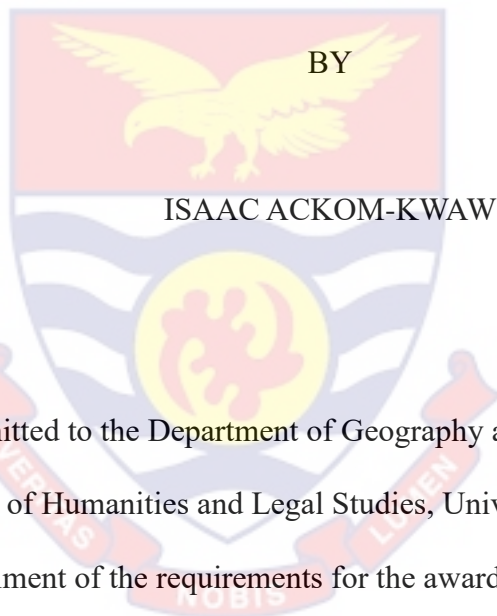


UNIVERSITY OF CAPE COAST

NON-FARM LIVELIHOOD STRATEGIES AMONG FARMERS IN THE
KOMENDA-EDINA-EGUAFO-ABIREM MUNICIPALITY



BY

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the College of Humanities and Legal Studies, University of Cape Coast, in
partial fulfillment of the requirements for the award of Master of Philosophy
degree in Geography

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my original research and that no part has been presented in this university or elsewhere.

Candidate's Signature Date:.....

Name: Isaac Ackom-Kwaw

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast

Supervisor's Signature Date:.....

Name: Mr. Paul Baidoo

ABSTRACT

Globally, agriculture remains a primary source of livelihood for many rural residents. With reduced agricultural productivity among rural households, residents are increasingly vulnerable to livelihood shocks and seasonality. Non-farm diversification is considered a leading alternative in sustaining livelihoods among rural farm households. However, how engaging in non-farm activities impacts rural farmers' livelihoods is less explored. The sequential explanatory design was used to investigate non-farm livelihood strategies among farmers in the Komenda-Edina-Eguafo-Abirem Municipality. The Asset and Insurance Based Theories constituted the theoretical basis for the study. Out of the population of 2,108 farmers drawn from four selected communities, a sample of 332 was used using a multi-stage sampling procedure. Data was collected through a questionnaire and interview guide and analysed using means, standard deviation, and linear regressions. Results portray non-farm diversification among farm households as a norm. Findings further showed that farmers who had taken up various activities in the non-farm sector were more resilient to shocks and seasonality and had steady incomes with increased farm or agricultural output. However, poor rural infrastructure, lack of finance and skills were key factors that limited the effective take-up of non-farm activities. The study recommends that local government agencies and development-based NGOs expose farmers to opportunities that come with engaging in non-farm livelihoods through training and capacity building. Rural infrastructure such as roads and electricity as well as markets needs to be expanded to enable farmers take up opportunities in the non-farm sector.

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CHAPTER ONE

INTRODUCTION

Background to the Study

The World Bank (2017) reports that about two-thirds of the world's poorest regions are in Africa. The World Bank data further posits that almost 70% of the poor in Africa live in rural areas and depend significantly on agriculture and natural resource-related activities. Therefore, the contribution of agriculture as a primary livelihood activity and its role in rural livelihood sustenance is well-established. Moreover, agriculture's contributions to the Gross Domestic Product growth of national economies of developing countries remain uncontested. At the household level, vibrant and productive agricultural systems ensure that rural livelihoods are sustained through rural employment generation, ensuring steady household incomes, food security, and improved well-being of household members.

However, agricultural and natural resource-based livelihoods are increasingly becoming vulnerable due to diverse shocks and seasonality. These shocks and trends constitute sudden, unexpected events or changes in the agricultural sector that significantly impact production, prices, and food security. They may also manifest in forms such as floods, dry spells, pest infestations, and market fluctuations or policy changes.

Evidence from research conducted by Rapsomanikis (2015) across the developed and developing world indicates that productivity and for that matter profitability among rural farms is on the decline. Furthermore, the decreasing number of acres of agricultural land in rural communities implies that for rural

poor, farming alone does not constitute a viable route out of poverty (Haggblade, Hazell, & Reardon, 2010).

Rural farmers diversifying into non-farm activities has become a leading strategy to overcome livelihood shocks among farm households. Rural non-farm activities refer to various economic activities undertaken by rural farmers, excluding crop farming, animal rearing, fishing and hunting (Haggblade, Hazell, & Reardon, 2010). In the context of this study, processing agricultural products is considered an example of a non-farm activity. Aside from being diverse in nature and composition, non-farm activities are primarily divided into wage or salaried work and self-employment. (Haggblade, Hazell, & Reardon, 2010). Typical examples of rural non-farm strategies identified in the literature include trading, agro-processing, transport services, food vending, construction, repairing, mining, and other service-related activities.

Globally, the place of non-farm activities embraced by rural households is well recognized. According to Davis, Di Giuseppe and Zezza (2017), almost half of the rural households in Central and Eastern Europe depend on non-farm income sources. Reardon, Berdegue, Barrett and Stamoulis (2017) also report that in South Asia and Latin America, non-farm strategies remain the primary means of livelihood for about 60% of rural farmers. Additionally, the World Bank (2017), reveals that in 2016 almost half of the rural incomes in the developing world including Sub-Saharan Africa were derived from non-farm sources. This claim is affirmed by Asare, Koomson and Agyenim (2021) that diversified livelihoods in the non-farm sector have become a common strategy

for ensuring sustained livelihoods among farmers in rural and peri-urban areas in Ghana.

Numerous studies have been conducted on Ghanaian rural households' diversification of non-farm sources of income. Darry and Kuunibe (2018), for instance, looked at involvement in non-farm economic activities in the Upper West Region of Ghana. This survey showed that a large percentage of agricultural households engage in non-farm economic activity.

Similarly, Assan (2020) investigating the sustainability of rural farmers' non-farm engagements and their effects on their welfare among farmers in southern Ghana, found that, although most farmers had taken up several non-farming activities, participation in Non-farm activities least improved their livelihoods. Again, Bezu, Barrett, and Holden, (2018) intimates that non-farm livelihood diversification is critical in assert formation and thus improves farmers' livelihoods. Conversely, Alobo (2017) intimates that most rural dwellers who have diversified into non-farm livelihood activities have not been able to overcome livelihood insecurities associated with rural subsistence farming.

Insights from these studies suggest that the extent, nature and factors that affect rural farmers non-farm diversification remains less explored. At the same time, there remains many inconsistencies in the literature on the perceived role of non-farm diversification and its relevance in the broader goal of rural livelihood sustainability. This research therefore explored the nature and livelihood effects of participating in non-farm activities among rural farmers in Komenda-Edina-Eguafo-Abirem municipality in the central region of Ghana.

Statement of the Problem

The World Bank (2021) establishes that most of the world's poor people reside in rural regions. In addition, a large portion of rural residents in Sub-Saharan Africa still rely mostly on agriculture for their income. In Ghana, it is estimated that about 80 percent of rural residents depend on agriculture or natural resource-based livelihoods (GSS,2020). Dzanku (2015) cites low household income as a primary cause of rural poverty and deprivation. According to Dzanku, agriculture output in rural Ghana is found to be low as a result of several constraints that rural farmers encounter. These constraints are further exacerbated by persistent shocks emanating from the physical, social, economic and policy or institutional environment which adversely affects farm-based livelihoods.

Also, growing household size due to a rising rural population coupled with reduced farm incomes increasingly stresses rural livelihoods. Because of this, most rural farmers seek to be involved in non-farm activities as a means of overcoming shocks while averting risks associated with farm-based livelihoods. Non-farm diversification among farmers has broadly been seen as a necessary strategy for rural livelihood sustainability.

Several researchers including (Davis et al., 2017; Alobo, 2017; Assan, 2020; Darry & Kuunibe, 2018) investigating non-farm diversification and rural farmers livelihood have produced mixed findings. Kazungu and Guuroh (2018), claim that rural farmers who have embraced non-farm options as a livelihood strategy find it difficult to generate income in a sustained manner. Another study conducted by Alobo (2017) suggests that a variety of

institutional barriers hinder the majority of rural farmers from engaging in non-farm activities.

The findings from the studies presented in the aforementioned works portray several gaps. In the first instance, these studies appear to be tied to specific locations. Also, they paid less attention to the extent and nature of non-farm livelihood diversification. Moreover, the factors that affect farmers' take-up of non-farm activities as well as the effects of participation in non-farm activities by farmers were given less emphasis. This study is therefore directed at pursuing these gaps.

The Komenda-Edina-Eguafo-Abirem municipality is predominantly rural with crop farming being a dominant source of livelihood. Besides, rural communities in this municipality are not immune to the aforementioned socioeconomic and environmental shocks and trends associated with climate-dependent agriculture or natural resource-based livelihoods. Nevertheless, empirical data on the existing non-farm livelihood strategies and their role in promoting sustainable rural livelihood remains scanty. The need to fully comprehend the nature of non-farm diversification, the reasons for farmers' decision to diversify into non-farm activities, and the effects of non-farm diversification on the livelihood outcomes of farmers are gaps this research seeks to investigate.

Purpose of the Study

The study seeks to investigate non-farm livelihood strategies among farmers in the Komenda-Edina-Eguafo-Abirem Municipality.

Specific Objectives are:

1. Describe the nature of non-farm livelihood diversification among rural farmers in the KEEA.
2. Ascertain the motives for farmers' engaging in non-farm activities in the study area.
3. Assess the effects of participation in non-farm activities on rural farmers' livelihoods.
4. Examine challenges associated with farmers participating in non-farm livelihood activities in the study area

Research Questions

1. What is the nature of the non-farm livelihood strategies among rural farmers in the Komenda-Edina-Eguafo-Abirem Municipality?
2. What motivates farmers to engage in non-farm activities in the study area?
3. How does participation in non-farm activities affect the livelihood of rural farmers?
4. What are the challenges in participating in non-farm livelihood activities among rural farmers?

Significance of the Study

The study's findings are beneficial to development planning, policymaking, and academic circles. Firstly, it provides useful insight into how rural non-farm activities contribute to the sustainability of rural livelihoods. Secondly, recommendations from this study will be useful in terms of guiding development interventions aimed at improving rural livelihoods in the face of changing climatic and socioeconomic factors related to agriculture-based

livelihoods. By appreciating the importance of establishing connections between farm and non-farm livelihood strategies, rural development planning and intervention will also be tackled from a multi-sectoral approach. Besides the study's outcomes will contribute to existing literature on strategies for achieving sustainable rural livelihood strategies in Ghana.

Delimitation of the Study

The study was delimited to sampled farmers in four (4) rural communities in the Komenda-Edina-Eguafo-Abirem Municipality since an exhaustive study in all rural communities in the municipality was not possible. Even in these communities, the research was again limited to only farmers who had registered with the Municipal Department of Agriculture (Ministry of Agriculture) through its Extension Officers. This was done due to limited time and resources that could not allow all households to be reached. The study focused on how participating in non-farm activities in rural areas benefits rural farmers' livelihood. This study did not take factors influencing rural farmers' involvement in non-farm livelihood activities into consideration

Definition of Terms

Livelihood: Livelihood encompasses the capabilities, assets, and activities required for a sustainable and satisfactory standard of living

Livelihood diversification: Livelihood diversification refers to the strategy of engaging in a variety of economic activities or sources of income to reduce dependence on a single livelihood source

Non-farm activity: Non-farm livelihood activities pertain to income-generating activities that are not related to crop farming, forestry, or fishing.

Such activities encompass small-scale manufacturing, handicrafts, trade, services, and other non-agricultural pursuits.

Rural livelihoods: Rural livelihoods refer to the various means and strategies through which people in rural areas secure their living, including the resources, assets, and activities that support their well-being.

Organization of the Study

This report for this research is produced in five chapters. A background to the study, the statement of the problem, the purpose of the study, the research objectives, the research questions, the significance of the study, and the organization of the study are presented in chapter one. In chapter two, the relevant literature on the study was reviewed. Chapter Three considered the research methods. Specifically, this section focused on the research philosophy and design used, study area, population, sample size and procedure, procedure and instruments used in data collection as well as data processing and analysis. In chapter four, results from the study are presented and discussed. The fifth and final chapter contained summary, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter covered the review of literature on farmers' participation in rural non-farm livelihood activities and its effects on their livelihood in the Komenda-Edina-Eguafo-Abirem Municipality. The review provided insights into the key concepts in the study and also situates the study within a theoretical and conceptual framework. The literature review section is organised in three parts. The first section discussed asset- and insurance-based theories considered as the theoretical basis for the study. The subsequent section reviewed the main concepts contained in the study. The last part considered a review of empirical works that have simillance with this work as well as detailing a framework that depicts the concepts in the study.

Theoretical Review

Asset-based and Insurance-based theories

The asset-based theory and the insurance-based theory were used by Ellis and Freeman (2004) in their work on rural livelihood diversification. These theories were used to clarify the motives for the diversification of incomes and activities by individuals or households in rural areas. According to the asset-based theory, a rural farmer's decision and ability to broaden its income sources is mainly the result of resources or assets it owns (Ellis & Freeman, 2004). The asset-based theory maintains form and level to which rural farmers diversify their livelihood reflects a household's access to livelihood assets and how it combines these assets to achieve its livelihood outcomes (Ellis & Freeman, 2004).

The theory considers assets as tangible and intangible resources that are combined by households to ensure survival and long-term well-being. As key components of a livelihood system, assets are categorized into natural, social, physical, financial, and human elements (DFID,2000). Natural capital is generally perceived as resource stock and environmental services and includes soil, water, and land resources. Human capital relates to skills, knowledge, and labour, while physical assets or capital are made up of infrastructure, equipment, and technology. Financial capital includes credit, savings, and cash, while social resources include networks, social relations, and association membership.

Besides the asset-based theory, the insurance-based theory was used by Ellis and Freeman (2004) to explain the rationale for non-farm diversification by rural households. The insurance-based theory postulates that rural households' diversification is mostly a result of income failures and shocks in their primary livelihood activities (Ellis & Freeman,2004). They contend that as farm incomes continue to reduce due to shocks and seasonality, rural households turn to various non-farm activities as coping strategies to secure their survival.

The Insurance-based theory further emphasizes that non-farm activities are increasingly becoming a key aspect of the livelihood system of farmers due to the existence of limited opportunities for formal insurance in rural areas. Consequently, rural populations broaden their livelihood sources by embracing additional activities in the non-farm sector as a means of seeking protection against persisting shocks, trends and seasonality. (Ellis & Freeman,2004).

According to the theory, the form and degree to which rural farmers diversify their livelihood results from differences in the level of exposure to shocks and vulnerability. As a result, a farmer's decision to take up a non-farm activity may largely depend on how risky or vulnerable its current or existing livelihood activity is. This means that farmers' involvement in non-farm activities is a strategy for avoiding vulnerabilities as well as the outcome of their search for means to enhance their welfare and improve living standards.

These theories reviewed in the aforementioned paragraphs are relevant to this work since they throw much light on how livelihoods contribute to overall livelihood sustainability in a rural setting and also the need to approach rural poverty and depravity from a multisectoral stance to include a proper mix of all livelihood assets and strategies. Besides the asset-based and insurance-based theories provide a good perspective on existing rural livelihoods, motives or rationale for livelihood diversification as well as the institutional and environmental context within which diversification occurs.

Conceptual Review

Meaning and Nature of livelihoods

According to Chambers and Conway (2006), livelihood refers to the assets, competencies, and pursuits individuals require for their daily lives and future well-being. Ellis (2018) views livelihoods as assets that guarantee the survival of individuals and communities. Moreover, Niehof (2020) sees livelihoods as a system with inputs and outcomes. According to him, resources or assets serve as the system's inputs, and the results of a livelihood are determined by the combination of livelihood strategies. In this definition,

livelihood outcomes implies the consequence of a careful mix of diverse livelihood activities aimed at enhancing and promoting individual and communal survival and well-being. Ideally, livelihood outcomes are projected to be positive and for that reason led to an improved living standards.

