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URBAN GROWTH AND LIVELIHOOD TRANSFORMATION ON THE FRINGES OF KUMASI METROPOLIS: A CASE OF BOSOMTWE DISTRICT IN GHANA

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ABSTRACT

Urban outward expansion, characteristic of peri-urban growth, presents both opportunities and constraints for livelihoods in adjoining areas. This study investigates Urban Growth and Livelihood Transformation on the Fringes of Kumasi Metropolis: a case of the Bosomtwe District in Ghana. Employing a mixed-methods approach, the study integrates quantitative and qualitative methods. One hundred and fifty households in three areas (Feyiase, Esreso, and Aputuogya) provided quantitative data, which were augmented by Five Key Informant interviews with three District Assembly Members and two District Assembly Officers. Quantitative data was analyzed using descriptive statistics presented with graphs and tables and supported with verbatim quotations from thematic analysis to present the qualitative data. The study found that most respondents were aged 31-60 (52%), with 61.33% identifying as male, 45.33% as single, and 43.33% having completed high school. Additionally, 66% were engaged in trading/business, and most households ranged from 1-10 members (66.22%). Additionally, the study identifies population growth (94.67%), migration (92.00%), road development (95.33%), and industrialization (89.33%) as major factors influencing urban growth and peri-urban transformation in the Bosomtwe District. Population increases (98.67%) and economic activity growth (94.67%) are key indicators of peri-urban development among households. The sale of land due to land use changes emerges as the primary household contribution to peri-urban growth (72.00%). Lastly, Land and business/trade assets are identified as the main livelihood assets among household residents, while diverse livelihood strategies, including wage labor employment, agricultural diversification, and intensification, are commonly adopted in response to livelihood changes. Given the dominance of population growth and migration in peri-urban growth, the study recommends spatial policies that support inclusive urban growth and enhance the district's ability to manage rural-urban shifts, thus promoting better livelihoods.

Keywords: *urban growth, peri-urban, livelihood strategies, livelihood assets, Kumasi*

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LIST OF ACRONYMS

DFID	-	Department for International Development
SPSS	-	Statistical Package for Social Science
KPUI	-	Kumasi Peri-Urban Interface

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CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Africa's population is expected to double between 2020 and 2050, with the region experiencing the greatest urban growth in the world (OECD., 2020). The phenomena of urban and population growth are evident in Africa as cities expand and densely populated rural areas are becoming (more) urban(*ibid*). For example, in mid-latitudinal Africa, existing villages and towns are growing, converting rural areas into urban areas (Güneralp et al., 2017).

According to the Ghana 2021 Population and Housing Census(Service, 2021), 19 million of the population of Ghana live in urban areas whereas 13.8 million live in rural areas. The Urban population increased in Ghana from 50.9 percent in 2010 to 56.7 percent in 2021, with the Ashanti and Accra regions accounting for over half of this growth (47.8 percent) (Service, 2021). However, the Ashanti Region of Ghana had a 13.6 % percentage change in population from 2010 to 2021(Service, 2021).

Various major towns and cities in Ghana are experiencing urban growth due to rapid population growth (Amoateng et al., 2013; Oduro et al., 2015). However, as the urban population increases and grows, major cities have developed in a manner reflected in loose urban physical expansion into their rural fringes or adjoining areas (Owusu & Yankson, 2017). Due to this, peri-urban areas are undergoing rapid physical transformation, particularly land development (Amoateng et al., 2013; Cobbinah & Amoako, 2012).

Kumasi, the capital city of the Ashanti Region and one of Ghana's largest metropolitan areas for the past five decades has seen a rapid increase in the population and physical expansion into neighboring areas (Appiah et al., 2014) as the rapid growth of the city's population and its physical expansion into neighboring areas have resulted in an increase in economic and social activities which is considered a form of economic development (Amoateng et al., 2013).

One of the adjoining districts of the Kumasi Metropolis, the Bosomtwe District has its district capital, Kuntanase located thirty kilometres from Kumasi (Service, 2021). As a result of its proximity to Kumasi Metropolis as well as its tourism potential, particularly from Lake Bosomtwe, the district has seen growth in new settlements as well as local and foreign investments in infrastructure development (Appiah et al. 2014). However, data and statistics

from the 2010 and 2021 population and housing census of Ghana have shown a shift in the rural-urban structure of the district; thus from more rural to more urban (Service, 2021).

1.1 Problem Statement

In Africa, the urban and rural areas have undergone significant changes and have contributed to a complex understanding of the social, economic, institutional, and environmental relations between the rural and urban areas (Agergaard et al., 2009). Even though urbanization is a prominent trend among cities in Africa, the processes and dynamics of urban expansion are still understudied and poorly understood (OECD., 2020).

Different changes along the periphery of the Kumasi metropolis in Ghana have occurred in recent years as the metropolis extends into adjoining rural settlements (Amoateng et al., 2013). One of the peripheral locations of Kumasi Metropolis, Bosomtwe district, where the long-term settlers and indigenes (primary occupants of the area) have relied on agriculture for ages, urban growth has resulted in sociodemographic, economic, environmental, and other transformations and the transformation in the district, has produced a dynamic co-existence of the rural and urban livelihoods (Service, 2021).

Notwithstanding the distinctive blend of urban and rural dynamics highlighted in peri-urban studies, much research has not focused on the type of livelihood activities that people engage in as the urban extends into the rural. Much research has been conducted in Africa and Ghana in particular on the modifications in the physical environment, sociodemographics, economy, and other transformations that are associated with peri-urban areas (Kleemann et al., 2017; Appiah et al., 2014; Ashiagbor et al., 2019 ; Güneralp et al., 2017) but not much is known concerning how people who live in these areas, particularly household residents adapt their livelihood to this transformation. This necessitates research to offer empirical insights into how urban expansion affects the livelihoods of household residents located in the Bosomtwe district in Ghana and how household residents of the district modify their means of livelihood to deal with the change using a mixed-method approach. In keeping with this imperative, this study sought to fill this gap.

1.2 Objectives of the Study

The objectives of the study are to:

1. Examine how urban growth affects the livelihood of household residents in Bosomtwe District in Ghana.
2. Examine the livelihood strategies used by household residents in the Bosomtwe District in Ghana in response to changes in their means of livelihood.

1.3 Research Questions

The following are the research questions related to the problem:

1. How has urban growth affected the livelihood of household residents in the Bosomtwe District in Ghana?
2. In what ways have household residents in Bosomtwe District in Ghana adapted their livelihood strategies in response to changes in their means of livelihood?

1.4 Justification of the Study

This study is necessary since it will provide a guide for Local Government Authorities in the Kumasi Metropolis in Ghana to consider peri-urban livelihood concerns when making plans and operations because urban expansion and livelihood transformation are key to the understanding of rural-urban migration that characterized many urban areas and major cities in Ghana.

Also, The Department of Local Government in the Ashanti Region of Ghana would find information from this research useful in the design and planning of urbanization policies and development programs.

However, the Bosomtwe District Assembly in the Ashanti Region of Ghana will find information from this research useful in the design of necessary interventions for understanding and addressing challenges related to livelihood concerns and the shift in the rural-urban structure of the district.

Finally, the research will encourage further studies into urban growth by providing areas for future study.

1.5 The Setting

Bosomtwe District is located in the central part of the Ashanti Region of Ghana and is bounded on the north by the Kumasi Metropolitan Assembly, to the east by the Municipality of Ejisu-Juaben, and to the south by the Municipal District of Bekwai and Bosome-Freho. The district is the eleventh largest in the Ashanti Region of Ghana and the district capital is Kuntanase. It has a land size of 422.5 sq km and it is sub-divided into three area councils namely, Jachie, Kuntanase, and Bonoso. Also, the district has tourist attraction sites of historical, scientific, and aesthetic importance. A typical example is the natural crater lake (Lake Bosomtwe) which serves as the main tourist center of the district (Service, 2021).

The structure of the district’s economy, according to the Ghana 2021 Population and Housing Census (Service, 2021), is predominantly agricultural. Moreover, according to the Ghana Statistical Service (Service, 2012)the district had a population of 93,910 with a more rural population (65,535) than an urban population (28,375). However, according to Ghana 2021 Population and Housing Census (Service, 2021), Bosomtwe District, has a total population of 165,180, with 91,366 urban residents (55.31 percent) and 73,814 rural residents (44.69 percent) and a total household population of 160,723 and a non-household population is 4,457 people (Service, 2021).

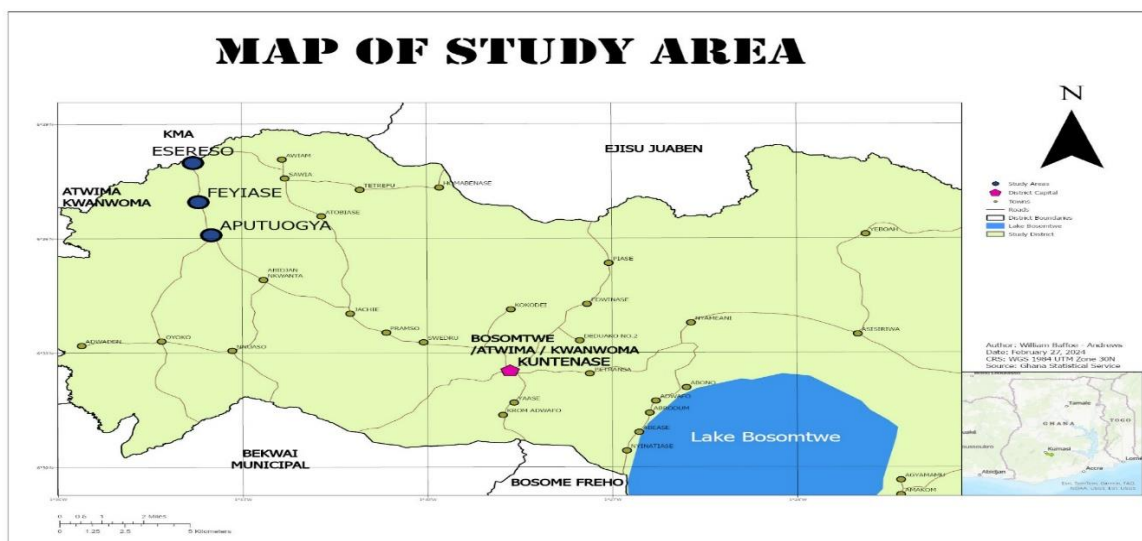


Figure 1: Map of the Study Area

CHAPTER TWO

CONCEPTUAL AND THEORETICAL FRAMEWORK

2.0 Introduction

This section explains the key concepts, conceptual framework, and theoretical framework used for the study. Various concepts such as urban, rural, peri-urbanization, city, and metropolis, and central concepts such as livelihood, livelihood strategies, livelihood assets or capital, and household necessary for exploring the subject under consideration are discussed. Knowledge of these concepts and central concepts and their interrelationship is essential as it provides insight and a sound fundamental understanding of the subject matter under investigation.

Also, the Sustainable Livelihood Framework (1999), developed by the Department for International Development (DFID) is used as an analytical tool for the study. The conceptual framework captures and discusses urban growth and peri-urban transformation, livelihood assets, as well as livelihood strategies.

Moreover, in connection with the conceptual framework, Urban Transition Theory and the Wirthian Theory of Urbanism are used as a theoretical framework to guide the study to gain insight into the subject matter.

2.1 The Concept of Urban

The concept of urban can be rather vague since a lot of factors influence its definition, which includes population sizes, population densities, and socioeconomic characteristics (Mayhew, 2015). The Organization for Economic Co-operation and Development (2020) denoted that different nations or institutions have different definitions of what defines a city or urban region based on different factors, such as political-administrative, morphological, or functional. According to Yang and Ye (2020) the definition of "urban" is determined by a country's government and is viewed as a subjective statistical concept. In accord, Mayhew (2015) claimed that the concept of urban may be classified based on function and a high density of population. However, according to Iaquina and Drescher (2000) physical configuration, economic activities, and social relationships have usually been explained in the peri-urban literature to define what it is to be urban or rural.

In Ghana, the census or statistical definition of an urban is any settlement with a population of 5,000 or more persons (Service, 2021). In support, Yang and Ye (2020) are of the view that the definition of urban is based on a threshold number of persons, hence an area is classified as urban if its population exceeds a certain threshold.

2.1.1 The Concept of Rural

To make a wise decision when defining 'rural', one must have a solid understanding of the essential traits of urban entities and how those traits influence the features of rural definitions that are generated from them since the urban is defined in terms of administrative boundaries, its land-use patterns or its economic influence (Cromartie & Bucholtz, 2008). According to Bennett et al., (2019), common metrics for measuring rurality include the variety of needs, resources, demographics, and cultures that exist in these areas. In Ghana, rural areas are officially defined as settlements with a population of less than 5000 (service, 2021). Ghana uses the threshold measure since the statistical and demographic measures describe the process of growth or increase in the population that is reported to live in an area (Service, 2021). The demographic measure is one of the indicators of metrics that have been identified by Bennett et al. (2019) in measuring rurality.

2.1.2 The Concept of Peri-urbanization

The Organization for Economic Co-operation and Development (2020) claimed that the heightened proximity between urban and rural environments gives rise to new and unique urban forms increasingly blurring the lines between urban and rural. Complex transitions of dynamic land conversion, high population growth, shifting economic activity, and changing resource flows are characteristics of peri-urban locations in Africa (ibid).

According to Follmann (2022), peri-urbanization is generally interpreted as a set of complex processes that results in a shift from predominantly rural to a mix of rural and urban areas and livelihoods. Peri-urban settlements are areas on the periphery of cities where urban and rural development processes intersect, blend, and interact (Lawanson et al., 2012). Peri-urban areas can be defined as the meeting of urban and rural, which form a zone of rapid economic and social change, marked by changes in labor market opportunities, patterns of land use, and pressures on natural resources (ibid). Peri-urban areas are characterized by a mosaic of urban

and rural land uses, livelihoods, and lifestyles(Simon, 2022) and it has both rural and urban elements as they demonstrate transitory traits of urbanism and have been defined in connection to certain markets or factors, as well as sociocultural, demographic, and geographic factors(Iaquinta & Drescher, 2000). This research largely dwells on the standpoint of the merging of the urban and the rural due to urban growth and how the intersection, blend, and interaction of the rural and urban influence livelihood activities and strategies in the study area.

2.1.3 City

There is no worldwide agreement over limiting figures of population size or areal extent for a city. ‘A city is a large urban center functioning as a central place that provides very specialized goods and services’ (Mahyew, 2015, p.77).

2.1.4 Metropolis

There are no set standards for population density or size that have been established to define a metropolis. ‘A metropolis is a very large urban settlement usually with accompanying suburbs’ (Mahyew, 2015, p. 280).

2.1.5 Livelihood

According to Frankenberger and McCaston (1998) the term ‘livelihood’ refers to an individual's activities likewise the possession of assets (like property) that are needed to obtain basic needs like clothing, food, and shelter. Also, Dorward et al., (2009) explained that livelihood entails the use of assets in activities to produce outputs to meet people's needs and aspirations for consumption as well as to invest in assets and activities for the future. However, they are of the view that different activities in livelihood strategies are likely to vary with the agroecological (natural resource) and market opportunities in different locations as well as depending on their assets, which include land, skills, social contacts, etc. Concerning livelihood, Kanji et al., (2005) claimed that it acknowledges how members of a certain geographic enclave make use of their assets and abilities (such as skills) to survive and improve their quality of life. According to Barrett et al., (2001), the idea of livelihood is centered on the opportunities that an individual or household has access to due to their asset endowment and

how they choose to divide those assets among different activities to generate a stream of benefits, most measured as income.

2.1.6 Livelihood Strategies

According to DFID's sustainable livelihoods glossary, the term livelihood strategies denotes 'the range and combination of activities and choices that people make to achieve their livelihood goals. Livelihood strategies include: 'how people combine their income-generating activities; how they use their assets; which assets they choose to invest in; and how they manage to preserve existing assets and income'. Every level of livelihood is different, for instance, family members may work and reside in different locations while partaking in a variety of activities, either temporarily or permanently. Individuals themselves may depend on several distinct income-generating activity sources simultaneously (Carletto et al., 2007).

