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PERI-URBAN TRANSFORMATION AND LAND USE CHANGE: THE GENDERED EXPERIENCES OF INDIGENES AND MIGRANTS IN THE AKUAPEM SOUTH MUNICIPALITY

BY

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DECLARATION

I, Gifty Boahemaa Appea, do hereby declare that except for references to other people's work which have been duly acknowledged, this work is the result of my own research as a student of the Institute of Statistical, Social and Economic Research, University of Ghana under the supervision of Dr. Cynthia Addoquaye Tagoe during the 2021/2022 academic year.

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DEDICATION

This work is dedicated to Almighty God for His unwavering love and favor, and also to my mum, Esther Yeboah, for her support.

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ABSTRACT

This study examines the impact of peri-urban transformation on land access and livelihood outcomes in the Akuapem South Municipality, Ghana. With rapid urbanization and increased rural-urban drift, concerns exist about land access for indigenous and migrant farmers. The study investigates trends in land access, the factors influencing land ownership, and the challenges faced by indigenous and migrant farmers due to peri-urban changes. Utilizing both qualitative and quantitative data, the study reveals population growth and migration have intensified competition for land, particularly affecting indigenous communities. Key factors influencing land access include inheritance practices and land purchases and leases, with significant differences between male and female indigenes and migrants. The findings highlight that while education and asset ownership impact livelihood outcomes, technical training and physical ability limit effects. Gender disparities and the increasing demand for non-agricultural land uses have led to a shift in livelihood strategies, with a notable rise in non-farm activities. The study concludes that sustainable land management and gender-sensitive policies are crucial for improving land access and livelihood outcomes. Recommendations include developing inclusive land use policies, investing in infrastructure, and enhancing access to credit for peri-urban residents.

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ABBREVIATIONS

FAO - Food and Agriculture Organization

GPRS - Growth and Poverty Reduction Strategy

GSS - Ghana Statistical Service

IOM - International Organization for Migration

MMDA - Metropolitan, Municipal and District Assemblies

MGLRD - Ministry of Local Government and Rural Development

PUA - Peri-Urban Areas

PHC - Population and Housing Census

SDG - Sustainable Development Goals

SSA - Sub-Saharan Africa

UN - United Nations

UNFPA - United Nations Population Fund

CHAPTER ONE: INTRODUCTION

1.0 Background of the Study

Urbanization is a social phenomenon, and both the developing and developed worlds continue to experience significant effects from it. (Gyasi et al., 2014). It is a form of development fueled by a rise in population or changes in migratory patterns. The rates of urbanization in developing countries are greater than those in highly industrialized countries. According to the UNFPA (2007), for the first time in human history, more than half of the world's population resides in urban regions, and estimated at 5 billion by 2030 (Bonye et al., 2020). Africa and Asia are expected to receive more than 80% of the estimated growth (Martine et al, 2008; Owusu and Yankson, 2017). The high population growth expected in Sub-Saharan Africa's (SSA) peri-urban areas poses a major development challenge. Cobbinah et al. (2015) suggest the estimated increase is unlikely to translate into prospects without academic contributions and public policymaking.

According to Asafo (2020), peri-urban areas (PUAs) have features of both urban and rural life, typically lying midway between a city and the countryside. Therefore, the term "peri-urban" describes both the edge of a city and a specific geographic location where rural and urban traits coexist in terms of the environment, the socio-economic system and institutional structures. Peri-urban transition is blamed for the bulk of the problems affecting African cities, including unplanned, quickly-expanding settlements; unemployment, informality, poverty, and the lack of access to essential infrastructure and environmental services (Asafo, 2020).

The peri-urban areas of large metropolises are usually left out of the opportunities that come with

urbanization, exposing the areas to dangers (Dupont, 2007). Due to the rapid conversion of rural to urban land uses, both migrant and indigenous populations are under pressure to transition from agricultural to non-agricultural livelihoods (Chadha et al., 2004). Permanent residential, commercial, and industrial usage of peri-urban agricultural areas weaken agro-based livelihoods and disempowers minorities, especially women, losing access to the land and resources. According to the empowerment idea, unequal access to, and distribution of, land leads to poverty among disadvantaged subgroups, including women. (Woltjer, 2014).