Similarly, Assan (2020) sees livelihood as a set of household activities or initiatives. Furthermore, livelihood is defined by the Department for International Development (DFID) (2000) as activities and resources that are used to ensure the survival and well-being of people and households.

The majority of definitions of livelihood appear to be derived mostly from Chambers and Conway's (2006) definition, which identifies livelihood as "activities and strategies that ensure the survival of individuals and households." The definition of livelihood that captures the concepts of resources, activities and capabilities and not merely income-generating activities is widely embraced in the works of literature. Moreover, based on the varied meanings derived from the literature, livelihoods can be seen as means or resources at one's disposal from which ends are met. Commonly known as livelihood assets, these resources encompass lands, water, and other natural endowments, as well as social capital such as access to finance, participation in associations and kinships, and, last but not least, human capital. Notably, the level of availability and utilization of these resources influences an individual's or a community's standard of living.

Livelihood outcomes are the result of a portfolio of resources and access to them, which are typically established and impacted by the institutions and policies in place. Furthermore, the views highlighted from the works of literature on the concept of livelihood encompass a variety of

approaches that guarantee the survival and well-being of people and households. Furthermore, Baffor and Matsuda (2017) emphasize that access to livelihood resources is not the only factor that determines livelihood outcomes; the current institutional and policy context also plays a significant role. This claim emphasizes the growing influence of institutions and structures on livelihoods, particularly for the impoverished in rural areas. The crucial role that institutions and structures play in the livelihood framework further supports this viewpoint.

Furthermore, both rural and urban viewpoints are frequently used while discussing the idea of livelihood. Urban livelihoods are especially perceived as non-agricultural, whereas rural people's livelihoods are perceived as primarily reliant on natural resources or agriculture. Interestingly, the literature on livelihood tends to dwell mainly on seeking to understand how living standards are improved among rural residents and communities. Consequently, much evidence to affirm that most of the previous empirical research considered ways to guarantee resilient livelihoods and lessen poverty for rural residents who mostly rely on natural resources for their existence and nourishment is seen in the works of literature reviewed.

Although other researchers investigated the linkages between rural and urban livelihoods, the study of rurality in livelihoods is given much attention in livelihood discourse. A major reason that explains this is that it is widely established that the majority of people, especially in developing countries are residents in rural areas with a greater proportion of these rural populations found to be poor and vulnerable.

Livelihood diversification

The concept of livelihood diversification has a multidisciplinary connotation because it has been used by various disciplines. Diversified livelihoods are typically preferred because they can reduce the risks associated with having a single source of income and also help to balance household expenses and income. Ellis (2018) describes livelihood diversification from the standpoint of development planning as a process whereby households participate in diverse undertakings aimed at improving living standards. To him, a variety of income sources serves as an effective means of mitigating risks at the personal or individual level and at the same time ensuring communal support. In the context of the rural setting implied in this definition, reference is made to crop farming as the primary source of income.

According to the sustainable livelihood framework (DFID, 2000), policy or intervention that ensures and promotes livelihood diversification positions rural households to have an urge in so far as poverty alleviation is concerned. Therefore, diversification is viewed as a means of approaching rural deprivation by ensuring that rural households have access to resources as well as assets. Also, Fabusoro, Omotayo, Apantaku and Okuneye (2010) see diversification as an initiative usually embarked on by many individuals and households to embrace new and diverse economic pursuits aimed at increasing household income and reducing depravity. This is particularly the case when their primary source of survival is threatened or is no longer secured. In that case, diversification becomes a means and approach through which households maintain and augment their incomes while escaping vulnerability.

Alobo (2017) offers yet another important interpretation of livelihood diversification. To her, livelihood diversification is perceived as taking part in a range of activities both on and off the farm to control or avoid the vulnerability associated with livelihoods reliant on natural resources. This definition explains the nature of a diverse livelihood, its justification, and its possible advantages. Alobo also makes an effort to categorize rural livelihood diversification according to area, function, and sector. She distinguishes between wage-based and self-employment based on function, farm and non-farm, and on-farm and off-farm based on location. This classification is important because it makes it easier to distinguish between off-farm and non-farm livelihoods. Based on this differentiation, off-farm is regarded as separate from non-farm since it encompasses all agricultural or farm-related activities carried out outside the farm.

In sum, the literature describes the idea of livelihood diversification, emphasizing its types, reasons, and characteristics. Diversification of livelihood is thus understood to include engaging in sources of income outside of one's primary or traditional source of income. Therefore, the main source of income for rural people is considered to be farm-related activities, whereas a varied non-farm-related livelihood is comparable to the general idea of livelihood diversification.

Non-farm livelihoods and the Sustainable Livelihood Approach

The major goal of research on rural and urban livelihoods is to ensure the sustainability of livelihoods for eradicating poverty and transforming the economy. Several approaches have been used in pursuance of this objective.

However, the sustainable livelihood approach appears to be the most commonly used in recent times.

The sustainable livelihood approach is traced to a series of research done by Robert Chambers in the 1980s on rural poverty and development. The work of Robert Chambers was further developed by Chambers and Conway in the early 1990s. Ever since several other development agencies and researchers have adopted the sustainable livelihood approach as an analytical tool for development planning and rural poverty reduction. The sustainable livelihood approach became popular in development planning and policy circles as it offered an alternative to conventional approaches that focused mostly on income as a measure of poverty (DFID,2000).

According to Scoones (2015), the sustainable livelihood approach provides a basis for finding out how rural households relate to external socioeconomic, environmental, and institutional factors. Besides, the sustainable livelihood approach is useful for assessing how access to livelihood assets translates into peculiar livelihood strategies for enhanced livelihood outcomes. Moreover, the sustainable livelihoods approach focuses on assets that impoverished people require to maintain an adequate income level. According to the sustainable livelihood approach, livelihood outcomes are defined by the portfolio of assets as well as people's ability to combine the assets available within a specified physical, social-economic and policy environment (DFID,2000).

Therefore based on the perspectives from the sustainable livelihood approach, livelihoods are considered sustainable when people have secure ownership or access to assets or capital and at the same time due to their

improved asset base, they become resilient to shocks and disasters (Scoones, 2015). Based on the concepts highlighted in the sustainable livelihood approach, the DFID and other development-based agencies have developed a sustainable livelihood framework that provides useful insights for an effective discourse on the sustainability of livelihoods.

Sustainable Livelihood Framework

The Sustainable Livelihood Framework was put forth by the British Department for International Development at the eve of the twentieth century with the broad aim of harmonising various poverty reduction policies in developing countries. Additionally, it aimed to organize and achieve the wider goals related to improving the sustainability of the livelihoods of those living in poverty. In the words of Rahman and Hickey (2020), The sustainable Livelihoods framework remains a significant tool that describes how people use their resources to overcome vulnerability when overwhelmed by distressing situations. Although other development based organizations including Care International (CARE) Food and Agricultural Organization (FAO), United Nations Development Program (UNDP), and Oxfam have produced developed frameworks with similar goals, it is important to establish that the livelihood framework developed by the DFID however is widely accepted and forms the basis of other frameworks used in poverty analyses or rural development practice.

The uniqueness of the DFID's framework is found in its simplicity and the core concepts it seeks to hold. The core concepts of the sustainable livelihood framework by the DFID (2000) are summarized in the ensuing write-up. First, the sustainable livelihood framework focuses on what people

do with the resources or assets they have in their quest to survive, thus regarded as people-centered. In this sense, though assets are required for enhanced livelihood outcomes, people are highly prioritized. Furthermore, in its studies of livelihoods, the livelihood framework takes into account an awareness of people's current circumstances as well as their goals (DFID, 2000).

The idea that livelihoods are dynamic constitutes the second tenet of the sustainable livelihood framework. Dynamism, in this context implies that livelihoods are always changing and evolving. Numerous factors, including market or economic forces as well as social, technological, and environmental developments, are responsible for these changes. The third tenet of the takes expression in the fact that it builds on strengths. This is pursued through encouraging diversification of activities and using an assets-based, participative, and empowering approach to livelihood development.

Additionally, one of the main tenets of the sustainable living framework is sustainability. This principle highlights the necessity of making sure livelihood strategies are long-term economically feasible, socially responsible, and environmentally sustainable (DFID, 2000). Moreover, the perspectives highlighted in the sustainable livelihood framework are broadly presented around five components (refer to Fig 1). These components are the vulnerability context, livelihood assets, policies and structures, livelihood strategies, and livelihood outcomes.

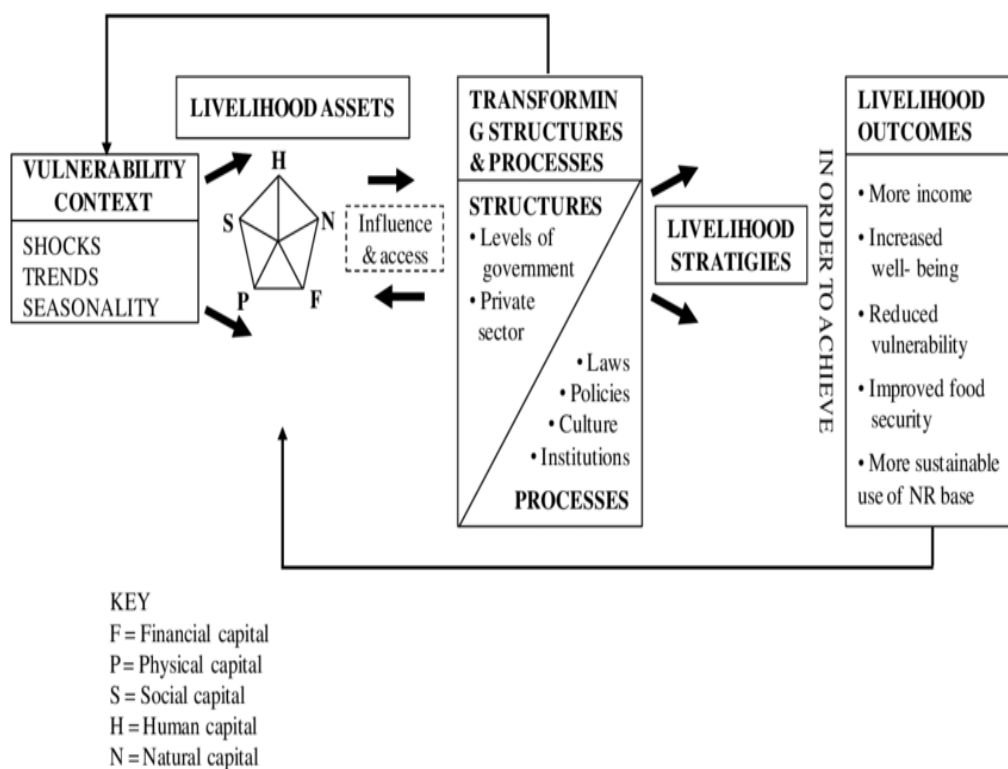


Figure 1: Sustainable Livelihood Framework

Source: (DFID, 2000)

Vulnerability Context

It describes the external factors that may affect a family's or community's capacity to sustain a sustainable standard of living. The other elements of the sustainable livelihood framework may be impacted by the vulnerability situation. It is for this reason that it has become a crucial component of the entire livelihood framework. A natural disaster or economic shock, for instance, might affect a household's financial, physical, and natural capital, making it harder for them to support themselves. Similarly, political instability or conflict can disrupt social networks and institutions, making it difficult for households to access resources and support.

Moreover, the issue of vulnerability is a critical component of the livelihood framework since it goes a long way to determine the extent and

nature of constraints faced by poor people in their quest to achieve a positive livelihood outcome. By understanding the vulnerability context and its impact on the components of the sustainable livelihood framework, interventions and policies are developed to help households and communities build resilience and cope with external stresses. This might involve building infrastructure to reduce the impact of natural disasters, developing social safety nets to protect households during economic shocks, or strengthening social institutions to improve access to resources and support (DFID,2000).

Livelihood Assets

In simple terms, assets refer to the resources that a household or community has at its disposal. Five types of assets or capital are identified by the livelihood framework as the foundation upon which livelihoods are constructed. These are the physical, financial, social, human, and natural capital. These assets are visually shown in the livelihood framework as the asset pentagon (refer to Fig 1). Based on insights from the working paper on livelihoods prepared by DFID (2000), these livelihood assets are elaborated in the ensuing paragraphs.

Human Capital

By human capital, reference is made to education, skills, health, and other personal characteristics that affect one's capacity to make a living. It includes factors such as education, training, knowledge, health, and experience.

Natural capital

This includes the natural resources that are available to households and communities, such as land, water, forests, and wildlife. How these resources

are used and managed can significantly impact the manner of life in rural settings.

Social capital

Social capital concerns communal networks, relationships, as well institutions that support households and communities. It includes factors like social linkages, customs, values, institutions that enable cooperation and coordination.

Physical capital

This includes the infrastructure, tools, and equipment that households and communities use to produce and sell goods and services. It includes factors such as buildings, equipment, roads, and other infrastructure.

Financial capital

This refers to the financial resources that households and communities use to invest in and manage their livelihoods. It includes savings, credit, insurance, and other financial instruments that can help households and communities manage risk and invest in their livelihoods.

Transforming structures and institutions

In the context of sustainable livelihoods, transforming structures and institutions refers to policies, laws, norms, and other social and political factors shaping the opportunities and constraints households and communities face. Accessing and using productive assets is largely influenced by policies and institutions. Structures and institutions can be seen as either supportive or constraining to livelihoods. Supportive structures and institutions are those that promote sustainable livelihoods, such as policies and laws that protect natural resources, provide access to credit and markets, and promote social

protection. Constraining structures and institutions are those that undermine sustainable livelihoods, such as policies and laws that discriminate against marginalized groups, restrict access to resources, or promote unsustainable practices.

Livelihood strategies

Understanding the different livelihood strategies used by households and communities is important for designing effective interventions and policies that support sustainable livelihoods and promote inclusive and equitable development. Livelihood strategies refer to the different activities and approaches that households and communities use to maintain their livelihoods and improve their well-being (DFID,2000).

The Sustainable Livelihood Framework identifies farming, non-farm activities and seasonal migration as the main livelihood strategies available to rural livelihoods. Farming in this context involves cultivating crops, raising livestock, and other agricultural activities. Non-farm activities strategy involves engaging in non-agricultural activities, such as trade, services, and manufacturing. Migration is seen as moving to another location in search of work or better opportunities. It is important to stress that, these different livelihood strategies are often interlinked, and households may use a combination of strategies to maintain their livelihoods and reduce their vulnerability. For example, a household may engage in both farming and non-farm activities or may rely on wage labour during the off-season when agricultural activities are limited.

Livelihood outcomes

Livelihood outcomes are simply the deliverables of a livelihood strategy or activity (DFID, 2000). The framework identifies various potential livelihood outcomes that can result from interventions and policies promoting sustainable livelihoods. In the sustainable livelihood framework, the DFID (2000) summarizes livelihood outcomes broadly into four main categories:

- I. to improve livelihood security by enhancing income, asset base, and access to basic services
 - II. to build household resilience through capacity building
 - III. to promote social well-being by enhancing social capital and inclusion
- Promote sustainable natural resource management by improving the conservation and management of natural resources.

Non-farm diversification and rural household livelihood outcomes

The increasing credence given to the non-farm sector stems from the numerous benefits that rural farm households are perceived to derive from participation in various non-farm activities. From the extant literature, non-farm activities contribute immensely to rural transformation through employment creation, poverty reduction, food security, and enhancing agricultural productivity. This section of the literature review draws on empirical evidence from related studies to expatiate how rural farmers' livelihoods are enhanced through participation in non-farm livelihood strategies.