2.1.7 Livelihood Assets / Livelihood Capital

The resources and endowments that people and households rely on to create their livelihoods are referred to as livelihood assets or livelihood capital (DfID, 1999). According to Krantz, (2001), five primary assets (capital) categories are identified within the Sustainable Livelihood Framework: human assets (labor, skills, and knowledge); natural assets (land, forests, and water); physical assets (such as roads); financial assets (savings, remittances, etc); and social assets (through networks and connectedness, membership of formalized organization, and relationships of trust and reciprocity). Accordingly, Social capital refers to 'the rules, norms, obligations, reciprocity, and trust embedded in social relations, social structures, and society's institutional arrangements' that help individuals and households develop livelihood strategies (Oduro et al., 2015).

2.1.8 Household

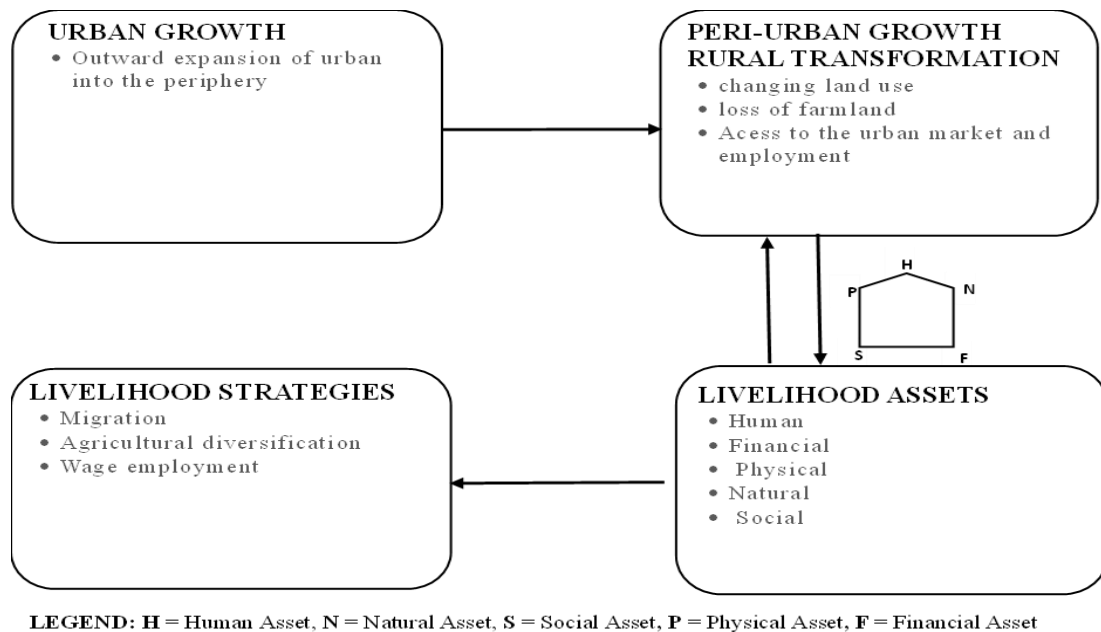
According to Ghana 2021 Population and Housing Census (Service,2021) 'household refers to persons or groups of persons who live together in the same compound, share the same house or compound, share house-keeping arrangements, and are catered for as one unit. However, members of a household are not necessarily related by blood or marriage. The emphasis is on

living in the same place and having common provisions for food and necessities for living, irrespective of size and relationship’.

2.2 Conceptual Framework

According to Krantz (2001), DFIDs provide a comprehensive analytical framework to enable a thorough and systematic understanding of the many factors that constrain and enhance livelihood opportunities and how they relate to others. The proposed conceptual framework highlights the issues of urban expansion, livelihood assets, livelihood transformation, and livelihood strategies, and their interrelationships. It explains the effects of urban growth and its outward expansion that produce peri-urban zones, and these effects influence livelihood assets which determine livelihood strategies. However, the framework shows how livelihoods are shaped by a dynamic range of factors. These factors determine access to various assets that determine a given livelihood strategy.

2.3 Conceptual Framework



These are the resources that households and individuals draw upon to build livelihoods.
Source: Adopted from DFID (1999)

Figure 2: Conceptual Framework

2.4 Theoretical Framework

This study adopts the Urban Transition Theory, also known as Urbanization Theory or the Urban Transition Model which is supported by the Wirthian Theory of Urbanism as its guiding theoretical framework.

2.4.1 Urban Transition Theory

The urban transition theory as a theoretical framework explains the process of urbanization within societies undergoing economic development and social change (Hughes & Hoffmann, 2020). It observes that as societies progress economically, socially, and technologically, there are significant shifts in population distribution, settlement patterns, and urban morphology (Parker, 2015). The theory acknowledges that urban development is not linear but rather characterized by discontinuities, crises, and adaptation. It thus delineates several stages of societal progression from predominantly rural to mainly urban populations (Docampo, 2014; Marcotullio, 2017).

The initial phase is the pre-urban stage, characterized by a predominantly rural population engaged in agriculture or primary industries. Subsequently, the early urbanization stage emerges with industrialization and economic growth, prompting a rapid migration from rural to urban areas in pursuit of employment opportunities. The peak urbanization stage witnessed substantial growth in city size and population density, accompanied by extensive infrastructure development to cater to urban needs. In more developed economies, the post-urbanization stage sets in, marked by stabilized or declining urbanization as the economy shifts from industry to services. Population growth decelerates, leading to suburbanization and decentralization as individuals seek improved living standards away from congested urban centers (Docampo, 2014).

One of the features of this theory is the interconnected dynamics of urban development, including demographic shifts, economic transitions, and infrastructure demands. It also highlights the profound social transformations triggered by urbanization, such as changes in family structures, cultural norms, and social hierarchies. Moreover, it emphasizes the imperative of sustainable urban development strategies to address challenges like urban sprawl and environmental degradation, ensuring a harmonious urban future (Docampo, 2014).

Seeliger and Turok (2013) indicated that in the light of contemporary challenges such as rapid urbanization, and globalization, Urban Transition Theory remains highly relevant. It can accommodate diverse perspectives and contexts, acknowledging the unique trajectories of different cities, and considering factors such as historical legacies, cultural norms, and political structures (Sýkora & Bouzarovski, 2012). Additionally, while originally developed based on observations of urbanization in Western societies, Urban Transition Theory has been applied to diverse cultural and geographical contexts worldwide. Its broad applicability allows for comparative studies of urbanization experiences across different regions and enables insights into common patterns and variations in urban development processes (Brenner, 2021).

Overall, Urban Transition Theory offers a useful framework for analyzing, understanding, and managing urbanization processes, contributing to informed decision-making and sustainable urban development practices.

However, Urban Transition Theory is not without its limitations. Critics argue that its focus on structural determinants may overlook the agency of individuals and grassroots movements in shaping urban outcomes (Blokland & Harding, 2014). Additionally, the theory's emphasis on long-term trends and macro-level processes may obscure the lived experiences of marginalized communities within cities. There is a need for greater attention to issues of social justice, equity, and inclusivity within the framework of Urban Transition Theory. The Urban Transition Theory has also been criticized for being based on observations of urbanization in Western societies and may reflect a Eurocentric bias (Blokland & Harding, 2014). This limits its applicability and relevance to non-Western contexts, where urbanization processes may unfold differently due to unique historical, cultural, and socioeconomic factors.

Notwithstanding these critics, Urban Transition Theory remains a useful theoretical framework for understanding urbanization processes and their implications. The theory will help the study assess how each stage of urban growth has impacted household livelihoods in the Bosomtwe District in Ghana, given the shift in the rural-urban structure of the district. This involves conducting surveys, and interviews to gather data on changes in employment opportunities, income levels, access to services, and living conditions.

Additionally, the theory emphasizes the social transformations accompanying urbanization. This emphasis on the theory will be useful in understanding how changes in urban growth have influenced social structures, community networks, and cultural practices in the Bosomtwe District in Ghana. This can provide insights into the social dimensions of livelihood impacts.

Further, the theory recognizes the diversification of livelihood strategies as societies transition from rural to urban economies. This component will help the study to investigate the types of livelihood diversification strategies employed by household residents in response to changes in urban growth in the Bosomtwe District in Ghana. This can include engaging in multiple income-generating activities, such as agriculture, informal sector employment, small-scale entrepreneurship, etc. Generally, by applying this theoretical framework, the study will gain a comprehensive understanding of how urban growth impacts household livelihoods and the strategies employed by residents to cope with these changes in the Bosomtwe District in Ghana.

2.4.2 Wirthian Theory of Urbanism

Also, a typical example of an urban transition theory's application of the shift from rural to urban used in support of this study is the Wirthian Theory of Urbanism. In his article "Urbanism as a Way of Life", Wirth (1938) suggested that the key factors in urbanization include the increased size of city populations, and their increased density and heterogeneity have contributed to anonymity. Wirth believes that it is from these essential attributes of urbanism from which distinct patterns of urban social interactions are derived. Wirth argued that rapid economic change and its consequences of urbanism, where life can be led under conditions of anonymity influence social relations and are considered transitory. This is because it results in individuals becoming alienated from their social backgrounds, and no longer feeling part of a group. Social norms Wirth argued are weak due to anonymity causing people to be unclear about them and tend to challenge or ignore them.

For population size, Wirth believed that an "increase in the number of inhabitants of a community beyond a few hundred is bound to limit the possibility of each member of the community knowing all others personally" (Wirth, 1938, p.53).

2.5 Linking the Theories and the Conceptual Framework

There are similarities and complementarities between and among the theories and the conceptual framework used in the study. In terms of complementarities, the Wirthian Theory of Urbanism and the Urban Transition Theory are fundamentally in agreement that, in connection with social relations and population growth, urban growth influences rural societal norms, networks, and structure. However, in terms of similarities, these two theories connect

to provide a framework for understanding the multifaceted ways in which urban growth influences rural areas, encompassing economic, demographic shift, and social dimensions.

According to Chambers and Conway, (1992), livelihood strategy is determined by the social, economic, and ecological environment in which individuals find themselves. Since livelihood strategies are influenced by natural, social, financial, human, and physical assets, these theories, in connection with the conceptual framework are essential to explain how urban expansion results in economic, social, and demographic transitions that influence employment opportunities, land use patterns, rural livelihood assets and strategies, and the general socio-economic dynamics of rural transformation and peri-urban growth.

CHAPTER THREE

LITERATURE REVIEW

3.0 Introduction

Changes in livelihood are unavoidable as urban areas continue to expand (Abass et al., 2013) and as rural areas come under urban influence, there is a broader range of livelihood possibilities (Satterthwaite et al., 2010).

According to Ravetz (2013), peri-urban areas have always been subject to push and pull forces from both rural and urban areas due to their strategic locations, and multifunctional territorial structure. However, the intersection of different systems creates opportunities as well as problems, which have a significant effect on the environment and people's livelihoods (Lawanson et al., 2012).

This section reviews the literature to discuss urban growth and peri-urban development, the opportunities and problems that arise as a result of urban transition into the periphery, and their resultant effects on livelihood activities or assets and livelihood strategies. The discussion is done in themes that focus on urban growth and peri-urban development, factors influencing urban growth and peri-urban transformation in Africa and Ghana, effects of urban growth on urban peripheries, nexus between peri-urban growth and livelihood strategies as well as linkages between livelihood assets and livelihood strategies.

3.1 Urban Growth and Peri-urban Development

From the urban geography perspective, there is no definitive definition of what urban growth should be for each society or country and no blueprint for how to achieve it, however, indicators, challenges, and changes in population, economic, and social dimensions call for trends, contextual, and structural analyses at the country level to understand the factors that drive urban growth (OECD., 2020). Moreover, as urban areas face challenges and changes brought on by dynamic growth, these kinds of changes express themselves most evidently in peri-urban areas, where urban and rural life meet and have been the stage for rapid physical, social, and economic transformations (Woltjer, 2014).

The Organization for Economic Co-operation and Development (2020) states that a crucial aspect of Africa's urban growth dynamic is the rate of the ongoing transformation. However, a

large portion of the growth can be explained by indirect contributions, such as the reclassification of rural settlements due to their expansion beyond the threshold of urban population, the absorption of rural population by the expansion of urban areas, the merging of settlements, and their cumulative contributions, therefore, the factors that propel rural transitions must also be taken into account to forecast how Africa's cities will evolve in the future (OECD., 2020).

3.2 Factors that Influence Urban Growth and Peri-urban Development in Africa and Ghana

Like many other concepts, the dynamics of urban growth are influenced by a variety of structural and socioeconomic factors, such as geography and climate, population growth, size and density, income levels and economic structure, policies, and institutions (OECD., 2020). Also, theoretical conceptions of urban growth and urbanism identify a social, economic, and demographic component, and urban growth is linked to mutually beneficial factors such as population density or size, city expansion or proximity, market or economic activity, transportation improvements, sociocultural context, and geographic locations (Iaquinta & Drescher, 2000). According to the Organization of Economic Development (2020), the only way to comprehend Africa's rapid urban growth is to view it as a multifaceted process including political, environmental, and historical elements that dynamically interact at various points of the urban transition.

Since the 1990s, the major driver of urban growth in Africa has been high population growth which contributes directly to the natural increase of urban populations (OECD,2020). Three factors which include natural increase, rural-urban migration, and urban reclassification are responsible for Ghana's urban growth, which is consistent with patterns seen throughout Africa (Oduro et al., 2015).

According to the Organization of Economic Development (2020), a new urban form unique to Africa is emerging in densely populated, traditionally rural areas due to the availability of land which is a contributing factor to urban growth. Additionally, the OECD (2020) denoted that residential migration is driving urban growth in Africa, particularly in rural areas close to major urban centers and this type of migration is further boosted by people driven out of cities due to a lack of land or housing.

Regarding the reclassification of rural settlements concerning their expansion beyond the threshold of the urban population, Amoateng et al. (2013) highlighted that as a result of the fast rate of urbanization of rural villages or communities into peri-urban and urban areas, reclassification has emerged as a significant factor contributing to urban growth.

Also, rapid urban growth in Ghana has been ascribed to economic reasons such as proximity to basic amenities and resources (Cobbinah & Erdiaw-Kwasie, 2018) as well as to political decisions and demographic growth(Adaku, 2011). A study by Lawanson et al. (2012) and Acheampong and Anokye (2013) confirmed that the reason peri-urban areas in Ghana are preferred for settlement and other economic pursuits is that the rent in these fringes of cities is often more affordable than in larger towns and cities.

3.3 Effects of Urban Growth on Urban Peripheries

As the impacts of economic activities, physical expansion, and population growth of the urban are not confined within the urban boundaries, its surrounding areas are also influenced, however, there are threats and opportunities connected with urban areas expanding into rural areas (Levi & Sperry, 2007). In peri-urban areas, one or more of the following has occurred depending on the specific combination of circumstances: land loss to housing, economic transformation away from agriculture, agricultural intensification and commercialization, environmental degradation, and agricultural decline without alternative economic activities (Simon et al., 2004).

Urban growth may result in a sharp rise in the concentration of poverty and environmental deterioration in peri-urban areas (Marshall et al., 2009). This may be related to changes in waste disposal, land usage, water resource management, and the growing competition between residential and agricultural use of natural resources (Bah et al., 2003). In support, Levi and Sperry (2007) asserted that the destruction of wildlife habitats, air and water quality problems, consumption of open space and disruption of water runoff are all consequences of urban growth in peripheral locations. A study by Aberra and King (2005) found that Kumasi's non-contiguous outward expansion exposes previously rural indigenous villages to various forms of vulnerability which include pollution, land degradation, and the irreversible conversion of agricultural land to urban use, all of which seriously threaten peri-urban livelihoods. Additionally, (Suraj, 2004) highlighted that as cities grow, there will inevitably be a growing need for agricultural lands which are usually found at the urban fringes where locals carry out

a variety of agricultural activities for settlement. In support studies by McGregor et al. (2011) and Afrane and Amoako (2011) found that peri-urban morphology has led to a significant loss of peri-urban agricultural land.