At the local (at the household level) and national (in terms of institutional limits on land tenure) levels, policies guide the sale and use of land, making it difficult for land to be allocated to other uses at the family level, especially in cases where customary land holdings have a tendency toward usufruct (Arko-Adjei, 2011). This happens as a result of the land being kept in trust for the family and clan, and, therefore, requiring the entire family's express approval for any other usage (Bugri, 2008). In Ghana, the MMDAs have a duty to ensure land resources within their jurisdiction are spatially structured in accordance with established plans. Within the parameters of traditional tenure systems, migrants constitute another significant marginal group. In Sub-Saharan Africa, interactions between indigenes and migrants or strangers have a long history. Land tenure rules in modern rural Africa remains a significant element in politics. The definition of an indigene or a migrant is determined by autochthony (Boas, 2009). In Ghana, significant regional and community-level variations exist in the nature of migrant-host relationships.

According to Gyapong (2021), land scarcity in Ghana generally impacts how family members

with a customary claim to parcels of land transfer them, having ramifications for migrant-indigene relations. Affluent migrants have easier access to land, whereas poor migrants are denied land access. Consequently, the losers in the conflict over access to, and ownership of, scarce land in peri-urban areas are predominantly low-income migrants (Gyapong, 2021).

Migration is a highly gendered phenomenon, becoming more recognized. Even though more women are migrating, traditionally, men have always migrated to other areas or cities in quest of better opportunities. Therefore, it is crucial to consider the gendered experiences of migrant men and women. In many sectors, women are generally presented with more distinct possibilities and obstacles than men in comparable circumstances. Under Ghana's customary land tenure system, control over resources follows divided patterns based on traditional norms (Dowuona-Hammond, 2003). Norms limit women's rights as compared to those of men, thereby encouraging men to impose men's rights on women's access to, and control of, resources through familial institutions and authority structures dominated by men (Toulmin, 2003; cited in Owusu et al., 2007).

Furthermore, the longevity of migrant and indigenous women's marriages determines women's access to agricultural resources. Additionally, women's capacity to access agricultural resources from marital residences depends on the security of the marriages. Toulmin and Quan (2003) indicated that widows or divorcees are required to give up marriage lands, even if the women have interests on the lands. The insecurity of women's access to land, according to Dowuona-Hammond (2003), prevents the women from meeting their survival needs.

The interactions among migrants, institutions of traditional land tenure, and the consequences

for migrants' different outcomes in terms of livelihood, vary depending on the area. According to Amanor (1994), one of Ghana's least populated regions is Brong Ahafo where in contrast to other areas, the value of land is not highly commoditized. Therefore, migrant farmers have relocated to the region in recent decades (Amanor, 1994). However, the influx of migrant farmers has changed land availability and the cost of acquiring land. Dapilah et al. (2019) highlight similar concerns, stating farmlands are severely impacted with indigene farmers unable to secure lands.

Although peri-urban transformation is not unique to the Akuapem South Municipality, it presents challenges for the local authority in terms of governance, social services, infrastructural development, poverty alleviation, environmental sustainability, and the inclusion of certain groups in urban life (Annez et al., 2010; UN Habitat 2010). Agriculture in the Akuapem South Municipality has experienced significant decline in output and farmland size (Akuapem South Medium Term Development Plan, 2018-2021). The situation raises concerns as the effects will be undesirable on the livelihood of the people. Therefore, the current study aims to assess peri-urban transformation and land use change among indigenous and migrant men and women in the Akuapem South Municipality.

1.1 Problem Statement

From 2021 to 2022, Ghana's urban population grew at 58.62% (GSS, 2021; Abubakari et al., 2022). As far back as 2012, the government of Ghana devised a strategy to curb the upsurge of urbanization and its impact on development (MLGRD, 2012). The policy recognizes the importance of urbanization for social and economic development, but fails to assess the dangers posed by an unplanned, unrestrained, and uncoordinated urban growth and the effects on such

sectors of livelihood as food and agriculture.

Akuapem South Municipality (ASM) faces peri-urbanization - where an area experiences dynamic changes in land use and livelihoods, affecting the perimeter of growing or stable urban areas (Appiah et al., 2014). Unlike the static and simplistic urban-rural dichotomy, a peri-urban interface reflects a zone of transition between rural and urban status, a situation which affects land use patterns (Bonye et al., 2020). The 2018-2021 report of the Akuapem South Medium Term Development Plan raises concerns of ASM rapidly drifting to a completely urbanized area as a result of the strategic location and diverse territorial structure, forcing pull-and-push tendencies from both cities and rural areas (Ravetz et al., 2013).