Non-farm activities and rural employment

Several studies have affirmed the perceived role of non-farm activities in rural employment creation, particularly in the developing world. Venkatesh,

Nithyashree, Sangeetha and Pal (2015), found that the rural Non-farm sector plays an important role in employment generation in India. According to them, non-farm activities are a key component of the livelihood of rural farmers in rural India and thus serve as a source of secondary employment to most rural farmers. Similarly, Lambon (2017) found that the majority of rural residents in northern Ghana, particularly youths and women have looked up to the non-farm sector in recent years as a source of employment. Moreover, a study by Chamicha (2015), in Tanzania, found that non-farm activities provide a source of employment for rural households.

Non-farm diversification and rural poverty reduction

Rural poverty is mainly attributed to several environmental and socio-economic factors that are linked to low agricultural productivity and a reduction in farm incomes (Barrett, Reardon, & Webb, 2001).

These factors include among other things climate variability, low investment in agriculture, and inadequate rural infrastructure. Farmers, therefore, seek and pursue non-farm livelihood diversification out of the desire for additional incomes to supplement reducing farm incomes.

According to a 2015 study conducted in Nigeria by Abdullahi, farmers' involvement in non-farm activities significantly affected how impoverished rural households were. Furthermore, Katega (2014) discovered that by significantly raising household income, non-agricultural rural activities have a stronger impact on reducing income and non-income poverty. Non-farm activities are also seen as critical in reducing rural poverty since incomes from non-farm activities enable farm households to buy food, and consumer products as well as meet education and health needs (Katega,2014).

Non-farm activities and agricultural production

Bayu, E. K. (2018) considers the linkages between farm and non-farm activities as positive and posits that there are forward and backward relationships between participation in non-farming activities and agricultural or on-farm activities. Zereyesus (2016) further explains that while incomes from farming activities remain the main source of capital for operating rural non-farm activities, proceeds from non-farm activities are further invested in farm activities in the form of purchasing agricultural inputs like fertilizer, and chemicals and also contracting farm labour. Besides, the non-farm sector is important to farmers since it provides an avenue for them to utilize the excess labour hours for cash and non-cash benefits. This buttresses the fact that non-farm activities are key in aiding rural farmers to increase agricultural production, by enabling them to procure the necessary farm inputs.

Non-farm activities and incomes of rural households

The seasonal nature farm activities make income streams in rural farming households unreliable. This is compounded by several shocks that manifest in the ways such as failing markets and unfavourable climates. Non-farm activities have therefore become a means through which rural people achieve income stability (Haggblade et. al, 2010). Evidence from the literature attests to the fact that recently a substantial portion of the income from rural households is derived from non-farm sources.

A study in Vietnam found that non-farm activities were an important source of income diversification for rural households, and that participation in non-farm activities was associated with higher levels of household assets and improved access to credit (Pham, Tuan & Le Thanh, 2010). Such income

provides capital for investment in child education, home improvement, asset formation, and on-farm expansion (Haggblade et. al, 2010).

Non-farm activities and household food security

The term "food security" describes the state of having enough safe, nourishing food that is always available, affordable, and accessible to satisfy everyone's dietary demands and tastes without compromising their other fundamental needs (FAO, 2011). Food security remains a key dimension of people's livelihood, particularly rural people. Food insecurity is mostly the result of failing livelihood systems in rural areas. Due to shocks such as climate and market imperfections, rural people are left impoverished and this manifests in several ways including access to food and its nutritional or daily calorie intake.

Non-farm activities can provide additional sources of income for rural households which helps in reducing their dependence on agriculture as the sole source of income and thus increase household purchasing power and improve access to food. Mekonnen (2016) affirms that farmers who diversified into non-farm activities were able to secure food for themselves and their families throughout the year.

Empirical Review

Iqbal, Rizwan, Abbas, Makhdom, Nazam, Samie and Nadeem (2017) investigated the patterns, motives and determinants of Non-farm diversification among agricultural households in Punjab, Pakistan. A total of A sample size of 290 farm households constituted the sample for data for this study. The researcher used structured questionnaires as the principal tool for data collection. The key findings of the research included: (1) almost 80 % of

the farmers who responded to the survey were in one way or the other taken up various income generation activities in the non-farm sector. (2) non-farm incomes constituted about 70 % of incomes of diversified households. Concerning the reasons for non-farm diversification, the study found low farm income, increasing risks associated with farming, the quest for additional acquiring funds to finance farming operations, and need to supplement family income came out as the key factors driving farmers to diversify into non-farm activities. The study recommended the provision of technical support and vocational training as key strategies necessary to enhance non-farm activities among agricultural households for positive livelihood outcomes. This study did not consider the constraints that hinder the effective take up of non-farm activities by rural farmers.

Moreover, Asare, Koomson and Agyenim (2021) researched non-farm livelihood strategies and constraints in rural and peri-urban Ghana. The design for the study was the cross-sectional design. The study was approached using a mixed perspective. The researchers used a sample of 251 households. This sample was drawn from a target population of about 1700 using the simple random sampling technique. The main instruments for data collection used for this study were questionnaires and a focus group guide. The questionnaire was administered as an interview schedule since most of the respondents were not literate. Descriptive statistics as well as binary logistic regression, and Chi-square test were used to analyse the data.

The study discovered that although farming remains an important livelihood source, most farmers were increasingly embracing non-farm activities. Again, Non-farm livelihood was portrayed as diverse embracing

several activities including trading, food vending, food processing, light manufacturing and repairs, and craft making. The study findings strongly indicated that among other non-farm activities, trading is the most sought-after by rural farmers. This study seemed to have a quantitative orientation and focused mostly on using binary logistic regression to identify the variables that affect households' engagement in non-farm activities in Ghana's rural and peri-urban areas.

A Similar study was conducted by Darry and Kuunibe (2018) in the upper-west region of Ghana. This study investigated the various types of non-farm activities in rural areas and the factors that influence farmers' participation in these activities. Data for the study was sourced from 172 households derived from 15 rural communities. The researchers employed purposive sampling techniques for the selection of the communities and simple random sampling for the household's respondents. The researchers utilized the logit model to analyse the determinants of participation in non-farm activities, while descriptive statistics were employed to examine the different categories of non-farm activities found in the study area.

The study's findings revealed that the rural non-farm sector in the region exhibited extensive diversity, with approximately 28 different types of non-farm activities identified. It was observed that while most residents were involved in multiple non-farm activities, women were more actively engaged in such activities compared to men. Furthermore, the majority of non-farm activities were found to be in the informal sector. This study appears to highlight the gender dimensions of rural farmers's participation in non-farm activity which the other studies reviewed overlooked.

Moreso, Nnadi, Madu, Onyinyechi, Ossai, and Ihinegbu (2017) looked at the effects of non-farm activities on the livelihood of residents of rural communities in Enugu State, Nigeria. The study provided insights into the positive as well as the negative effects of non-farm activities on rural communities' resilience and sustainability. Using the purposive sample technique 6 rural communities were selected for the study. Out of the total estimated population size of 10277 households, the researchers settled on 468 as the sample size for the study. Households formed the unit of analyses while data for the study was analyzed using a range of descriptive and inferential statistical tools. Households' heads gave responses to Likert scaled type of questions that sought to show the negative and positive effects of household non-farm engagements.

The study found that respondents agreed that non-farm diversification impacted rural households positively as it led to a significant increase in household income, created employment, particularly during agricultural off-seasons and last but not least minimized rural outmigration. On the negative effects of non-farm diversification on rural livelihoods responses were solicited from respondents on variables including land degradation, soil erosion and crime rate. Findings from the study indicated that most of the respondents disagreed with the fact that rural livelihoods are negatively impacted by non-farm diversification about the aforementioned variables.

In another study Midaki and Adefila, (2014) examined the contributions of rural non-farm economic activities to rural employment generation and household income in Lere Area, Kaduna State of Nigeria. The study was guided by the structural transformation theory as well as the

sustainable livelihood approach. A simple random sampling procedure was used to identify the 382 rural homes that made up the study's sample. The majority of the study's data was gathered through household surveys, but the researchers also employed descriptive statistics to analyze the data.

The study results indicated an increase in employment generation within the non-farm sector of the rural economy between 2007 and 2011. Again, the household income from farm and non-farm households were compared and it came out that (44.8) of the total income was associated with households that ventured into farming only, and 55.2% accounted for the households that engaged in non-farm activities. This affirms that non-farm activities contributed to enhancing income through employment creation among farm households.

Similarly, Nwaogwugwu (2020) studied the motives and patterns of livelihood diversification among rural households in southeast Nigeria. Using the multi-stage sampling technique, 180 households in rural areas were chosen as a sample from 754,702 whole. The researcher employed an interview schedule to collect data for the study whilst data collected was analysed using descriptive and inferential statistical tools. The study found petty trading and food vending as the most common non-farm activity. The survey also highlighted baking, food processing, tailoring, weaving, and commercial motorcycle services as significant non-farm sector activities.

Yora Tafese (2017) conducted a study to assess the effects of non-farm livelihood diversification on food security and socioeconomic constraints that hinder rural households from diversifying into non-farm activities among two peasant associations in southern Ethiopia. The research was approached using

mixed methods. The sample of 110 households was selected through simple random sampling. The findings from the research indicated that non-farm activities in general and non-farm income specifically enable households to gain access to food throughout the year thereby ensuring food security among rural households. The main constraints associated with non-farm diversification according to this study include the dearth of credit, weak extension services and weak institutional capacity.

With regards to motives behind the take up of Non-farm activities by rural farmers Loison, (2015) embarked on a study in rural regions of Kenya , this study contains an extensive review of literature on rural transformation through non-farm diversification as well as a cross-sectional survey. The Study brought to bear that the motives behind farmers non-farm diversification can be categorized into push and pull factors. Push factors are perceived as the opportunities in the non-farm sector that farm households choose to take advantage of to improve their standard of living, whereas pull forces are those that force farmers to engage in non-farm activities. The study revealed that poor households are pushed into low-return non-farm activities whereas households with endowed assets are pushed into high-return. Again it was clear that most rural households' participation in non-farm livelihood activities is influenced largely by push rather than pull factors.

Liu (2015) investigated participation in non-farm activities in rural China. The study considered the impacts of non-farm diversification on rural employment, incomes and agricultural production among rural households. The study used data from households in Hubei Province. Econometric models were used to predict the incomes of farm households that have diversified into

non-farming activities and households that relied on incomes from only farming. The incomes from two groups i.e., diversified and non-diversified farmers were then compared. The study found that about 72% of rural households who responded to the survey had diversified into non-farm activities. Also, it came out that the average income of households that participated in non-farm activities was higher than that of households that participated in farm-only activities. Again, the study found that non-farm activities absorbed many surplus rural labour.

In another study, Ebaidalla and Ebaidalla (2020) investigated rural livelihood diversification and the impacts of non-farming activities in rural Sudan. Specifically, the study sought to interrogate factors that determined the participation of rural households in several non-farming activities as well as how diversified livelihoods in the non-farm sector contributed to the sustenance of rural livelihoods. The quantitative research approach was employed in this study. Data for the study was derived from the Sudanese National Baseline Household Survey (NBHS) (2009). The study discovered that non-farm activities contributed significantly to household income of farmers. Besides most respondents attributed their survival to their capacity to diversify their livelihood to include non-farming activities since farming as a primary livelihood source provided less security due to several shocks and negative trends. The result of a logit and probit model showed that educational level, means of transportation, lack of land and lack of access to formal credit were the most significant factors that push rural farmers to participate in non-farm activities.

Lastly, Danso-Abbeam, Dagunga and Ehiakpor (2021) did a study that explored the impacts of rural non-farm income diversification on rural households welfare and technology adoption in the Upper East region of Ghana. The study used the propensity scoring matching to estimate factors that influence farmers take up of non-farm activities and the potential effects on the welfare. Matrices used in the welfare estimation included technology adoption, income and food security. The key findings from this study showed that non-farm diversification strategy among rural farmers enabled them to actively employ their labour force throughout the year. It also contributed to increase income that enabled farmers adopt technologies for enhanced production.

Summary of Empirical Review and Gaps

The empirical literature presented livelihood diversification as an essential component of a sustained livelihood. It highlights the non-farm livelihood diversification as a norm and an emerging concept in rural development given the several benefits it is perceived to confer on the livelihood outcomes of rural dwellers. In the literature issues on the inability of farm or agricultural systems to ensure the livelihood security of rural households were cited as the major push factors behind the take of multiple livelihood activities. However, the reasons for non-farm diversification by farm households are less explored in qualitative terms. This is because most of the studies focused on the use of logit and probit regression to test hypothesized variables that are perceived to be determining factors in non-farm diversification by farm households. These variables are diverse and it can

be inferred that their selection is mostly informed by the biases of the various researchers.

The review also shows differing patterns of non-farm activities across geographical regions even within the same nation. Such disparities suggest the need to investigate emerging non-farm activities peculiar to a specific rural district rather than to generalize results from earlier or other researchers. Also, the literature reveals different factors as reasons behind the diversification of rural households. These factors are also inconclusive and require further interrogation.

Finally, most of the research reviewed was quantitatively inclined with much emphasis on the socio-economic factors that cause diversification into non-farm activities. Issues bordering on the reasons for the involvement of rural farmers in non-farm activities and its effects on livelihood outcomes and the constraints that hinder the take up of non-farm activities as diversified livelihood strategy among rural farmers in Ghana remain less explored in the empirical literature.

Conceptual Framework

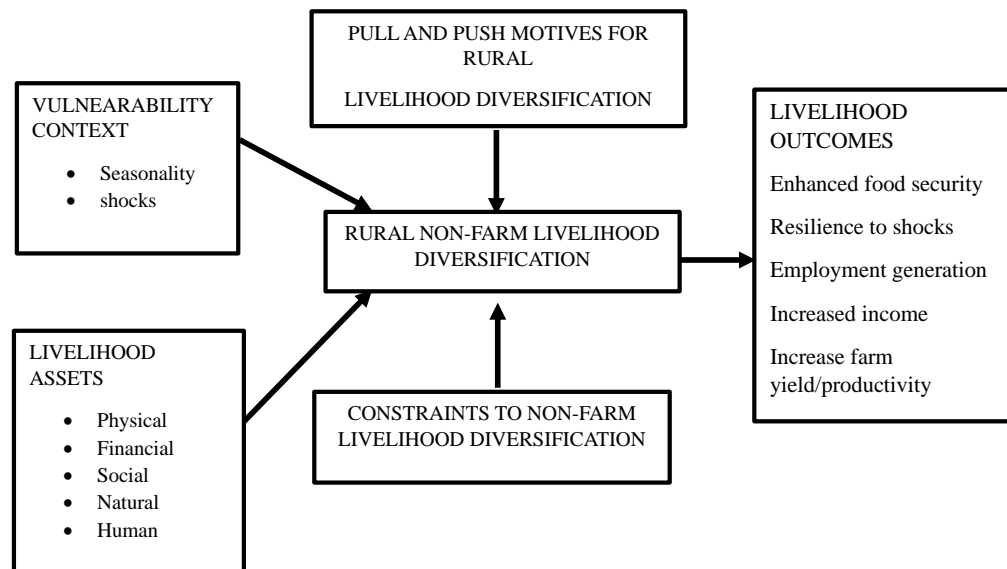


Figure 2: Conceptual framework

Source: Adapted from the Sustainable Livelihood Framework

(DFID,2000)

The conceptual framework for the study expressed in (figure 2), indicates that a farm household' diversification into non-farm activities occurs within a vulnerability context and is mainly the result of certain push and pull factors. It establishes farming or natural resource-based livelihood as the primary source from which rural households derive their livelihood. However, access to livelihood resources by farm households as well as the extent to which a household is exposed to shocks, trends and seasonality may lead to the take-up of additional livelihoods outside the farm sector of the rural economy as a means of ensuring a secured livelihood.

The framework's vulnerability context suggests that external influences have an impact on rural residents' standard of life. These are mostly beyond their control and may result from shocks, trends and seasonality. In the

specific case of rural farm households, seasonality is mostly the result of rural households' sole dependence on rainfall for farming. Other factors like reduction of farm lands, flooding and drought as well as trends that emanate from changes in economic, sociocultural and institutional structures contribute to livelihood insecurities that increasingly deepen farmers' vulnerability.