Peri-urban areas demonstrate a dynamic, changing arena connected to population and economic activity (Iaquinta and Drescher, 2000). According to Abass et al. (2013), the shift in the peri-urban economy from a primarily rural, agrarian economy to a primarily urban economy is what causes the transformation of livelihoods. However, they assert that the emergence of urban monetary economies which quantify every commodity in monetary terms creates hardships for peripheral populations (ibid). A study conducted by Ubink (2009) in nine peri-urban areas in Kumasi found that the security of livelihoods of indigenes whose lands were turned into urban development was lost because no substitute source of income was established. Accordingly, Webster and Muller (2002) noted that because peri-urban indigenes are typically farmers who rely on small-scale agriculture as and means of survival, pressures from rapid urban growth have changed the sources of peri-urban indigenes' livelihoods as agricultural land is perpetually reallocated for physical development.

The transformation of peri-urban areas involves not only changes in livelihood priorities but cultural norms and historical values as well (Eakin et al., 2010). However, understanding urban growth involves not just the physical growth of cities but also the adoption of a stereotypically urban way of life regardless of where people may reside (Champion, 2001).

The peri-urban area is characterized by social compression and dynamic development, and it is strongly linked to the social fabric of individuals and family networks (Iaquinta & Drescher, 2000). According to Heimlich and Anderson (2001), growth in the periphery of cities negatively affects the rural social structure, and the integration of rural communities, however, nearby urban areas disrupt the rural community's sense of identity (Levi and Sperry, 2007).

Rural areas lose their rural identity and transform into complex, heterogeneous places with people from a range of socioeconomic origins as they begin to peri-urbanize (Afrane and Amoako, 2011). This may result in a decrease in social cohesion and an increase in social stratification (Sahana et al., 2023). Accordingly, social groupings and livelihoods become de-territorialized and re-territorialized which may hinder or make it difficult for people to access the resources needed for a living (Méndez-Lemus et al., 2017). In support, a study by Cobbinah and Erdiaw-Kwasie (2018) found that as the population of villages and small communities grows in Ghana, their identities change as they reach the minimum population

threshold. Accordingly, Afriyie et al. (2020) denoted that as peri-urban areas maintain rural traits, changes occur in terms of physical configuration, economic activities, social relationships, and other aspects.

In contrast, Oduro et al. (2015) claimed that urban growth increases social and political capital by giving peri-urban residents access to urban-based institutions and networks, providing them with an array of livelihood opportunities, such as the opportunity to join and gain from civil society organizations, including trade associations, faith-based organizations, and political groups. They claimed that while villages and rural areas are increasingly linked to cities, the peri-urban zone of these areas frequently has unique histories and identities that the locals are eager to preserve, even as their lives gradually become more integrated into the urban economy and society. In support, Simon et al. (2004) claimed that rural membership is often retained as the main source of community identity, even long after rural settlements have been engulfed by the expanding city.

Opportunities including enhanced markets, employment possibilities, transportation networks, infrastructure, and more are linked to peri-urban growth (Oduro et al., 2015). Numerous rural areas have seen new opportunities due to urbanization and increased infrastructure, which has lessened their reliance on agriculture as market opportunities are considered to provide important economic linkages between the rural and urban areas in Africa particularly in agricultural processing, input supply, and trade (Haggblade et al., 2010). In accord, Abera and King (2005), emphasized that urban growth provides peri-urban dwellers with opportunities for paid employment and trading, as well as the ability to access services and infrastructure.

Urbanization and improved market conditions drive the shift of the labor force into higher-return activities (Jayne et al., 2016). In contrast, Aloba Loison (2015) emphasized that though rural areas develop and grow as they open new markets for non-farm activity, these markets are complex and subject to an increased determination of skills and coordination that pose considerable entry barriers to rural poor, especially poor farm households for engaging in higher-return non-farm activities making them confined to low-income, labor-intensive nonfarm activities that leave them trapped in structural poverty.

3.4 Nexus between Peri-urban Growth and Livelihood Strategies

The social, economic, and ecological context in which a person lives influences the livelihood strategy they choose (Chambers & Conway, 1992) and these contexts are influenced by changes such as population growth, urban expansion, and resource depletion (ibid). However, as the Peri-urban areas exhibit a mosaic of social, economic, and population influences, livelihood choices and strategies available to people are affected (Afriyie et al., 2014). According to Abass et al. (2013), the interaction between rural and urban areas exposes peri-urban dwellers to a wide variety of livelihood opportunities, including farm-based livelihoods and non-farm-based livelihoods. Accordingly, Satterthwaite et al. (2010) emphasized that when rural areas come under urban influence, households can choose between farming and non-farming livelihoods. In this way, they argue that households can augment their incomes by participating in different rural and urban livelihood activities. In support, Chai and Seto (2019) claimed that households in African countries may engage in multiple livelihood activities that are neither entirely urban nor rural. For example, a household may reside in an agricultural zone, but members of the household may work in a factory in the city (ibid).

Contrary, Abass et al. (2013) affirmed that people are forced to shift occupations due to the constant conversion of agricultural land to urban purposes, as access to farmlands is limited due to urban growth. In support, a study conducted by Thuo (2010) in Nairobi, Kenya found that as agricultural opportunities declined because of land conversions and population growth, most families in Nairobi peri-urban areas who had previously relied on farms for food and income began looking for non-farm jobs within their locality. Households in peri-urban areas would need to adapt in different ways to secure and maintain their livelihoods in the event of a loss or reduction in arable land.

Furthermore, according to Iddrisu et al. (2023) peri-urban households develop livelihood strategies in response to the dynamics of urban growth and its horizontal extension by drawing on different livelihood resources. The assertion is corroborated by Abass et al. (2013) who claimed that peri-urban dwellers use migration, intensification, and diversification as strategies to increase income or cut expenses to build household resilience. However, they further asserted that these livelihood strategies are taken to either develop the potential that urbanization presents or reduce the extreme effects of urban growth. In accord, Aloba Loison (2015) argued that where there are no feasible opportunities to diversify income activities,

migration and remittances between rural and urban areas may be important in sustaining rural livelihoods.

3.5 Linkages between Livelihood Assets and Livelihood Strategies

Conceptualization and comprehension of the various facets and characteristics of peoples' livelihoods have advanced (Chambers & Conway, 1992; Carney, 1998; Barrett et al., 2001). Nonetheless, varied livelihood portfolios are seen as a crucial component of household economics in underdeveloped nations (Cinner & Bodin, 2010).

Livelihood strategies are intended to create asset bases and access to products and services for consumption to mitigate the negative consequences and maximize the benefits of urban expansion (Abass et al., 2013). However, a range of livelihood assets such as financial, physical, ecological, social, and human that a given household has access to determine how effective the strategies adopted will be (ibid). In support, Dorward et al. (2009) emphasized that people's livelihood strategies are typically influenced by the opportunities and constraints they face in the technical, institutional, and market domains. They however assert that these factors, in turn, are influenced by people's access to assets and the social, economic, and environmental contexts in which they live. Accordingly, Chamber and Conway (1992), highlighted that households that have access to significant amounts of different asset categories can adjust their livelihood strategies during difficult socioeconomic times to avoid being unduly negatively impacted. This is because having assets allows them to reinvest their income into other ventures that provide better living conditions.

Furthermore, migration is seen as a livelihood strategy especially in rural areas of developing countries when people cannot gain a secure livelihood in their homeland. In Accord, Abass et al. (2013) highlighted that when people are unable to maintain a source of income, migration is seen as one of the important strategies that people undertake.

CHAPTER 4

METHODOLOGICAL APPROACH

4.0 Introduction

This chapter of the thesis explains the research design and methodological approach. It is made up of the study design, study population, sample size, sampling techniques, research instruments, data analysis instruments, and ethical and positionality considerations. In-depth interviews and a survey were carried out in the field as qualitative and quantitative data collection methods. Also, the quantitative data for the study is interpreted using descriptive statistics while the qualitative data is interpreted using thematic analysis. This section plays an imperative role in determining the kind of data collected and how meanings are drawn from collected data.

4.1 Study Design

The study employed a mixed method case study research design to investigate the two main research questions: How has urban growth affected the livelihood of household residents in the Bosomtwe District in Ghana and in what ways have household residents in Bosomtwe District in Ghana adapted their livelihood strategies in response to changes in their means of livelihood. According to Baxter (2010), a case study comprises examining one or a limited number of instances of a phenomenon to explore in-depth nuances of the phenomenon and the contextual factors that impact and explain it. However, a case study mostly lends itself to the employment of both qualitative and quantitative research (Bryman, 2016).

The data for this study were collected through a combination of both qualitative and quantitative methods. Primary data collection is essential to gain first-hand insights into the lived experiences of individuals and communities affected by urban growth. Utilizing a mixed methods approach, qualitative data were gathered through in-depth interviews with three Assembly members of the district and two experts from the Bosomtwe District Assembly to capture their subjective perceptions of the phenomena under investigation, while quantitative data from an online electronic-based survey tool provided a statistical analysis of trends and patterns related to household livelihood assets, livelihood strategies, and urban growth. This exercise was done within a month, from 12th March 2024 to 7th April 2024. This methodological approach was informed by prominent authors like Creswell and Clark (2018)

and Bryman (2016), who advocated for the integration of qualitative and quantitative methods in mixed methods research, emphasizing the importance of triangulation to enhance the validity and reliability of findings. The quantitative and qualitative methods were used to provide an integration to strengthen the ability to make more reliable causal inferences and linkages and also provide complementarity. However, to achieve genuine empirical complementarity, Punch (2014) argues that being aware of the similarities and differences between these two methods is increasingly important. The case study research design guided the study from questions to conclusions, including appropriate steps for collecting, analyzing, and interpreting evidence to establish the connection between the findings and research objectives. This approach offered valuable insights into the complex dynamics of urban expansion and their implications for livelihood assets and strategies within the context of rural-urban areas.

4.2 Research Population and selection of sites for primary quantitative data collection

The unit of analysis is households. However, individuals from selected households were chosen. In all, 150 samples were chosen for the quantitative data collection. Fifty households each from Feyiase, Aputuogya, and Esreso were selected for the study. The selection was based on the co-existence of rural and urban livelihoods, proximity to Kumasi Metropolis, and how various livelihood types are developing in these areas because of urban expansion as earlier shown in Chapter One.

4.3 Research Population and selection of sites for primary qualitative data collection

Regarding the qualitative data, five people were selected for an in-depth interview. Three Assembly members and two experts from the Bosomtwe District Assembly.

4.4 Sampling Techniques for Quantitative and Qualitative Data

The research employed a three-stage sampling method. Simple random, convenient, and purposive sampling techniques were used for the study. Initially, the three areas - Aputuogya, Esreso, and Feyiase within the Bosomtwe District Assembly were chosen conveniently due to the co-existence of rural and urban livelihoods and the proximity of the areas to Kumasi Metropolis. Subsequently, the selection of fifty households from each: Aputuogya, Feyiase,

and Esreso was carried out randomly using the random number system. Finally, eligible candidates from the selected households were chosen through simple random sampling. The respondents eligible for selection were individuals who belonged to a household and had resided in the area for no less than seven years.

Additionally, five key informants from the Bosomtwe District Assembly were also purposively and conveniently selected for qualitative in-depth interviews; this choice allowed the selection of interviewees from the areas selected for the study who met certain desired characteristics and qualities for the qualitative segment. However, the sample size during interviews was determined by saturation.

4.5 Data Collection

4.5.1 Survey

Questionnaires were used as primary data collection instruments. Questionnaires were designed in the form of closed-ended and open-ended type of questions used to collect data. The close-ended questions were made up of dichotomous and multiple-choice items. The questionnaire was grouped into five sections: **Section A** of the questionnaire assessed demographic information such as age, level of education, and occupation among others. **Section B** assessed factors that influence urban growth and peri-urban transformation and development. **Section C** assessed the effects of urban growth on livelihood. **Section D** assessed linkages between Livelihood Assets and Livelihood Strategies. **Section E** assessed livelihood activities and strategies.

4.5.2 Field Surveys

Online interviews and an online electronic-based survey were carried out in the field. Survey implementation was done in collaboration with a research assistant who acted as a survey implementor and whose role was to deliver the questionnaire for participants to complete. I prepared the survey questionnaire using the Lund University Tool (Sunet Survey) and the survey link (QR code) was sent to the implementor through mail to collaborate with the administering. I collaborated with the Implementor to guide respondents to fill in the survey, while I checked the responses daily.

I also conducted in-depth interviews online with the selected interviewees from the Bosomtwe District in the local language for the qualitative data.

4.5.3 Semi-structured interviews

Semi-structured interviews as a qualitative method for data collection were also conducted with three Assembly members and two members from the Bosomtwe District Assembly to gain insight into the subject under consideration. According to Bradshaw and Stratford (2010), selecting the right people with relevant insight, characteristics, and experiences of the subject under study is the underlying principle of the qualitative approach. The discussion covered the effects of urban growth on the livelihood of residents and livelihood strategies adopted by residents.

4.6 Data Analysis

4.6.1 Quantitative Primary Data

The quantitative method helps determine the type of correlations that exist between various variables and involves the application of statistical tools for the analysis of quantifiable data (Teye, 2012). The study employs a survey questionnaire as the quantitative primary data collection tool. Basic data such as age, gender, educational attainment, sex, marital status, size of household, and occupation were obtained. Other important data collected during the survey includes peri-urban growth and development, source of livelihood, Livelihood assets, and livelihood strategies, among others. Quantitative primary data collected with the questionnaire were coded and entered in the Statistical Package for Social Science (SPSS). Descriptive statistical tools of the SPSS software were employed to analyze the input data based on the research objectives. These statistical tools are chosen to provide a comprehensive summary of the data, offering insights into the characteristics and distributions of the variables under investigation.

The results of the analyses were presented in the form of descriptive statistics. Descriptive statistics draw on complete surveys of the dataset to summarize a state that exists at present (Mahyew, 2015). Descriptive statistics help infer data from the analysis of the relationship between urban growth, peri-urban growth and development, livelihood assets, and livelihood

strategies and demonstrate how these variables influence the other. This provided a guide in identifying the constraints and opportunities that peri-urban growth presents and also helped in the discussion to link the conceptual and theoretical framework, thus addressing the research questions by providing empirical evidence on the dynamics of livelihoods in the study area.

However, graphic representations for descriptive statistics such as tables and a graph were used to explain socioeconomic and demographic characteristics of household residents. This utilization of descriptive statistical tools and their graphic representations aligns with the conceptual framework adapted from the Sustainable Livelihood Framework, allowing for an examination, comparison, and description of how urban growth as a transformative external force alters livelihood assets and strategies within the sampled households.

4.6.2 Qualitative Primary Data

Qualitative methods vary and are generally based on empirical research (Mayhew, 2015). The study employs semi-structured interviews as a qualitative primary data collection tool. While quantitative methods are ideal for quantification and assessment, qualitative methods are well-suited for digging deeper. According to Teye (2012), qualitative instruments are most effective for gathering information on the experiences, perceptions, and behavior of research participants. Five key informants were conveniently selected for the in-depth interviews. These informants were chosen because they have information on the study area and the subject matter. The breakdown is as follows; one Assembly member from Feyiase, Esreso, and Aputuogya and two members from the Bosomtwe District Assembly. The interviews were suited for understanding how peri-urban growth influences livelihood assets and strategies in the Bosomtwe District in Ghana.

Data from in-depth interviews with the key informants was analyzed qualitatively based on the thematic analytical framework. The thematic analytical framework is a qualitative research method that can be widely used across a range of epistemologies and research questions (Nowell et al., 2017). Several authors (Holloway & Todres, 2003; Ryan & Bernard, 2000; Boyatzis, 1998) has maintained that because thematic analysis is a technique that is employed by many qualitative methods, it is not a stand-alone method but rather a tool to help researchers with their analysis.

This framework as defined by Nowell et al., (2017) is the technique for identifying, analyzing, organizing, and describing themes in each data that involves several steps. The thematic analytical framework entails progressing from raw text to codes, sub-categories, categories, and finally themes. This approach allows for a systematic exploration of the data, enabling the extraction of meaningful patterns and insights that coherently address the research questions.

