging economic prospects (Ellis, 1998). The RNFE plays a key role in helping rural households broaden their income streams and increase their ability to withstand unexpected events. This theory emphasizes the significance of having a varied rural economy to improve the sustainability and stability of rural livelihoods.

(iii) Dual Economy Models

Arthur Lewis first introduced dual economy models which differentiate between a traditional, agricultural sector and a modern, industrial sector (Lewis, 1954). These models indicate that economic advancement includes shifting labor from the less productive agricultural industry to the more productive non-agricultural industry. The RNFE plays an important role in facilitating economic growth and development by assisting in the transition of labor from agriculture to more industrialized activities, providing intermediate steps in the process (Ranis & Fei, 1961).

(iv) New Economic Geography

The theory of new economic geography (NEG) investigates the geographical elements of economic growth, emphasizing the significance of agglomeration economies and discrepancies between regions (Krugman, 1991). NEG states that economic activities tend to cluster in specific areas because of factors such as lower transportation expenses, proximity to markets, and the presence of a qualified workforce. Nevertheless, implementing the RNFE in rural regions can combat these

trends by dispersing economic activities and promoting equitable regional growth. The RNFE can decrease the movement of people from rural areas to cities by offering jobs locally and enhancing the quality of life in rural areas.

(v) Social Capital Theory

Putnam (2000) highlights the significance of social networks, norms, and trust in promoting economic transactions and cooperation in communities. In the RNFE setting, social capital is crucial for the success of non-farm businesses as it improves access to information, credit, and markets. Robust social connections have the ability to assist group efforts, lower expenses related to transactions, and encourage new ideas and business ventures within rural regions. Hence, it is crucial to establish social capital for the growth of a thriving RNFE.

2.3 Theoretical Approaches of Rural Non-Farm Development to Income and Employment

(i) Labour intensity

An important question is whether RNF activities require more labor compared to other parts of the economy. In less developed countries, there is a shortage of capital and foreign currency, while there is an abundance of unskilled labor. Production methods that require more labor would result in higher employment rates per unit of limited resources and are therefore most suitable for their available resources.

(ii) Labor productivity

Another problem with the supply involves comparing the labor productivity of RNF activities with those in different sectors of the economy. The evidence shows that in comparison to larger enterprises, smaller enterprises typically have lower labor productivity on average. Several research studies have discovered a direct correlation between the labor resources (quantified by the number of adults) within a household and its involvement in the RNF (Davis et al., 2007).

(iii) Capital productivity of rural non-farm activities

Another concern is if RNF enterprise utilizes capital as effectively as other enterprises. During the 1960s, it was suggested that small-scale, labor-intensive

operations would require both more labor and more capital compared to larger-scale operations. Therefore, they claimed that these small-scale, labor-intensive tasks would have lower output to capital ratios and thus be less efficient than the larger, more capital-intensive businesses (Choi, 2001).

(iv) Income enhancement

The proof indicates that RNF revenue plays a crucial role in the household economy and is also essential for ensuring food security by increasing food access. This income source can also help in avoiding quick or excessive urban growth and degradation of natural resources from being overused (Reardon et al., 2006).

(v) Enhanced Inputs productivity

During times of limited credit access, the activities of RNF impact agricultural performance by giving farmers the funds needed to purchase inputs that improve productivity. Additionally, enhancing RNF activities within the food system (such as agro processing, distribution, and providing farm inputs) can improve farmers' profitability by boosting input availability and facilitating access to market channels. Improved food system performance leads to higher incomes in rural areas and reduced prices for urban food. Numerous studies have shown a positive link between agricultural productivity growth and non-agricultural employment at both national and regional levels, as well as within states at the district level, according to various researchers (Vaidyanathan, 1968; Unni, 1991; Mahendra Dev, 1990; Jayraj, 2004; Singh, 1991).

2.4 Models of Farm and Non-Farm Linkage

Rural farm and non-farm linkages are critical in shaping the impacts of policy and market changes on rural economies. In towns and villages, commodity and factor markets transmit the impacts of exogenous shocks from directly affected households to others in the local economy, creating local income multipliers. Market linkages between towns and villages then diffuse local impacts into larger economies such as regional ones, setting in motion income multipliers and local general-equilibrium feedbacks there, and possibly generating feedbacks to the village or town originally affected by

the income shock. Understanding the nature of farm/non-farm growth linkages is a first step in designing policies and programmes to exploit these linkages and promote broad-based economic growth in least-developed countries (LDCs), and rural industrialization.

Though the linkage between the farm and non-farm sectors have existed from the age of barter system, but with technological advancement this linkage is getting stronger and multidimensional. Agriculture plays an important role in promoting the growth and diversification of the non-farm sector in the rural areas as it uses more inputs like modern agricultural implements and chemical fertilizers. On the other hand agriculture supplies its output to the agro-processing industries. Also there may be a possibility of re-investment of the profit in one sector into the other sector. The inter-linkage between the farm and non-farm sector becomes important as the agricultural growth promotes growth and employment opportunities in the non-farm sector in the rural economy.

Beyond production and consumption linkages, there may be other less direct but equally important inter-sector linkages in the rural economy such as:

- (i) Financial capital linkages, or investment linkages, allow locally accumulated capital to be reinvested locally and so act to capitalize rural areas (e.g Reardon et al. 1994).
- (ii) Human capital linkages allow skills learnt in non-farm sectors to improve agricultural productivity (e.g. Timmer, 1995). Likewise, improved nutrition from more advanced agriculture will have knock-on effects on labor productivity in other sectors.
- (iii) Labour linkages, Hart (1998) suggests that the persistence of part-time subsistence farming can lower the cost of living and therefore lower the cost of rural labour, contributing to multi-sectoral growth.
- (iv) Social capital linkages, likewise development in market and business networks in one sector will help economic development across other sectors too (e.g. Timmer, 1995).

2.5 Empirical Evidence of Rural Non-Farm Development

Studies based on observation consistently show the important role rural non-farm activities play in reducing poverty and increasing household income. Reardon et al. (1998) discovered that non-farm income made up 30% to 50% of rural household income in Sub-Saharan Africa. In the same manner, Lanjouw and Feder (2001) found that approximately 40% of rural household income in Latin America was derived from non-farm sources. These studies highlight how the rural non-farm economy (RNFE) is crucial in increasing household income and alleviating poverty.

Moreover, signals from India's data indicate that rural non-farm jobs are essential for reducing poverty. According to a study conducted by Lanjouw and Shariff in 2004, non-farm income played a significant role for low-income households, offering them a crucial source of income that served as a defense against agricultural setbacks. This suggests that encouraging non-agricultural activities can be a successful approach for alleviating poverty in rural regions.

The RNFE plays a crucial role in providing jobs in rural areas, particularly in areas with scarce or seasonal agricultural employment. Haggblade, Hazell, and Reardon (2007) conducted an extensive research and discovered that non-agricultural tasks were a major source of employment for many rural workers in various regions. In South Asia, around 40% of rural employment comes from the non-farm sector, compared to approximately 25% in Sub-Saharan Africa.

Evidence from world experience also demonstrates that the RNFE provides employment chances for various demographics, such as women and youngsters. For example, research conducted in Bangladesh and Kenya has shown that non-agricultural activities offer important job prospects for women, who face barriers to accessing agricultural work due to social and cultural factors (Khatun & Roy, 2012; Escobal, 2001).

Engagement in non-farm activities enhances the economic resilience of rural households by providing diversified income sources that can buffer against agricultural risks. Empirical studies in various regions highlight this role of the RNFE. For example, a study in Ethiopia by Davis et al. (2010) found that households with diversified income sources, including non-farm activities, were better able to cope with adverse shocks such as droughts and price fluctuations. Similarly, research in Vietnam by Minot,

Epprecht, and Anh (2006) indicated that non-farm income helped households manage risks associated with agricultural production and market volatility.

The connection between activities outside of farming and agricultural productivity is intricate and has many different aspects. Certain research studies indicate that engaging in non-farm activities can have a positive effect on agricultural productivity. This is because it allows farmers to earn extra money that can be used to invest in farm inputs and technology. A study conducted in China by de Janvry and Sadoulet (2001) discovered that non-farm income allowed families to make investments in agricultural enhancements, resulting in higher farm productivity.

Nevertheless, other research points out possible adverse effects, like a lack of workers in farming caused by people moving to non-agricultural positions. In Mexico, Taylor and Yunez-Naude (2000) discovered that the shift of workers to non-agricultural sectors resulted in a decrease in labor supply for farming, impacting agricultural productivity adversely. These contradictory results highlight the importance of implementing equitable policies that aid both agricultural and non-agricultural industries.

Research findings also emphasize the significance of connections between rural and urban areas in the growth of the RNFE. Enhanced transport, communication, and market opportunities enable rural non-farm businesses to become part of larger economic networks. Owusu's (2007) research conducted in Ghana showed that improved road infrastructure and market accessibility had a positive impact on the productivity of rural non-farm businesses, increasing their income and job opportunities.

The basic concept of the popular growth model is that the economy transitions from agriculture to industry in the early stages of development, then moves towards the service sector to support further industrialization in the next phase of growth. Yet in India, the service industry has surpassed the rural industrial sector as it predominantly supports the expanding agricultural sector.

On the other hand, rural employment in Bangladesh saw a yearly growth of 1.9 percent from 1983/84 to 1990/91, while non-farm employment grew at a rate of 4 percent per year (The World Bank, 2023). In the Central and Eastern European countries, rural households often rely on income from non-agricultural sources for 30-

50% of their earnings (Davis and Gaburici; Greif 1997). This is comparable to the ratio seen in southern Africa (approximately 40% (Ellis) and in South Asia and Latin America, where rural households rely about 60% on non-farm earnings (Lanjouw; Reardon et al.). The proportion of rural residents participating in non-agricultural jobs differs significantly, with Poland at 7% and Slovenia at 65%.

In the majority of Central and Eastern European countries, 5-20% of family farms are involved in non-agricultural activities. Regions with extensive agriculture have the highest percentage of businesses engaging in additional activities (15-20%). In countries with dispersed rural populations (such as Bulgaria, Poland, Romania, and FYR Macedonia), there is a strong need for more job opportunities, but they are limited in availability.

Evidence from various continents over the past ten years indicates an increasing portion of household income is coming from sources other than farming. Recent studies indicate that in sub-Saharan Africa and Latin America, non-farm activities contribute to 40-45% of rural household income, while in South Asia it accounts for 30-40%, mainly derived from local rural sources as opposed to urban migration (Barrett et al., 2001; Bryceson and Jamal, 1997; Reardon et al., 2001; Lanjouw and Shariff, 2001; Seddon and Subedi, 2000). Patterns of diversification like these could potentially reshape the foundation of rural economies and societies.