It needs to be stressed that households build their livelihoods from a variety of assets or resources. These are categorized into financial, human, social, natural and physical. A sustained livelihood is therefore based on an individual's or household's access and use of livelihood assets as well as the extent or degree to which it is exposed to factors that render it vulnerable. At the same time, certain factors pose constraints to the take-up of non-farm activities by farm households. These constraints can also be considered from the individual, household, community and institutional levels. Eventually farmers involvement in non-farm livelihood sources perceived to positively enhance its livelihood. This positive effect on the farm household's livelihood is seen in several ways including enhancing resilience to poverty and vulnerability, improving food security, creating employment, increasing farm productivity and farm incomes as well as improving the general well-being of households

CHAPTER THREE

RESEARCH METHODS

Introduction

This study considered non-farm livelihood strategies among farmers in the Komenda Edina Eguafo Abirem Municipality. This section of the study considered the approach and procedures for data collection and analysis. Specifically, it focused on the research design, the study area profile, the sampling procedure, data collection instruments, data processing procedures, and ethical issues arising from the research.

Research Philosophy

This research is premised on the Pragmatist research philosophy. In the context of research, Pragmatism is predicated on the idea that researchers ought to use the methodological and/or philosophical strategy that is most effective for the specific research problem they are examining. (Tashakkori and Teddlie 1998). Pragmatism, therefore emphasizes the practical consequences and real-world applications of ideas, beliefs, and theories. Furthermore, the use of pragmatism in research reflects a commitment to practical problem-solving, methodological flexibility, and a focus on real-world applications (Ormerod, 2021). It also enables researchers to approach investigations with an open mind, drawing from a spectrum of methods to address the complexities of the research problem and produce results that have tangible implications for practice and policy.

Moreover, pragmatists believe that the effectiveness of a research approach should be judged by its ability to produce meaningful outcomes and inform decision-making in practical settings. Pragmatism is used for this study

since it allows the use of a variety of methods from the qualitative and quantitative domains, to tackle the complexities of the research undertaking. Again, the tenets of pragmatism strengthened the overall validity of findings from this study through triangulation.

Research Design

This study used the sequential explanatory design. Clark (2019), describes sequential explanatory design as a research design that mainly considers quantitative data at an initial stage and later deals with qualitative data at a second phase. When using the sequential explanatory design, quantitative data forms the foundation for the study and was first collected and analyzed. The collection and analysis of the qualitative data followed this. In this case, the qualitative data was not only required to collaborate the quantitative data earlier collected but also served as a basis for exploring research participants' views in more depth. The design is found appropriate for this study since it allowed the integration of different data types and methods, thus providing a more comprehensive view of the research problem.

Profile of Study Area

The study was carried out in four (4) rural communities within the Komenda-Edina-Eguafo-Abirem Municipality. These are Dominase, Abirem Bisease, Abreshia, and, Abirem Birease. These communities were selected based on the assurance of availability of data on farmers by the Municipal Directorate of Agriculture.

The Komenda-Edina-Eguafo-Abirem Municipality can be found in the southwestern portion of the central region of Ghana (Figure 3). The municipality is bounded on the south by the Atlantic Ocean (Gulf of Guinea),

on the east by the Cape Coast Metropolis, on the north by the Twifo-Hemang Lower Denkyira District, and on the west by the Mpohor-Wassa East District. The district is 372.45 kilometres square and is located between longitudes 10 20' West and 10 40' West and latitudes 0 05' North and 150 North (919.95 square miles).

The Komenda-Edina-Eguafo-Abirem Municipality lies within the dry equatorial zone of Ghana. The coastal regions of the Komenda-Edina-Eguafo-Abirem (KEEA) receive less rainfall than the interior areas. Annual rainfall totals vary from 1200 to 1500 mm in interior regions and have a double maxima between 750 and 1,000 mm in coastal locations. bushes, grasses, and sporadic trees make up the vegetation in coastal areas; the bushes can reach a height of 1.5 meters.. In the interior areas, secondary forests can be found, but human activities such as deforestation are rapidly depleting the forest cover.

The topography of the Municipality is mainly undulating and characterized by batholiths in terms of physical features. The land can be broadly divided into the coast and the interior. The coastal region mainly consists of undulating plains with isolated hills and cliffs. Several lagoons and marshes, including the Benya, Brenu, and Susu Lagoons, are another feature of the coastline. The land area stretches from the coast into the central region's interior. The ground rises between 250 and 300 meters above sea level in the hinterland

Komenda-Edina-Eguafo-Abirem (KEEA) Municipality is predominantly rural, with agriculture as the main economic activity ((KEEA, annual progress report, 2019). Moreover, the area has fertile soil and a suitable climate that supports the cultivation of tree crops such as cocoa, oil palm and

rubber. Fishing is also an important economic activity, especially along the coast. The municipality has rich marine life and fishery resources that support artisanal and commercial fishing. The municipality also has several beaches, historical sites, and cultural festivals that attract tourists. Small-scale manufacturing, such as cassava processing, soap making, and pottery, is also prevalent in the area.

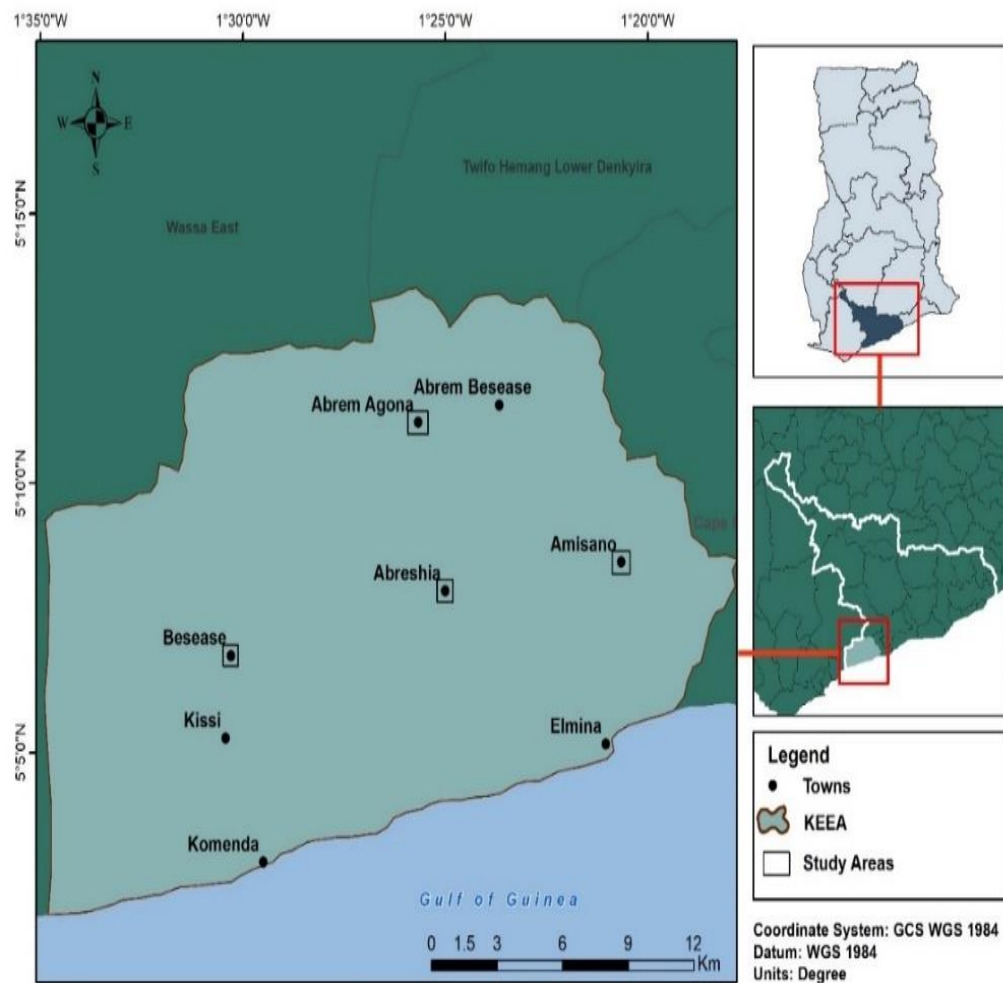


Figure 3: Map of KEEA

Source: GIS Section, Department of Geography and Regional Planning, University of Cape Coast.

Target Population

Farmers from the four (4) rural areas chosen for the study who had registered with the Municipal Department of Agriculture made up the population for the study. Data from the Municipal Directorate of Agriculture showed that 2,108 farmers in these chosen localities were registered with the directorate in 2021. The breakdown of farmers that participated in the study is detailed in Table 1.

Table 1: Registered Farmers in the selected communities

No.	Name of Community	Registered Farmers
1	Dominase	776
2	Abirem Bisease	640
3	Abrehyia,	429
4	Abirem Birease	300
Total		2108

Source: MOFA, KEEA (2021)

A suitable sample for the study consisted of 332 farmers, determined by using the Morgan and Krejcie (1970) table for sample size estimation. Consequently, a proportionate-to-size allocation technique was used to further estimate the total sample from each community. Table 2 displays the sampled farmers from the communities chosen for the study, based on the proportionate to-size apportioning.

Table 2: Sample of farmers from selected communities

No.	Name of Community	Number of Farmers	% Allotted to community	Sample selected
1	Dominase	776	37	122
2	Abirem Bisease	640	30	99
3	Abremhyia,	429	20	68
4	Abirem Birease	300	14	47
Total		2108	100	332

Source: Fieldwork (2023)

Sampling procedure

A multi-stage sample procedure was used to derive the sample for the study. In the first stage, the four rural communities were purposively selected. The selection of these communities was done in accordance to available data on the on farmers from the Municipal Directorate of Agriculture and the assurance of the existence of vibrant Farmer Organizations in these communities. Details were derived from the Municipal directorate and confirmed with extension officers from the four rural communities selected for the study. The list for each community was compiled ensuring that contact details were available. Numbers were assigned to the list of farmers for each community. The lottery method was then used to derive sampled farmers who responded to the survey questionnaire.

Moreover, interviews were conducted from farmers selected from each community to collect qualitative data. In each community, two farmers were interviewed. These farmers were chief farmers from the male and female groups.

Types and Sources of Data

The data for the study is detailed as follows:

- Information on the nature of non-farm livelihood diversification among farming households.
- Views from farmers on the reasons for diversifying into non-farm activities by rural farm households
- Information on how farmers' participation in non-farm activities affects their livelihood.
- Views on the constraints to non-farm livelihood diversification among rural farm households.

Data for this research was generated essentially through fieldwork. The fieldwork was undertaken between April and May 2023.. The fieldwork was undertaken by the researcher and three trained assistants.

Instruments for Data Collection

This study used a questionnaire and an interview guide as its primary data gathering tools. While the interview guide was utilized during the key informant interview to ensure the conduct of in-depth interviews to collect mostly qualitative data, the questionnaire was used to acquire quantitative data.

(i) Questionnaire

The questionnaire was principally employed to ascertain the various non-farm activities undertaken by farmers as well as the motives behind the take-up of these activities.. This was administered through trained research assistants who read and explained the contents in the local dialect to respondents. The study's objectives served as the basis for developing the

questionnaire. Sections were added in accordance with the specific objectives of the research. In the first section, respondents were asked to provide details about their age, gender, occupation, education level, and length of stay, among other socio-demographic attributes.

The second section dealt with an inquiry into the extent of participation into non-farm activities and the common types of non-farm activities among rural farmers in the study area. The third part of the generated information on reasons for diversifying into non-farm activities by farm households. The fourth section solicited information on the effects of non-farm livelihood diversification on the livelihood of farmers while the fifth and last sections solicited views from farmers on constraints associated with diversifying into non-farm activities.

(ii) Interview Guide

Indepth interviews were conducted from selected farmers from each study community who served as key informants for the study. From each community two people (the Akuafo Hene and Akuafo Hema) were interviewed as key informants. The outcomes of the interviews which were transcribed formed a key component of the qualitative data for the study. The field interviews were conducted using an interview guide that was created. The interviews were taped, transcribed, and then subjected to thematic analysis.

Piloting of instruments

The research instruments were initially scrutinised and subsequently piloted at a farming community called Simir in the Komenda-Edina-Eguafo-Abirem Municipality with similar characteristics to the selected communities for the study. After the piloting, the lapses that were likely to affect the

validity and relevance of the study were corrected. This gave full assurance regarding the validity of the instruments. Selected communities were visited before the actual field work for data collection. This was necessary to get familiar with the study area and establish the necessary rapport for easy entry and effective data collection..

Data Collection Procedures

The questions on the questionnaire were digitized using the Kobo-collect online platform. After a brief training of those who assisted in data collection on the nature and objective of the study as well as its methodology. Each member of the team downloaded the link for the online data collection on the Kobo- Collect App. The quantitative data was collected together with the team as the team moved from community to community. This was done in the evenings and early mornings during weekends when most of the respondents were available at home. A session with an individual lasted for about thirty (30) minutes.

Besides, the in-depth interviews and were done on Tuesdays during the farmer meetings the contacted Agricultural Extension Officers had with the various farmer-based organizations in the selected communities. Before the start of the meeting, the selected farmers who served as key informants were interviewed. The entire process of data collection lasted for two months.

Data Analysis

The research employed both quantitative and qualitative tools to handle the data analyses. Quantitative data for the first research question was analyzed using frequencies and percentages and standard deviations. Besides quantitative data collected for the second research question were also analyzed

using regression while the qualitative data was approached using thematic analyses. Again in analyzing research question three regression and Bran and Clark's six stages of thematic analyses was used for the quantitative and qualitative data respectively. Lastly, the data collected on research question four was analysed using Bran and Clark's six stages of thematic analysis, while the quantitative data was analysed using means and standard deviations.

Moreover, the quantitative data collected using the Kobo-collect toolbox were downloaded and exported into Microsoft Excel and cleaned. This was further coded and analyzed. With regards to the qualitative data, the interviews were audio-recorded with brief notes being taken as well. The audio recordings were later transcribed, thematically analyzed and used for the detailed discussion of research findings.

Ethical Issues

In the entire process of this research undertaking, particularly in the data collection and analysis stages, all professional ethics regarding the conduct of research were adhered to. Firstly, upon successfully defending the research proposal, and subsequent forwarding of the protocol to the Institutional Review Board, University of Cape Coast, , permission was granted for data collection and continuation of the research undertaking. It is important to state that no individual or group of people responded to interviews and questionnaires against their will. Moreover, heads of households and participants of the focus group discussion partook in the research at their own will. Assurance regarding the confidentiality of data and anonymity of research respondents in this research undertaking was highly implemented or adhered to.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter considered the results and discussion section of the report on the study that investigated non-farm livelihood strategies among farmers in the Komenda Edina Eguafo Abirem Municipality. This chapter is divided into three sections. Section one segment shows the results that relate to respondents' demographic characteristics. Besides, the second section presents the main findings to address the research objectives. The findings are presented in tables for easy understanding and readability. The third part finally discussed the main results of the study in accordance with the objectives of the study.

Background Information of Respondents

Demographic characteristics of farmers who responded to this study are summarized in this section. This comprehensive background information included variables that include sex, age, community, educational background, marital status, number of dependents, estimated monthly income, estimated monthly expenditure, household assets. The detailed background information of farmers is presented in Table 3 below.

Table 3: Demographic Information of the respondents

Variable	Sub scale	Freq.	(%)
Gender	Female	79	25.2
	Male	234	74.8
Community	Dominase	97	30.99
	Abremhyia	69	22.04
	Abirem Birease	89	28.43
	Abirem Agona	58	18.53
Age	30 years and below	12	3.8
	31- 40 years	30	9.6
	41-50 years	122	39.0
	Above 50 years	149	47.6
Marital status	Single	26	8.31
	Married	255	81.47
	Separated	10	3.19
	Divorced	22	7.03
Qualification	No Formal Education	71	22.7
	Basic Education	189	60.4
	Secondary Education	30	9.6
	Tertiary Education	23	7.3
Household Assets	Farm land and Building Plot	92	29.4
	Farm land and Motor-Bike	81	25.9
	Farm land and Car	13	4.2
	Farm land and Home-Appliances	127	40.6
Estimated Monthly Income	Below Gh\$1000	157	50.16
	GH\$1100-GH\$2000	143	45.69
	GH\$2100-GH\$3000	10	3.19
	Above GH\$3000	3	.96
Estimated Expenditure	Below Gh\$1000	78	24.8
	GH\$1100-GH\$2000	137	43.8
	GH\$2100-GH\$3000	84	26.8
	Above GH\$3000	14	4.6

Field survey, 2024.