Though thematic analysis enables qualitative and quantitative analysis to communicate with each other, it has its own merits and demerits. Braun and Clarke (2006) state that thematic analysis offers a comprehensive, intricate, and multifaceted explanation of the data. It gives an easier-to-understand style of analysis and does not require the in-depth theoretical understanding or technology knowledge of other qualitative approaches (ibid).

Thematic analysis helps to summarize important aspects of a big data set because it compels the researcher to handle the data in an ordered and systematic manner, which aids in the creation of a final report that is understandable and well-structured (King, 2000, as cited in Cassell & Symon, 2004).

Notwithstanding its merits, the following demerits are associated with thematic analysis.

When compared to other methods, a simple thematic analysis is limited since it prevents researchers from making assertions about language usage (Braun & Clarke, 2006). Although thematic analysis is flexible, when constructing themes derived from the study data, this flexibility may result in inconsistencies and a lack of coherence (Holloway & Todres, 2003).

However, to explore data and make meaning patterns while addressing the research questions, the following steps were involved in analyzing the in-depth interview based on the thematic analytical framework.

In the first step, the tape-recorded audio was transcribed from the local dialect into English. This was followed by a thorough reading of transcripts in order not to distort the original meaning of the data given by participants.

In the second step of the analysis, a distinct summary of each transcript that shows the core issues respondents raised was generated. The transcribed transcripts were exported into the NVivo nine (9) analytical software, during which coding of the data was done deductively and inductively. The coding process continued till a hypothetical saturation point was reached where no new concepts were generated from further coding of data.

Third, initially coded data was collated with a list of different codes identified across the data set developed. Relevant coded data was sorted at this stage and collated into themes.

Fourth, the coded data extract theme was reviewed theme by theme to find out whether they formed a comprehensible pattern.

Finally, the list of categories was thoroughly studied to avoid the repetition of similar headings to produce the final list of themes. Subsequently, each theme was named and defined. Categories and sub-categories of themes were finally presented as narratives while ensuring that the responses given by the respondents were maintained. Verbal quotations from interview transcripts were used to illustrate relevant themes where necessary in a written form.

4.7 Ethical and Personality Considerations

According to Bryman (2016), the conduct of researchers and their duties and responsibilities to people involved in the research, especially the research participants, are the fundamental concerns of ethical issues in the social research process. However, I ensured that informants were adequately protected and made sure that they were not “used” or “exploited” by giving their time to the survey.

4.7.1 Survey

Disclosure and informed consent, according to Bhattacharjee (2012), include providing informants with a thorough explanation of the nature and purpose of the study as well as their right to withdraw their consent at any time or to not participate at all.

Respondents were informed about the study, and they consented to participate in the survey before proceeding to answer the survey questions. Respondents were informed about the benefits or not of participating in the survey as they were informed about their right to withdraw from answering the questionnaire at any time and without any excuse. Respondents were informed that the information collected remains confidential and all information is used to write a master's thesis therefore it is not shared with third parties.

4.7.2 Interviews

According to Mayhew (2015) in using qualitative methods, there is an extent to which the researcher should intervene, and much awareness of how any process will affect the subjects of the investigation. Informed written and verbal consent was sought from participants before the start of the interview. Anonymizing the data collected through interviews to protect the privacy and confidentiality of respondents was very essential as statements and responses from respondents were anonymized. For example, during the interview session, the respondents were assured that any information provided would not be made accessible to third parties.

Concerning power relations, I was reflexive and reflective that my actions and inactions with the process and phenomena under study were not affected. For example, during the interviews, I regularly reminded the respondents that they had the right not to answer questions if they felt uncomfortable or completely withdrew their initially given consent.

4.7.3 Positionality Considerations

In terms of my position, considering the insider/outsider notion, I attained the status of an insider since I am a local and can speak the local language, the participants gave me enough trust and confidence, especially in the interviews and survey when they shared more incisive and enriching information with me than they would have with an outsider. However, due to ethical values, I was cautious not to break barriers. According to Dowling (2005), the information you create and the interpretations of it are likely to be more reliable and valid as an insider than those of an outsider. However, research subjects are more likely to talk freely to a researcher, and the researcher is more likely to understand what informants say because they share their worldviews, maintaining that outsiders have a harder time establishing rapport than insiders (ibid).

4.8 Limitations of the Study

First, with the quantitative survey, the sample size was large and the survey questions were many. The sample of fifty households each for the selected areas and fifty questions administered was a quantum of data to be collected within the stipulated time which was also affected by the agreed written format of the terms of reference.

Also, with the qualitative data collection, the time scheduled for interviews with the Assembly members and District Assembly Officers was delayed due to time zone differences and different working times of respondents. However, notwithstanding the time lag between the qualitative and quantitative data collection, the complementation of both data allowed a nuanced understanding of the thesis to come to the fore.

CHAPTER FIVE

RESULTS / FINDINGS

5.0 Introduction

This chapter presents the findings and a discussion of the study. The findings provide meaningful presentations addressing the objectives and research questions of the study. Results are presented in tables, with variables grouped under sections corresponding to the study objectives. These include Socio-economic Factors, Livelihood Strategies Used by Household Residents, Factors Influencing Peri-urban Growth, Linkages Between Livelihood Assets and Strategies, and Effects of Urban Growth on the Livelihood of Household Residents and a Chapter Summary.

Also, in a discussion section, I relate the results from the study to the conceptual and theoretical framework. I then proceed to discuss the contributions of this thesis.

5.1 Socio-Demographic Information of Study Participants

Table 5.1 provides a succinct overview of the socio-demographic characteristics of respondents in the study on urban growth and livelihood transformation in the Bosomtwe District, Ghana. The majority, 52%, are aged between 31-60 years, with 46% under 30. Gender distribution shows 61.33% male, 20% female, and 18.67% non-binary or other. Marital status indicates 45.33% single, 34.67% married, and smaller percentages for separated (8%), divorced (2%), and other (10%). Educationally, 43.33% completed high school, 37.33% have basic education. In terms of occupation, 66% are in trading/business, 17.33% in farming, and 10% in public service. The majority have lived in the district for 1-10 years (52.03%), with households primarily ranging from 1-10 members (66.22%). These findings offer insights into the diverse socio-demographic make-up of respondents, crucial for understanding urban growth impacts on the livelihoods of household residents in the district. Additionally, this demographic insight helps in tailoring more effective, inclusive policies and interventions aimed at supporting sustainable livelihood transformations in response to changing urban dynamics.

Table 5. 1: Socio-Demographic Factors among Respondents

Demographic Characteristic	Frequency (n=150)	Percent (%)
Age		
<i>under 30 years</i>	69	46
<i>31-60 years</i>	78	52
<i>61 years above</i>	3	2
Sex		
<i>Male</i>	92	61.33
<i>Female</i>	30	20
<i>Non-binary or other</i>	28	18.67
Marital Status		
<i>Single</i>	68	45.33
<i>Married</i>	52	34.67
<i>Separated</i>	12	8
<i>Divorce</i>	3	2
<i>Other</i>	15	10
Educational Level		
<i>No formal education</i>	8	5.33
<i>Basic education</i>	56	37.33
<i>High School / Secondary</i>	65	43.33
<i>Graduation</i>	21	14
Occupation		
<i>Farming</i>	26	17.33
<i>Trading / Business</i>	99	66
<i>Artisan</i>	2	1.33
<i>Public Service</i>	15	10
<i>Others</i>	8	5.33
Duration of Residence		
<i>1-10 years</i>	77	52.03
<i>11-20 years</i>	47	31.76
<i>21 years and above</i>	24	16.22
Household Size		
<i>1-10</i>	98	66.22
<i>11-20</i>	35	23.65
<i>21 and above</i>	15	10.14

SOURCE: Field Survey, 2024

5.2. Objective 1: Impact of Peri-urban Growth on the Livelihood of Household Residents

5.2.1 Factors Influencing Peri-urban Growth in Bosomtwe District

Table 5.2 displays the factors influencing peri-urban growth in the study area, with responses categorized as "Yes" or "No". The majority of respondents indicated "Yes" for population growth/migration (94.67%), development of roads (95.33%), industrialization (95.33%), affordable land (64.67%), affordable housing (58.00%), and economic activities (88.00%). A smaller proportion responded "No" to these factors. Additionally, all respondents provided answers for the category "Not answered", indicating that no respondents left this question unanswered. These findings shed light on the factors contributing to peri-urban growth in the district.

From the qualitative analysis, The participants shared valuable insights into the factors influencing peri-urban growth in Esreso. Participant One (Age 40) emphasized the historical significance of Esreso as a gateway to the district, stating,

"Initially, the town/district was thriving since Esreso was the gateway or town to the district, so it was developing very fast." - P1 (IDI, 2024)

This excerpt highlights the pivotal role that Esreso played in the district's development trajectory.

Participant Two (Age 43) also attributed the changes to globalization and modernization, noting,

"Things have changed so much due to globalization and modernization, and as a result of Kumasi's rapid growth." - P2 (IDI, 2024)

This excerpt underscores the broader socio-economic forces shaping peri-urban growth.

Participant Three (Age 56) shed light on the impact of infrastructure development, saying,

"Now there's no more land here, our population has increased dramatically, and I think this is a result of the new road construction and the senior high schools within the district." - P3 (IDI, 2024)

This highlights how infrastructure projects can drive population growth and urbanization in peri-urban areas.

Table 5.2: Factors influencing peri-urban growth of Household Residents in Bosomtwe District

Factors influencing peri-urban growth	Frequency (n=150)	Percent(%)
Population growth/migration		
Yes	142	94.67
No	8	5.33
Development of roads		
Yes	143	95.33
No	7	4.67
Industrialization		
Yes	143	95.33
No	7	4.67
Affordable land		
Yes	97	64.67
No	53	35.33
Affordable housing		
Yes	87	58
No	63	42
Economic activities		
Yes	132	88
No	18	12

SOURCE: *Field Survey, 2024*

5.2.2 Indicators of peri-urban Development in Bosomtwe District

Table 5.3 presents the frequency table for indicators of peri-urban development in the study area. The majority of respondents reported "Yes" for indicators such as declining agricultural lands (88.67%), population increase (98.67%), increased economic activities (94.67%), and increase in the number of schools (66.67%) as well as an increase in the number of recreational facilities (90.67%). Conversely, fewer respondents reported "No" for these indicators. These findings suggest significant peri-urban development in the district, characterized by changes in agricultural land use, population dynamics, economic activities, and infrastructure.

Our qualitative findings support the above figures. From the thematic analysis, The participants also discussed indicators of peri-urban development. Participant Five (Age 46) reiterated the historical significance of Esreso, mentioning,

"At first this was a farming zone or area but we've seen great changes as a result of the peri-urban growth, now there are no more farming activities except you go very far" - P5 (IDI, 2024)

This underscores the importance of historical context in understanding the evolution of peri-urban areas. Participant Four (Age 32) attributed the growth to various factors such as infrastructure development, stating,

"This growth can be attributed to various factors such as road construction and the presence of senior high schools, which have attracted people to the area." - P3 (IDI, 2024)

This highlights the role of infrastructure in driving peri-urban development and population growth.

Table 5. 3: Distribution of indicators of peri-urban development among Respondents

Indicators of peri-urban development	Frequency (n=150)	Percent(%)
Declining agricultural lands		
Yes	133	88.67
No	17	11.33
Population increase		
Yes	148	98.67
No	2	1.33
Increased economic activities		
Yes	142	94.67
No	8	5.33
Increase in the number of roads		
Yes	123	82
No	27	18
Increase in the number of schools		
Yes	100	66.67
No	50	33.33
Increase in the number of recreational facilities		
Yes	136	90.67
No	14	9.33

SOURCE: Field Survey, 2024

5.2.3 Factors Influencing Household Contribution to Peri-urban Growth in Bosomtwe District

The analysis of factors influencing household contribution to peri-urban growth from Fig. 3 reveals intriguing insights into the dynamics of urban expansion. Among the significant findings, the sale of land due to land-use changes emerges as the dominant factor, constituting a substantial 71.3% of the total responses. This underscores the pivotal role of economic incentives in driving households to capitalize on rising property values amidst urbanization. Moreover, the availability of affordable housing for rent, comprising 9.3% of responses, highlights the critical role of housing dynamics in accommodating urban migrants and facilitating peri-urban development. Additionally, the presence of excess land (6.7%) and the demand for money to purchase other assets (12.7%) signify the diverse strategies employed by households to navigate the evolving peri-urban growth. These findings underscore the complex interplay of economic, social, and environmental factors shaping peri-urban growth, emphasizing the need for holistic approaches to urban planning and development.

In the thematic analysis findings regarding household contributions to peri-urban growth, the participants shared their observations. Participant One (Age 40) highlighted the impact of land disputes on development, stating,

"People from afar started buying lands from us and building until the chieftaincy disputes set in, and things started to regress." - P1 (IDI, 2024)

This underscores the challenges posed by land tenure issues in peri-urban areas. Participant Three (Age 56) discussed the transformation of land use, mentioning,

"All our lands have been sold out for building, real estate business, and construction." - P3 (IDI, 2024)

Respondent five aged 46 years also added that;

"Now lands are even expensive and hard to get in this district unlike at first" - P5 (IDI, 2024)

This highlights how changes in land use patterns can drive peri-urban growth and development.

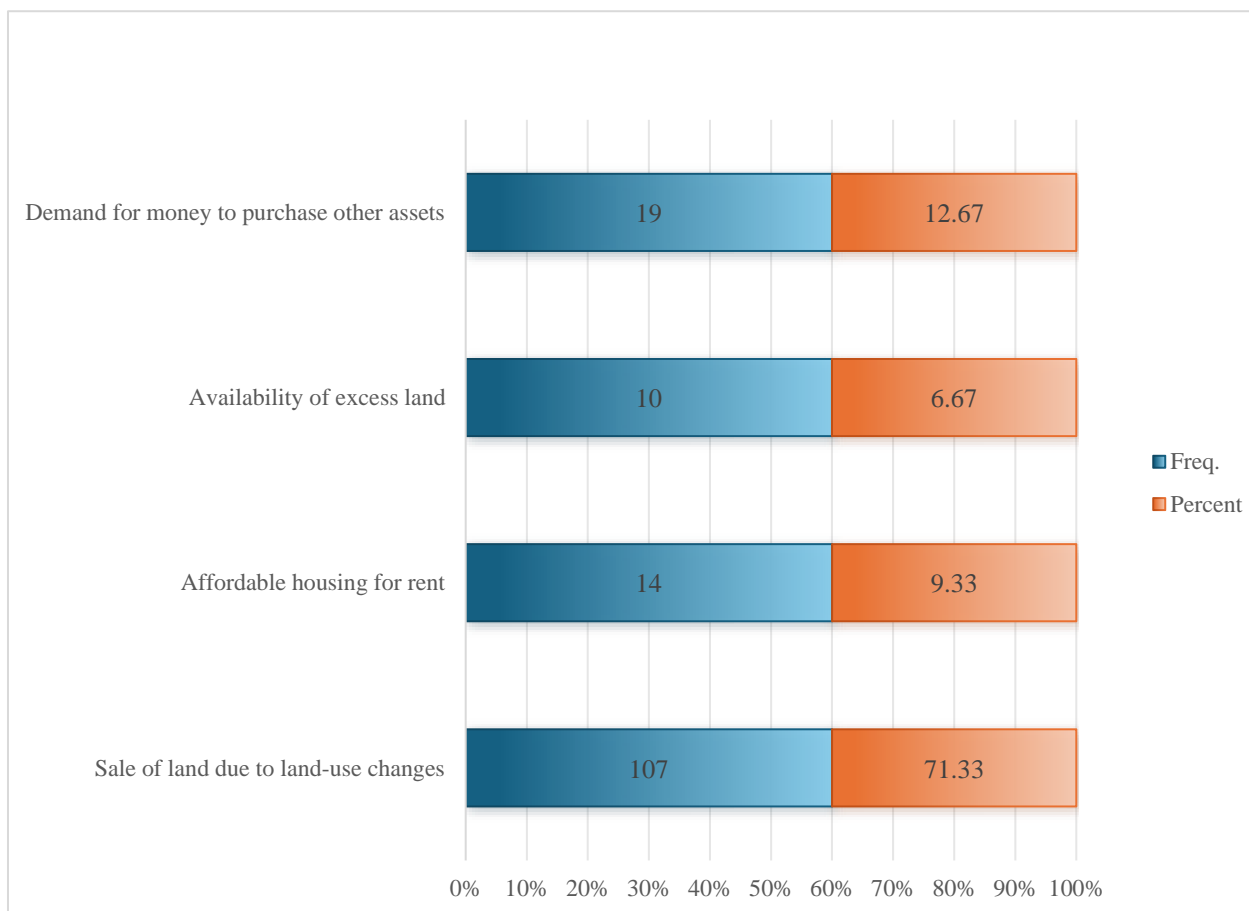


Figure. 3: Factors influencing household contribution to peri-urban growth

5.2.4 Effects of Urban Growth on Livelihood in Bosomtwe District

Table 5.4 provides a comprehensive overview of how urban growth influences livelihood choices among respondents, offering insights into various aspects such as current sources of livelihood, preferences for alternative occupations, reasons for job maintenance, and willingness to adapt to high-demand activities.