Hoang, Pham, and Ulubaşođlu (2014) propose that diversification can serve as an effective method for reducing poverty in Vietnam. Having an extra member of the household working in a nonfarm activity can reduce the likelihood of poverty by 7–12 percent and may also boost household spending by as much as 14 percent within two years. Also, their findings suggest that a decrease in hours spent working on the farm as a result of working non-farm jobs does not result in a decrease in income obtained from agricultural tasks. Bezu, Barrett, and Holden (2012) found a significant correlation between a household's non-farm income share and its future expenditure growth, regardless of their socioeconomic status in Ethiopia. However, richer households saw a greater benefit from off-farm work compared to poorer households.

Research suggests that in the Balkans, rural households rely on non-farm income for 30-50% of their earnings, a proportion similar to findings in southern Africa (40%) and South Asia and Latin America (around 60%). The percentage of population

engaged in non-agricultural tasks shows significant variation, from approximately 7% in Poland to 65% in Slovenia.

Additionally, research shows that creating employment opportunities locally through rural non-farm development can decrease migration from rural to urban areas. An example from Indonesia by Suryahadi et al. (2009) showed that the expansion of non-agricultural rural businesses decreased the necessity for rural residents to relocate to urban areas for employment, which helped promote even regional growth.

2.6 Reviews on Previous Studies

May Zin Thant (2009) studied the significance of non-agricultural enterprises in the progress of rural areas, with a specific focus on two villages in Htantapin Township. The study utilized a combination of quantitative data from household surveys and qualitative insights from interviews with local business owners and key informants, employing a mixed-method approach. The research emphasized the important role of non-agricultural enterprises in rural households by expanding income and lessening reliance on agriculture, especially in times of farming unpredictability. Even with these advantages, the study found hindrances to the growth of non-agricultural businesses in rural areas, including restricted capital, insufficient infrastructure, and a shortage of business expertise and education. In order to tackle these problems, the research suggests enhancing rural infrastructure, increasing availability of financial services, and offering specialized business training programs to promote the expansion of non-agricultural activities and improve rural development.

Vatta and Sidhu (2010) conducted research on the impact of rural non-farm jobs on income distribution and poverty reduction in Punjab, India. This study examined the impact of non-farm jobs on income diversification and poverty reduction in rural homes. The research utilized both quantitative household surveys and qualitative interviews to assess how non-farm employment affects rural income inequality and poverty levels. The results showed that non-farm jobs are important for boosting household income, decreasing reliance on agriculture, enhancing financial stability, and easing poverty. Nevertheless, the research also uncovered obstacles like restricted entry to qualified non-agricultural work and uneven allocation of job prospects that impeded the complete advantages of non-farm employment in rural regions. Vatta and Sidhu

suggested strategies that prioritize increasing skill development, enhancing access to non-agricultural employment, and investing in rural infrastructure to support inclusive growth and reduce poverty.

Pal and Biswas (2011) researched how the farm and non-farm sectors diversified and contributed to the structural transformation of India's rural economy. This study examined the transition from conventional agriculture-focused livelihoods to a wider range of income-generating pursuits, investigating the roles of both sectors in the rural economy's evolution. Employing a mixed-method approach, the research integrated quantitative data analysis with qualitative case studies to evaluate the evolving trends of employment and income distribution in rural areas. The results showed that expanding into industries outside of farming has been important in decreasing rural poverty and promoting economic development. Nevertheless, the research also found structural obstacles such as restricted credit access, insufficient infrastructure, and regional inequalities that hinder the complete development of non-agricultural ventures. Pal and Biswas suggested strategies to enhance infrastructure, financial inclusion, and rural entrepreneurship to promote the development of both agricultural and non-agricultural sectors in rural areas. This study is significant for comprehending the processes of rural development in India and offering guidance to policymakers on promoting structural transformation in rural economies.

Rashidpour (2012) studied how non-farm activities affect rural sustainable development in West Azerbaijan Province, Iran. This research examined how non-farm activities contribute to economic stability and sustainability for rural households. The study employed a combination of quantitative surveys and qualitative interviews to collect thorough information on household income and employment trends. The study showed a notable connection between non-agricultural tasks and rural progress, demonstrating that households involved in these tasks saw enhanced income variety and decreased economic risk. Important aspects affecting sustainable rural development were access to funds, building of infrastructure, and gaining skills. Nevertheless, the research pointed out that obstacles such as restricted financial resources and insufficient infrastructure impede non-farm activities from reaching their maximum potential. Rashidpour recommended that leaders prioritize enhancing rural infrastructure, increasing credit availability, and offering skill development programs to boost the

development of non-farm sectors and encourage long-term sustainability in rural regions. The research is important for its impact on comprehending how non-agricultural activities can promote sustainable development in rural areas, offering valuable perspectives for upcoming policy decisions and studies.

Aung Nyi Nyi Win (2022) investigated how farm and off-farm activities contribute to rural development in model villages of Meiktila Township, Myanmar. This research examined the ways in which these actions impact the diversification of household income and the growth of rural economies. By employing both quantitative household surveys and qualitative interviews, the study gathered information on employment trends, sources of income, and ways people sustain their livelihoods. The results uncovered a notable link between non-agricultural activities and the financial well-being of households, indicating that income from off-farm sources is vital in alleviating rural poverty and managing agricultural risks. Nevertheless, the research found obstacles like restricted availability of financial services, insufficient infrastructure, and a deficit in business skills that impede the maximum effectiveness of off-farm endeavors. Aung Nyi Nyi Win proposed improving rural infrastructure, increasing access to financial services, and offering skill development programs to boost non-farm employment and enhance rural livelihoods. This research adds to our knowledge of how combining farm and off-farm activities can promote rural development, providing valuable information for decision-makers and upcoming studies on rural development tactics.

CHAPTER III

OVERVIEW OF RURAL ECONOMY IN MYANMAR

3.1 Rural Economies in Myanmar

Agriculture, as the backbone of Myanmar's rural economy, employs approximately 70% of the rural workforce. Rice is the principal crop, making Myanmar one of the world's largest rice producers, particularly concentrated in the Ayeyarwaddy Delta region. Alongside rice, the cultivation of pulses, beans, maize, and various fruits and vegetables contributes substantially to both domestic consumption and export revenues. Myanmar is also a leading global exporter of pulses and beans, with oilseeds, sugarcane, and rubber serving as crucial cash crops that further bolster rural incomes.

In addition to crop farming, livestock and fisheries constitute significant components of rural livelihoods. Many households in rural Myanmar engage in livestock farming, raising cattle, pigs, and poultry, which not only supplement their incomes but also provide essential food security. The country's rich aquatic resources, particularly in the Ayeyarwady and Rakhine regions, support thriving inland and coastal fisheries that are vital to both local economies and national food supplies.

Agriculture accounts for about 37.8% of Myanmar's GDP. The sector is crucial for the livelihoods of the rural population, which makes up around 70% of the total population. Rural areas in Myanmar face high poverty rates, with 44% in coastal areas and 40% in hilly regions. Infrastructure development has been slow, but there have been improvements since 2011, including better access to schools, roads, and electricity. However, the rural economy of Myanmar has also been shaped by the country's political and economic changes. Ongoing conflicts, particularly in ethnic minority regions, have disrupted agricultural production and displaced communities, contributing to the vulnerability of rural populations. Therefore, the significant challenges remain, particularly in ensuring equitable development and access to resources across the rural landscape.

On the other hand, there are high rates of landlessness, especially in the Delta and Dry Zone regions. Rural labor markets are characterized by low wages and surplus labor, although migration has been driving wage increases in some areas. Beyond

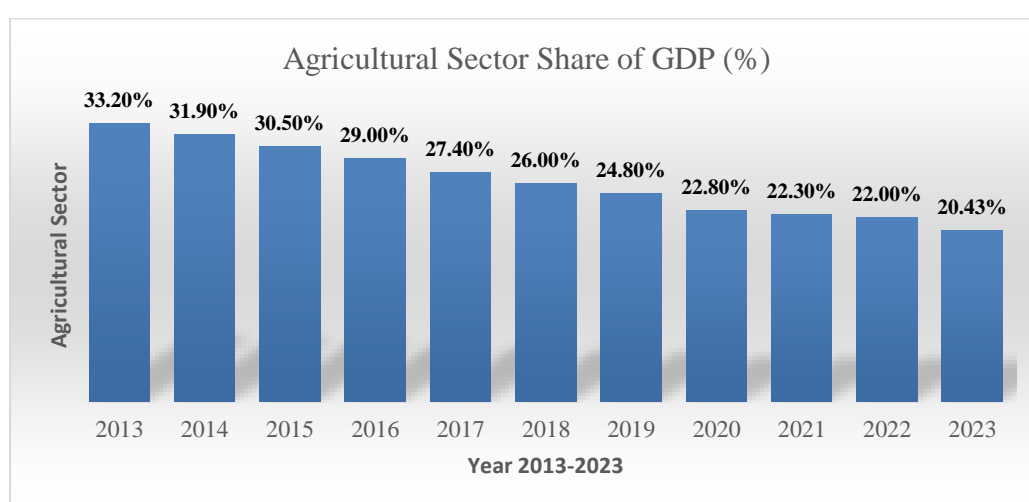
agriculture, the Rural Non-Farm Economy (RNFE) encompasses a wide array of activities that offer additional income sources and employment opportunities. These include small-scale manufacturing, trading, services, and transportation. Traditional crafts such as weaving, pottery, and wood carving are prevalent in rural areas, contributing to the diversification of the rural economy.

The underdevelopment of rural infrastructure, such as roads, electricity, and irrigation systems, poses a significant barrier to economic growth in Myanmar's rural areas. This lack of infrastructure restricts access to markets and limits opportunities for rural communities to engage fully in economic activities. Additionally, the limited availability of quality education and healthcare services further impedes the overall human development of the rural population, perpetuating cycles of poverty and inequality.

Poverty remains more pervasive in rural areas than in urban centers, with many rural households living below the poverty line. Subsistence farming is common, and land tenure issues exacerbate the challenges faced by rural communities. The absence of formal land titles for many smallholders leads to insecurity and disputes, further undermining the stability and productivity of the rural economy.

3.2 The Agricultural Sector's Share of GDP In Myanmar

Figure (3.1) The Contribution of Agriculture to GDP (2013-2023)



Source: Statistical Year 2013-2023

In Myanmar, the percentage of GDP attributed to the agricultural sector decreased gradually from 33.2% in 2013 to 20.43% in 2023, as depicted in Figure (3.1).

This signifies a change in the economy's structure, as agriculture's share of the total GDP decreases, possibly due to the expansion of industries or services.

The decrease in the agricultural industry's share of GDP can be linked to various factors like economic diversification, urbanization, changes in employment structure, and natural limitations. As economies progress, they typically move away from relying predominantly on agriculture to include a wider range of sectors like manufacturing, services, and technology. In this scenario, industries such as manufacturing, services, and technology may have experienced faster growth compared to agriculture, resulting in a decreased contribution of the agricultural sector to GDP.