Table 3 indicates a significant gender disparity among respondents, with males constituting 234(74.8%) and females only 79(25.2%). This difference may reflect traditional gender roles in farming communities where men are often the primary providers. The dominance of male participants suggests that non-farm livelihood strategies might be predominantly male-centric, potentially marginalizing female involvement in alternative income-

generating activities. Also, age distribution among respondents shows a predominance of older farmers with 149(47.6%) aged above 50 years and 122(39.0%) between 41 and 50 years. This ageing demographic has significant implications for Non-farm livelihood strategies as older farmers may have different skills, health conditions, and risk tolerances compared to their younger counterparts. However, reliance on this age group can pose challenges, especially as they may be less adaptable to new non-farm opportunities driven by technological advancements.

From Table 1, it is evident that respondents came from four communities: Dominase (N=97; 30.99%), Abremhya (N= 69; 22.04%), Abirem Birease (N=89; 28.43%), and Abirem Agona (N=58; 18.53%). The varied representation indicated a broad geographic coverage, which is crucial for understanding diverse Non-farm livelihood strategies across different local contexts.

Furthermore, a substantial proportion (N=255; 81.47%) of respondents were married. This could imply stability and shared financial responsibilities within households. Also, married farmers may be more inclined to invest in diverse Non-farm livelihood strategies due to the combined financial and labour resources of their families. However, the presence of singles (N=26; 8.31%), separated (10; 3.19%), and divorced (N=22; 18.53%) highlights the necessity of considering varying household dynamics and support systems when promoting non-farm livelihoods.

More so, educational background revealed a predominance of basic education (60.4%), with 22.7% having no formal education at all and only 16.9% possessing secondary or tertiary education. This educational

distribution suggests individuals may lack advanced skills necessary for diversified non-farm activities. Limited educational attainment could constrain the adoption of new technologies or practices, inhibiting income-generating opportunities beyond traditional farming. Again, the farmers indicated that, they owned household assets such as farm land and building plots (N=92; 29.4%), farm land and motorbikes (N=81; 25.9%), and farm land and home appliances (N=127; 40.6%). However, the limited number of respondents with higher-value assets such as cars (N=13; 4.2%) indicates a potential vulnerability in accessing capital-intensive non-farm activities.

Besides, the estimated monthly income of respondents showed that majority (N=157; 50.16%) earn below GH\$1000, 143(45.69%) earn GH\$1100-GH\$2000, 10(3.19%) earn GH\$2100-GH\$3000, while only 3(0.96%) earn above GH\$300. The low income earned by the farmers used for the study signal a low-income status that may restrict food security and investment in non-farm initiatives. This economic reality suggests a pressing need for sustainable income-generating activities outside of traditional farming, as many families struggle to meet basic needs.

The expenditure analysis indicates that a considerable proportion (N=137; 43.8%) of respondents fall within the GH\$1100-GH\$2000 range for monthly expenditures, highlighting potential financial strain for households. The disparity between income and expenditure can create a chronic cycle of poverty, particularly if farmers are reliant solely on agriculture. The gap suggests a pressing need for alternative livelihood strategies to augment income and ease the financial burden on households.

Research Question One: What is the nature of the non-farm livelihood strategies among rural farmers in the Komenda-Edina-Eguafo-Abrem Municipality?

The first research question examined the nature of the non-farm livelihood strategies among rural farmers in the Komenda-Edina-Eguafo-Abrem Municipality. Data on the first research question was analysed quantitatively and qualitatively. The quantitative data sought to identify farmers' non-farm activities, the extent of non-farm diversification, and consequently, the seasonality patterns in non-farm diversification. A follow-up interview schedule was arranged with the farmers to further elaborate on the quantitative findings on the nature of the non-farm livelihood strategies.

Quantitative analysis of the type of non-farm activities taken up by farmers

The quantitative analysis of the types of non-farm activities undertaken by farmers is presented in Table 4. The farmers were asked to indicate various categories of non-farm work they engage in to supplement their income.

Table 4: Type of non-farm activities taken up by farmers

Non-Farm Activity	Freq.	%
Trading/Commence	60	19.2
Transport/Driving	17	5.4
Processing of farm produce	44	14.1
Food vending	34	10.9
Building and construction works	45	14.4
Hairdressing/barbering	17	5.4
Light manufacturing and repairs	35	11.2
Waged labour in the public/private sector	48	15.3
Salaried employment in public or private sector	13	4.2
Total	313	100.0

Source: Field survey, 2024

The data reveals a diverse range of non-farm activities undertaken by farmers, showcasing their adaptive strategies to secure additional income. Evidence from Table 4 indicates that the most common non-farm activity identified by farmers is trading/commerce, with 60 respondents representing 19.2% participating in this category. This indicates that nearly one-fifth of the farmers engage in buying and selling suggesting that farmers may leverage their agricultural knowledge and local networks to sell goods or engage in trade, thus supplementing their farm incomes effectively. This result is not surprising since Trading offers flexibility and can be adapted to the agricultural calendar, making it a popular choice.

More so, food vending is a source of supplementary income for 34 farmers (N=34; 10.9%). This result is not surprising since food vending often requires minimal startup costs and can be directly related to the produce they grow, providing an accessible income diversification strategy. Moreover, a significant number of farmers (N=48; 15.3%) participate in waged labour in the public or private sector. This indicates that a portion of the farming population secures temporary or part-time employment outside their farms, providing a steady but supplementary income stream. Again, 35(11.2%) of the farmers engage in light manufacturing and repairs engage. This category includes small-scale production and maintenance activities, reflecting a moderate level of involvement in technical and craft-based work.

Also, only 17 farmers (5.4%) engage in transport or driving activities. This lower percentage could be attributed to the requirements of owning or accessing a vehicle and having the necessary licenses and skills, which might be barriers for many farmers. Again, salaried employment is the least common

non-farm activity, with only 13 farmers (4.2%) engaged. This suggests that few farmers secure full-time, permanent employment outside farming, likely due to the demands of their agricultural work or a lack of available salaried positions. Once more, from Table 2, Hairdressing and barbering are less common, with only 17(5.4%) of farmers involved in them. These trades require specific skills and training, which might limit the number of farmers who can participate in them. Again, Processing farm produce is undertaken by 44 farmers (14.1%). This activity allows farmers to add value to their primary products, potentially increasing their income. It also indicates a move towards agro-processing, which can enhance local economies and create additional employment opportunities.

The extent of non-farm diversification among farmers

The quantitative data on the extent of non-farm diversification among farmers used for the study is presented in Table 5.

Table 5: The extent of non-farm diversification among farmers

Statements	Mean	SD
I am always open to new non-farm opportunities to supplement my income.	3.34	0.45
I frequently explore non-farm activities to supplement my income.	3.33	0.71
I actively seek opportunities for income generation beyond traditional farming	3.31	0.67
I consistently invest time and effort in non-farm income-generating activities.	3.30	0.57
I consistently adapt to changing economic conditions through non-farm diversification.	3.29	0.79
Non-farm diversification is a regular part of my income strategy.	3.28	0.91
Average Mean/SD	3.31	0.68

Source: Field survey, 2024.

The data collected from farmers regarding their extent of non-farm activities reflect a positive inclination towards diversification beyond traditional agricultural practices. The statement, “I am always open to new non-farm opportunities to supplement my income,” received the highest mean of 3.34 with a standard deviation of 0.45. This score indicates that farmers have a strong openness and willingness to explore new opportunities for income generation outside of traditional farming.

Also, the farmers indicated that they frequently explore non-farm activities to supplement their income ($M=3.33$; $SD = 0.71$). This suggests a strong proactive approach among farmers in considering different avenues to increase their income. More so, the farmers indicated that they actively seek opportunities for income generation beyond traditional farming ($M= 3.31$; $SD = 0.67$). This finding reinforces the notion that farmers are not only reactive but also proactive in seeking alternative sources of income. In addition, the farmers consistently invest time and effort in non-farm income-generating activities ($M=3.30$; $SD = 0.57$). This highlights a commitment among farmers to dedicate resources to non-farm activities. They further indicated that, non-farm diversification is a regular part of their income strategy ($M=3.28$; $SD = 0.91$), indicating that non-farm diversification is recognized as important. Overall, the average mean score recorded in Table 3 is 3.31 with a corresponding standard deviation of 0.68. This implies that, averagely, the extent of non-farm engagement among farmers used for the study is high. The results imply that, farmers are not only open to considering different income-generating activities, but are also actively engaging with them, thus improving their overall financial resilience.

Patterns of seasonality in farmers' non-farm diversification

Respondents were asked to identify the season during which they engaged in Non-farm activities, and the findings are detailed in Table 6.

Table 6: Pattern of Seasonality

Pattern of Seasonality	Freq	%
Dry Season (Minor Season)	227	72.5
Raining Season (Major Season)	86	27.5
Total	313	100.0

Source: Field Survey, 2024

The analysis of the data presented in Table 4 regarding the seasonality of non-farm activities among farmers reveals a distinct pattern. The majority of farmers take up non-farm activities primarily in the course of the dry season, also referred to as the minor season (N=227; 72.5%). This indicates that the dry season provides an opportune time for farmers to diversify their income sources, likely due to the reduced agricultural workload during this period. The dry season may offer more time and labour availability for farmers to participate in various non-farm activities without the pressing demands of farming tasks that dominate during the wet season.

In contrast, a smaller proportion of farmers (N=86; 27.5%), reported engaging in Non-farm activities during the rainy season or major season. This suggests that the primary agricultural activities during the rainy season require more attention and labour from the farmers, leaving less time for non-farm engagements. The major season is typically characterized by intensive farming operations such as planting, tending, and harvesting crops, which are time-consuming and labour-intensive.

Qualitative analysis of nature non-farm diversification

In the quantitative analysis, the study found that farmers used for the study mostly engage in a plethora of non-farm activities ranging from Trading/commerce, transport/driving, processing of farm produce, food vending, building and construction works, hairdressing/barbering, light manufacturing and repairs, waged labour in public/private sector, and salaried employment in public or private sector.

A follow-up interview session with 8 participants to delve deeper into the findings was conducted. The interview session was arranged with 2 farmers each from every community. Thus, in each of the 4 communities used for the study, the chief farmers (Ekuafɔ hene and ekuafɔ hemaɔ) were interviewed. To ensure privacy, anonymity and confidentiality, the participants were given codes ranging from Interview Participant 1 to Interview Participant 8. Two themes emerged concerning the nature of Non-farm diversifications among rural farmers.

Theme 1: Decision-making process behind choosing specific non-farm activities

During the interview session, the 8 participants were first asked to delve deeper into the choice of specific non-farm activities. One participant highlighted the necessity of diversifying income sources due to the seasonal nature of farming:

“Farming is seasonal here, so I engage in buying and selling since I cannot entirely rely on crop farming alone. I travel to Elmina to purchase fish, which I then smoke and sell locally.”

(Participant 1)

Another participant discussed the financial pressures and the strategy developed with her husband to supplement their farming income through small-scale business ventures:

‘My family expenses were too much. Also, we were not getting much from the farm so I and my husband planned to do some business. I go to the villages and buy cassava and process it into gari while he is also into alcohol brewing. Even though cassava is also becoming expensive these days, I make some profits since the fisherfolks at Shama readily buy the gari when I take it there on market days’ (Participant 2).

Another participant explained how the limitations of farming income led to engaging in palm oil processing to support daily family needs:

‘Farming is my main work, as am speaking to you I just returned from the farm. I had to do the palm oil processing since the income I get from my farms is small. So many things work against us and do not make farming work profitable. I use the small money I get from this milling machine to support my family daily’ (Participant 3).

More so, a participant expressed the need for additional income due to the unpredictability of pineapple farming and the harsh economic realities faced:

‘Am a pineapple farmer, but I also operate this roadside store with my wife. The reason why we took this decision was that we saw that pineapple farming was seasonal and most of the time

the rains fail leading to low yield. Life was very hard for us so we decided to engage in some trading ”(Participant 4).

One participant shared that driving provided a supplementary income source due to insufficient earnings from farming:

“Driving isn’t the only work that I do, my first work is farming. You see me doing this work because I don’t earn much from farming. And I cannot stay at home until another farming season begins. This driving work is also supporting me very well” (Participant 5).

A participant explained the formation of an association for palm oil and palm kernel processing as a response to inadequate income from farming:

“I’ve joined an association and we are into palm oil and palm kernel processing. I decided to do this in addition to my regular farming work since the farming work alone does not help us at all. These days we do not get much from the farm, after harvesting and selecting some for the house little is left to sell. But for this activity, people always come to buy when we have finished. Even that helps us to buy chemicals for use in our farming work” (Participant 6).

Participant 7 described how taking up non-farm work as a cleaner and electrician helped address the insufficiency of farming income:

“I was solely into farming until I found work as a cleaner in a public organization. I also get contracts since I am a trained electrician. I sought this non-farm work since the income I was

getting from my farming work was too small to meet my family's expenses'' (Participant 7).

Participant 8 recounted how borrowing money to buy a tricycle for transportation work became necessary due to the low income from farming and market saturation:

“I had to borrow money from friends to buy this tricycle and operate in addition to my farming work since what I was getting from farming was very small. Everyone is producing the same crops and so it becomes difficult to sell what you produce ”(Participant 8).

Theme 2: Balancing non-farm activities

In the course of the interview session, the participants were further probed to indicate how they balance different non-farm activities to sustain their overall income. One participant emphasized the importance of coordinating non-farm activities with less busy times on the farm. They highlighted the role of family support in maintaining their fish-selling enterprise.

“Much of the non-farm work are done when I am not very busy on the farm. My children and husband are also helpful in my fish-selling enterprise” (Participant 1).

Another participant discussed the need to diversify non-farm activities due to the changing nature of agricultural product prices. She stressed the importance of adapting to these changes to meet the needs of their family.

“You cannot rely on only one non-farm activity simply because time changes. For instance, when cassava becomes expensive,

we turn to do some other activities to be able to make ends meet. There are many mouths we need to feed and farming alone is not sufficient to do that. With the support of my husband and adult children, I managed to do all these activities'' (Participant 2).

The third participant explained his daily routine, balancing farm work with their job as a mason, which is dependent on contract availability.

"I come here almost every day but mostly in the evenings when I have returned from the farm. Even though I work as a mason, that is when I get contracts and that is not all the time" (Participant 3).

One participant highlighted the necessity of effectively managing various non-farm activities to ensure livelihood security.

"I do many non-farm activities since all are important and necessary for my livelihood security" (Participant 4)

The 5th participant working at a station mentioned the shift system allowing them to engage in other economic activities during their off hours.

"We run shifts at this station, so I attend to other economic activities when it is not my turn" (Participant 5).

Participant 6 described her work cycle based on the availability of palm fruits and their adaptive approach to selling or farming when fruits are scarce.

"I do this work (palm oil) when there are enough palm fruits. When the fruits are not more, I sell them at the market or go to the farm" (Participant 6).

Participant 7 shared his schedule, balancing his daily job, farm work, and charcoal production, especially during annual leave.

“Even though I go to work every day, I close early and during my annual leave time I work on the farm and produce charcoal for sale. I mostly go to the farm early morning before going to work and oftentimes when I return from work ”(Participant 7).

The final participant emphasized the critical role of mobile technology in managing multiple non-farm activities crucial for their survival:

“I rely greatly on my mobile phone to serve clients who require my service. I have to attend to all these non-farm work since it is very key to my survival ”(Participant 8).