Among the 150 respondents, 20% are engaged in farming, while the majority (80%) pursue non-farming occupations. This non-farming category encompasses diverse fields including administration/business/mobile money vending (59.65%), vocational/skilled trades/artisan work (19.30%), driving (6.14%), healthcare/education/social services (12.28%), and security (2.63%).

The primary reason cited for current livelihood choices is financial stability/profitability/decent earnings (34.23%), followed by the only available work/job opportunity (6.71%), possession

of skills and knowledge/technical know-how (11.41%), family business/family survival (7.38%), and personal reasons/aspirations (6.71%).

Among respondents, 28.00% express a preference for alternative occupations. Professional and technical occupations (33.33%), business and entrepreneurship (14.29%), service and security jobs (26.19%), and creative and artistic careers (7.14%) are among the preferred alternatives. Reasons for maintaining current jobs include financial stability/profitability (16.19%), job availability/opportunity (14.29%), salary and benefits (16.19%), personal satisfaction/passion (12.38%), and engagement in family business/inheritance/self-employment (40.95%).

A smaller portion of respondents (14.67%) report having other sources of livelihood besides their primary occupation, with manual labor (68.18%) and entrepreneurship (31.82%) being the most common specified sources.

The expansion of Kumasi's urban area has led to varied impacts on livelihood. The creation of more job opportunities (75.84%) stands out as the most significant effect, followed by the perception of a high cost of living (18.79%), neutral/no impact (2.01%), unhealthy competition/miscellaneous issues (2.68%), and improved transportation (0.67%).

A large majority (83.33%) of respondents affirm the existence of job opportunities created by Kumasi's growth. These opportunities primarily exist in building and construction (8.73%), healthcare (4.76%), education (4.76%), transportation (5.56%), and market and business development (62.7%). High-demand income-generating activities include wholesale/retail (11.33%), transportation (82.67%), farming (5.33%), and real estate (0.67%).

While 46.67% of respondents express a willingness to adapt to high-demand activities, 53.33% are not inclined. Reasons for willingness include the desire for more income (78.57%), better living conditions (18.57%), interest in skill development (1.43%), and ease of accessibility (1.43%). Conversely, reasons for reluctance include health concerns (3.75%), safety concerns (35.00%), financial constraints (10.00%), lack of interest (11.25%), and other factors (40.00%).

The thematic analysis reveals the effects of urban growth on livelihood in the studied community are profound, marked by a notable transition away from traditional agricultural practices. Participant Four, aged 32, reflects on this shift, stating,

"Traditionally an agricultural community, farming has declined, with only a few villages still engaged in agricultural activities." - 43 (IDI, 2024)

This decline prompts a shift towards non-farming activities, as highlighted by Participant Two, aged 43, who observed that

"Most people now resort to artisan jobs, construction works, and small-scale businesses." - P2 (IDI, 2024)

However, with limited professional opportunities available, Participant One, aged 40, notes a preference for alternative occupations, stating,

"There's not more professional work except daily trading or small-scale trading and construction works." - P1 (IDI, 2024)

Moreover, Participant Five adds insight into preferred alternative occupations such as block factories and water companies, which provide employment opportunities within the community.

"Another livelihood strategy, we have here is blocks factories and water companies which employ some of our youths and adults." - P5 (IDI, 2024)

The expansion of Kumasi brings both opportunities and challenges to livelihoods within the community. Participant Three, aged 56, notes the impact of urban expansion on employment dynamics, emphasizing security concerns that lead to a preference for non-local workers over local ones, stating,

"Because of security concerns, most people also don't hire people from here for their work but rather bring their own workers from afar." - P3 (IDI, 2024)

Nonetheless, urban development projects like the construction of Anloga Junction provide job opportunities, as highlighted by Participant One, aged 40, who states,

"During the construction of Anloga Junction, where most people moved from there to this place for jobs and settlement." - P1 (IDI, 2024)

Construction emerges as a high-demand income-generating activity, as reiterated by Participant One, emphasizing its importance as a livelihood strategy for survival.

Amidst these changes, there is a call for adaptation and skill development to meet the demands of high-demand activities. Participant Two emphasizes the need for increased technical

vocations and the creation of more job opportunities, recognizing the educational barriers faced by many within the community, stating,

"We should increase technical vocations and create more job opportunities because the majority of the people are unable to go to school." - P2 (IDI, 2024)

This excerpt demonstrates a willingness to adapt and underscore the community's resilience in navigating the evolving economic challenges brought about by urban growth.

Table 5. 4: Distribution of Effects of Urban Growth on Livelihood among Respondents

Variables	Frequency (n=150)	Percent(%)
Current Source of Livelihood		
<i>Farming</i>	30	20.00
<i>Non-farming:</i>	120	80.00
Non-farming Category		
<i>Administration/Business/Mobile money vendor</i>	68	59.65
<i>Vocational/Skilled Trades/Artisan</i>	22	19.30
<i>Driving</i>	7	6.14
<i>Healthcare/Education/ Social Services</i>	14	12.28
<i>Security</i>	3	2.63
Reason for Current Source of Livelihood		
<i>Financial Stability/profitable/Decent earnings</i>	51	34.23
<i>The only work/job opportunity available</i>	10	6.71
<i>Have the skills and knowledge/technical know how</i>	17	11.41
<i>Family Business/Family Survival</i>	11	7.38
<i>Personal Reasons/Aspirations</i>	10	6.71
Preference for Alternative Occupation		
<i>Yes</i>	42	28.00
<i>No</i>	108	72.00
Preferred Alternative Occupation (n=42)		
<i>Professional and Technical Occupations</i>	14	33.33
<i>Business and Entrepreneurship</i>	6	14.29
<i>Service and Security Jobs</i>	11	26.19
<i>Creative and Artistic Careers</i>	3	7.14
<i>Other</i>	8	19.05
Reason for Maintaining Current Job		
<i>Financial Stability/Profitable</i>	17	16.19
<i>Job Availability/Opportunity</i>	15	14.29
<i>Salary and Benefits</i>	17	16.19

<i>Personal Satisfaction/Passion</i>	13	12.38
<i>Family Business/Inheritance/Self-Employed</i>	43	40.95
Other Sources of Livelihood		
<i>Yes</i>	22	14.67
<i>No</i>	128	85.33
<i>Specify Other Sources of Livelihood (n=22)</i>		
<i>Manual Labor</i>	15	68.18
<i>Entrepreneurship</i>	7	31.82
Ease of Employment Compared to Past 10 Years		
<i>Yes</i>	92	61.33
<i>No</i>	58	38.67
Impact of Kumasi's Expansion on Livelihood		
Creation of more job opportunities	113	75.84%
High cost of living	28	18.79%
Neutral/No Impact	3	2.01%
Unhealthy competition/Miscellaneous	4	2.68%
Easy Movement/transportation	1	0.67%
Job Opportunities Created by Kumasi's Growth		
<i>Yes</i>	125	83.33
<i>No</i>	25	16.67
<i>Specify Job Opportunities Created (n=125)</i>		
<i>Building and Construction</i>	11	8.73
<i>Healthcare</i>	6	4.76
<i>Education</i>	6	4.76
<i>Transportation</i>	7	5.56
<i>Market and Business Development</i>	79	62.7
<i>Other</i>	17	13.49
High-Demand Income-Generating Activity		
<i>Wholesale/Retail</i>	17	11.33%
<i>Transport</i>	124	82.67%
<i>Farming</i>	8	5.33%
<i>Real Estate</i>	1	0.67%
Willingness to Adapt to High-Demand Activities		
<i>Yes</i>	70	46.67%
<i>No</i>	80	53.33%
Reasons for Willingness to Adapt (n=70)		
<i>Desire for More Income</i>	55	78.57%
<i>Desire for Better Living Conditions</i>	13	18.57%
<i>Interest in Skill Development</i>	1	1.43%
<i>Easy and accessible</i>	1	1.43%

Reasons for Not Willing to Adapt (n=80)

<i>Health Concerns</i>	3	3.75%
<i>Safety Concerns</i>	28	35.00%
<i>Financial Constraints</i>	8	10.00%
<i>Lack of Interest</i>	9	11.25%
<i>Others</i>	32	40.00%

SOURCE: *Field Survey, 2024*

5.3.5 Linkages Between Livelihood Assets and Livelihood Strategies among Study Participants

Table 5.5 presents a comprehensive analysis of the linkages between livelihood assets and strategies among respondents, shedding light on the multifaceted impacts of urban growth on livelihood dynamics. Among the identified livelihood assets, land and farmland for agricultural production emerged as critical components, with 44.67% of respondents recognizing their significance. Similarly, business and trade assets were highlighted by nearly half of the respondents, totaling 48.67%, underlining the importance of financial assets in supporting economic activities and livelihood diversification. Income from social organizations and skills/knowledge from jobs were acknowledged by 2.00% and 4.67% of respondents, respectively, highlighting the multifaceted nature of livelihood assets.

The effect of urban expansion on livelihood assets was profound, with a significant proportion of respondents indicating its influence on various aspects. Notably, 92% reported that urban expansion affected income, reflecting the broad economic ramifications of urban growth. Additionally, the expansion was found to influence land and natural resources, community relations, physical assets, and the labor force, with 80.67%, 55.33%, 74.67%, and 14% of respondents, respectively, underscoring its multifaceted impact on livelihood assets and community dynamics.

Respondents' identified livelihood strategies encompassed a diverse range of approaches, including agricultural intensification, non-farm employment, migration/commuting, and wage labor employment. This reflects the adaptive responses of households to evolving economic dynamics and urban growth pressures, with 78%, 62.67%, 70%, and 80% of respondents, respectively, highlighting the versatility and resilience of livelihood strategies in peri-urban contexts.

The influence of livelihood assets on strategies due to urban growth was evident, with nearly 88% of respondents acknowledging this linkage. Financial stability, increased income opportunities, and asset creation were cited as primary reasons for this influence, with 9.52%, 15.08%, 32.54%, and 22.22% of respondents, respectively, emphasizing the pivotal role of livelihood assets in shaping strategic decisions and resource allocation in response to urban expansion.

Moreover, a majority of respondents reported an improvement in livelihood assets due to urban growth and strategies, totaling 94.67%. This suggests that while urban expansion poses challenges, it also creates opportunities for livelihood enhancement and asset accumulation, driving economic progress and community development in peri-urban areas.

However, respondents faced various limitations in applying livelihood strategies, including financial constraints, knowledge deficiencies, and infrastructure limitations. Despite these challenges, respondents displayed resilience, with the majority seeking financial solutions to overcome limitations and enhance their livelihood strategies, accounting for 82.99% of responses. Training and skill enhancement were identified as key methods to address these constraints, reflecting a proactive approach to livelihood enhancement amidst urban expansion challenges, with 2.72% of respondents emphasizing the importance of investing in human capital for sustainable livelihoods. Diversification and innovation were also recognized, with 14.29% of respondents highlighting the need for adaptive strategies to navigate dynamic urban landscapes and ensure livelihood resilience in the face of change.

Regarding the linkages between livelihood assets and strategies, the qualitative findings support the quantitative figures. Participants shared their perspectives. Participant Two (Age 43) emphasized the importance of asset ownership whilst Participant Four (Age 32) also discussed the impact of population growth on land availability.

"Most of our people are eager to buy and own their land, but the land prices are becoming expensive." - P2 (IDI, 2024)

"Now all the lands are finished due to the drastic increase in our population." - P4 (IDI, 2024)

Table 5. 5: Distribution of Linkages Between Livelihood Assets and Livelihood Strategies among Respondents

Variables	Frequency (n=150)	Percent (%)
Livelihood Assets Identified		
<i>Land, Farmland / agricultural production (physical and natural assets)</i>	67	44.67
<i>Business/trade (financial assets)</i>	73	48.67
<i>Income from social organization (social assets)</i>	3	2.00
<i>Skills and knowledge from job (human assets)</i>	7	4.67
Effect of Urban Expansion on Livelihood Assets		
[n=150]		
<i>Affects land and other natural resources [yes/no]</i>	121	80.67
<i>Affects community relations [yes/no]</i>	83	55.33
<i>Affects income [yes/no]</i>	138	92
<i>Affects physical assets of the communities [yes/no]</i>	112	74.67
<i>Affects human assets/labor force [yes/no]</i>	21	14
Respondents' identified livelihood strategy		
<i>Agricultural intensification [yes/no]</i>	117	78
<i>Non-farm employment [yes/no]</i>	94	62.67
<i>Migration/commuting [yes/no]</i>	105	70
<i>Wage labor employment [yes/no]</i>	120	80
<i>Others [yes/no]</i>	13	8.67
Influence of Livelihood Assets on Strategies Due to Urban Growth		
<i>Yes</i>	131	87.92
<i>No</i>	18	12.08
Reason for Influence of Livelihood Assets		
<i>Financial Stability</i>	12	9.52%
<i>Increased Income Opportunities</i>	19	15.08%
<i>Asset Creation</i>	41	32.54%
<i>Job Opportunities</i>	28	22.22%
<i>Livelihood Diversification</i>	26	20.63%
Improvement in livelihood assets due to urban growth		
<i>Yes</i>	142	94.67
<i>No</i>	8	5.33
Improvement in Livelihood Assets due to Strategies		
<i>Yes</i>	142	94.67
<i>No</i>	8	5.33

Reason for Improvement in Livelihood Assets		
<i>Financial Improvement</i>	25	35.71%
<i>Improvement in standard of living</i>	23	32.86%
<i>Asset Improvement</i>	22	31.43%
<i>Income Generation</i>	70	100.00%
Limitations Faced in Applying Livelihood Strategies		
<i>Financial Constraints/Capital Issues</i>	100	66.67
<i>Knowledge and Information Deficiency</i>	28	18.67
<i>Infrastructure and Asset Limitations</i>	5	3.33
<i>Miscellaneous Limitations</i>	4	2.67
<i>Others/General Strategies</i>	13	8.67
Methods to Overcome Limitations when applying your livelihood strategies		
<i>Financial Solutions</i>	122	82.99
<i>Training and Skill Enhancement</i>	4	2.72
<i>Diversification and Innovation</i>	21	14.29

SOURCE: Field Survey, 2024

5.3 Objective 2: The Livelihood Strategies Used by Household Residents

5. 3.1 Livelihood Activities and Strategies among study participants

Table 5.6 delves into the distribution of livelihood activities and strategies among study participants, providing a detailed examination of their responses to the challenges posed by urban expansion. The majority of participants, comprising 130 individuals (86.67%), highlighted the lack of financial support/capital as a significant barrier inhibiting their ability to undertake livelihood activities in the context of urban expansion. This underscores the critical role of financial resources in sustaining livelihoods amidst urban growth.

In terms of livelihood assets identified, the study revealed that 73 participants (48.67%) identified business/trade as a crucial asset, highlighting the importance of financial assets in supporting livelihood strategies. Additionally, 67 individuals (44.67%) recognized land, farmland, or agricultural production as vital assets, underscoring the significance of physical and natural assets in peri-urban settings. Moreover, 25 respondents (16.67%) emphasized ownership of assets as a consideration before choosing a livelihood strategy, indicating the role of asset ownership in shaping livelihood decisions.