The influx of people from cities to ASM's peri-urban fringes such as Gyankama, Ahwerase, Pokrom, Adonten, and Aburi is influenced by the proximity of the towns to Accra, coupled with the favorable climatic conditions and attractive economic opportunities. Additionally, foreign nationals have taken interest in these areas being converted into residential, social, and economic centers. In Ghana, land ownership denotes power, prestige, and wealth, and the associated commoditization is influential in peri-urban growth (Abdulai et al., 2022). Land ownership and use in Ghanaian customary settings is governed by traditional norms and practices which vary among ethnic groups. Such norms include equality and equity in the allocation of land to community members or indigenes by chiefs or family heads without any prejudicial engagements or arrangement on the side of either party (Abass et al., 2018). Therefore, land under the customary tenure is considered a resource which all people in a community, regardless of gender or migrant status, should have access to for survival (Toku et al., 2021; Pottier, 2005).

Unfortunately, land is becoming scarcer to poor indigenes in ASM due to the competition between affluent and poor migrants and indigenes. As stipulated in the 2018-2021 ASM Medium Term Development Plan, in recent years, financial consideration has emerged as a more crucial factor in acquiring land and assigning rights than the traditional sense of belongingness or participation in a landowner community. Moreover, the struggle of women in receiving equal opportunity as men to acquire an interest in land remains contentious. Indigenous and migrant men dominate the purchase and usage of land compared to women.

Studies on gender-based peri-urban experiences and related patterns of land use change between migrants and indigenes have attempted an investigation to inform readers of the situation. Oduro et al. (2015) assess the livelihood adaptation techniques of locals in the peri-urban districts of Accra. Similarly, Appiah et al. (2017) investigate variables which affect farmer households' decisions on agricultural land use in the peri-urban Asante-Akim South District of the Ashanti Region. This current study complements earlier studies; however, the current study focuses on the gendered experiences of both indigenes and migrants on peri-urban transformation and land use change in ASM, specifically in Ahwerase and Adamorobe.

1.2 Research Questions

The study seeks to answer the following questions:

1. How do male and female indigenes and migrants in Ahwerase and Adamorobe access or acquire land?
2. What factors influence land access for indigenous and migrant men and women in such peri-urban communities as Ahwerase and Adamorobe?
3. What livelihood challenges related to land access do indigenous and migrant men and

women face in Ahwerase and Adamorobe, and what adaptation strategies do they employ?

1.3 Research Objectives

The primary objective of the study is to assess the gendered experiences of both indigenes and migrants on peri-urban transformation and land use change in ASM. However, the following sub-objectives are considered:

1. To explore the mode of land access/acquisition among male and female indigenes and migrants living in Ahwerase and Adamorobe.
2. To identify the factors that influence indigenous and migrant men and women's access to land in Ahwerase and Adamorobe.
3. To identify the livelihood challenges posed to indigenes and migrants in Ahwerase and Adamorobe on land access and their adaptation strategies.

1.4 Significance of the study

In Ghana, the expansion of cities into peri-urban areas alters the patterns of land usage. Therefore, research on such understudied peri-urban areas as ASM and the resulting effects on indigenes and migrants is crucial. Additionally, evaluating the experiences of indigenous and migrant men and women as they tackle the possibilities and constraints presented by the peri-urban transition is crucial. The study will add on to the knowledge on peri-urban transformation and its role in the development of communities, providing a basis for the formulation and implementation of strategies to harness the potential of urban expansion. The study will benefit the targeted population i.e., Ahwerase and Adamorobe, by revealing the effects of peri-urban

expansion on land use. This will help both state and non-state actors to make decisions on existing and future developmental projects, ensuring proper planning and coordination in the municipality to enhance the use of natural resources and land diversification. Lastly, developmental planners, students, and private individuals enthused about urbanization and development will find the findings useful.

1.5 Organization of the Study

The study is structured into five chapters. Chapter One discusses the background of the study, specifically setting the context for the focal areas to be explored, including the problem statement, research objectives, significance and organization of the study. Chapter Two reviews literature relevant to the topic and the conceptual framework underpinning the study. Chapter Three captures the methodology adopted for the study. In Chapter Four, the study analyzes and discusses the data collected from the field. Chapter Five discusses the major findings from the study, makes conclusions, and makes recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The chapter explores scholarly works on the subject matter and identifies loopholes which the current researcher attempts to find empirical solutions to, thereby contributing to existing body of knowledge. According to Babbie (2020), literature review is the process by which divergent and convergent views on the topic are synchronized to reproduce a more detailed inquiry aimed at exhausting all information on the area of study. The review is guided by the objectives of the study to provide a basis for empirical literature. Additionally, the review includes the conceptual and theoretical framework and the various concepts and terminologies which are defined and operationalized in relation to the topic.