Research Question Two: What motivates farmers to engage in non-farm activities in the study area?

Research question two sought to examine what motivates farmers to engage in non-farm activities. The quantitative analysis of the study is presented in Table 7 below;

Table 7: Regression results on what motivates farmers to engage in non-farm activities

Variable	Coef. (β)	SE	T	Sig.
Limited Market	.477	.127	3.763	.000
Demand for non-farm goods	.468	.123	3.797	.000
Seasonality-Dry Season	.364	.737	4.561	.000
Estimated Monthly Income	-.098	.001	-1.250	.022
_cons	7.644	1.537	4.973	.000
N	313			
P-Value	0.000			
R-squared	0.625			
Adj R-squared	0.623			
Root MSE	3.494			

Dependent Variable: Extent of engagement in non-farm diversification; Base Category: Raining season; Significance at 5%

Source: Field survey, 2024

From Table 7, the regression results show that limited market size has a significant positive effect ($\beta = 0.477$, $p < 0.001$) on farmers' engagement in non-farm activities. This indicates that as market opportunities for agricultural products decrease, farmers are more likely to diversify into non-farm activities. Similarly, the demand for non-farm goods is also another major reason for Non-farm diversification ($\beta = 0.468$, $p < 0.001$). This suggests that higher demand for non-farm products motivates farmers to engage in non-farm activities. Seasonality, specifically the dry season (off-season), significantly impacts Non-farm diversification ($\beta = 0.364$, $p < 0.001$). Compared to the rainy season, the dry season encourages farmers to seek alternative income sources due to reduced agricultural productivity. Interestingly, estimated monthly income has a negative but significant relationship with non-farm diversification ($\beta = -0.098$, $p = 0.022$). This result means, farmers who earn low income from their farm produce are likely to engage in more non-farm activities. This implies that higher monthly income from farm activities reduces the likelihood of farmers engaging in non-farm activities, possibly because they do not feel the economic need to diversify. Overall the above reasons (demand for non-farm produce, limited market size, seasonality, estimated monthly income) collectively contribute about 62.5% significant variations in farmers' engagement in non-farm activities ($\beta = .625$; $p = .000$; $p < .001$).

A qualitative exploration into what motivates farmers to engage in non-farm activities

In the quantitative analysis, it emerged that a limited market, demand for non-farm goods, pattern of seasonality, estimated monthly income are the

fascinating reasons that motivates farmers to engage in non-farm activities. A follow-up interview session was arranged with the participants. The results are presented in themes below.

Theme 1: Seasonality of Nature of Farming

During the interview session, 5 participants highlighted the seasonal nature of farming as a major reason for their engagements in non-farm activities. Participant 1 expressed the need to stay productive during the off-season by stating:

“When the farming season ends, I don't want to sit idly at home. That's why I buy frozen fish and smoke it for sale.”

(Participant 1)

Participant 3 emphasized the necessity of engaging in other activities to avoid idle time and to supplement income:

“Farming doesn't occur year-round. We can't just wait for the next season, so I do gari work, and my husband brews alcohol.” (Participant 3)

Participant 4 shared a similar sentiment about staying active when farming is not in season:

“Since farming here is seasonal, I work as a driver during the off-season to stay productive”. (Participant 4)

Participant 5 noted the flexibility to incorporate non-farm work due to the seasonal farming schedule:

“I use my tricycle for additional income because farming isn't constant throughout the year”. (Participant 5)

Participant 8 pointed out the necessity of finding additional income due to the irregular farming schedule:

“We don't farm every day of the year, which impacts our income negatively. With more free time, I need another source of income”. (Participant 8).

Theme 2: Low Income from Farm Produce

In the course of the interview, 5 participants described the insufficiency of farming income as a driving force for their participation in non-farm activities. Participant 1 recounted the shift to fish selling due to unreliable farming income:

“Six years ago, when the rains failed and our crops yielded little, I began selling fish. It's given me stability amidst farming's unpredictability”. (Participant 1)

Participant 4 shared the motivation behind starting a food vending business:

“Last year, when my kids started school and expenses rose, I rented a shop and began selling food and fruits to passengers because farm income wasn't enough”. (Participant 4)

Participant 6 discussed the need to save up for a tricycle due to low farming income:

“I saved for some time to buy this tricycle since relying solely on my small farm income wasn't enough”. (Participant 6)

Participant 7 saved for years to invest in a car for extra income:

“My farm is small, and the earnings are inadequate, so I saved to buy this car for additional income”. (Participant 7)

Participant 8 explained the necessity of finding additional income sources:

“Farming income is always small, so as a farmer, you need to think of other ways to support yourself and your family”.

(Participant 8).

Theme 3: Limited Market

Three participants highlighted market limitations for farm produce as a reason for diversifying into non-farm activities. Participant 1 recalled a year when cassava overproduction led to market saturation:

“One year, everyone harvested a lot of cassava, but no one bought it. That's when we realized the market isn't always reliable, prompting us to take up non-farm activities”.

(Participant 1)

Participant 5 mentioned the difficulty in getting buyers for farm produce before investing in a tricycle:

“Before I had this tricycle, selling my farm produce was hard. Now, I can take my produce to buyers in the market”.

(Participant 5)

Participant 8 described the challenge of selling farm produce and the reliance on non-farm activities:

“Selling my farm produce is tough; my wife often brings unsold items back. That's why I don't take this machine for granted, as it supports my livelihood”. (Participant 8)

Theme 4: Increasing Demand for Non-Farm Goods and Services

Four participants noted the rising demand for non-farm goods and services as a motivating factor for engaging in these activities. Participant 2 discussed the ubiquitous need for driving services:

“Driving is essential everywhere. Since people need cars to get places, we’re always in business”. (Participant 2).

Participant 3 observed the constant demand for palm fruit milling:

“There isn’t a day when women aren’t here to mill their palm fruits. Sometimes, even if the machine is faulty, I take money from them to repair it”. (Participant 3)

Participant 5 recognized the steady demand for smoked fish:

“Almost every household buys smoked fish daily, so I ventured into fish selling. I can confidently say it was a good decision”.
(Participant 5)

Participant 6 acknowledged the consistent demand for gari among fisherfolks:

“Fisherfolks buy a lot of gari. When I take it to them, I make good sales. It makes me think I should continue, even though we won’t quit farming”. (Participant 6)

Research Question 3: To what extent does participation in non-farm activities affect the livelihood of rural farmers?

Research question 3 sought to analyse the effects of participating in non-farm activities on livelihood of rural farmers. The quantitative data obtained is presented in Table 8

Table 8: Non-farm activities and livelihood of rural farms

Variable	Coef. (β)	SE	T	Sig.
Trading/Commence	.790	.086	4.803	.000
Transport/Driving	.452	.068	4.945	.000
Food vending	.364	.167	3.464	.001
Building and construction works	.479	.155	4.279	.000
Hairdressing/barbering	.457	.128	1.424	.155
Light manufacturing and repairs	.521	.143	.643	.032
Waged labour in public/private sector	-.402	.138	-4.803	.000
_cons	7.644	.437	4.973	.000
N	313			
P-Value	0.000			
R-squared	0.712			
Adj R-squared	0.725			
Root MSE	2.567			

Dependent Variable: Livelihood; Reference Category: Processing of farm produce; Significance @5%

Source: Field survey, 2024

From the Table 8, it is evident that rural farmers who engage in trading or commerce activities experience a substantial improvement in their livelihoods compared to those who primarily process farm produce ($\beta=.790$; $p=.000$). The significant positive effect suggests that trading/commerce is a viable non-farm activity that can enhance the economic well-being of rural farmers. More so, the coefficient for Transport/Driving is 0.452, also with a significant p-value of 0.000. This positive relationship signifies that involvement in transport or driving activities positively impacts the livelihood of rural farmers, when compared to the base category. The significant coefficient implies that transport-related activities offer an additional source of

income, thereby contributing positively to the overall livelihood of rural farmers.

Furthermore, food vending improves the livelihood of rural farmers by 0.364 compared to processing farm produce. This finding suggests that food vending is a beneficial non-farm activity that supports livelihood enhancement but may not be as lucrative as other non-farm activities like trading.

Again, the table depicts that, rural farmers who engage in building and construction work see notable improvements in their livelihood when compared to those who engage in food processing ($B=.479$; $P=.000$). Contrastingly, Hairdressing/Barbering has a coefficient of 0.457 but a p-value of 0.155, which is not statistically significant at the 5% level. This result implies that while there is a positive trend, the effect of hairdressing/barbering on livelihoods is not strong enough to be considered statistically significant. Therefore, engagement in this activity might not reliably improve the livelihood of rural farmers compared to those who engage in food processing.

Again, Participation in light manufacturing and repair activities positively influences the livelihood of rural farmers ($B=.521$; $P=.032$), suggesting that these activities provide meaningful income opportunities and can serve as a beneficial supplement to farming income. Interestingly, the coefficient for Waged Labour in the Public/Private Sector is -0.402 with a p-value of 0.000, indicating a significant negative effect on livelihoods. This negative coefficient suggests that rural farmers engaged in waged labour in these sectors experience a decrease in their livelihood compared to those involved in processing farm produce. This result could be due to various factors such as low wages, job insecurity, or the demanding nature of such

jobs that may limit the time and energy farmers can dedicate to their farming activities.

Overall, the model explains a significant proportion of the variance in livelihood, with an R-squared of 0.712, indicating that approximately 71.2% of the variability in livelihood can be explained by participation in various non-farm activities. The root means square error (RMSE) of 2.567 indicates the standard deviation of the residuals, providing a measure of the model's accuracy.

Qualitative exploration how participating in non-farm activities affects livelihood of rural farmers

The quantitative analysis revealed that, engaging in various non-farm activities significantly influences livelihood of rural farmers. A follow up interview session was conducted to delve deeper into the results. Each participant shared personal narratives that underscore the importance of engaging in non-farm activities in enhancing their economic well-being and providing for their families. Participant 1 emphasized the crucial role her fish business plays in ensuring her family's food security and meeting their children's educational needs. She expressed gratitude for the business's ability to complement her farm produce and generate daily income.

“This fish business has been a lifeline for my family. We always go to bed well-fed, and I can provide for every school item my children need thanks to this trading” (Participant 1).

Participant 2 highlighted the vital role of non-farm activities in supporting a large household. She noted that these activities, combined with

small-scale farming, ensure her family's nutritional needs are met and cover essential expenses like healthcare and education.

“With so many mouths to feed, these non-farm activities are essential. They ensure we have enough food and can afford school and hospital expenses ”(Participant 2).

Participant 3 reflected on how his driving work has substantially supported his rural farming life. The additional income has enabled him to care for his children's education up to university level and purchase necessary farm inputs like agrochemicals and fertilizers.

“Driving has been a tremendous help. It's supported my children through university and allowed me to buy agrochemicals and fertilizers for my farm ”(Participant 3).

Participant 4 also shared the financial benefits of operating a milling machine and working as a mason. These non-farm activities have enabled him to save enough money to support his children's education, which he view as a positive outcome.

“My milling machine and mason work have been crucial. They've allowed me to save money for my children's education, which is a significant positive impact ”(Participant 4).

Participant 5 described how running a shop has been immensely beneficial to his household. The shop provides daily income for his family's upkeep and funds to pay for labour on his pineapple farm.

“Operating this shop has been incredibly beneficial. It gives us money for daily needs and to hire labour for my pineapple farm ”(Participant 5).

Participant 7 discussed the dual benefits of working as a cleaner and doing charcoal work. These activities have not only helped him secure loans for their children's education but also enabled him to buy land and build a house.

“Working as a cleaner has helped me get loans for my children's education. The charcoal work has also enabled me to buy land and build a ” (Participant 7).

Participant 8 shared the positive impact of using a tricycle for work, which has significantly increased his income and positively affected their farming activities.

“Using this tricycle has significantly boosted my income, allowing me to meet household expenses and positively impact my farming work ”(Participant 8).

These narratives collectively illustrate the diverse ways in which non-farm activities contribute to improving the livelihoods of farmers, highlighting the importance of diversification for economic stability and growth.

Research Question 4: What are the challenges in participating in non-farm livelihood activities among rural farmers?

The last research question sought to examine the challenges involved in participating in non-farm activities. This quantitative analysis is presented in Table 9 below;

Table 9: Challenges in participating in non-farm livelihood activities among rural farmers

Non-Diversification Challenges	Mean	SD
Access to Finance		
I find it difficult to access financial resources for starting or expanding non-farm activities.	3.57	1.13
Financial institutions in my area do not offer suitable loan options for non-farm livelihood ventures.	3.02	1.12
The interest rates on loans available to me for non-farm activities are prohibitively high.	4.01	1.13
I struggle to meet the collateral requirements set by financial institutions for accessing funds for non-farm activities.	2.99	1.14
Average Mean/Standard Deviation	3.40	1.13
Limited Business Opportunities		
There is a lack of diverse and viable non-farm business opportunities available to me in my community.	3.63	0.99
Existing non-farm businesses in my area often face challenges that deter me from starting my own venture.	2.54	1.00
Market demand for non-farm products or services in my locality is insufficient to support new ventures.	3.25	1.01
The competition from larger businesses or enterprises makes it difficult for me to establish successful non-farm ventures.	3.50	0.98
Average Mean/Standard Deviation	3.23	1.00
Poor Household Asset Base		
My household lacks the necessary assets (land, equipment, etc.) to engage effectively in non-farm activities.	3.40	1.08
The limited assets available to my household constrain our ability to invest in non-farm livelihood ventures.	3.38	1.09
I feel disadvantaged compared to households with greater asset bases when attempting to pursue non-farm activities.	2.56	1.11

Table 9 cont'd

I perceive a lack of support or programs aimed at improving the asset base of rural households like mine for non-farm endeavors.	3.20	1.13
Average Mean/Standard Deviation	3.14	1.10
Infrastructural Challenges		
Inadequate transportation infrastructure makes it difficult for me to access markets for selling non-farm products.	3.39	1.11
The unreliable or insufficient electricity supply in my area affects my ability to operate non-farm businesses effectively.	3.12	1.17
The condition of roads and bridges in my area makes it challenging to transport goods related to non-farm livelihood activities.	3.75	1.11
The lack of basic amenities like water and sanitation infrastructure hinders my engagement in non-farm livelihood pursuits.	2.58	1.05
Average Mean/Standard Deviation	3.21	1.11

Source: Field survey, 2024

From Table 9, access to finance emerged as the most significant concern, with an average mean score of 3.40. This indicates that rural farmers frequently encounter difficulties in accessing the necessary financial resources for starting or expanding their non-farm activities. The statement with the highest mean score under this category is the concern regarding high interest rates on loans (M=4.01; SD=1.13). This suggests that the burden of financial constraints is deeply felt, as prohibitively high interest rates hinder farmers' abilities to invest in alternative livelihoods (M=4.01; SD=1.13). Also, the farmers indicated difficulty in accessing financial resources (M=3.57; SD=1.13).

Another intriguing challenge observed by the farmers in their quest of engaging in non-farm activities is limited Business Opportunities ($M=3.23$; $SD=1.00$). The farmers perceive a notable lack of diverse and viable non-farm business opportunities regarding the lack of business options in their community ($M=3.63$; $SD=.99$). This highlights the frustration felt by farmers who seek to diversify their income sources but find limited pathways available to them. Conversely, the mean score of 2.54 for the statement about challenges faced by existing non-farm businesses suggests that while farmers are aware of competitive and market barriers, they may be less concerned about the performance of current businesses compared to the lack of new opportunities. More so, Poor Household Asset Base, has an average mean score of 3.14. This signifies a general awareness among farmers of their limitations in household assets that constrain their ability to engage in non-farm activities. Notably, the farmers agreed that, their household lacks the necessary assets (land, equipment, etc.) to engage effectively in non-farm activities ($M=3.40$; $SD=1.08$). Additionally, respondents perceived a lack of support or programs aimed at improving the asset base of rural households for non-farm endeavors ($M=3.20$; $SD=1.13$).