The impact of urban expansion on livelihood assets was profound, with a significant proportion of respondents indicating adverse effects. Specifically, 138 participants (92%) reported that

urban expansion affected their income, while 121 individuals (80.67%) noted its impact on land and other natural resources. This highlights the vulnerability of livelihood assets to the pressures of urban growth, necessitating adaptive strategies to safeguard livelihood sustainability.

Respondents' identified livelihood strategies varied, reflecting the diverse approaches adopted in response to urban expansion. Agricultural intensification emerged as a prevalent strategy, with 117 participants (78%) opting for this approach to enhance agricultural productivity and resilience. Similarly, wage labor employment was identified by 120 individuals (80%), indicating the reliance on employment opportunities as a livelihood strategy in peri-urban areas.

Despite the challenges posed by urban expansion, the study found that a majority of participants, constituting 147 individuals (98%), were satisfied with the current outcome of their livelihood strategies compared to before Kumasi's urban expansion. This suggests a degree of adaptive capacity among households in peri-urban settings, enabling them to navigate and respond effectively to the changing socio-economic growth.

In addressing the limitations faced in applying livelihood strategies, participants employed various methods to overcome challenges. Financial solutions were the most commonly utilized approach, with 122 individuals (82.99%) opting for this strategy to mitigate financial constraints. Additionally, diversification and innovation were embraced by 21 respondents (14.29%), highlighting the importance of adaptability and creativity in enhancing livelihood resilience amidst urban expansion.

In addition to the quantitative findings, the qualitative findings on the Livelihood Strategies Used by Household Residents reveal the following;

Participant Four, aged 32, reminisces about the communal labor practices of the past, noting a stark change in community engagement, stating,

"At first, people participate during communal labor, but now people don't come." - P4 (IDI, 2024)

This excerpt reflects broader changes in community dynamics and the diminishing influence of traditional practices on livelihood decisions.

Participant One, aged 40, highlights the negative consequences of peri-urban growth on youth engagement, observing a troubling increase in antisocial behaviors, stating,

"Because of the peri-urban growth impact, some of the youths are engaged in smoking, alcohol, and robbery cases." - P1 (IDI, 2024)

This excerpt sheds light on the social challenges arising from urban expansion and its implications for livelihood choices, especially among vulnerable groups.

In contrast, Participant Three, aged 56, acknowledges the positive aspects of peri-urban growth, emphasizing improved accessibility and enhanced aesthetics within the town, stating,

"Positively, the peri-urban growth has made movement and road networks accessible and makes the town beautiful." - P3 (IDI, 2024)

This perspective underscores the multifaceted nature of urban development and its varied impacts on residents' lives.

Participant Two, aged 43, elucidates the motivations behind their chosen livelihood activity, citing financial stability and independence as driving factors, stating,

"Financial Stability and Independence is what we are all looking for." - P2 (IDI, 2024)

This perspective echoes the broader economic imperatives that influence individual livelihood decisions within the community.

Participant Five, aged 46, reflects on the decline of farming as a livelihood activity, highlighting the shifting economic landscape and its impact on traditional practices, stating,

"Traditionally an agricultural community, farming has declined, with only a few villages still engaged in agricultural activities." - P5 (IDI, 2024)

Despite challenges, efforts are underway to address pressing issues and develop mitigation strategies, as Participant Four notes, stating,

"Efforts are underway to engage with local chiefs to address pressing issues and develop strategies to mitigate the negative impacts of rapid urbanization." - P4 (IDI, 2024)

This underscores a proactive approach to adapt to changing circumstances and safeguard community interests amidst urban growth.

Table 5. 6: Distribution of Livelihood Activities and Strategies among study Participants

Variables	Frequency (n=150)	Percent (%)
Considerations Before Choosing Livelihood Strategy		
<i>Educational/technical skills/training</i>	5	3.33
<i>Ability to raise funds</i>	24	16
<i>For wage</i>	94	62.67
<i>For job experience</i>	2	1.33
<i>Ownership of assets</i>	25	16.67
Change in Livelihood Strategy due to Urban Expansion		
<i>Yes</i>	148	98.67
<i>No</i>	2	1.33
Benefits from Urban Growth		
<i>Diversification of agriculture (yes/no)</i>	116	77.33
<i>Intensification of agriculture (yes/no)</i>	114	76
<i>Secure alternative livelihood (yes/no)</i>	117	78
<i>Engage in non-farm activities (yes/no)</i>	99	66
<i>Migrate to look for employment (yes/no)</i>	113	75.33
<i>Others</i>	36	24
Reason for Chosen Livelihood Activity		
<i>Financial Stability and Independence</i>	82	54.70%
<i>Family Support and Better Living Conditions</i>	36	24.00%
<i>Career and Livelihood Diversification</i>	25	16.70%
<i>Agricultural Changes and Challenges</i>	7	4.69%
Outcome of Chosen Strategy		
<i>Financial Stability</i>	53	35.30%
<i>Improved Living Conditions</i>	33	22.00%
<i>Improved Standard of Living</i>	53	35.30%
<i>Increase in Productivity</i>	5	3.30%
<i>Others</i>	6	4.00%
Satisfied with current outcome strategy than before Kumasi's urban expansion		
<i>Yes</i>	147	98.0%
<i>No</i>	3	2.0%
Barriers that inhibit the ability of the household to undertake livelihood Activity due to urban expansion		
<i>Lack of Financial Support/Capital</i>	130	86.67%
<i>Lack of Skills/knowledge/Training</i>	11	7.33%

<i>Misunderstanding</i>	9	6.00%
Problems in Strategizing Livelihood with Urban Expansion		
Lack of Financial Support/Capital	140	93.33%
Lack of Skills/Knowledge	6	38.50%
Social/Isolation Concerns	2	15.40%
Productivity/Technical Challenges	2	15.40%
Measures to Deal with Problems Following the Urban Expansion		
Seeking Financial Assistance	95	45.20%
Diversifying Income Sources	42	20.00%
Hard Work/Work Ethic	12	5.70%
Investment/Financial Planning	10	4.80%
Education/Training/Seeking Advice	8	3.80%

SOURCE: *Field Survey, 2024*

5.4 Discussion of Results

5.4.1 Impact of Peri-urban Growth on the Livelihood of Household Residents

□ Factors Influencing Peri-urban Growth in Bosomtwe District

The findings regarding factors influencing peri-urban growth in the Bosomtwe District are in alignment with several themes discussed in the literature. Firstly, population growth and rural-urban migration emerge as key drivers of peri-urban expansion, a notion supported by the overwhelming majority of respondents (94.67%) indicating the presence of population growth and migration in the study area, consistent with existing literature (OECD, 2020; Oduro et al., 2015). This suggests a pattern of demographic shift towards peri-urban areas driven by migration from rural to urban settings.

Secondly, infrastructure development, particularly road construction, emerges as another significant factor influencing peri-urban growth, echoing findings from both the literature and qualitative analysis. The high percentage of respondents (95.33%) affirming the development of roads underscores the role of infrastructure in facilitating urban expansion, as discussed in studies such as Abass et al. (2013) and as highlighted by Participant Three. This indicates a symbiotic relationship between infrastructure development and peri-urban growth, where improved connectivity stimulates population movement and economic activities.

Additionally, industrialization is identified as a contributing factor to peri-urban growth, with a notable percentage of respondents (95.33%) acknowledging its presence in the study area.

This finding aligns with the literature, which suggests that the establishment of industries can attract both population and economic activities to peri-urban regions (Abass et al., 2013). The influx of industries may create employment opportunities and spur economic development, further fueling urbanization processes in peri-urban areas. Notwithstanding, the findings from the study area identified that peri-urbanism is not characterized by a high concentration of heavy industrial activities as compared to other peri-urban areas in the world.

Furthermore, the affordability of land and housing emerges as a significant factor contributing to peri-urban expansion, although with comparatively lower percentages (64.67% for affordable land and 58.00% for affordable housing). However, these findings still underscore the relevance of affordability in shaping settlement patterns in peri-urban areas, as discussed in studies such as Lawanson et al. (2012) and Cobbinah and Erdiaw-kwasie (2018). The availability of affordable land and housing may attract migrants seeking better living conditions and economic opportunities, thus driving peri-urban growth.

Finally, economic activities are highlighted as pivotal in attracting the population and fostering growth in peri-urban areas, with a substantial percentage (88.00%) of respondents affirming their presence. This finding resonates with literature suggesting that economic opportunities in peri-urban settings play a significant role in urbanization processes (OECD, 2020). The concentration of economic activities in peri-urban areas may act as an attraction for migrants, further contributing to population growth and urban expansion.

Notwithstanding, according to Hudalah et al. (2007) peri-urbanism results in the reorganization of local economies and employment structure from agriculture to manufacturing. Livelihood activities in the study area are characterized by an economic shift and changing employment to mainly commercial activities such as business and trade that constitute the highest job opportunities created by urban expansion. This trend of change supports the view presented by Keiser et al. (2004) and Songsore (2009) that urban growth in Africa is characterized by the absence of heavy industrial expansion because many African urban areas or cities were developed as trade and administrative centers rather than industrial centers.

□ **Indicators of peri-urban development in Bosomtwe District**

The indicators of peri-urban development identified in the Bosomtwe District closely align with themes discussed in the literature on peri-urban growth and development. Firstly, the trend of declining agricultural lands, as reported by a significant majority of respondents (88.67%), resonates with literature acknowledging the transformation of peri-urban areas from

predominantly agricultural to more urbanized landscapes (Abass et al., 2013; Levi and Sperry, 2007). This suggests a shift in land use patterns driven by urban expansion, where agricultural land is increasingly converted for urban purposes, reflecting the evolving socio-economic dynamics of peri-urbanization.

Secondly, the substantial percentage of respondents (98.67%) reporting population increase corroborates the literature's emphasis on population growth as a key indicator of peri-urban development (OECD, 2020). This demographic shift signifies the demographic changes associated with peri-urbanization in the Bosomtwe District, characterized by an influx of migrants and the expansion of settlement areas to accommodate the growing population.

Moreover, the emergence of increased economic activities, affirmed by a high percentage of respondents (94.67%), mirrors literature highlighting economic dynamism as a characteristic feature of peri-urban areas (Abass et al., 2013). This suggests the diversification of economic opportunities in the study area, potentially driven by urbanization processes and the development of peri-urban economies.

Furthermore, investments in social infrastructure, such as schools and recreational facilities, as indicated by the percentages for increased numbers of schools (66.67%) and recreational facilities (90.67%), align with literature highlighting the growing provision of amenities in peri-urban areas to cater to the needs of the expanding population (Lawanson et al., 2012). This reflects efforts to enhance the quality of life and social well-being of residents in peri-urban settings, contributing to the overall development of the area.

The qualitative findings complement the quantitative data by providing deeper insights into the drivers and consequences of peri-urban development. Participant Five's account of the transformation from a farming area to one dominated by peri-urban growth underscores the shifts in land use patterns associated with peri-urbanization, while Participant Four's emphasis on infrastructure development highlights the role of amenities like roads and schools in attracting people to peri-urban areas and facilitating their growth. Overall, these findings underscore the multifaceted nature of peri-urban development and its implications for land use, demographics, and socio-economic dynamics in the Bosomtwe District.

□ **Factors Influencing Household Contribution to Peri-urban Growth in Bosomtwe District**

The factors influencing household contributions to peri-urban growth identified in the Bosomtwe District closely align with themes discussed in the literature on peri-urbanization and urban expansion. Firstly, the dominant factor identified in the analysis – the sale of land due to land-use changes – corresponds with literature highlighting the economic incentives driving households to capitalize on rising property values amidst urbanization (Abass et al., 2013). This underscores the role of economic opportunities in shaping household decisions and contributing to peri-urban growth, reflecting the interplay between market forces and land development dynamics in peri-urban areas.

Secondly, the significance of affordable housing dynamics in accommodating urban migrants and facilitating peri-urban development resonates with literature emphasizing the importance of housing affordability in urban areas (Lawanson et al., 2012). The availability of affordable rental housing options reflects efforts to address the housing needs of a growing population in peri-urban settings, indicating the role of housing supply dynamics in shaping household choices and migration patterns.

Moreover, the presence of excess land and the demand for money to purchase other assets illustrates the diverse strategies employed by households to navigate the evolving peri-urban landscape, aligning with literature highlighting the multifaceted nature of household livelihood strategies in peri-urban areas (Abass et al., 2013). The presence of excess land presents opportunities for landowners to leverage land sales for financial gain, while the demand for money to purchase other assets indicates broader economic aspirations and investment strategies among households, reflecting the economic motivations driving household behaviors in peri-urban environments.

The qualitative findings provide additional insights into household contributions to peri-urban growth, highlighting challenges such as land disputes and the transformation of land use patterns. Participant One's account of the impact of land disputes underscores the importance of addressing land tenure issues to facilitate peri-urban development, while Participant Three's observation regarding the transformation of land use corroborates the quantitative findings regarding the sale of land for development and real estate business. Overall, these findings underscore the complex interplay of economic, social, and land-use factors shaping household contributions to peri-urban growth in the Bosomtwe District.

The qualitative findings regarding household contributions to peri-urban growth in the Bosomtwe District offer valuable insights into the complexities of land tenure issues within the context of Ghana's land tenure system. Participant One's account of the impact of land disputes highlights the persistent challenges related to tenure insecurity and unclear land rights, which hinder peri-urban development. This aligns with the broader literature on land tenure in Ghana, which identifies land disputes as a key challenge stemming from the coexistence of customary and statutory tenure systems (Kasanga & Kotey, 2001). Addressing these challenges is crucial for fostering a conducive environment for peri-urban growth, as highlighted by Participant One's narrative.

Furthermore, Participant Three's observation regarding the transformation of land use patterns underscores the dynamic nature of land utilization in peri-urban areas. This observation corroborates the quantitative findings regarding the sale of land for development and real estate business, emphasizing the role of land as a valuable asset driving peri-urban growth. Within the context of Ghana's land tenure system, this transformation reflects the evolving dynamics of land ownership, use, and management, influenced by both customary practices and statutory regulations.

Efforts to reform the land tenure system, as exemplified by initiatives like the Land Administration Project (LAP), are crucial for improving land governance, enhancing the security of tenure, and promoting equitable access to land resources in Ghana (Owusu Ansah, 2022). By addressing these challenges, policymakers can create an enabling environment for inclusive and sustainable peri-urban development, ensuring that the benefits of urbanization are equitably shared among residents while preserving the socio-cultural and environmental integrity of peri-urban areas.

□ **Effects of Urban Growth on Livelihood of Household Residents in Bosomtwe District**

The effects of urban growth on the livelihood of household residents in the Bosomtwe District, as revealed by Table 5.3 and the thematic analysis, closely align with several key themes discussed in the literature on peri-urban development and urbanization dynamics. Firstly, the transition away from traditional agricultural practices, as noted by Participant Four and Participant Two, mirrors literature highlighting the shift towards non-farming occupations in peri-urban areas (Abass et al., 2013). This transition reflects changing livelihood strategies in

response to urban expansion and the emergence of economic opportunities in non-agricultural sectors, indicating the evolving economic landscape in peri-urban settings.

Secondly, Participant One's observation regarding the limited availability of professional work and the preference for alternative occupations resonates with literature emphasizing the diversification of livelihoods in peri-urban areas (Lawanson et al., 2012). The emergence of alternative livelihood strategies such as artisan jobs, construction works, and small-scale businesses underscores the adaptability of households to changing economic environments, highlighting the dynamic nature of livelihoods in peri-urban settings.

Moreover, the thematic analysis highlights the mixed impact of urban expansion on employment dynamics within the community. Participant Three's observation regarding security concerns and the preference for non-local workers underscores the challenges faced by local residents in accessing employment opportunities in peri-urban areas (Abass et al., 2013). However, Participant One's account of job opportunities generated by urban development projects like the construction of Anloga Junction highlights the potential benefits of urban growth for local employment, indicating the complex interplay between urban expansion and employment dynamics.

Lastly, the willingness expressed by participants to adapt to high-demand activities, as emphasized by Participant Two, reflects the recognition of the importance of skill development in accessing economic opportunities in peri-urban areas (Abass et al., 2013). This aligns with literature highlighting the need for skill diversification and vocational training to meet the demands of evolving urban economies (Lawanson et al., 2012), suggesting the importance of human capital development in enhancing livelihoods in peri-urban settings. Overall, these findings underscore the multifaceted impacts of urban growth on livelihoods in the Bosomtwe District and highlight the need for adaptive strategies to navigate the changing economic landscape.