With the rise of urbanization, more individuals are transitioning from rural regions to urban areas, where they mainly participate in industrial or service-related occupations. This movement of people leads to a decrease in labor available for farming, resulting in a smaller percentage of GDP coming from agriculture. As nations progress, workers usually transition from low-paying agricultural positions to better-paying roles in sectors like services or manufacturing. This change decreases the total impact of agriculture on the economy while boosting other sectors.

Factors like land degradation, water scarcity, and climate change could constrain agricultural production in certain regions. This may limit the sector's capacity to expand and vie with more energetic sectors of the economy (Start, 2001). The decreasing impact of the agricultural industry on GDP is a common characteristic of economic progress, in which more active and valuable sectors play a key role in stimulating growth. Though agriculture continues to be crucial for food security and rural incomes, other industries frequently experience more rapid growth, leading to a decrease in the proportion of agriculture within the broader economy.

3.3 The Role of the Rural Non-Farm Economy (RNFE) in Myanmar

Myanmar's rural economy relies mainly on agriculture, however, the development and expansion of the Rural Non-Farm Economy (RNFE) are essential for enhancing the quality of life and decreasing poverty in rural regions. RNFE includes a wide variety of tasks, spanning from small manufacturing and sales to industries like transportation and hospitality. Research conducted by the World Bank, IFPRI, and other global organizations has shown that non-farm activities play a notable role in

diversifying income, creating employment opportunities, and improving resilience to agricultural risks.

Although agriculture is still important for Myanmar's rural economy, numerous households have started to engage in non-agricultural activities more often because of declining agricultural profits and the dangers related to climate change. As stated in the QSEM series by the World Bank, RNFE has increased consistently, offering crucial sources of income for households, particularly those lacking access to agricultural land.

IFPRI acknowledges that RNFE accounts for over 30% of income in rural households, highlighting the growing importance of non-agricultural sectors like manufacturing, services, and trade in the economy. Ayeyarwady and Shan State are key regions that have seen a growing importance of RNFE due to improved infrastructure and market opportunities.

The ILO highlights the significance of RNFE for generating rural jobs. Non-agricultural jobs have increased in industries such as small-scale production, building, and travel, especially in rural tourist spots like Bagan and Inle Lake.

IFPRI's research shows that rural women are now more involved in the RNFE, securing employment in small businesses, handicrafts, and trade. NGOs have supported microfinance programs enabling rural households to generate additional income opportunities.

One of the key effects of RNFE in Myanmar has been its contribution to reducing poverty. Research conducted by IFAD and the World Bank demonstrates how non-agricultural activities have supported families in breaking out of poverty by offering consistent sources of income all year round, especially during times when farming is not as profitable.

The QSEM program shows a clear link between participating in non-farm activities and decreasing poverty rates. Families participating in RNFE can more easily prioritize spending on education, healthcare, and better housing, leading to sustained decreases in poverty.

Despite the clear advantages of RNFE, its expansion is limited by various factors. Studies conducted by NGOs and international organizations have pinpointed main obstacles such as lack of financial access, skills training, and infrastructure shortcomings. Numerous rural families do not have affordable credit or financial

services available to them, which hinders their capacity to invest in activities outside of farming. Many people in rural areas are unable to participate in more profitable non-farm activities due to a shortage of vocational training and education. More funding is required for enhancing skills development and vocational training to help in expanding RNFE. Inadequate infrastructure, such as inconsistent power supply and restricted road networks, restrains the development of rural enterprises. This poses a specific challenge in isolated regions, where reaching markets is not easy. NGOs and global organizations are striving to tackle these problems through the expansion of microfinance access, backing infrastructure development, and improving rural education and training programs.

3.3.1 Expanded RNFE Indicators in Myanmar (2013-2022)

Table (3.1) shows the metrics regarding the Rural Non-Farm Economy (RNFE) in Myanmar during the period spanning from 2013 to 2022. It emphasizes the role of RNFE in boosting household income, generating employment in RNFE industries, identifying important non-farm sectors, and its effect on reducing poverty in RNFE areas.

The proportion of household income coming from RNFE rose from 25% in 2013 to 35% in 2019, indicating the increasing significance of non-farm activities in rural regions. Nevertheless, following its peak in 2019, it experienced a slight decrease to 34% in 2020, and continued to drop to 31% by 2022. This small decrease could be a result of economic disturbances, possibly caused by external issues like the COVID-19 pandemic or political uncertainty, affecting non-agricultural activities in rural areas.

Employment outside of agriculture in RNFE saw a consistent increase from 3.5 million individuals in 2013 to 5.0 million in 2022, showing a steady growth in job prospects. This showcases the increasing variety of job opportunities in the rural economy, with more rural residents now employed in trades, transportation, and small-scale production.

The main non-farm sectors contributing to RNFE have changed over time. During the years 2013-2015, trade, small-scale manufacturing, and handicrafts were the prevailing industries. Starting in 2016, industries such as tourism, transportation, and construction gained greater importance. Retail and services were also important

contributors during the entire timeframe. This expansion into industries such as tourism and services demonstrates the increased range of economic opportunities for rural families.

The decrease of poverty in RNFE regions doubled from 8% in 2013 to 16% in 2020, demonstrating the beneficial effect of non-farm activities on alleviating rural poverty. Yet, there has been a small change from 2021 onwards, with the decrease in poverty rates dropping to 15% in 2021 and then declining further to 14% in 2022. The decrease in poverty alleviation could be related to economic difficulties or interruptions in the main RNFE sectors in recent years. This information indicates that RNFE is now a more significant source of income and employment for rural families in Myanmar.

Table (3.1) RNFE Indicators in Myanmar (2013-2022)

Year	RNFE Contribution to Household Income (%)	RNFE Employment (Million People)	Key Non-Farm Sectors	Poverty Reduction in RNFE Regions (%)
2013	25	3.5	Trade, Small-scale Manufacturing	8
2014	27	3.7	Handicrafts, Transportation	9
2015	29	3.9	Retail, Construction	10
2016	30	4.1	Tourism, Trade	12
2017	32	4.3	Small Manufacturing, Services	13

Table (3.1) RNFE Indicators in Myanmar (2013-2022) (Cont.)

2018	33	4.5	Handicrafts, Trade	14
2019	35	4.7	Transportation, Tourism	15
2020	34	4.8	Retail, Construction	16
2021	32	4.9	Small Manufacturing, Services	15
2022	31	5.0	Trade, Handicrafts	14

Sources: Based on reports by the World Bank, IFPRI, ILO, and IFAD

3.3.2 RNFE Context in Myanmar

Myanmar's Rural Non-Farm Economy (RNFE) has become a significant part of rural residents' livelihoods. Non-farm activities have become crucial for generating income and providing employment as agricultural productivity varies because of natural disasters, climate challenges, and market volatility. In different regions and states of Myanmar, rural households participate in a variety of non-agricultural sectors including manufacturing, handicrafts, tourism, transportation, and retail. These tasks not just broaden revenue streams but also aid in the growth of the nearby economy and ability to withstand agricultural uncertainties.

(i) Small-Scale Manufacturing

Small-scale manufacturing has become an important non-farm activity in various rural areas of Myanmar. This involves the making of textiles in Chin State and Bago Region, where women use traditional methods to produce handwoven fabrics. These fabrics are both retailed in nearby markets and distributed to different areas. The production of gold leaf in Mandalay Region is another instance of small-scale manufacturing that plays a significant role in generating non-farm income. Craftsmen

and artisans are involved in the intricate process of producing gold leaf for religious rituals and ornamental uses.

(ii) Tourism and Hospitality

In regions such as Shan State and Bagan, the tourism industry is crucial as it provides important sources of non-agricultural income through various services. In Inle Lake (Shan State), residents participate in leading visitors, organizing boat trips, and offering accommodation services like guesthouses and dining options. Numerous families also create and vend handmade goods such as ceramics and classic woven products to visitors. Likewise, eco-tourism is on the rise in Kachin State as well, as locals provide trekking services and lodging options for travelers heading to places such as Putao.

(iii) Handicrafts and Artisan Work

Many rural families in Myanmar participate in handicraft production such as pottery and basket weaving, which is common throughout the country. Crafts made in areas such as the Ayeyarwady Delta and Rakhine State are sold in local markets as well as in urban areas. Handicrafts not just generate revenue but also safeguard traditional customs and cultural legacy. Weaving traditional clothing is a popular non-farm activity in Chin State, and the items are sold in local and international markets.

(iv) Agro-Processing

Agro-processing plays a crucial role in the RNFE, especially in areas with high agricultural productivity. In Bago and Sagaing Regions, rural households are involved in activities such as rice milling and oilseed processing. These businesses enhance the worth of agricultural products, allowing rural communities to generate extra income besides growing crops. Rice production regions heavily involve rural families in the entire process, from harvesting to marketing, especially in the rice milling sector.

(v) Retail and Trade

In areas such as Ayeyarwady and Mandalay, the non-farm sector of small-scale retail has grown to be essential. Rural households run small shops that sell necessary

goods, farming supplies, and household products. During the off-season in agriculture, these stores are frequently the main source of income for families. Rural inhabitants in regions with improved market connectivity, like Yangon and Mandalay, are engaged in the commercial exchange of agricultural products such as beans, pulses, and fish. The creation of nearby markets has increased these non-agricultural businesses, offering steady demand for sellers in retail.

(vi) Rural Construction

The need for rural infrastructure such as roads, schools, and public buildings has led to employment opportunities in construction industries in different areas. During the non-agricultural season, many rural workers in various parts of Myanmar secure jobs in construction projects. These jobs are essential for individuals looking to earn extra money aside from farming. The construction sector in Sagaing Region and Mandalay Region has experienced a notable increase in employment opportunities, fueled by investments in rural infrastructure and public services.

(vii) Fish Processing

Regions such as Rakhine State and Ayeyarwady Region heavily depend on fishing and processing fish. Rural fishing households also participate in preserving fish by drying, smoking, and salting it for both local consumption and exportation. Fish processing enhances the fishing sector by increasing its economic worth and creating job opportunities for women and families, which greatly boosts non-agricultural income. These activities are strongly connected to nearby markets, where processed fish products are bought and sold both locally and in surrounding areas.

(viii) Transportation Services

In areas with established tourism, such as Bagan and Inle Lake, rural inhabitants provide transportation services such as boat excursions, taxi rides, and bicycle rentals. These services are mainly for tourists and play a key role in the local non-agricultural economy. The increase in tourism in these areas has opened up many chances for families to participate in income-generating activities connected to transportation, ensuring a steady income all year round.

3.4 Importance of RNFE for Rural Transformation

In Myanmar's countryside, there is a growing need for alternative sources of income and economic stability due to issues like low agricultural productivity, climate change, and inadequate market access. Global institutions such as the World Bank, IFPRI, and ILO have underlined the significance of RNFE in promoting rural development and reducing the vulnerabilities linked to dependence on agriculture.