2.1 Definition of Terms and Concepts

2.1.1 Urbanization

According to the United States Environmental Protection Agency (2022), 'urbanization' denotes an "enclave of large human population". As rural dwellers migrate to urban areas, coupled with the natural growth in urban population, more land is required to accommodate the increasing numbers. Therefore, the peri-urban interface supplies lands for urban residential and commercial needs (Oduro et al., 2015). The high demand and relatively lower cost of acquiring land in these areas leads to previous agricultural lands being converted to support emerging urban activities (Varkey and Manasi, 2019). Ayambire et al. (2019) indicate the formalization of land fosters rapid peri-urban development but affects land-based livelihoods of peri-urban households in SSA (Abdulai et al., 2022). Such livelihoods are seen as assets, capabilities, and activities which dwellers draw on to make a living. Abass (2018) indicates a livelihood is said

to be sustainable when the livelihood copes with and recovers from stress and shocks; maintains or enhances its capabilities and assets; and provides opportunities for future generations at both the local and global levels. Even though urbanization at the peripheries threatens farm-based livelihoods, it creates new opportunities and choices which enable households to construct a portfolio of activities and social support services to survive. Studies show distressed people resort to livelihood diversification when their primary or traditional livelihood is threatened (Alobo, 2015). The author concludes livelihood diversification is an adaptation strategy for people in distress to spread risk; and in rural and peri-urban areas, the spread manifests in people's engagement in multiple livelihood activities such as petty trading, construction-related activities, and migration.

The multi-dimensional characteristics of peri-urbanization has become a new face of urbanizing economies as more people continue to live in urban areas now than ever (Abdulai et al., 2022). The United Nations (2019) estimates 4.2 billion people lived in urban areas in 2018 and projects the figure to increase to 5 billion and 6 billion by 2028 and 2041, respectively. The UN estimates further that by 2050, the global urban population will reach 6.7 billion, with 1.5 billion of that population in Africa (United Nations, 2018). Peri-urbanization through land conversion depletes natural resources and threatens land-based livelihoods. In SSA, and Ghana specifically, the situation can be worse considering that rural communities are heavily dependent on agricultural activities. Despite the benefits of urbanization, the associated risks are dire if unchecked (Zana et al., 2013). The conversion of arable lands into urban lands for residential and social purposes have short-term effects on peri-urban households with long-term effects on the socio-economic development of Ghana.

2.1.2 Understanding Peri-Urbanization

'Peri-urbanization' refers to a set of intricate processes that transform rural areas into blends of rural and urban landscapes and activities. Urban geographers initially used 'peri-urban' in the 1940s to convey how the fringes and peripheries of cities in the western world and America were undergoing geographical shifts (Adell, 1999; Fazal, 2013). McGee (1987) and Tacoli (1998) describe the peri-urban concept as a geographical area that lies between the city and rural hinterland where rural and urban activities take place simultaneously.