In summary, though the structure of the district's economy, according to the Ghana 2021 Population and Housing Census (Service, 2021), is predominantly agricultural, however, Kumasi's outward expansion into the study area has contributed to a significant impact on infrastructure development, such as road construction and the establishment of senior high schools, driving population growth. These contributing factors among others have led to a decline in agricultural activities and an increase in economic opportunities. Additionally, findings showed a shift in household contributions to peri-urban growth, with land sales due to

land-use changes becoming dominant (71.3%), as indicated by the analysis of factors influencing household contribution to peri-urban growth. However, challenges such as land disputes, mentioned by Participant One, and the scarcity of land, highlighted by Participant Five, emerged post-expansion, underscoring the complexities of peri-urban development.

The transformation of the study area from predominantly agricultural to peri-urban aligns with the broader literature on urbanization and peri-urban development. However, before Kumasi's outward expansion into the district, the district's agricultural focus was consistent with studies emphasizing the rural nature of peri-urban areas characterized by farming activities (Satterthwaite et al., 2010; Tacoli, 2009). This agricultural base served as the foundation for the subsequent peri-urban growth.

The emergence of senior high schools as a driver of population growth is particularly noteworthy and aligns with research emphasizing the importance of educational infrastructure in shaping peri-urban dynamics (De Sherbinin et al., 2008).

The shift from agricultural to non-agricultural economic activities mirrors patterns documented in peri-urban studies, where urban expansion leads to the decline of agricultural land and the rise of diverse economic opportunities (Seto et al., 2011; Abass et al., 2018; Follmann et al., 2021). This transition underscores the economic restructuring typical of peri-urban areas undergoing urbanization.

□ **Linkages Between Livelihood Assets and Livelihood Strategies among Study Participants**

The findings regarding the linkages between livelihood assets and strategies among study participants in the Bosomtwe District closely align with key themes discussed in the literature on peri-urban development and livelihood dynamics. Firstly, the significance of livelihood assets such as land, farmland, and business/trade assets as critical components of livelihoods resonates with literature emphasizing the importance of diverse livelihood assets in peri-urban areas (Abass et al., 2013). These assets provide the foundation for economic activities and livelihood diversification, enabling households to adapt to changing urban landscapes by leveraging their existing resources.

Secondly, the profound influence of urban expansion on various livelihood assets, including income, land, natural resources, and physical assets, reflects the complex interplay between

urban growth dynamics and livelihood dynamics (Jaquinta and Drescher, 2000). The expansion of urban areas often leads to changes in land use, economic opportunities, and community relations, affecting the availability and accessibility of livelihood assets for local (indigenous) residents, thereby shaping their livelihood strategies.

Moreover, the diverse range of livelihood strategies identified by respondents, including agricultural intensification, non-farm employment, migration/commuting, and wage labor employment, underscores the adaptive responses of households to urban growth pressures (Chambers and Conway, 1992). These strategies enable households to adapt to the changing economic and social landscape of peri-urban environments, demonstrating their resilience and flexibility in navigating urban growth challenges. Though few household residents (17.33%) engaged in farming as an occupation, evidence of agricultural intensification as a prevalent livelihood strategy among household residents in the study area can be subjected to the transformation of peri-urban land use since land for agricultural purposes among household residents (indigenes) are given to them by traditional authorities or family owned and traditional authorities has absolute control and power to relocate land for physical development and other purposes. This is in confirmation of the assertion by Kuusaana and Eledi (2015) that the high land demand has necessitated the commodification of lands in periurban areas, making it difficult for affected farmers to continue cultivating on large scales as a livelihood strategy. Notwithstanding, urban growth in the study area has provided market access that has contributed to agricultural extensification rather in villages far away from the study area and has provided a market and income for farm and non-farm activities for those surrounding villages, increasing employment and small farm incomes to reduce food prices and create robust growth connections in the nonfarm sector (Hazell et al., 2010) as the economic landscapes in which small farmers have traditionally operated are changing rapidly due to urban growth (Jayne et al., 2018).

Furthermore, the linkage between livelihood assets and strategies due to urban growth highlights the importance of asset accumulation and utilization in shaping strategic decisions and resource allocation (Dorward et al., 2009). Financial stability, income opportunities, and asset creation emerge as key factors driving the influence of livelihood assets on strategic choices, illustrating the interconnectedness of economic resources and livelihood outcomes.

Lastly, the limitations faced by respondents in applying livelihood strategies, such as financial constraints, knowledge deficiencies, and infrastructure limitations, underscore the challenges

posed by urban expansion for peri-urban livelihoods (Carney, 1998). However, the proactive approach of respondents in seeking financial solutions, investing in human capital, and adopting adaptive strategies demonstrates resilience and innovation in overcoming constraints and enhancing livelihood resilience amidst urban growth challenges. Overall, these findings contribute to a deeper understanding of the dynamics of peri-urban livelihoods in the Bosomtwe District and highlight the need for targeted interventions to support livelihood adaptation and resilience in the face of urban expansion.

5.4.2 The Livelihood Strategies Used by Household Residents

□ Livelihood Activities and Strategies among study participants

The findings on livelihood activities and strategies among study participants in the Bosomtwe District offer valuable insights into the challenges and adaptive responses associated with urban expansion, aligning with broader themes in the literature on peri-urban development and livelihood dynamics.

Firstly, the identification of financial constraints as a significant barrier to undertaking livelihood activities resonates with literature highlighting the importance of financial resources in sustaining livelihoods, particularly in peri-urban areas undergoing rapid urbanization (Satterthwaite et al., 2010). Limited access to financial capital can constrain households' ability to invest in productive assets and pursue income-generating activities, thus undermining livelihood resilience and well-being.

Secondly, the recognition of business/trade and land/farmland as crucial livelihood assets underscores their significance in supporting livelihood strategies and fostering economic resilience (Carney, 1998). These assets provide the foundation for income generation and livelihood diversification, enabling households to adapt to changing economic conditions and urban growth pressures.

Furthermore, the adverse effects of urban expansion on income, land, and natural resources highlight the vulnerability of livelihood assets to the pressures of urban growth (Chai and Seto, 2019). As urban areas expand, competition for land and resources intensifies, posing challenges for peri-urban residents dependent on agriculture and natural resource-based livelihoods.

Additionally, the adoption of diverse livelihood strategies, including agricultural intensification and wage labor employment, reflects households' adaptive responses to urban expansion and changing economic opportunities (Iddrisu et al., 2023). These strategies enable households to leverage their assets and skills to sustain livelihoods in peri-urban environments characterized by dynamic socio-economic changes.

Moreover, the qualitative findings provide nuanced insights into community perspectives on urban growth, highlighting both positive and negative aspects of peri-urban development (Alobo Loison, 2015). While some residents acknowledge the benefits of improved accessibility and aesthetics, others express concerns about social challenges and declining traditional practices. In contrast to the changes in social dynamics and the diminishing influence of traditional practices on livelihood decisions, the findings contradict the assertion by Oduro et al. (2015) that claimed that urban growth provides an array of livelihood opportunities for peri-urban areas which include joining and gaining from trade associations, faith-based organizations, and political groups. However, they corroborate that the peri-urban areas that are influenced by urban growth frequently have unique histories and identities that the locals or indigenes are eager to preserve, even as their lives gradually become more integrated into the urban economy and society.

Also, the recognition of efforts to engage with local chiefs and develop mitigation strategies underscores the importance of community-led initiatives in addressing the negative impacts of rapid urbanization (Afriyie et al., 2013). By collaborating with local stakeholders and implementing targeted interventions, communities can enhance resilience and promote sustainable development amidst urban growth pressures. These findings contribute to a deeper understanding of the complex interactions between urban expansion and livelihood dynamics in peri-urban areas, highlighting the need for integrated approaches to promote inclusive and sustainable development.

The findings reveal that urban growth has influenced livelihood strategies, with approximately 99% of respondents leaving formal occupations. This shows how the formal livelihood strategy especially farming activities has lost demand. In keeping with peri-urban economic imperatives, people's proactive reactions to urban growth are motivated by financial stability and independence. The relevance of socio-economic aspects such as family support and ambitions for better living circumstances, highlights the complexity of livelihood options. The need for professional variety also shows adaptation and resilience in shifting urban dynamics.

These results highlight the intricate interaction of economic, social, and personal elements in urban expansion-related job choices.

Respondents shifted their livelihood strategies in response to local economic activities stimulated by urban expansion, such as construction projects, service industries, retail, and education, as well as opportunities within Kumasi Metropolis. Also, the emphasis on financial stability and independence suggests that individuals may have been drawn to job opportunities that offered better economic prospects, whether they were local or in urban centers.

5.5 Chapter Summary

This chapter delves into the intricate effects of urban expansion on livelihood strategies within a community undergoing rapid urbanization. Through diverse participant perspectives, it unveils key themes regarding the challenges and opportunities arising from urban growth.

Beginning with an examination of current livelihood sources, a shift away from traditional agriculture towards non-farming activities like artisan jobs and small-scale businesses is evident. Participants expressed concerns about limited professional opportunities, leading to a preference for alternative occupations offering financial stability.

Urban expansion yields both positive and negative impacts on livelihoods. While some acknowledge benefits like improved accessibility, others highlight social challenges such as increased youth involvement in antisocial behaviors. Security concerns influence employment dynamics, with a preference for non-local workers.

Despite challenges, urban development projects provide job opportunities. However, the decline of traditional livelihoods underscores the need for adaptation and skill development. Participants advocate for enhancing technical vocations to address educational barriers.

Efforts are underway to engage authorities in addressing issues and devising mitigation strategies. Overall, the chapter highlights community resilience in navigating urban growth's complexities, emphasizing proactive measures for sustainable development.

5.6 Relating Results to the Conceptual and Theoretical Framework

5.6.1 Relating Results to the Conceptual Framework

According to DFID (1999), for households and individuals to achieve a positive livelihood outcome they must have a variety of assets available to them. Understanding the trends in the shift from rural to urban and how livelihoods are shaped by a dynamic range of factors are identified in the findings and the conceptual framework. However, the findings, explain the distribution of links between livelihood assets and strategies in the Bosomtwe District highlighting a dynamic interplay between these factors. This relationship is in line with the Sustainable Livelihood Framework, which holds that livelihood strategies are heavily influenced by the availability and management of assets (DFID, 1999).

Also, the findings of the study that identifies increased income among household residents as a result of diversification, as well as increased participation in non-farm activities as a result of urban expansion is in line with the Sustainable Livelihood Framework. These findings illustrate a strategic adaptation where households modify their asset portfolios and strategies in response to the opportunities and limitations brought about by urban expansion.

Also, the findings of the study that urban expansion into the district promotes developmental patterns that are typified by increased economic activity and infrastructure development (roads, schools, etc.) are inconsistent with the Sustainable Livelihood Framework, which emphasizes the reconfiguration of assets (physical, human, and social) in response to changing environmental conditions (DFID, 1999).

According to the study findings, household residents in Bosomtwe District adopt a variety of livelihood options to deal with the peri-urban expansion, such as intensive agriculture, non-farm employment, and migration for jobs. According to the conceptual framework that connects the processes of urban growth with livelihood diversification, these strategies are an adaptive reaction to the socio-economic opportunities and limitations brought about by the proximity to urban markets and infrastructure development. This diversification is not specific to Bosomtwe District; rather, it is a reflection of global peri-urban trends, where households navigate opportunities in the agricultural, emerging industrial, and service sectors (P. B. Cobbinah & Addaney, 2022).

Notwithstanding, broader socioeconomic forces, globalization and modernization rarely influence livelihood assets and strategies among household residents in the district. This brings

to light one of the criticisms of the Sustainable Livelihood approach highlighted by Scoones (2009) that fails to discuss the livelihood perspective. According to Scoones, there is inadequate engagement with processes of economic globalization and neglect of macro-level forces that influence livelihood choices.

5.6.2 Relating Results to the Theoretical Framework

Comparing the dynamism of factors that influence peri-urban growth in the Bosomtwe District in Ghana aligns with the attributes of urban transition theory. Taken into consideration, the theory features and explains the interconnected dynamics of urban growth and its impacts which include demographic shifts, economic transitions, etc. However, similar trends are identified as the study findings identify population growth, migration, and development of roads, increase in economic activities as the major dynamics that influence urban growth and peri-urban transformation in the District. From the standpoint of Urban Transition Theory, these factors demonstrate that changing economic environments play a critical role in influencing urban transitions. However, Urban Transition Theory concepts align with the socio-demographic shifts, particularly concerning occupational diversity. The changing dynamics of employment among household residents in the Bosomtwe District in Ghana point to a community moving towards an increasingly urbanized socioeconomic structure.

The findings show that urban growth predominantly affects financial and physical assets, which has a substantial impact on livelihood strategies. This result is in line with the Urban Transition Theory which highlights that in transitory urban areas, the process of urban growth frequently results in the redistribution and transformation of material, financial, and natural resources, which in turn changes livelihood strategies.

Also, within the context of my study, the findings reveal that income (capital assets) and financial ability drove the choice and influenced livelihood strategy more than human and social assets among household residents in the District. This is a typical indication of economic change and its consequences of urbanism that Wirth's theory identifies as transitory and influences social relations. The Wirthian theory also attributes an increase in population size as a contributing factor of heterogeneity that limits a community's sense of social relations and organization. This is revealed as the urban transition into the districts influences community engagement and the social behavior of people. Additionally, Urban Transition and the Wirthian theories also emphasize the social transformations associated with urban growth, and a

reflection is demonstrated as the findings of the study reveal a less impact social dimensions of livelihood assets having a minimal impact on livelihood strategies.

Also, evident in the findings that household residents participated in both agricultural and non-agricultural strategies to take advantage of the changing economic realities brought about by urban expansion as an adaptive technique strategy highlights the notion put forth by Wirth (1938). According to Wirth, urbanization affects people's socioeconomic behaviors in addition to their physical surroundings.

Relative to each other, urban and rural influences are not necessarily harmonious (Obeng & Whittal, 2014). The findings of the study reveal that a notable decline in traditional agricultural practices, increased land prices, changes in rural livelihood, changes in land use patterns, etc reshape rural areas and impact their economies, employment patterns, etc which may also result in vulnerability associated with trends of population. One of the main factors influencing household contributions to peri-urban expansion according to the study findings is the sale of land as a result of changes in land use. This is consistent with a global pattern where landowners are more inclined to sell agricultural land for urban development objectives when land values appreciate (Cobbinah & Amoako, 2012; Cobbinah & Nimminga-Beka, 2017). According to the Urban Transition Theory, these dynamics are essential to the stages of urban expansion and are the consequence of both economic opportunities and infrastructure developments.

5.7 Contribution of the Thesis

The study and its findings are accompanied by two theories, a conceptual framework, and literature that provide a nuanced understanding of how urban growth affects livelihood choices and assets in its adjoining areas. The findings of the study demonstrate how asset changes influence livelihood strategies that support the Sustainable Livelihood framework. However, the emphasis on the interconnectedness of various livelihood assets such as land, capital, etc, and their role in shaping livelihood choices are identified by the study.

The study validates the assertion of urban transition theory that highlights the socio-economic shifts in peri-urban areas due to urban expansion. The finding that declining agricultural lands, population increase, industrialization, and increased economic activities as seen in the shift in rural-urban structure in the study area contribute to our understanding and highlight the opportunities and challenges associated with urban expansion into peripheral locations that

reflect broader societal, environmental, and economic changes and their impact on livelihood assets and strategies. This evidence informs policy decisions and interventions.

In total, the study and its empirical findings, the conceptual framework, and the theories provide a lens for understanding the multifaceted ways in which urban expansion influences adjoining rural areas and provides a continuous refinement of our understanding of the dynamic factors that interact to influence livelihood assets and livelihood strategies as urban areas expand into its adjoining areas. However, the empirical data, methodological, and theoretical insights underscore the importance of informed policies and planning to support sustainable development in rapidly urban areas.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

In this final chapter, I draw upon the findings of my study on urban growth and livelihood transformation in the Bosomtwe District in Ghana. Finally, recommendations are made.