One of the main advantages of the RNFE is its contribution to diversifying the economy. In rural areas of Myanmar, where agriculture has traditionally been the main economic activity, households relying solely on farming are at risk from external shocks like changing crop prices, climate-triggered disasters, and soil depletion. By introducing non-agricultural activities like small-scale manufacturing, retail trade, and services, rural households are able to reduce risks by offering different sources of income.

Expanding into other non-agricultural industries also helps lessen the effects of the agricultural off-season, which usually restricts job availability for rural families. Non-agricultural activities like tourism and handicrafts provide steady employment opportunities all year long, ensuring household income remains stable throughout the year. This steady stream of money alleviates the financial stress rural communities encounter, allowing them to prioritize investments in education, healthcare, and housing.

The RNFE plays a major role in creating jobs, especially for young people and women in rural areas who have few chances in agriculture. The International Labour Organization (ILO) states that nearly half of rural employment in Myanmar comes from non-farm activities. Industries such as small-scale manufacturing, rural construction, and tourism have taken on more rural workers, offering additional job options apart from agriculture.

Moreover, it has been demonstrated that RNFE plays a vital role in reducing poverty. Studies conducted by the World Bank and IFAD have shown that rural families who participate in non-agricultural activities have a lower risk of falling into poverty due to having more secure and varied sources of income. This is especially crucial in areas with elevated levels of poverty, as non-agricultural jobs offer a way to escape

poverty by allowing households to make investments in productive resources and education.

The RNFE's expansion has also helped promote regional growth through its support for infrastructure investments and improved market entry. In places like Shan State, the growth of tourism at Inle Lake has resulted in better roads, electricity, and market amenities, benefiting both the tourism industry and local agricultural and non-farm businesses. Likewise, in Mandalay and Ayeyarwady, investments in infrastructure have been influenced by non-agricultural activities like retail trade and small-scale manufacturing, which contribute to overall economic growth.

Nevertheless, infrastructure obstacles persist in distant areas such as Chin State and Rakhine State, where inadequate roadways and limited electricity availability impede the development of non-agricultural enterprises. It is crucial to address these infrastructure deficiencies in order to realize the complete potential of RNFE in Myanmar.

The Rural Network for Gender Empowerment (RNFE) has shown to be an essential tool for empowering women in rural areas of Myanmar. Females, who frequently face restricted access to land and farming resources, have discovered prospects in sectors outside of agriculture including crafts, textile making, and small retail businesses. Engaging in these activities allows women to add to the family's finances and achieve financial autonomy. The World Bank's QSEM series shows that women in Chin and Bago regions have significantly benefited from non-agricultural activities, especially in areas where traditional weaving and handicrafts are common. Additionally, RNFE initiatives encourage social integration by offering chances for marginalized populations, such as landless families and rural young people. Non-agricultural tasks enable these communities to overcome the constraints of farming and explore fresh economic prospects in commerce, services, and small-scale manufacturing.

3.4.1 Income and Employment Opportunities for the Rural Non-Farm Economy

The Rural Non-Farm Economy (RNFE) plays a crucial role in increasing income and job prospects in rural regions, particularly in developing nations such as Myanmar. With challenges like climate change, market fluctuations, and urbanization

affecting the agricultural sector, the RNFE becomes a crucial option for rural households looking for various sources of income.

The RNFE includes a range of activities beyond conventional farming, such as commerce, production, services, and crafts. These industries offer necessary job opportunities that can reduce poverty and strengthen economic stability in rural areas. For example, according to Reardon et al. (2007), there was a notable increase in rural non-farm employment in Myanmar from 2013 to 2022, leading to higher household income levels. The proportion of household income attributed to non-farm activities by the RNFE increased from 25% in 2013 to 35% in 2019, showing a greater dependence on these sources for livelihood (World Bank, 2022).

The non-farm economy in rural areas of Myanmar offers a great chance to boost income and create jobs. With the decrease in traditional farming jobs, engaging in non-agricultural activities can become crucial for rural families, helping them to maintain economic stability and alleviate poverty. Yet, it is crucial to confront the obstacles confronting the RNFE in order to guarantee its expansion and longevity. By creating a supportive setting for non-farm businesses, policymakers can utilize the potential of the RNFE to improve rural livelihoods and boost economic development.

3.4.2 Challenges & Opportunities to Promote Rural Non-Farm Economy for Regional Development

(i) Challenges to promote Rural Non-Farm Economy for Regional Development

Limited access to finance poses a major obstacle for rural households seeking to participate in non-farm activities. In rural regions of Myanmar, formal banking services are few and far between, with less than 2% of total bank loans allocated to agriculture and non-farm sectors.

Rural families frequently depend on informal moneylenders or microfinance organizations, providing small loans with typically high interest rates. Rural entrepreneurs face challenges in investing in non-farm businesses, buying equipment, or growing their operations due to the lack of affordable credit access. Increasing the reach of microfinance initiatives and incorporating digital financial services could enhance credit accessibility for rural enterprises and stimulate growth in RNFE.

Inadequate infrastructure is a key obstacle for the development of the RNFE in Myanmar. Numerous rural areas face challenges with dependable electricity, quality roads, and opportunities to reach markets. Lack of adequate roads and transportation infrastructure makes it challenging for rural producers to move their products to urban markets, inhibiting their participation in regional and national economies.

Moreover, the lack of reliable electricity access also acts as a barrier to the growth of small-scale manufacturing and agro-processing businesses that depend on a steady supply of power.

Enhancing infrastructure is crucial for supporting the expansion of non-agricultural endeavors. Investing in roads, electrification, and digital infrastructure could make it easier for rural businesses to reach markets and improve productivity.

Many rural populations in Myanmar face significant challenges due to a lack of vocational skills and education. Skills needed for non-farm activities like small-scale manufacturing, services, and tourism are typically lacking in rural areas. Limited vocational training opportunities in rural areas result in a lack of access to education beyond primary level for many young people.

The lack of these abilities hinders rural workers from transitioning to higher-earning non-agricultural fields. Broadening vocational training initiatives that concentrate on skills that are applicable to the local economy, such as carpentry, tourism services, and agro-processing, could offer rural families improved chances to participate in RNFE.

Restricted entry to the market poses an additional obstacle to promoting RNFE in Myanmar. In a lot of rural areas, the distance from cities, along with insufficient transportation systems, hinders rural producers from selling their goods beyond their local communities. Moreover, numerous small-scale producers are unaware of market opportunities and trade networks that could support the growth of their businesses.

Improving infrastructure and enhancing trade connections is crucial in promoting non-farm businesses by enabling them to access both local and international markets. Government-led programs, with the backing of NGOs and international organizations, could have a crucial impact on the establishment of rural market connections.

(ii) Opportunities to promote Rural Non-Farm Economy for Regional Development

One of the most optimistic prospects for RNFE expansion lies within the tourism and hospitality industry. Places like Bagan, Inle Lake, and Kachin State have experienced significant increases in non-agricultural tourism activities, such as hotels, transportation, and crafts. These activities generate job opportunities for rural families and have the potential to enhance overall regional growth.

By investing in tourism infrastructure like hotels, eco-tourism projects, and transportation services, rural communities in Myanmar can benefit from the country's abundant cultural and natural assets. Extending tourism to regions such as Mon State and Chin State could create fresh economic chances for rural households.

Small-scale manufacturing and agro-processing have great potential for RNFE growth, particularly in regions with robust agricultural foundations such as Ayeyarwady and Bago. Rural households can enhance their income by adding value to raw materials through establishing processing facilities for local agricultural products like rice milling, oilseed processing, and fish preservation.

Investing in equipment, training, and market access for small-scale manufacturing can boost job creation and improve local economies. In addition, establishing agro-processing facilities in close proximity to agricultural centers could decrease losses after harvesting and establish viable industries in rural areas.

Services in rural areas, such as retail, transportation, and small-scale financial services, play a crucial role in sustaining local economies. As rural populations expand and develop various sources of income, the need for services goes up. Expanding rural transportation networks and increasing access to retail, finance, and information technology services would generate employment opportunities and boost regional economic growth.

Moreover, rural communities are being provided with new opportunities through digital services and mobile technology. Improving digital infrastructure in rural areas can help rural businesses reach larger markets, utilize financial services, and engage in online commerce platforms, contributing to growth outside of agriculture and development in the region.

The Rural Non-Farm Economy (RNFE) in Myanmar offers great potential for facilitating local development. Yet, there are numerous obstacles to the advancement of RNFE, such as restricted financial resources, inadequate infrastructure, shortage of skilled workers, and difficulties in accessing markets. Addressing these obstacles necessitates collaboration among the government, NGOs, and international organizations, with a focus on enhancing infrastructure, broadening financial services, and establishing skills training initiatives.

Simultaneously, there are extensive chances to grow sectors other than farming, such as tourism, small-scale manufacturing, and rural services. By making strategic investments and implementing policies that promote RNFE expansion, rural areas in Myanmar have the potential to build more varied economies, alleviate poverty, and boost regional development.

3.5 Rural Development Efforts by Government & Non-Government Organizations

In the last ten years, both the Myanmar government and multiple non-governmental organizations (NGOs) have launched numerous programs in order to support rural development. The initiatives cover various areas including agriculture, infrastructure, financial inclusion, and health.

3.5.1 Government-Led Rural Development Initiatives

The Ministry of Agriculture, Livestock, and Irrigation (MOALI) has played a key role in enhancing agricultural productivity and rural livelihoods. The ADS was introduced by the ministry and ran from 2018 to 2023, emphasizing sustainable agriculture, climate resilience, and improved market connections. MOALI has also focused on land reform by implementing the National Land Use Policy, guaranteeing equitable land access for rural communities, and boosting rural incomes through value-added processing.

The Ministry of Border Affairs is dedicated to enhancing underdeveloped and conflict-ridden areas, with a specific focus on regions such as Kachin, Shan, Chin, and Rakhine States. The main goal of the Border Area Development Program is to improve the quality of life for ethnic minority communities by upgrading infrastructure like roads, schools, and healthcare facilities in marginalized areas.

The Ministry of Cooperatives and Rural Development is crucial in providing assistance to rural businesses and enhancing infrastructure. Initiated in 2022, the Smart Village Project focuses on enhancing infrastructure and promoting rural businesses in 45 villages in Myanmar, with each village allocated K60 million in funding. The project's main goal is to improve technology while also promoting environmental sustainability.

The Department of Rural Road Development, a crucial government entity under the Ministry of Cooperatives and Rural Development, has prioritized enhancing transportation infrastructure to link rural areas with markets, health centers, and educational institutions. This department plays a crucial role in improving market access for farmers and facilitating trade by constructing and up keeping rural roads.