Again, Infrastructural Challenges attracted an average mean score of 3.21, indicating that issues related to physical infrastructure significantly impact farmers' participation in non-farm activities. The highest mean score within this challenge comes from the condition of roads and bridges ($M=3.75$; $SD=1.11$) emphasizing the critical nature of transportation in accessing markets for non-farm products. The respondents also lamented on the

unreliable or insufficient electricity supply in their area which have affected their ability to operate non-farm businesses effectively ($M=3.12$; $SD=1.17$).

Qualitative exploration of challenges in participating in non-farm livelihood activities among rural farmers

In the quantitative analysis, it became vividly apparent to the researcher that, poor infrastructural, Poor Household Asset Base, Limited Business Opportunities, Access to Finance are the major challenges in participating in non-farm livelihood activities among rural farmers. Consequently, a follow up interview session was arranged to enable the participants the opportunity to share a personal experience that illustrates how the aforementioned challenges has adversely affected your participation in non-farm livelihood activities. Participant 1 expressed frustration about the lack of access to financial support and poor infrastructure, which they believe are significant barriers to their non-farm activities.

“Yes, we learn from other traders in the big towns that they get loans from rural banks, I would have wished getting some to work and pay in bits but you cannot find that support here. Since my money for trading is small, I am not able to do much”
(Participant 1).

The second participant reflected on her desire for financial support to expand her business, revealing the constraints imposed by inadequate infrastructure and financial resources;

“I wish I could have gone for a loan from the rural bank to expand this business. As you can see this shed, we are working in

is small but I don't have what it takes to get a loan or financial support ''(Participant 2).

Participant 3 voiced his frustration over the lack of available loans and its impact on their ability to expand their operations.

“The main issue I think that is a challenge to my operations is that if I can get some loans, I could expand my operations and buy other machines, but where do I get the loan?” (Participant 3)

Participant 8 emphasized the need for loans to enhance their non-farm activities but expressed disappointment at the unavailability of such financial resources.

“The roads are bad these days and we have to buy more petrol which reduces what we use to get before” (Participant 8)

Discussion of Results

Nature of non-farm livelihood diversification among rural farmers

The first research objective sought to explore the non-farm livelihood strategies among rural farmers in the Komenda-Edina-Eguafo-Abrem Municipality. Farmers expressed a proactive approach to non-farm diversification, with a high inclination to explore and engage in various income-generating activities. The most common non-farm activities included trading/commerce, waged labour, building and construction works, light manufacturing and repairs, food vending, and processing of farm produce. This diversity demonstrates farmers' proactive approach to securing their livelihoods, suggesting a dynamic economic landscape in rural areas that fosters resilience against agricultural uncertainties. The willingness of farmers

to explore various non-farm activities indicates a strong entrepreneurial spirit and adaptability, crucial for sustaining rural economies.

Regarding the issue of seasonality, non-farm activities were predominantly undertaken during the dry season due to reduced agricultural workload. The implication of these findings is significant since it suggests a reduction in financial vulnerability among rural farmers, a demographic traditionally reliant on a single source of income through agriculture. By strategically diversifying their income sources, these farmers may effectively mitigate various risks commonly associated with agricultural dependency. These risks include the potential for crop failure due to pests or diseases, fluctuations in market prices that can drastically affect profitability, and adverse weather conditions like droughts or floods that threaten harvests.

The findings also imply that, when farmers engage in multiple income-generating activities in the non-farm sector, they create a safety net. This not only ensures a more consistent income flow but also enables farming households to better weather economic challenges. The results also connote that, if farmers suffer a poor harvest in crop farming, income from these non-farm activities may provide essential support, thus safeguarding the family's financial wellbeing.

However, one key issue regarding the diversification of income sources among rural farmers is the potential for increased socio-economic inequality within these communities. While non-farm activities can undoubtedly provide vital alternatives for income generation, the reality is that not all farmers have equal access to the necessary resources, education, and social networks that enable them to take advantage of these opportunities.

Those who possess higher levels of education, financial capital, or prior connections to markets and business networks may find it significantly easier to engage in and benefit from non-farm ventures. As a result, a situation may arise where the more affluent or resource-rich farmers see substantial gains from diversified activities, while their less advantaged counterparts struggle to make the same leap. This disparity could potentially widen the socio-economic gap between different groups within the rural population. Consequently, instead of fostering an environment of shared prosperity, such a scenario might lead to a more pronounced division, where wealth and opportunities are concentrated in the hands of a few, leaving others marginalized and with limited prospects for advancement.

The implications of these growing inequalities can be profound. As the gap between different socio-economic groups widens, social tension may increase. Those who feel left behind might develop resentment towards more affluent peers, fostering an environment of division rather than collaboration. This can weaken community cohesion, which is critical for collective action, mutual support, and overall societal well-being. In rural areas, where social ties and collective identities often play pivotal roles in day-to-day life, fostering divisions can have detrimental effects on community stability and resilience.

Therefore, it is essential to address these concerns head-on. Ensuring that non-farm opportunities are inclusive and accessible to all members of the community must be a priority for policymakers, community leaders, and organizations involved in rural development. This could involve providing targeted training programs designed to equip less advantaged farmers with the

skills necessary to participate in non-farm activities, as well as improving access to credit and resources that can facilitate entrepreneurship. Additionally, fostering mentorship programs or cooperative models could help level the playing field, enabling disadvantaged farmers to benefit from shared knowledge and collective action.

The findings from the study concerning the nature of non-farm livelihood strategies align with existing research that highlights the proactive approach of rural farmers towards non-farm livelihood strategies across various contexts. For instance, a study conducted by Iqbal, Rizwan, Abbas, Makhdum, Nazam, Samie and Nadeem (2017) investigated the patterns, motives and determinants of non-farm diversification among agricultural households in Punjab, Pakistan revealed that rural households engaged in diverse non-farm activities such as small-scale trading and artisan work to supplement their agricultural income, asserting the necessity of these activities in building economic resilience (Iqbal, et al. 2017)). Similarly, the study resonates with a study by Asare, koomson and Agyenin (2021) that found that farmers in rural and peri-urban Ghana diversified their income sources through ventures like small businesses and food processing, showcasing their adaptability and entrepreneurial spirit amidst the challenges of climate change. Conversely, a contrasting perspective can be observed in a study from the Alobo in Kenya where it was noted that many rural farmers were hesitant to engage in non-farm activities due to a lack of resources and skills, resulting in a reliance on traditional agricultural practices (Alobo, 2017).

Motivations for engaging in non-farm activities

The second objective sought to analyse the reasons that motivates farmers to engage in non-farm activities. From the findings of the study, it emerged that, limited market, demand for non-farm goods, pattern of seasonality, estimated monthly income are the fascinating reasons that motivates farmers to engage in non-farm activities. The finding that limited market access significantly motivates farmers to engage in non-farm activities speaks to the broader challenges inherent in agricultural economies. When farmers face difficulties such as inadequate pricing for their produce, lack of buyers, or unreliable market channels, they often resort to diversifying their income sources. This behavior reflects a survival strategy where farmers seek alternative economic activities to buffer themselves against the unpredictability of agricultural markets. In essence, limited market access not only influences farmers' decisions but also shapes the economic landscape of rural areas, highlighting the need for systemic improvements in market access and infrastructure.

The study found that another intriguing reason why rural farmers engage in non-farm diversification is the rising demand for non-farm goods. This demand is fueled by various factors, including changing consumer preferences, the growth of local economies, and a heightened interest in sustainable and locally sourced products. The results implies that, as consumers increasingly seek variety and quality in their purchases, rural farmers recognize an opportunity to expand their income sources by tapping into these growing markets.

More so, the study found that the pattern of seasonality is another intriguing reason why rural farmers engage in non-farm diversification, with many farmers focusing on non-farm activities, especially during the dry season, often referred to as the off-season. During the dry season, agricultural production slows down, coinciding with a decrease in cash flow. This seasonal reduction in farming activities prompts many farmers to explore alternative sources of income. Thus, engaging in non-farm activities during this time becomes a necessary strategy for farmers seeking to mitigate risks and ensure their economic viability throughout the year.

Another noteworthy finding that emerged was that estimated monthly income is an intriguing reason which motivates the rural farmers involved in the study to engage in non-farm activities, particularly highlighting the high prevalence of non-farm diversification among lower-income earners. The results implies that, for low-income rural farmers, reliance on traditional farming alone often proves insufficient to meet their basic needs. Thus, fluctuating agricultural yields, coupled with the volatility of market prices, can lead to income insecurity, making it challenging to sustain a household.

Consequently, these farmers view non-farm diversification as a necessary means to supplement their income and create a more dependable financial foundation. They are more likely to engage in various non-farm activities, such as small-scale trading, craft production, or service-oriented ventures, in order to diversify their income sources and mitigate risks associated with farming.

The findings of the current study align with existing literature that emphasizes the role of limited market access as a motivating factor for farmers

to pursue non-farm activities in rural areas. Specifically, the study highlights that when faced with challenges in accessing markets for their agricultural products, farmers are often compelled to seek alternative livelihoods through non-farm diversification. The study findings support claims made in a study conducted by Babatunde & Qaim (2017) in the Morogoro region of Tanzania found that lack of reliable markets for agricultural goods prompted farmers to engage in non-farm activities such as trading and craft production.

Another study by Ratso (2016) in Malawi corroborates these findings, indicating that limited access to agricultural markets due to poor infrastructure and harsh market conditions significantly motivated farmers to seek non-farm opportunities. In contrast, a study by Asfaw et al. (2020) in the Gash-Barka region of Eritrea revealed different findings, suggesting that motivations for engaging in non-farm activities were primarily driven by aspirational factors, such as the desire for better living conditions and improved social status, rather than market access limitations. The authors argued that farmers sought non-farm activities because they perceived them as pathways to upward mobility rather than as a response to market failures or barriers. This perspective diverges from the current finding that limited market access is a key motivating factor, suggesting that the reasons for non-farm engagement can vary significantly across different contexts and regions.

Impacts of Participation in non-farm activities on livelihood of rural farmers

The third research objective sought to analyse the extent to which engaging in non-farm activities affects livelihood of rural farmers. The results that emerged was that, engaging in non-farm activities such as

trading/commerce, transport/driving, food vending, construction as well as barbering/hairdressing significantly influences livelihood of rural farmers. The results imply that, participation in trading and commerce allows rural farmers to tap into broader markets, creating additional revenue streams that can supplement their agricultural output. Thus, selling goods or offering services beyond their farming activities, they can buffer against the unpredictability of crop yields and improve their overall financial security.

More so, transport and driving services provide another avenue for income generation. The results imply that, rural farmers who own vehicles (or can drive vehicle) can offer transportation for goods or passengers, facilitating trade and mobility within their communities. This not only helps improve their own economic situation but also supports local economies by enhancing access to markets and services.

More so, engaging in food vending plays a crucial role in diversifying income as well. Farmers who engage in food preparation and sale can capitalize on their agricultural products, turning surplus produce into ready-to-eat meals. This not only reduces food waste but also meets the nutritional needs of the local population while creating additional revenue. Also, construction activities further contribute to livelihood enhancement. This means that, rural farmers skilled in manual labor who participate in building and infrastructure projects, earn substantial income to augment their farming income. This involvement not only helps meet local demands for housing and development but also allows farmers to apply their labor skills in ways that significantly boost their income.

Furthermore, personal services such as barbering and hairdressing offer further diversification opportunities. This means that, by providing grooming services, rural farmers can cater to the needs of their community members, ensuring that they have access to essential personal care without having to travel long distances. This service not only adds to their income but also strengthens community bonds. Considering the above, it becomes vividly apparent that, engagement in non-farm activities by rural farmers serves as a vital strategy for enhancing their livelihoods, fostering economic resilience, and contributing to the overall development of their communities. Through these diverse income-generating activities, rural farmers can mitigate risks associated with agricultural dependency while improving both their financial security and quality of life.

The findings of this study align with previous empirical research conducted in various contexts, reinforcing the notion that engaging in non-farm activities significantly enhances the livelihoods of rural farmers. For instance, a study conducted in the hubei province of china by Liu (2015) investigated participation in non-farm activities in rural China demonstrated that diversification into non-farm income-generating activities, such as trade and food vending, provided a crucial buffer against agricultural risks and improved the overall economic well-being of rural households. Similarly, research conducted in in rural Sudan by Ebaidalla and Ebaidalla (2020) on the livelihood effects of farmers non-farm activities indicated that participating in non-farm activities, including transport and construction, significantly contributed to the financial stability and food security of rural families, showcasing parallel outcomes to those noted in the current study.

However, a study conducted in the Punjab province of Pakistan by Davies et al. (2017) suggested that reliance on agricultural income was still paramount for rural farmers, indicating that many were not able to effectively engage in non-farm activities due to socio-economic constraints and lack of access to markets.

Challenges in participating in non-farm livelihood activities among rural farmers

The last research question sought to examine the challenges involved in participating in non-farm activities. The study revealed that, poor infrastructural, poor household asset base, limited business opportunities, access to finance are the major challenges in participating in non-farm livelihood activities among rural farmers. This result holds several implications.

The issue of poor infrastructure in rural communities is particularly detrimental. Thus, inadequate transport networks and unreliable electricity supply may hinder farmers' abilities to reach markets, acquire supplies, and distribute their products efficiently. Thus, without access to reliable roads, for example, farmers may be unable to transport goods in a timely manner, leading to spoilage or loss of product value. This limitation not only restricts market access but also raises operational costs, as farmers might need to pay higher rates for transportation or face delays in securing necessary materials for their businesses. Consequently, these infrastructural inadequacies can create a barrier that prevents farmers from fully maximizing their income potential from non-farm activities.

More so, poor household asset base among the farmers used for the study further exacerbates these challenges. Farmers with limited livestock, land, or technology may struggle to invest in new business ventures or diversify their income streams effectively. For instance, without sufficient capital or equipment, they may be unable to establish or expand enterprises in sectors such as food vending or construction. This not only limits their ability to generate extra income but can also lead to increased financial insecurity. The inability to procure necessary resources means that farmers may remain trapped in subsistence agriculture, resulting in a reliance on unpredictable agricultural yields that contribute to cyclical poverty.

Limited access to viable business opportunities in rural areas compounds the difficulties faced by farmers. In many instances, market demand for non-farm goods and services may be low, reflecting an absence of vibrant local economies. When rural farmers find few opportunities to engage in profitable non-farm activities, they may be less inclined to invest time or resources into these ventures, leading to stagnation in local economies. As a result, communities may miss out on the potential for diversified economic growth, undermining overall rural development.

Access to finance was identified as a critical barrier that rural farmers often encounter. This finding is not surprising since financial institutions may be reluctant to lend to these peasant farmers in rural areas due to perceived risks, high transaction costs, or a lack of collateral. This situation limits farmers' ability to secure loans that could help them start or expand non-farm businesses. Moreover, without financial resources, farmers may find themselves unable to buy raw materials, hire labor, or market their products

effectively. This absence of financial support can halt the potential benefits of engaging in non-farm activities, such as increased income and improved resilience to economic shocks. Consequently, rural farmers may continue to face vulnerabilities, remaining dependent on a single source of income that does not provide sufficient economic stability.

The findings of this study align closely with existing literature that identifies similar challenges faced by rural farmers in engaging in non-farm activities. For instance, an empirical study conducted in the Littoral Region of Cameroon by Swargiary and Mahanta (2019) highlighted the profound impact of poor infrastructure on economic diversification among rural farmers. The researchers found that inadequate road networks and limited access to markets were significant barriers to farmers' participation in non-farm activities. Their study further opined that, farmers reported that the costs and time associated with transporting goods to market often outweighed the potential benefits, pushing them to rely primarily on subsistence agriculture.

Similarly, a study conducted in the Forest Region of Guinea Swargiary and Mahanta (2019) examined the challenges faced by rural communities in diversifying their livelihoods. The authors reported that limited access to financial resources, coupled with a poor household asset base, acted as significant impediments to the establishment of non-farm businesses. This finding resonates with study conclusion that access to finance is a major challenge hindering rural farmers' participation in non-farm activities.