6.1 Conclusions

The socio-demographic analysis revealed a comprehensive overview of respondents' characteristics, crucial for understanding the nuances of urban growth impacts on livelihoods. With a total sample of 150 respondents, the majority were aged between 31-60 years (52%) while 46% were under 30. Gender distribution showed 61.33% male, 20% female, and 18.67% non-binary or other. Marital status indicated 45.33% single, 34.67% married, and smaller percentages for separated (8%), divorced (2%), and other (10%). Educationally, 43.33% completed high school, while 37.33% had basic education. These findings underscore the diverse socio-demographic makeup of the Household Residents in the Bosomtwe District in Ghana, highlighting the importance of tailored interventions to address the varied needs and priorities of residents.

Factors influencing peri-urban growth, such as population migration, infrastructure development, and economic activities, were identified as key drivers of urban expansion in the study area. The majority of respondents indicated "Yes" for factors such as population growth/migration (94.67%), development of roads (95.33%), and industrialization (95.33%). Indicators of peri-urban development, including declining agricultural lands (88.67%) and population increase (98.67%), further highlighted the transformative effects of urbanization on livelihoods. These findings underscore the complex interplay between infrastructure development, globalization, and historical context in shaping peri-urban dynamics.

The analysis of indicators of peri-urban development revealed significant transformations in the Bosomtwe District, driven by factors such as infrastructure development and historical context. With a majority of respondents reporting positive indicators such as declining agricultural lands (88.67%) and increased economic activities (94.67%), it is evident that the district is experiencing substantial peri-urban growth. The qualitative findings further

emphasized the role of infrastructure and historical significance in shaping peri-urban dynamics, highlighting both opportunities and challenges arising from urban expansion.

Household responses to the challenges posed by urban expansion demonstrated adaptive strategies, including diversification of livelihood activities and innovation in response to changing socio-economic conditions. Among the 150 respondents, 20% were engaged in farming, while the majority (80%) pursued non-farming occupations, reflecting a shift away from traditional agricultural practices. Despite barriers such as financial constraints and social challenges, households exhibited resilience in navigating the complexities of urban growth, highlighting the importance of adaptive capacity in peri-urban settings.

Analysis of livelihood assets and strategies highlighted the interconnectedness between asset ownership, livelihood decisions, and adaptive responses to urban expansion. With a total sample of 150 respondents, 73 individuals (48.67%) identified business/trade as a crucial asset, while 67 (44.67%) recognized land, farmland, or agricultural production as vital assets. The findings underscored the importance of holistic approaches that consider the interplay between assets, strategies, and broader socio-economic dynamics in promoting sustainable livelihoods in peri-urban areas.

The examination of livelihood activities and strategies sheds light on the adaptive responses of households to the challenges posed by urban expansion. Despite facing barriers such as financial constraints, households demonstrated resilience through diversification and innovation in livelihood strategies. Agricultural intensification and wage labor employment emerged as prevalent strategies, with 78% and 80% of respondents opting for these approaches respectively, reflecting the changing economic landscape in peri-urban areas. Moreover, the qualitative findings provided insights into the social and economic implications of urban expansion, highlighting the need for proactive measures to address pressing issues and mitigate negative impacts on livelihoods.

6.2 Recommendations

Based on the findings of the study, the following recommendations were made:

1. The study recommends that an interplay of tailored economic, social, and environmental peri-urban policies and holistic approaches that connect the realities of peri-urban growth be integrated into the Bosomtwe District Assembly's development

plan and mitigation processes with the involvement of community heads and opinion leaders. This is necessary because developing and incorporating livelihood policies and plans about peri-urbanism from the perspective of affected individuals and households will inform the kind of policy and plan intervention to be adopted.

2. Kumasi Metropolitan Assembly and Bosomtwe District Assembly should coordinate their activities. However, the study recommends that spatial policies that consider the emergence of new urban developments such as the transformation and densification of rural zones or new urban forms that offer opportunities to develop new social, economic, financial, physical, and human development models that support and contribute to livelihood activities, shape an inclusive urban growth and improve the district's abilities to manage the shift in the rural-urban structure for better livelihood opportunities is paramount.

3. Additionally, an area related to this study worth investigating relates to education, skill, and training for sustainable livelihood development. Their importance manifests as training and skills development was of minimal impact on livelihood assets and strategies among household residents in the district. Only, a few household residents in the district align with the acquisition of education and training as an option for livelihood choices. Thus limited opportunities for skilled and trained employment as an alternative preference to livelihood strategy is a concern.

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APPENDICES

Appendix 1: Survey Questionnaire

The questionnaire seeks to solicit data about urban growth and livelihood transformation on the fringes of Kumasi Metropolis: A case of Bosomtwe District in Ghana.

The questionnaire takes approximately 15-20 minutes to answer and contains fifty questions. Your participation is completely voluntary, and you choose or refuse not to participate and need not state why. Once you have submitted your answers upon agreeing to answer, it is no longer possible to cancel your participation, as the information is anonymous. The data provided will be used solely for academic purposes, and there is an assurance of anonymity of the information provided.

I will collect and analyze your survey responses. The survey responses cannot be tracked back to individual participants. The information provided is used to write a master's thesis.

<https://survey.mailing.lu.se/Survey/52120/?qr=1&size=5&ecc=1>

QUESTIONNAIRE
Lund University
Faculty of Social Sciences
Department of Human Geography

This questionnaire seeks to solicit data about Urban Growth and Livelihood Transformation on the fringes of Kumasi Metropolis: A case of Bosomtwe District in Ghana.

The data provided will be used solely for academic purposes and there is an assurance of the anonymity of the information being provided.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

1. Age

- a. under 30 years
- b. between 31-60 years
- c. 61 years and above

2. Sex

- a. Male
- b. Female
- c. Non-binary or other gender identity
- d. Prefer not to say

3. Marital Status

- a. Single
- b. Married
- c. Separated
- d. Divorce
- e. Other

4. Educational Level

- a. No formal education
- b. Basic education
- c. High School / Secondary School
- d. Graduation
- e. Post Graduation

5. Occupation

- a. Farming
- b. Trading / Business

- c. Artisan
- d. Public Service
- e. Others

6. How long have you lived in the district?

- a. 1-10 years
- b. 11- 20 years
- c. 21 years and above

7. How many people are in your household?

- a. 1-10
- b. 11-20
- c. 21 and above

SECTION B: FACTORS THAT INFLUENCE URBAN GROWTH AND PERI-URBAN TRANSFORMATION AND DEVELOPMENT

8. In your opinion what do you consider the factor(s) that have influenced peri-urban growth in the district? (tick all that apply)

- a. Population growth/migration
- b. Development of roads
- c. Industrialization
- d. Affordable land
- e. Affordable housing
- f. Economic activities

9. Does any of the following indicate peri-urban development in the district? (tick all that apply)

- a. Declining agricultural lands
- b. Population increase
- c. Increased economic activities
- d. Increase in the number of roads
- e. Increase in the number of schools
- f. Increase in the number of recreational facilities
- g. Others (specify).....

10. In your opinion, what factors influence household contribution to peri-urban growth in the district?

- a. Sale of land due to land-use changes
- b. Affordable housing for rent
- c. Availability of excess land
- d. Demand for money to purchase other assets

SECTION C: EFFECTS OF URBAN GROWTH ON LIVELIHOOD

11. What is your current source of livelihood?

- a. Farming
- b. Non-farming (specify).....

12. Why do you resort to this source of livelihood in question 11?.....
13. **Would you choose any occupation other than your current job if you get the opportunity?**
 a. Yes
 b. No
14. **If yes, which job would you choose if you get the opportunity?.....**
15. **If no, why do you want to maintain your current job?.....**
16. **Do you have any source of livelihood other than your current livelihood?**
 a. yes
 b. No
17. **If yes, specify.....**
18. **Why do you resort to this source of livelihood in question 17?.....**
19. **Do you get employment more easily now than in the past 10 years before urban expansion into the district?**
 a. Yes
 b. No
20. **How has the expansion of Kumasi affected your livelihood in the past 10 years?.....**
21. **Is the growth of Kumasi opening up new job opportunities in the district?**
 a. Yes
 b. No
22. **If yes, specify the kind of job opportunity urban growth has brought into your district?.....**
23. **Which income-generating activities are in high demand in the district**
 a. Wholesale \ Retailing
 b. Transport business
 c. Farming
 d. Real Estate

24. Will you be willing to adapt to this type of livelihood?

- a. Yes
- b. No

25. If yes, why.....

26. If No, why.....

SECTION D: LINKAGES BETWEEN LIVELIHOOD ASSETS AND LIVELIHOOD STRATEGIES

27. What do you identify as your livelihood assets?

- a. Land, Farmland / agricultural production (physical and natural assets)
- b. Business/trade (financial assets)
- c. Income from social organization (social assets)
- d. Skills and knowledge from job (human assets)

28. How has urban expansion affected your livelihood assets? (tick all that apply)

- a. Affects land and other natural resources
- b. Affects community relations
- c. Affects income (farm income, savings, credit, etc)
- d. Affects physical assets (housing)
- e. Affects human assets (education, skills, knowledge)

29. What do you identify as your livelihood strategy? (tick all that apply)

- a. Agricultural diversification
- b. Agricultural intensification
- c. Non-farm employment
- d. Migration/commuting
- e. Wage labor employment
- f. Others

30. Do you think your livelihood assets have influenced your livelihood strategies based on urban growth?

- a. Yes
- b. No

31. If yes, why?.....

32. If no, why?.....

33. In applying livelihood strategies, have you witnessed any improvement in your livelihood assets due to urban growth?

- a. Yes
- b. No

- 34. If yes, why?.....
- 35. If no why?.....
- 36. In your opinion, what limitations do you face in applying livelihood strategies to improve your access to livelihood assets?.....
- 37. In your opinion, how do you overcome or manage the limitations when applying your livelihood strategies?.....

SECTION E: LIVELIHOOD ACTIVITIES AND STRATEGIES

- 38. What are the things you assess before undertaking a choice of livelihood strategy?
 - a. Educational/technical skills/training
 - b. Ability to raise funds
 - c. For wage
 - d. For job experience
 - e. Ownership of assets
- 39. Has your livelihood strategy changed due to Kumasi’s urban expansion?
 - a. Yes
 - b. No
- 40. If No, why.....
- 41. If yes, how do you strategies to benefit from urban growth? (Tick all that apply)
 - a. Diversification of agriculture
 - b. Intensification of agriculture
 - c. Secure alternative livelihood other than agriculture
 - d. Engage in non-farm activities
 - e. Migrate to look for employment
 - f. Others
- 42. Why do you resort to the type of livelihood activity chosen in question 41?.....
- 43. What has been the outcome of the strategy chosen in question 41?.....
- 44. Are you satisfied with the outcome of the strategy now than before Kumasi’s urban expansion?

- a. Yes
- b. No

45. **If yes, why?**.....

46. **If No, do you still prefer your previous strategy?**

- a. Yes
- b. No

47. **If yes, why?**.....

48. **What are the barriers that inhibit the ability of the household to undertake a particular livelihood activity due to urban expansion?**.....

49. **What are the problems you face in an attempt to strategies your livelihood with the urban expansion of Kumasi?**.....

50. **What measures do you take to deal with these problem(s) above?**.....

Appendix 2: Interview Guide

INTRODUCTION

This master's thesis seeks to examine the effects of urban growth on livelihood transformation in the Bosomtwe District in Ghana.

Information collected in this interview will be handled with strict confidentiality and transcripts will be anonymized as much as possible to protect your privacy. You have the right to decline participation in the interview or withdraw your consent at any time during the interview. You can also decline to respond to questions that you are not comfortable answering. With your permission, I would like to audio record this conversation strictly for academic purposes.

The following are questions pertaining to urban growth and livelihood transformation in the Bosomtwe District in Ghana.

1. What are the main factors that have influenced peri-urban growth and development in the district according to your opinion?
2. What are the main livelihood activities of the people in the Bosomtwe District?
3. What is the impact of peri-urban growth on the livelihood opportunities of household members in the district?
4. What are the livelihood constraints of people in the district?
5. What challenges do you encounter in addressing peri-urban growth in the district?
6. How do you think associated problems of peri-urban growth can be addressed?
7. What measures have the District Assembly put in place to promote livelihood opportunities among households and people in the district?
8. What major challenges do household members in the district face when adapting livelihood strategies?
9. In your opinion, what do you think is the best livelihood strategy adopted by households in the district and why?
10. How do you foresee the livelihood strategies adopted by households in the future (improving or worsening) and why?

Appendix 3: Statement of Concern



Lund, 27 February 2024

Statement concerning Mr William Baffoe-Andrews

To whom it may concern,

This is to certify that **Mr William Baffoe-Andrews** is currently enrolled in the two-year MSc programme in Human Geography at Lund University, Sweden. Mr Baffoe-Andrews is a full-time student at Lund University and has successfully completed the course work requirements for the graduate degree. During spring 2024, Mr Baffoe-Andrews is required to write his thesis.

Mr Baffoe-Andrews' thesis works concerns urban growth and livelihood transformation on the fringes of the Kumasi Metropolis. To this end, Mr Baffoe-Andrews will collect data in the Bosomtwe District in Ghana.

Feel free to contact me if you need further information.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "H. Gutzon Larsen".

Henrik Gutzon Larsen

Reader in Human Geography

Coordinator of MSc thesis course

Appendix 4: Terms of Reference

TERMS OF REFERENCE

FIELD ASSISTANT FOR RECRUITMENT AND ADMINISTRATION OF ONLINE HOUSEHOLD SURVEY IN THE BOSOMTWE DISTRICT IN GHANA

Dear Mr Keku

I would like to hire you to conduct a survey (as a survey implementor) for a research study. My name is William Baffoe-Andrews, and I am a master's student pursuing Human Geography at Lund University undertaking a research study about Urban Growth and Livelihood Transformation on the fringes of Kumasi Metropolis. The objective of the research is to identify how urban growth affects the livelihood of household residents in the Bosomtwe District in Ghana.

Description of role and expectations

- Survey implementation. Survey implementation includes selection of possible respondents and delivering the survey for participants to complete.
- Before survey implementation, and on a daily basis, you will contact me before you contacting respondents.
- The survey implementation is done in conjunction with me. I will be collaborating with you through video calls and text messages while on the field.

Procedure for conducting the survey

- The survey link (QR code) will be sent to you by mail.
- Respondents will answer questions online and only if they accept to participate in the survey.
- You need to clearly inform possible participants what the study is about and inform them that they need to consent to participate.
- Respondents must click their consent via the link before proceeding to answer the survey questions.
- Participants will be clearly informed about the benefits or not of participating in the survey.
- Respondents open the survey in your presence, fill it in, and submit.
- Respondents fill in the survey with your guidelines if needed.
- I will be checking the response daily.

Period for administering the survey

- The period designated for administering the survey is from 11th March – 31st March 2024

Location for administering the survey.

- The survey will be administered in the Bosomtwe District in Ghana. In areas of Aputuogya, Esreso, and Feyiase

Financial Support

- You will be paid 200 Gh Cedis daily
- The payment will be made through a bank or card transfer.

Survey questionnaires

- The survey has a total number of 50 questions.
- 150 household members will be randomly selected for the survey.
- 50 households each from selected areas. (Feyiase, Aputuogya, and Esreso)
- Respondents will be approached at home. In this approach, the survey implementor has to act with the most careful consideration towards everyone in the household. This means that the survey implementor should respect people's time and privacy. Instruction should be avoided.
- Information on socio-demographic characteristics will be obtained from the household.
- No other information but the one on the survey will be asked.
- The questions will usually take between 15 to 20 minutes.

Ethics and confidentiality

- Participants have the right to withdraw from the questionnaire at any time and without any excuse if they do not want to continue participating.
- Clearly explain that the information you collect remains confidential and all information is used to write a master's thesis.
- Clearly explain possible participants that Lund University expects students to managed personal data in an ethical manner. Data will be stored in servers in Sweden and will not be shared with third parties.
- The survey will be deleted after the thesis has been approved.

Yours sincerely

William Baffoe-Andrews