3.5.2 Non-Governmental Organizations (NGOs) Contributions

Pact Myanmar, one of the most proactive NGOs in the country, has been active since 1997 and has covered 2,636 villages in 30 townships. Pact concentrates on microfinance, healthcare, renewable energy, and local governance, empowering rural communities through financial resources and capacity-building programs. Their microfinance initiatives allow small businesses and farmers to put money into their livelihoods.

Many global non-governmental organizations have played a part in advancing rural development in Myanmar. The World Bank's International Development Association (IDA) has given concessional loans and grants for rural infrastructure projects, such as the National Electrification Project. This program aims to bring electricity to distant villages, enhancing efficiency and availability of current amenities (The Borgen Project).

Helvetas, a non-governmental organization based in Switzerland, focuses on promoting sustainable agriculture and helping rural communities increase their sources of income. The project, Inclusive Development for Sustainable and Resilient Agriculture, works in Shan and Kachin States to assist farmers in implementing climate-resilient farming techniques and enhancing market access.

Save the Children has directed their efforts towards enhancing child health and nutrition in rural regions, as well as advocating for food security and livelihoods. Their initiatives bring together farming efficiency and feeding programs for children in rural areas such as Chin and Rakhine States (The Borgen Project).

The LIFT Fund is a multi-donor group aimed at decreasing poverty, improving food security, and encouraging financial inclusion in rural areas of Myanmar. LIFT's initiatives from 2019 to 2023 focused on enhancing climate resilience and enhancing financial service access, crucial for rural households to participate in agricultural and non-agricultural endeavors.

3.5.3 Sectoral Focus of Government and NGO Efforts

Table (3.2) shows the agricultural sector has seen substantial investment from both the government and NGOs.

Table (3.2) Government and NGO Rural Development Efforts (2013-2023)

Sector	Government Initiative/Organization	NGO Initiative/Organization	Regions/States Covered
Agriculture	MOALI: Agriculture Development Strategy (2018-2023)	Helvetas: Inclusive Agriculture for Sustainable Development	Nationwide, focus on Shan, Ayeyarwady, Kachin
Infrastructure	Ministry of Border Affairs: Border Area Development Program	IDA: National Electrification Project	Kachin, Shan, Chin, Rakhine
Financial Inclusion	Ministry of Cooperatives and Rural Development	Pact: Microfinance Services	Magway, Mandalay, Sagaing, Kayah
Healthcare	Ministry of Health: Rural Health Development	Médecins Sans Frontières (MSF): Health Access	Tanintharyi, Rakhine, Kachin

Sources: Compiled from government reports, LIFT Fund, Helvetas, and Pact Myanmar

MOALI has focused on updating agriculture with irrigation systems and extension services, while LIFT and Helvetas have assisted rural farmers through sustainable farming practices and increased market entry.

Infrastructure is a key focus area, particularly for the Ministry of Cooperatives and Rural Development and IDA. The enhancement of rural roads and electrification initiatives has boosted connectivity, allowing rural communities to reach markets and

services. Organizations such as Pact Myanmar have also played a role in helping renewable energy initiatives in rural communities.

Ensuring access to financial services continues to be a major obstacle for the progress of rural areas in Myanmar. Both the government and NGOs are tackling this issue by increasing the reach of microfinance programs. Pact Myanmar and the LIFT Fund have taken the lead in this area by providing rural households with small loans and financial services, allowing them to start businesses, invest in agriculture, or participate in non-farm activities.

3.6 The Background Information of Kyaiklat Township, Ayeyarwady Region

The Ayeyarwady Region, situated in the southwestern part of Myanmar, serves as a vital agricultural center and is one of the most densely populated regions in the nation. The economy relies mainly on agriculture, specifically rice cultivation, along with growing contributions from non-agricultural sectors like fishing, commerce, and small-scale industry. According to the latest 2022 estimate, around 6.5 million people resided in Ayeyarwady Region. This makes it the second most densely populated area in Myanmar, following the Yangon Region. Approximately 88% of the population resides in rural areas, emphasizing the importance of agriculture in their daily lives, with a population density of 176 people per square kilometer.

In terms of economy, the Ayeyarwady Region encounters socio-economic hurdles such as poverty and inadequate infrastructure development. A considerable number of people still live in poverty, lacking sufficient access to good healthcare and education. In spite of these obstacles, the area enjoys robust agricultural output and an expanding non-agricultural sector fueled by fisheries, aquaculture, and small-scale production.

Farming continues to be the mainstay of Ayeyarwady's economy, playing a significant role in the region's GDP. The area is known as the primary rice producer in Myanmar, commonly called the "Rice Bowl" of the nation. Paddy farming is dominant, along with secondary crops like pulses, beans, and oilseeds.

In the year 2022, agriculture made up around 32% of the region's GDP, with non-farm sectors like trade, fisheries, and small-scale manufacturing gaining significance. More than 80% of the cultivated land is dedicated to paddy farming, with

the area responsible for producing over half of Myanmar's rice. In Ayeyarwady, farmers are more and more using modern farming methods like smart farming and irrigation systems to increase productivity. The government's Agriculture Development Strategy (ADS) has helped in the utilization of new technologies, thereby enhancing crop yields and expanding market reach. Other important crops such as pulses, beans, and oilseeds are also grown, besides rice. The area is a significant supplier of seafood and fish products, such as shrimp and fish, that are important for local consumption and overseas trade.

The vast waterways of the Ayeyarwady Delta offer support for large fishing and aquaculture industries. Shrimp cultivation and the exportation of fish are important sources of revenue for the area. Improved market access and microfinance are fueling the growth of local industries such as food processing, handicrafts, and textile production. Improved road infrastructure has led to increased trade and retail operations. Non-farming households are increasingly relying on rural markets and small retail businesses as key sources of income.

Table (3.3) GDP Growth and Distribution (2013-2023)

Year	Agriculture Contribution (%)	Non-Farm Contribution (%)	Key Economic Activities
2013	65	35	Paddy farming, fishery, and small-scale retail
2016	60	40	Agriculture, trade, fisheries, and manufacturing
2019	55	45	Paddy production, aquaculture, and retail trade
2022	52	48	Paddy farming, trade, and small-scale industries

Sources: Data compiled from government reports and research on Myanmar's regional economy.

3.6.1 The Demographic Condition of Kyaiklat Township

Kyaiklat Township, situated in the Ayeyarwady Region, plays a crucial role as an agricultural center that makes a significant contribution to Myanmar's rice output.

The economy of the township heavily depends on agriculture, specifically rice farming, despite having a mostly rural population. In addition, there has been an increase in other industries like fishing and retail.

Table (3.4) Demographic Data of Kyaiklat Township (2019)

Category	Data
Total Population	186,140
Population Density	312 per km ²
Rural Population	85%
Urban Population	15%
Major Ethnic Groups	Bamar, Kayin
Predominant Religion	Buddhism

Source: Kyaiklat Township Profile (2019). Tsp Profiles GAD Kyaiklat.

The 2019 census shows that around 186,140 individuals reside in Kyaiklat Township, as indicated in table (3.4). With a population density of 312 individuals per square kilometer, the township is considered one of the most densely populated areas in the Ayeyarwady Region. Approximately 85% of the population lives in rural areas, underscoring the significance of agriculture in their everyday existence. The majority of Kyaiklat's population is made up of Bamar and Kayin ethnicities, with Buddhism as the main faith practiced.

The city is dealing with issues concerning its population composition, such as a high poverty rate in remote regions, restricted entrance to advanced education, and insufficient healthcare facilities. These elements play a role in the economic and social circumstances that impact the lives of Kyaiklat's inhabitants.

Kyaiklat Township is confronted with numerous socio-economic obstacles. A significant number of people living in rural areas rely on farming for their income, and there is limited availability of essential services such as healthcare and education. Even with these obstacles, progress has been made in these areas thanks to the work of local authorities and non-government organizations. Kyaiklat has access to 2 hospitals, 5 rural health centers, and 3 sub-rural health centers. Nevertheless, healthcare services

are not evenly distributed, leading to challenges for rural residents in obtaining sufficient medical care.

The township has 30 elementary schools, catering to a significant population of school-age children. Yet, the high literacy rate of 85% is compromised by a lack of opportunities for secondary and higher education. In spite of these constraints, enhancements in infrastructure and public services are beginning to enhance the quality of life in Kyaiklat Township. Government initiatives to increase educational and healthcare infrastructure have had a beneficial effect on the broader socio-economic environment.

Kyaiklat's economy is mainly based on agriculture, with a focus on rice farming. The town is situated in a strategic location within the Ayeyarwady Delta, making it a perfect spot for cultivating rice. The rich soil and ample water resources have led to increased agricultural productivity, establishing Kyaiklat as a prominent rice-producing region. Rice cultivation takes up most of the agricultural land in Kyaiklat.

Table (3.5) Agricultural Production in Kyaiklat Township (2019)

Crop	Total Area (acres)	Total Production (tons)
Rice	175,000	315,000
Pulses and Beans	30,000	50,000
Oilseeds	20,000	35,000

Source: Kyaiklat Township Profile, 2019

Based on Table (3.5), the township generates around 315,000 tons of rice each year, playing a vital part in fulfilling the needs of both the local community and the country as a whole. In recent years, rice yields have increased due to the implementation of modern irrigation practices and better farming techniques. In addition to rice, the town also grows various crops such as pulses, beans, and oilseeds. These crops offer additional revenue for farmers when not in their main growing season.

The non-agricultural industry in Kyaiklat Township is showing consistent growth, primarily driven by the fishing and retail sectors. The town's advantageous position close to the delta enables successful fishing and aquaculture sectors, with support from nearby markets for small-scale trade and retail enterprises. The act of fishing plays a significant role in the non-agricultural economy of Kyaiklat. Over 5,000

households participate in fishing, shrimp farming, and other aquaculture-related activities. These sectors are essential for both domestic use and overseas sales, providing substantial earnings for families in the area. Local economy is increasingly reliant on small retail businesses. Local markets offer a venue for farmers and fishermen to vend their produce, while small shops and trading hubs cater to the residents of the township.

Table (3.6) Infrastructure in Kyaiklat Township (2019)

Infrastructure Type	Data
Paved Roads (km)	50 km
Electrified Households	40%
Hospitals	2
Schools	30

Source: Kyaiklat Township Profile, 2019

Despite being agriculturally productive, Kyaiklat still faces challenges with infrastructure, especially in remote areas. The roads are not well-developed, and there is limited access to dependable electricity. Kyaiklat's network of paved roads spans 50 kilometers, mainly linking the city center with its outskirts. Nevertheless, numerous rural roads lack pavement, causing transportation challenges, especially in the rainy season. Just 40% of households in the township can rely on electricity, constraining household convenience and the development of small businesses.