Chapter Summary

This chapter presented and discussed the findings of the study based on the research objectives. The study found that, farmers demonstrated a proactive approach towards non-farm diversification, exhibiting a strong willingness to explore and engage in various income-generating activities. Also, the most prevalent non-farm activities identified include trading and commerce, waged labor, building and construction work, light manufacturing and repairs, food vending, and processing farm produce.

More so, the study revealed that, limited market access, demand for non-farm goods, seasonal work patterns, and estimated monthly income significantly motivate farmers to engage in non-farm activities. Besides, the study found that, engaging in non-farm activities trading, transport and driving, food vending, construction, and barbering and hairdressing, significantly enhance the livelihoods of rural farmers. However, the study also highlighted several challenges that hinder participation in non-farm livelihood activities among rural farmers. Poor infrastructure, a weak household asset base, limited business opportunities, and restricted access to finance were identified as major obstacles.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter is the final chapter of the study. It sets out by providing a brief account of the research on “Non-farm livelihood strategies among farmers in the Komenda-Edina-Eguafo-Abirem Municipality”. Additionally, the The methods used to collect and analyze data to as well as the key findings based on the formulated research questions are highlighted. Based on the main findings, conclusions have been drawn, providing both recommendations and instructions for further studies.

Summary of the Research Process

The study investigated the non-farm livelihood strategies among farmers in the Komenda-Edina-Eguafo-Abirem Municipality. The research questions that guided the study are as follows:

1. What is the nature of the non-farm livelihood strategies among rural farmers in the Komenda-Edina-Eguafo-Abrem Municipality?
2. What motivates rural farmers to engage in non-farm activities in the study area?
3. To what extent does participation in non-farm activities affect the livelihood of rural farmers?
4. What are the challenges in participating in non-farm livelihood activities among rural farmers?

A sequential explanatory design was employed in the study. 2108 farmers from four rural areas in KEEA Municipality made up the study's population. The simple random sampling method was employed to choose 332

participants for the research. A systematic interview guide and questionnaire were used to gather data. The quantitative data was analyzed using both inferential and descriptive statistics, including a basic linear regression model and percentages. In the meantime, the qualitative data was analyzed using a thematic method.

Key Findings

1. The study found that, farmers demonstrated a proactive approach towards non-farm diversification, exhibiting a strong willingness to explore and engage in various income-generating activities in the non-farm sector. Also, the most prevalent non-farm activities identified include trading and commerce, waged labor, building and construction work, light manufacturing and repairs, food vending, and processing farm produce.
2. The study revealed that, limited market access, demand for non-farm goods, seasonal work patterns, and estimated monthly income significantly motivate farmers to engage in non-farm activities.
3. The study found that, engaging in non-farm activities like trading, transport and driving, food vending, construction, barbering and hairdressing, significantly enhance the livelihoods of rural farmers.
4. The study also highlighted several challenges that hinder participation in non-farm livelihood activities among rural farmers. Poor infrastructure, a weak household asset base, limited business opportunities, and restricted access to finance were identified as major obstacles.

Conclusions

The nature of non-farm livelihood strategies among rural farmers in the Komenda-Edina-Eguafo-Abrem Municipality showcases a dynamic and diverse approach to income generation. Farmers actively pursue various non-farm activities such as trading, waged labor, construction, light manufacturing, and food vending. This diversification highlights their adaptability and resilience in the face of economic challenges. Their proactive engagement in these activities underscores the importance of non-farm income sources in enhancing the economic stability and overall well-being of rural households.

The motivations driving rural farmers to engage in non-farm activities are multifaceted. Limited market access for agricultural products, the demand for non-farm goods, seasonal variations in agricultural work, and the potential for higher monthly incomes are key among these factors. These factors collectively push farmers to seek alternative income sources to mitigate the uncertainties and fluctuations associated with farming. The study concludes that, the pursuit of non-farm activities is not merely a supplementary measure but a strategic response to optimize their economic opportunities and improve rural livelihood outcomes.

The study also found that, participation in non-farm activities has a substantial positive impact on the livelihoods of rural farmers. Engaging in trading, transportation, food vending, construction, and personal services like barbering and hairdressing enhances their financial stability and improves living standards. These activities provide a buffer against agricultural risks and contribute to a more diversified and resilient economic base. The study concludes that, enhanced income from non-farm activities allows for better

investment in household needs, education, and health, thereby fostering overall community development and prosperity.

Lastly, despite the evident benefits, rural farmers face significant challenges in diversifying the livelihood to include non-farm livelihood activities. Key among these challenges is poor infrastructure, such as inadequate roads and electricity. Besides, weak household asset base limits the ability to invest in and sustain non-farm ventures. Additionally, limited business opportunities and restricted access to finance constrain their capacity to expand or diversify their activities. The study concludes that, addressing these challenges through targeted interventions and supportive policies is crucial to enabling rural farmers to fully leverage non-farm activities for sustainable livelihood improvements.

Recommendations

1. To support the diverse non-farm livelihood strategies among rural farmers, the local government and its development agencies need to improve rural infrastructure. This includes upgrading roads, providing reliable electricity, and enhancing water supply systems. Improved infrastructure will facilitate business operations, reduce transportation costs, and attract more investment into non-farm activities, thereby boosting economic growth and stability in rural areas.
2. Additionally, the Department of Agriculture and other rural development agencies and/ organisations need to put in place initiatives aimed at improving market access for non-farm products and services in rural farming communities. These initiatives can help farmers reach broader markets. Additionally, providing training on

market dynamics and business development will enable farmers to better understand and exploit business opportunities, particularly in the non-farm sector for enhanced resilience.

3. Financial institutions and government programs should focus on providing tailored financial products and services to rural farmers engaging in non-farm activities. This includes offering low-interest loans, grants, and savings schemes. Establishing microfinance institutions and cooperatives can also provide much-needed financial support, enabling farmers to invest in and expand their non-farm ventures, thus improving their livelihood outcomes.
4. The Municipal Assembly needs to Implement capacity-building programs that focus on developing rural farmers entrepreneurial skills, technical know-how, and business management skills. By enhancing the skills and knowledge of rural farmers, these programs will empower them to effectively manage their businesses, increase productivity, and improve their overall quality of life.

Suggestions for Further Studies

1. Future studies should be conducted in other jurisdictions for comparison purposes. This could reveal regional variations in non-farm livelihood strategies among rural households. This would also help identify region-specific factors that influence the success and challenges associated with non-farm diversification and give a broader understanding of the effectiveness of various interventions.
2. Besides, future studies should explore how technology or digital tools enhances non-farm livelihood activities among rural farmers.

Investigating how access to digital platforms, mobile banking, and online marketplaces affects the efficiency, reach, and profitability of non-farm businesses could offer valuable insights for policy and program development.

3. Further research should examine the gender-specific barriers and opportunities associated with non-farm livelihood strategies. Understanding the unique challenges faced by women and men in engaging in non-farm activities and identifying tailored support mechanisms can lead to more inclusive and effective livelihood programs that empower all members of rural communities.

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APPENDIX

UNIVERSITY OF CAPE COAST

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

QUESTIONNAIRE FOR FARMERS

Dear Respondent,

I am a final year M.Phil (Geography) student in the aforementioned university conducting a research on the topic: “Non-farm livelihood strategies among farmers in the Komenda Edina Eguafo Abirem Municipality”. In view of this, your cooperation and consent are indispensable as far as this study is concern. You are requested to read through the items and respond to them as frankly and objectively as possible. You are reminded also that; your responses would be treated with utmost confidentiality and be solely for academic purpose. Thank You for taking time to helping with this research.

SECTION A

Background information of Respondents.

Instructions: Please tick (✓) the box where applicable.

1. Gender (a) Female [] (b) Male []
2. Age: (a) Below 30 years [] (b) 31- 40 years []
(c) 41-50 years [] (d) Above 50 years []
3. Community (a) Dominase [] (b) Abrem Agona []
(c) Abrehyia [] (d) Abrem Birease []
4. Educational Background (a) No formal Education [] (b) Basic []
(c) Secondary [] (d) Tertiary []
5. Marital status (a) Single [] (b) Married [] (c) Separated []
(d) Divorced []
6. Number of dependents
7. Give an estimate of your total income per month
8. Give an estimate of your total expenditure per month.....
9. Please indicate the season where you normally engage in non-farm diversification
(a) Raining Season [] (b) Dry Season (Off season) []
10. Which of these household assets do you own? Tick all that apply

- a. Farm land []
- b. Building plot []
- c. Motor- bike []
- d. Car []
- e. Home – appliances []

SECTION B

NATURE OF THE NON-FARM LIVELIHOOD STRATEGIES AMONG RURAL FARMERS

I. The extent of non-farm diversification among farmers

Kindly rate your level of agreement (from 1 to 5) with the following statements, where 1 = Least (weak) agreement and 5 = Strong agreement.

There are no ‘right’ or ‘wrong’ answers. Your opinion is what is wanted. Your responses will be confidential.

Statement	SD	D	U	A	SA
Non-farm diversification is a regular part of my income strategy.					
I actively seek opportunities for income generation beyond traditional farming					
I consistently adapt to changing economic conditions through non-farm diversification.					
I frequently explore non-farm activities to supplement my income.					
I am always open to new non-farm opportunities to supplement my income.					
I consistently invest time and effort in non-farm income-generating activities.					
Exploring non-farm opportunities is a priority for me.					

II. Type of non-farm activities taken up by farmers

Please indicate the types of non-farm activities into which you have diversified. Check all that apply.

- a. Trading/Commence ☐
- b. Transport/Driving ☐
- c. Processing of farm produce ☐
- d. Food vending ☐
- e. Building and construction works ☐
- f. Hairdressing/barbering ☐
- g. Light manufacturing and repairs ☐
- h. Waged labour in public/private sector ☐
- i. Salaried employment in public or private sector ☐
- j. None ☐

SECTION C

MOTIVATIONS FOR ENGAGING IN NON-FARM ACTIVITIES

Kindly rate your level of agreement (from 1 to 5) with the following statements, where 1 = Least (weak) agreement and 5 = Strong agreement.

Low Farm Produce and Income	SD	D	U	A	SA
I engage in non-farm activities because my farm produces low yields and income.					
Non-farm activities provide a necessary supplement to my low farm income.					
I am compelled to seek additional income through non-farm activities due to poor farm productivity.					
The unpredictability of farm yields drives me to					

pursue non-farm opportunities.					
Limited access to markets					
I participate in non-farm activities because I have limited access to markets for my agricultural products.					
Non-farm activities allow me to diversify my income streams in the absence of reliable agricultural markets.					
The lack of market infrastructure motivates me to explore non-farm opportunities.					
Limited market opportunities for agricultural products push me towards non-farm ventures.					
Increase demand for non-farm goods and services					
I participate in non-farm activities because there is a growing demand for non-farm goods and services in my area.					
Non-farm activities offer lucrative opportunities due to the increasing demand for certain products and services.					
I am influenced by market trends that indicate a rising demand for non-farm goods and services.					
Non-farm activities allow me to capitalize on emerging consumer preferences for non-agricultural products.					

SECTION D

CHALLENGES IN PARTICIPATING IN NON-FARM LIVELIHOOD

ACTIVITIES

Kindly rate your level of agreement (from 1 to 5) with the following statements, where 1 = Least (weak) agreement and 5 = Strong agreement.

Access to Finance					
I find it difficult to access financial resources for starting or expanding non-farm activities.					
Financial institutions in my area do not offer suitable loan options for non-farm livelihood ventures.					
The interest rates on loans available to me for non-farm activities are prohibitively high.					
I struggle to meet the collateral requirements set by financial institutions for accessing funds for non-farm activities.					
The bureaucratic processes involved in obtaining financial assistance for non-farm livelihood activities are burdensome.					
Limited Business Opportunities					
There is a lack of diverse and viable non-farm business opportunities available to me in my community.					
Existing non-farm businesses in my area often face challenges that deter me from starting my own venture.					
Market demand for non-farm products or services in my locality is insufficient to support new ventures.					
I perceive a lack of support or guidance from relevant institutions in identifying and pursuing profitable non-farm business opportunities.					
The competition from larger businesses or enterprises makes it difficult for me to establish successful non-farm ventures.					

Poor Household Asset Base					
My household lacks the necessary assets (land, equipment, etc.) to engage effectively in non-farm activities.					
The limited assets available to my household constrain our ability to invest in non-farm livelihood ventures.					
I feel disadvantaged compared to households with greater asset bases when attempting to pursue non-farm activities.					
The condition of my household assets hinders my participation in non-farm livelihood activities.					
I perceive a lack of support or programs aimed at improving the asset base of rural households like mine for non-farm endeavors.					
Infrastructural Challenges					
Inadequate transportation infrastructure makes it difficult for me to access markets for selling non-farm products.					
The unreliable or insufficient electricity supply in my area affects my ability to operate non-farm businesses effectively.					
Poor internet connectivity limits my access to information and markets for non-farm activities.					
The condition of roads and bridges in my area makes it challenging to transport goods related to non-farm livelihood activities.					
The lack of basic amenities like water and sanitation infrastructure hinders my engagement in non-farm livelihood pursuits.					

SECTION E

LIVELIHOOD SCALE FOR RURAL FARMERS

Kindly rate your level of agreement (from 1 to 5) with the following statements, where 1 = Least (weak) agreement and 5 = Strong agreement.

Statement	SD	D	U	A	SA
I feel financially secure in my livelihood as a rural farmer.					
My farming activities provide me with a sense of fulfillment and purpose.					
I have access to sufficient resources and inputs to sustain my agricultural activities.					
I am able to save and invest for the future through my farming endeavors.					
My agricultural skills and knowledge are continuously improving.					
I have a supportive network of fellow farmers and community members.					
I feel respected and valued within my community for my contributions as a farmer.					
My livelihood as a rural farmer allows me to maintain a good work-life balance.					
I am able to adapt to changing environmental conditions and market trends effectively.					
I have diversified my income streams beyond traditional farming activities.					

I feel a strong connection to the land and the environment in which I farm.					
I am able to access relevant training and extension services to enhance my farming practices.					
My family's needs are adequately met through my farming activities.					
I have opportunities for social and cultural engagement within my community.					
I am able to provide for the education and healthcare needs of my family through my farming income.					
I am satisfied with the level of autonomy I have in managing my farming operations.					
I am optimistic about the future prospects of my farming business.					
I am able to contribute positively to the local economy through my agricultural activities.					
I feel a sense of pride in being a rural farmer and contributing to food security.					
Overall, I am content with my livelihood as a rural farmer.					

APPENDIX B

UNIVERSITY OF CAPE COAST

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

INTERVIEW GUIDE FOR FARMERS

Dear Sir/Madam:

This Interview Guide has been designed to seek your views on ‘Non-farm livelihood strategies among farmers in the Komenda Edina Eguafo Abirem Municipality’. You have been purposely selected to participate in this interview. All information gathered will be treated with utmost confidentiality and be used for academic purposes only.

Thank you.

Isaac Ackom

0244987357

Time of Interview:

Date:

STRUCTURED INTERVIEW GUIDE FOR PARTICIPANTS

1. Could you delve deeper into the decision-making process behind choosing specific non-farm activities?
2. How do you balance different non-farm activities to sustain your overall income?
3. Can you elaborate on how the seasonal nature of farming influences your decision to engage in non-farm activities?
4. Could you recount a particular occasion when inadequate farming income prompted you to seek alternative non-farm activities?
5. Could you share an experience where you struggled to find markets for your farm produce which eventually led you to engage in non-farm activities?
6. Could you share how the increasing demand for non-farm goods and services in your community impacted your decision to participate in non-farm activities?
7. Can you share some personal narratives or success stories that highlight the positive impacts of engaging in specific non-farm activities on farmers' livelihoods?
8. Could you please share a personal experience that illustrates how access to finance, limited business opportunities, infrastructural challenges, or a poor household asset base has adversely affected your participation in non-farm livelihood activities.