Table (3.7) Types of RNFE Activities Across Regions and States in Myanmar

Region/State	Key Non-Farm Activities	Major RNFE Sectors
Ayeyarwady	Fishing, fish processing, small-scale manufacturing, retail	Fishing, Retail, Manufacturing
Yangon	Urban services, logistics, tourism, retail	Services, Tourism, Retail
Shan	Tourism (Inle Lake), agribusiness, handicrafts	Tourism, Agro-processing, Handicrafts
Mandalay	Gold leaf production, trade, construction, retail	Manufacturing, Trade, Construction
Bago	Basket weaving, rice milling, oil pressing	Handicrafts, Agro-processing
Rakhine	Fish processing, weaving, handicrafts	Fishing, Handicrafts
Kachin	Mining (jade), eco-tourism	Mining, Tourism
Chin	Weaving, animal husbandry	Handicrafts, Animal Husbandry
Mon	Rubber processing, tourism	Rubber, Tourism
Sagaing	Trade, construction	Trade, Construction

Sources: World Bank, IFPRI, ILO, and IFAD reports on Myanmar

CHAPTER IV

SURVEY ANALYSIS

4.1 Survey Profile

Thapyaychaung Village, situated to the west of Kyaiklat Township, consists of 256 households from nearly with a total population of 1,256. Kyaiklat Township is located in the Ayeyarwaddy Region of Myanmar, positioned in the southern part of the Ayeyarwaddy Delta, an area characterized by its fertile agricultural land and extensive network of rivers. The township is bordered by Dedaye Township to the east, Pyapon Township to the west, and Bogale Township to the south. In this study, over 50% of households are interviewed to analysis the objectives of the study.

The village is predominantly surrounded by rivers. Agriculture, particularly paddy cultivation, is the primary economic activity, with fishing serving as a secondary source of income. Additionally, villagers engage in the farming of betel, flower plants, and coconut. Due to the geographical layout, the primary mode of transportation is via river, with each household typically owning a boat.

Despite the abundance of natural resources supporting livelihoods, the village remains underdeveloped, with its infrastructure—such as roads, electricity, schools, and healthcare facilities—falling below the poverty line. However, the residents' livelihoods are relatively sustainable due to the availability of natural resources in the area.

4.2 Survey Design

This study uses descriptive and analytical methods, incorporating both primary and secondary data to examine how household income relates to non-farm employment. Structured questionnaires were used to gather primary data, while secondary data were obtained from previous research, the Ministry of Cooperatives & Rural Development, the Department of Rural Development, and the Ministry of Agriculture, Livestock, and Irrigation website, as well as official website and online journals. The research was centered on a village chosen for its geographic position, farming practices, and significant number of non-agricultural economic operations. Randomly selected households were sampled for interviews held in August 2024. The gathered data is divided into two categories: farm and non-farm activities.

4.3 Survey Result

Analyzing this survey data provides information about the present conditions of the Rural Non-Farm Economy (RNFE) in Thapyay Chaung Village. It focuses on the income and job possibilities created by the RNFE in the village

4.3.1 Demographic and socio-economic background of Household

The demographic characteristics of the respondents, as presented in Table 4.1, provide a comprehensive overview of the gender, age, and educational distribution of 143 households surveyed.

Table (4.1) Demographic Characteristics of Household

No.	Demographics Factor	Number of Household	Percentage (%)
1	Gender		
	Male	120	84
	Female	23	16
	Total	143	100
2	Age		
	18-28	15	10
	28-38	34	24
	38--48	46	32
	48-58	40	28
	58 and above	8	6
	Total	143	100
3	Education		
	Illiteracy	5	3
	Primary level	40	28
	Secondary level	59	41
	High level	32	22
	Graduate	7	5
	Total	143	100

Source: Survey Data, 2024

According to the table (4.1), it can be seen that there are more male respondents (comprising 84% or 120 households) compared to female respondents (16% or 23 households).

The age breakdown shows that most participants are in the middle-age groups, with 32% in the 38-48 age range, and 28% in the 48-58 age range. Only 10% of respondents belong to the age group of 18-28 years, with 6% belonging to the age group of 58 and above.

Education is also a crucial aspect to analyze the status of rural residents, with the highest percentage of the sample, 41%, having finished secondary education. This is followed by 28% of participants who have completed only primary education, and 26% who have achieved higher levels of education. A lower proportion of participants (5%) have completed their education, whereas just 3% are unable to read or write.

4.3.2 Types of Non-Farm Activities in villages

The classification of different non-farm businesses in the surveyed community is shown in the table labeled "Types of Current Non-Farm Business", based on data collected from the survey. The table displays 22 varied types of non-farm enterprises, showcasing the range of economic activities beyond conventional agriculture.

Table (4.2) Types of Non-Farm Business of Village

No.	Categories	No of Household
1	Agricultural Related Products Shop	3
2	Beauty Saloon	1
3	Betel Sales Agent	8
4	Boat Producer	2
5	Breakfast Shop	4
6	Carpenter	3
7	Coconut Sales Agent	4
8	Fashion Shop	2
9	Flower Sales Agent	4
10	General Worker	20
11	Grocery	3
12	Mechanic	3
13	Masonry	1
14	Petrol Shop	4
15	Pharmacy Shop	2
16	Rice Mill	1
17	Sales (Walking Mobile)	9
18	Store	2
19	Tailor	2
20	Trading of Fishery Products	4
21	Wave Money Agent	1

Source: Survey Data, 2024

The table (4.2) provides an overview of the wide variety of non-agricultural enterprises present in the village, covering 21 distinct classifications. This variety showcases the village's economic flexibility and the different methods individuals use to make a living outside of conventional agriculture. The shop selling agricultural related products and the agent selling betel are probably crucial to the local economy, considering the village's agricultural setting.

Beauty salons and clothing stores indicate a growing focus on personal appearance and fashion, reflecting contemporary trends. Breakfast Shops and Grocery Stores show a need for everyday necessities and ease, crucial for the welfare of the community. Mechanics, General Workers and Sales (Walking Sales) in Technical Services indicate a requirement for skilled labor and maintenance services.

The presence of Wave Money Agents points to a transition to contemporary business methods and financial services, possibly driven by technological advancements. There is a consistent need for construction and household improvements shown by Carpentry and Masonry. This diverse business environment not only boosts the local economy but also provides strength by not being dependent only on agriculture. Showing continued backing for these establishments can promote economic expansion and security within the community.

4.3.3 Descriptive Statistics of Income, household member and Land Own

The table (4.3) provides a statistical summary of various variables related to the surveyed households, including income, employment in farm and non-farm activities, land ownership in acres, and the number of household members. The summary includes the minimum and maximum values, means, and standard deviations for each variable, giving insights into the distribution and variability of the data.

Table (4.3) Descriptive Statistics of Income, household member and Land Own

Variable	Income	Employed in farm	Employed in Non-farm	Acres	Household member
Minimum	250000	0	0	0	2
Maximum	2410000	2	3	16	8
Mean	862715	0.760	1.710	3.480	5.090
Standard deviation	440134	0.778	0.829	3.913	1.443

Source: Survey Data, 2024

The household income varies from 250,000 MMK at least to 2,410,000 MMK at most, and the average income is 862,715 MMK. The moderate variability in

household incomes across the sample is evident in the standard deviation of 440,134 MMK, indicating substantial income differences between households. Some households make much more money than others, possibly due to the different economic activities they participate in, both on farms and in non-farm sectors.

The quantity of individuals working in agricultural tasks varies from 0 to 2, with an average of 0.76 individuals per household participating in farming activities. A standard deviation of 0.778 indicates variability in farm employment among households. Some households do not have any family members working on farms, while others have two people working in agriculture, showing the different ways farming contributes to the households surveyed.

Non-farm employment ranges from 0 to 3 individuals per household, with an average of 1.71 people. This higher average in comparison to farm jobs indicates that non-farm jobs could have a greater impact on household incomes. A standard deviation of 0.829 shows variation in non-farm employment among households, suggesting that although many households participate in non-farm work, the level of involvement varies.

Households own varying amounts of land, ranging from 0 to 16 acres. The average land ownership is 3.48 acres, and the standard deviation of 3.913 shows a significant amount of diversity in landholdings. Certain households do not possess any land, while others have a significant amount of land, which can impact their involvement in agricultural work compared to other types of work and their total earnings.

Household sizes vary from 2 to 8 members, with an average of 5.09 members per household. The moderate variation in household sizes is indicated by a standard deviation of 1.443, showing that most households have approximately 5 members, with some having smaller or larger families as outliers. Bigger families have the ability to contribute more labor to economic endeavors, yet they may also experience increased financial strains.

4.3.4 Pearson Correlations Test

The table (4.4) presents the Pearson correlation matrix, which displays the relationships between income level, household members, employment in farm and non-

farm activities, and the number of acres owned by households. The correlation coefficients (denoted by ***) indicate the strength and direction of the linear relationships between the variables. Positive correlations suggest that as one variable increases, the other tends to increase as well, whereas negative correlations indicate that as one variable increases, the other tends to decrease. The significance of the correlations is indicated by the asterisks, with *** meaning the correlation is statistically significant.

Table (4.4) Pearson Correlations Test

	Income level	household member	Employment in farm	Employment in Non-farm	Number of acres
Income level	1	0.451***	0.455***	0.150*	0.722***
household member		1	0.440***	0.228***	0.354***
Employment in farm			1	-0.491**	0.799***
Employment in Non-farm				1	-0.418***
Number of acres					1

Source: Survey Data, 2024

1. Income Level

An income level is moderately positively correlated with the number of household members at 0.451. This implies that households with more members typically earn more money because there are more people working and contributing to the total income.

There is a modest positive relationship (0.455) between income level and participation in farm work, suggesting that households with a greater number of members working in agriculture typically have higher incomes.

A slight positive connection (0.150) exists between income level and non-farm job participation. Although non-farm employment adds to income, its impact is not as significant as that of farm employment.

A high positive correlation (0.722) indicates that households with larger land areas typically earn more money, possibly because they have greater potential for agricultural production.

2. Household Members

A mild positive correlation (0.440) suggests that households with more members are more inclined to have individuals engaged in farm work.

A slight positive connection (0.228) indicates that bigger households are likely to have individuals working in non-farm jobs, although the association is not as strong as with farm employment.

A modest correlation (0.354) exists between household size and land ownership, suggesting that bigger households tend to possess more land.

3. Employment in Farm

A strong inverse relationship (-0.491) indicates that households with higher numbers of members working in farming are likely to have lower numbers of members working in non-farming jobs, showing a balance between the two types of employment. A significant positive relationship (0.799) exists between farm work employment and the extent of land ownership. Families that own bigger pieces of land are more inclined to hire their members to work in agriculture.

4. Employment in Non-Farm

A small negative relationship (-0.418) between non-farm employment and land ownership indicates that households owning more acres are less likely to have family members working in non-farm sectors.

4.3.5 Testing for the Assumptions about Multiple Regression

To determine if there are any violations of the assumptions required for the multiple linear regression model for the production of groundnut, the following procedures have been used.

- (1) Testing for Linearity
- (2) Testing for Normality of Disturbances
- (3) Testing for Autocorrelation of Disturbances
- (4) Testing for Homoscedasticity of Disturbances
- (5) Detecting Multicollinearity

According to Table (4.3), it is found that all tolerance values are above 0.1, and the VIF values are below 10 for all independent variables. This suggests that multicollinearity does not exist and significant issue in the current regression model for groundnut production in Myanmar. Therefore, the regression coefficients remain reliable for interpretation and inference. The assumptions results are attached in appendix 2.

4.3.6 Multiple Regression Analysis

Multiple regression analysis is used to obtain Thapyaychaung village's income on related factors. In this calculation dependent variable is income and independent variables such as household size, farm worker, non-farm worker and size of farm are set independent with semi-log model.

Table (4.5) Regression Analysis of Dependent variable and independent variable

Variables	Coefficient	Std. Error	t	P-Value
Constant	12.603***	0.075	168.470	0.000
Household Size (hhs)	0.008	0.018	0.456	0.649
Farm Worker (fw)	0.001	0.049	0.016	0.988
Non-Farm Worker (nfw)	0.326***	0.032	10.093	0.000
Size of farm (sz)	0.106***	0.008	13.031	0.000
F-Value	107.270***			
P-Value	0.000			
R ²	0.757			
n	143			

Source: Survey Data, 2024

The Semi-log multiple regression model for the production of groundnut on agricultural loan and implements is

$$\text{Ln (Income)} = 12.603 + 0.008 * (\text{hhs}) + 0.001 * (\text{fw}) + 0.326 (\text{nfw}) + 0.106(\text{sz})$$

The finding obtained from the calculation is showed in the above Table (4.5). This suggests that household size and farm worker are positively related on dependent variable (income) and not significant. Moreover, non-farm worker and size of farm are statistically significant at 1% level and positive relationship. The model is statistically significant at 1% level with F-Ratio of 107.270. If each additional non-farm worker is increases, household income is increased by of $(e^{0.326} - 1) \approx 38.54\%$. Moreover, each additional unit increase in the size of the farm results in an increase of about $(e^{0.106} - 1) \approx 11.18\%$ in increase. This indicates that larger farms are associated with higher incomes.

4.3.7 The Opportunities to promote RNFE activities

The survey was conducted from 143 households to assess the opportunities what can promote the RNFE activities in the villages. Three specific sections were asked into

Loan accessibility, Market accessibility and Infrastructure accessibility and quality. The results are summarized are per following tables.

Table (4.6) Access the opportunities to promote RNFE activities

No.	Description	Variables	Frequency	Percent
1	Access to loan and financial Services for RNFE Businesses	Yes	143	100
		No	0	0
		Total	143	100
2	Market Access Challenges for RNFE Businesses	Yes	37	26
		No	106	74
		Total	143	100
3	Infrastructure Accessibility to promote RNFE activities	Poor	47	33.0
		Neutral	70	49.0
		Good	26	18.0
		Total	143	100
4	Reliability of Transportation for RNFE Business Activities	Unreliable	40	28.0
		Neutral	85	59.0
		Reliable	18	13.0
		Total	143	100
5	Access to Modern Technology for RNFE Activities	Yes	140	98.0
		No	3	2.0
		Total	143	100

Source: Survey Data, 2024

According to table (4.6), survey data shows regarding the access to opportunities that promote Rural Non-Farm Economy (RNFE) activities, based on different factors such as financial services, market access, infrastructure, transportation, and technology. For accessing to loan and financial services for RNFE Businesses, 143 respondents (100%) have access to loans and financial services for RNFE businesses, no respondent reported not having access. This indicates a strong availability of financial services for all surveyed RNFE businesses.

For accessing market access challenges for RNFE businesses, 37 respondents (26%) reported facing market access challenges. 106 respondents (74%) did not experience any market access challenges. Most respondents (74%) find market access relatively easy, though some challenges exist for a minority.

On the issues of infrastructure accessibility to promote RNFE activities, 47 respondents (33%) rated infrastructure accessibility as poor, 70 respondents (49%) rated it as neutral, 26 respondents (18%) rated it as good. The majority (49%) have neutral views on infrastructure, while a significant number (33%) find it poor. Only 18% consider it good.

For reliability of transportation for RNFE business activities, 40 respondents (28%) find transportation unreliable, 85 respondents (59%) rate it as neutral, and 18 respondents (13%) find transportation reliable. The majority (59%) have neutral opinions on transportation, but a notable proportion (28%) find it unreliable, with only 13% rating it as reliable.

For access to modern technology for RNFE activities, 140 respondents (98%) have access to modern technology for RNFE activities, 3 respondents (2%) do not have access. Nearly all respondents (98%) have access to modern technology, indicating a strong availability of technological resources for RNFE activities.

Access to financial services and modern technology is very high, with 100% and 98% of respondents having access, respectively. A majority of respondents do not face market access challenges. However, infrastructure and transportation are areas of concern, as many respondents rate these aspects as either poor or neutral, with only a minority considering them reliable or good.

CHAPTER V

CONCLUSION

5.1 Findings

The study carried out in Thapyaychaung Village of Myanmar's Ayeyarwaddy region gathered valuable information about the socio-economic conditions of households, their involvement in farming and non-farming endeavors, and the obstacles encountered in the Rural Non-Farm Economy (RNFE). The results are based on a study of 143 households, examining income, employment, resource access, and how infrastructure and technology help with non-farm activities.

Most of the participants were men (84%), showing a notable male presence in both agricultural and non-agricultural work. 41% of participants had finished high school, whereas 28% had achieved only an elementary education level. This indicates a modest educational achievement level that might affect households' capability to participate in advanced or specialized non-agricultural pursuits. There were significant differences in household income, which averaged 862,715 MMK. Income disparity is connected to land ownership, off-farm jobs, and the involvement of household members in economic pursuits.

The diversity of non-farm businesses in the village, ranging from general labor (engaging the highest number of households) to specialized trades like boat production and masonry. General labor and walking sales are the most prevalent, reflecting the accessibility and low investment required for these activities. Service-oriented businesses, such as grocery stores, pharmacies, and petrol shops, are crucial for providing essential goods and services to the community. Additionally, smaller businesses like flower sales and tailoring cater to specific local needs. Overall, these non-farm activities provide vital income alternatives to agriculture, showcasing the village's adaptability and economic diversification.

The average number of people engaged in non-farm work per household was higher than those engaged in farming, with 1.71 individuals in non-farm activities compared to 0.76 in farming. This change underscores the increasing significance of the RNFE in the lives of people living in rural areas.

Descriptive statistics on income, employment in farm and non-farm activities, land ownership (acres), and household size presents that the minimum household income recorded is 250,000 Kyats, while the maximum is 2,410,000 Kyats, with an average income of 862,715 Kyats. On average, 0.76 members of a household are employed in farming, and 1.71 members are engaged in non-farm activities. Farm employment ranges from 0 to 2 members, while non-farm employment varies between 0 and 3. The average household owns 3.48 acres of land, with land ownership varying from no land to 16 acres. Household sizes range from 2 to 8 members, with an average of 5.09 members. The statistics highlight the diversity in household characteristics, particularly in terms of income, land ownership, and employment participation.

The results of a semi-log multiple regression analysis examines the relationship between income and several independent variables: household size (hhs), farm worker (fw), non-farm worker (nfw), and size of farm (sz). The model's R^2 value of 0.757 indicates that 75.7% of the variability in income is explained by the independent variables. The results show that non-farm workers (nfw) and farm size (sz) are statistically significant at the 1% level, with coefficients of 0.326 and 0.106, respectively. This suggests that increases in the number of non-farm workers and larger farm size are positively associated with higher income. Household size (hhs) and farm worker (fw) are not significant in the model, as indicated by their high P-values (0.649 and 0.938). The overall model is statistically significant (F-value = 107.270, P-value = 0.000), suggesting a strong fit of the model to the data. Thus, non-farm activities and farm size are key factors in determining income in this context.

According to the assessment on the opportunities for promoting rural non-farm enterprise (RNFE) activities, 100% of the respondents have access to loans and financial services for RNFE businesses. Market access challenges are faced by 26% of the respondents, while 74% report no such challenges. In terms of infrastructure, 33% rate it as poor, 49% are neutral, and 18% rate it as good. Transportation reliability for RNFE business activities is seen as unreliable by 28%, neutral by 59%, and reliable by 13%. Modern technology access is widely available, with 98% of respondents reporting access, while only 2% lack access. The findings suggest that while financial services and technology are accessible, challenges remain in market access, infrastructure, and transportation, which could impact the promotion of RNFE activities.

5.2 Suggestions

According to the survey results, suggestions can be provided to support sustainable economic growth in Thapyaychaung Village and other rural areas in the Ayeyawaddy region. The findings from the survey show that inadequate infrastructure is a significant obstacle to accessing markets. Investing in roads, transportation services, and storage facilities plays a vital role in linking rural villages with regional markets. Local and national governments, working together with international development organizations, must focus on improving infrastructure in rural areas to improve the delivery of goods and services.

In order to address the issue of limited market entry, local cooperatives or government agencies need to set up market information systems that offer current data on prices, demand, and supply. This information aids farmers and non-farm business owners in making well-informed choices on selling locations and competitive pricing strategies.

Families in Thapyaychaung Village engage in non-farming business activities. Encouraging manufacturing processes that add value, such as converting raw materials into finished goods (e.g. making coconut oil from coconuts), can increase profits by moving up the value chain. This requires making investments in equipment, technology, and education. Although all participants could use financial services, there is a demand for customized financial products for the unique requirements of non-agricultural enterprises. Financial tools such as microloans and savings groups should be created to assist in the growth and initiation of non-farm businesses for entrepreneurs.

With widespread technology access, efforts should concentrate on utilizing digital resources to enhance non-agricultural business activities. For instance, villagers can utilize mobile payment systems and digital marketing to expand their market reach and enhance business management. Rural entrepreneurs should receive training on digital literacy and e-commerce.

The study in Thapyaychaung Village shows difficulties and prospects for enhancing the Rural Non-Farm Economy (RNFE) in the Ayeyawaddy region of Myanmar. Although there are various non-farm activities boosting the local economy, obstacles like inadequate infrastructure, restricted market entry, and unreliable

transportation prevent these businesses from reaching their maximum potential. Nevertheless, a robust financial inclusion and broad technology access lay a solid groundwork for expansion.

The village can promote a more lively and long-lasting RNFE industry by taking advantage of opportunities in financial services, technology, and training. With increased government and NGO backing, these initiatives could greatly enhance the well-being of rural families in Thapyaychaung and other similar areas across Myanmar.

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(2) How many sown acres do you own?

(3) What kinds of Non-Farm business are you working with?

(4) Do you have access to loans or financial services (e.g., banks, microfinance)?

Yes No

(5) Do you face difficulties accessing markets to sell your products/services?

Yes No

(6) How do you rate the quality of infrastructure (roads, electricity, and water) in your area?

Very Poor Poor Neutral Good Very Good

(7) How reliable is transportation in your area for business?

Very Unreliable Unreliable Neutral Reliable

Very Reliable

(8) Do you have access to modern technology (e.g., machinery, internet)?

Yes No

(9) How important is technology (e.g., internet, mobile phones) for enhancing RNFE activities?

Very Important Important Somewhat Important Not Important

(10) How do you perceive employment opportunities in RNFE compared to farming?

Much Better Better Same Worse Much Worse

(11) Has RNFE provided more stable employment than farming?

Strongly Agree Agree Neutral Disagree Strongly

Disagree

(12) What support do you need to expand RNFE activities? (Select all that apply)

Financial Assistance Training Technology Market

Linkages Government Support Other (specify) : _____

(13) Do environmental challenges (e.g., droughts, floods) affect your business?

Yes No

(14) How satisfied are you with your current income from RNFE activities?

Very Satisfied Satisfied Neutral Dissatisfied Very
Dissatisfied

(15) Has your involvement in RNFE activities improved your family's standard of living?

Strongly Agree Agree Neutral Disagree
Strongly Disagree

(16) Are government and NGOs doing enough to support RNFE in your area?

Yes Somewhat No Not Sure

(17) How do RNFE activities contribute to community development? (Select all that apply)

Job Creation Infrastructure Improvement Community Wealth
Strengthening Social Ties No Contribution Other (specify):

Thank you very much for your kind participation.

APPENDIX B

Correlations

		househ old size	farm Worker	Non Farm Worker	Income level (total)	Size of farm
household size	Pearson Correlation	1	.440**	.228**	.451**	.354**
	Sig. (2-tailed)		.000	.006	.000	.000
	N	143	143	143	143	143
farm Worker	Pearson Correlation	.440**	1	-.491**	.455**	.799**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	143	143	143	143	143
Non Farm Worker	Pearson Correlation	.228**	-.491**	1	.150	-.418**
	Sig. (2-tailed)	.006	.000		.073	.000
	N	143	143	143	143	143
Income level (total)	Pearson Correlation	.451**	.455**	.150	1	.722**
	Sig. (2-tailed)	.000	.000	.073		.000
	N	143	143	143	143	143
Size of farm	Pearson Correlation	.354**	.799**	-.418**	.722**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	143	143	143	143	143

** . Correlation is significant at the 0.01 level (2-tailed).

Regression

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.368	4	5.592	107.270	.000 ^b
	Residual	7.194	138	.052		
	Total	29.562	142			

a. Dependent Variable: lincome

b. Predictors: (Constant), Size of farm , household size, Non Farm Worker , farm Worker

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12.603	.075		168.470	.000		
	household size	.008	.018	.026	.456	.649	.546	1.832
	farm Worker	.001	.049	.001	.016	.988	.257	3.888
	Non Farm Worker	.326	.032	.592	10.093	.000	.512	1.953
	Size of farm	.106	.008	.912	13.031	.000	.360	2.780

a. Dependent Variable: lnincome

Collinearity Diagnostics ^a								
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	household size	farm Worker	Non Farm Worker	Size of farm
1	1	3.989	1.000	.00	.00	.01	.00	.01
	2	.812	2.216	.01	.00	.04	.04	.08
	3	.114	5.915	.01	.01	.44	.05	.90
	4	.056	8.429	.62	.00	.24	.63	.01
	5	.029	11.816	.37	.98	.27	.28	.00

a. Dependent Variable: lnincome

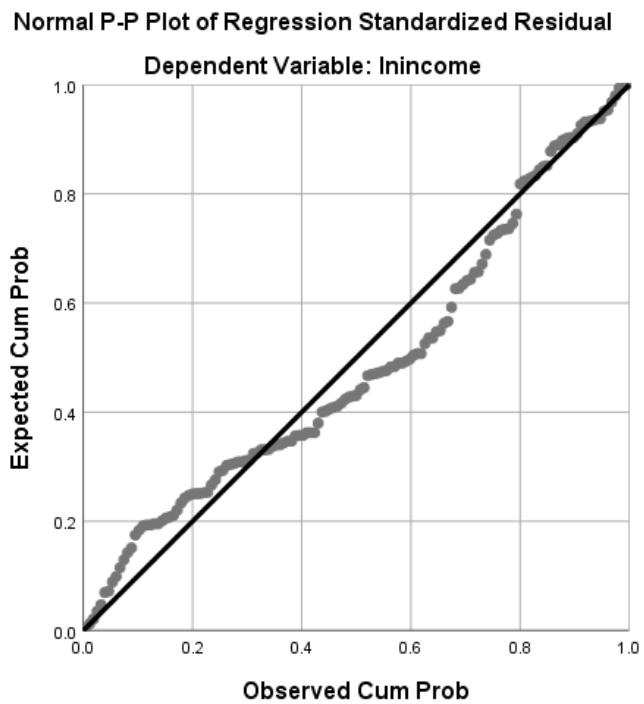
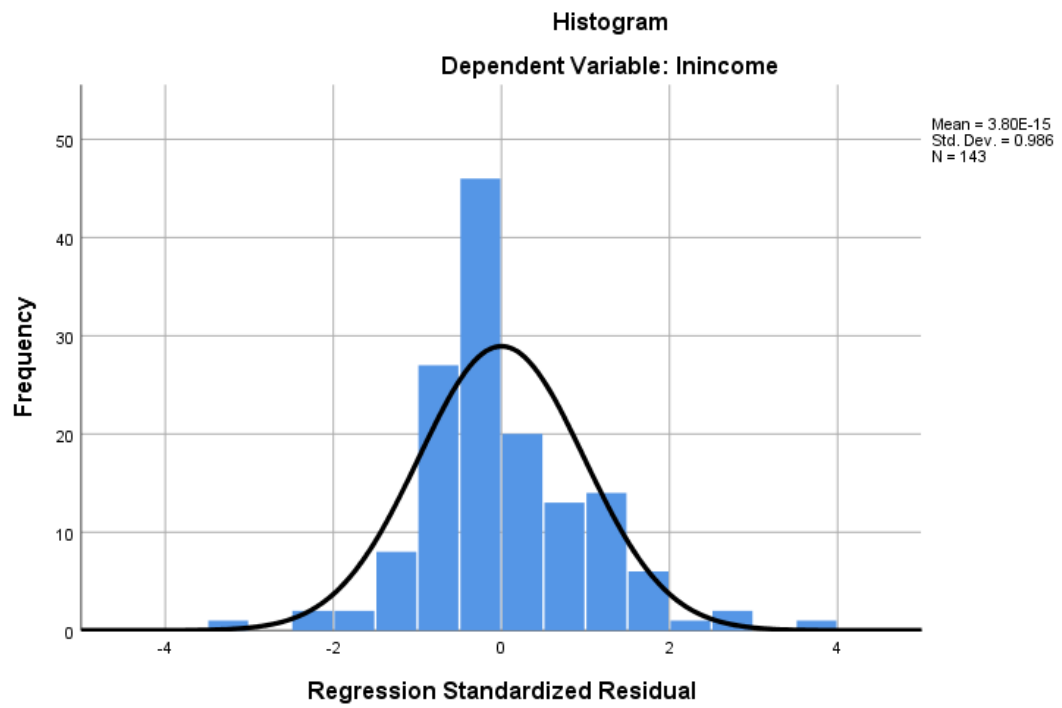
Casewise Diagnostics ^a				
Case Number	Std. Residual	lnincome	Predicted Value	Residual
103	3.781	14.70	13.8367	.86326
139	-3.346	12.54	13.3040	-.76401

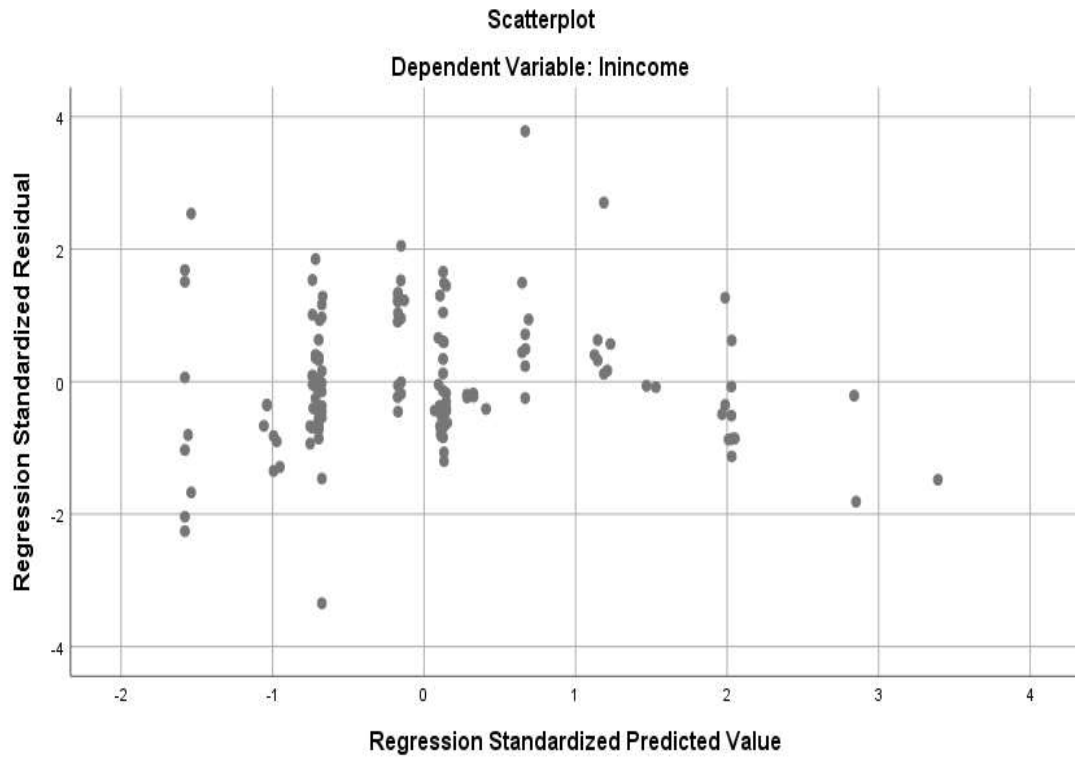
a. Dependent Variable: lnincome

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12.9454	14.9178	13.5720	.39689	143
Residual	-.76401	.86326	.00000	.22508	143
Std. Predicted Value	-1.579	3.391	.000	1.000	143
Std. Residual	-3.346	3.781	.000	.986	143

a. Dependent Variable: lnincome

Charts





Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.870 ^a	.757	.750	.22832	1.681

a. Predictors: (Constant), Size of farm , household size, Non Farm Worker , farm Worker

b. Dependent Variable: lnincome