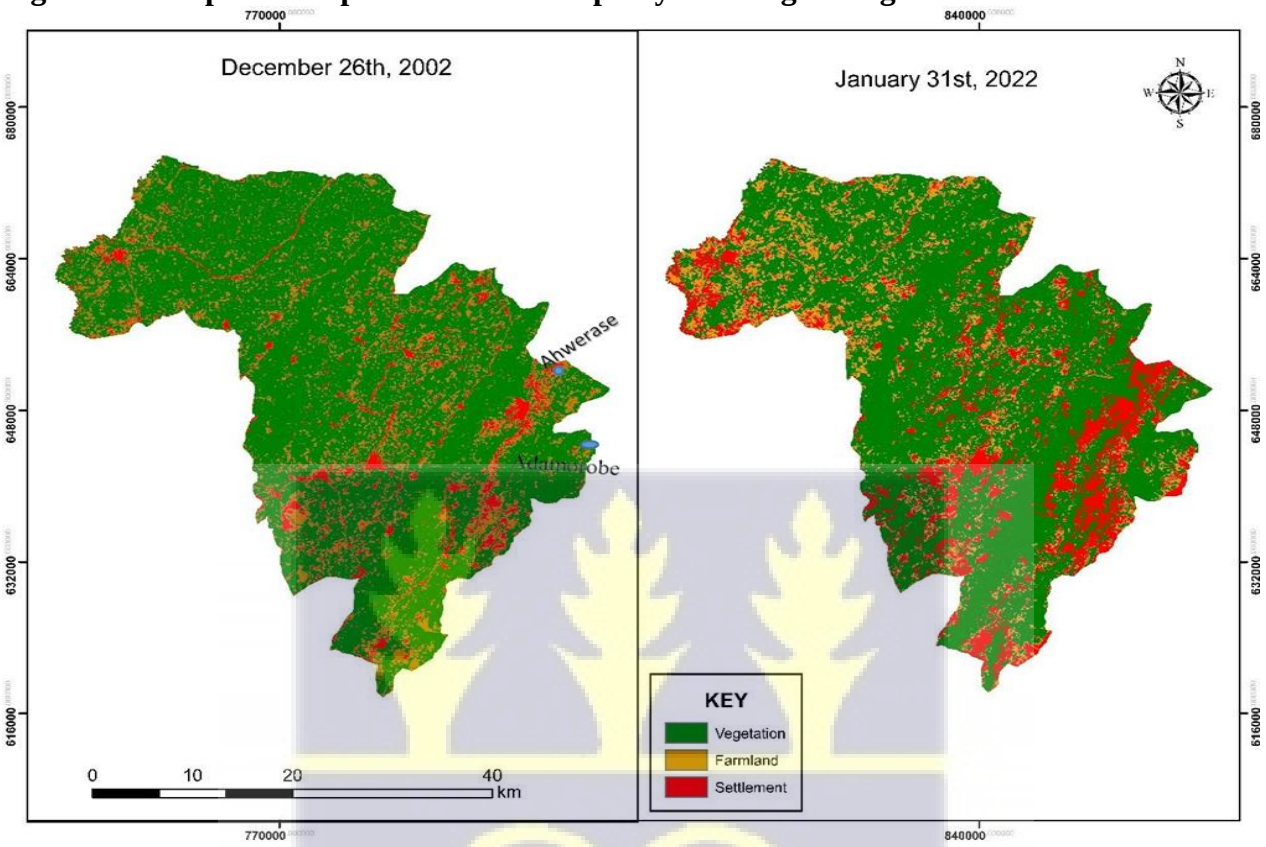
According to Aguilar (2008) and Allen (2014), peri-urbanization is associated with spontaneous, accidental urban expansion processes. Hence, urbanization, urban growth, and expansion are major issues in peri-urban areas of many growing cities due to the importance of socio-economic development (Osumanu and Akomgbangre, 2020). Consequently, there have been major changes in land use such that peri-urban agricultural land spaces have been encroached upon and altered, causing loss of agricultural lands and vegetation and land degradation. The current study defines 'peri-urban' as a contested space resulting from urbanization and other land use practices (Asafo, 2020), compelling dwellers to embrace non-farm livelihood activities as a coping strategy.

2.1.3 Land Use Change

The 2022 report of the U.S. Environmental Protection Agency (EPA) describes 'land use' as the human use of land, including economic and cultural activities. The expansion of cities into peri-urban areas has impacted the use of land in Ghana. According to Lawanson et al. (2012), preferences for peri-urban areas for settlement and commercial endeavors is caused by rent

affordability at the outskirts of cities as compared to the main cities.

Figure 2.1: Map of Akuapem South Municipality Showing Changes in Land Use



Source: Remote Sensing and Geographic Information Systems Laboratory (2022)

Such peri-urban areas as metropolitan areas have a haphazard mix of commercial, residential, and often varied agricultural activities (Mandere et al., 2010). Obviously, ASM has changed from a rapidly-ruralizing area to one rapidly urbanizing, demonstrating observable peri-urbanism-related alterations in the way land is used and covered. The urban expansion has exacerbated the exploitation and depletion of natural resources and land cover patterns in the ASM (Table 2.1).

As shown in Table 2.1, the intersections of farmland vegetation and settlement (in bold) reflect the lands remaining as of 2022. The loss of vegetation is due to 12.6% and 9.9% of the land reallocated to farms and settlement, respectively. Furthermore, the loss of farmlands is the result of 54.9% reallocated to vegetation and 26.3% to settlement. Table 2.1 shows land allocated to settlements has significantly increased between 2002 and 2022 due to intensified demand for land to meet the housing needs of the growing population. Moreover, the increased demand for land is partly due to the booming tourism in the municipality which has led to a surge in the construction of recreational and hospitality facilities. Similarly, Image Difference reflects the observed direction of change in the years under review. Table 2.1, therefore, shows land allocated to vegetation (-7.3%) and farms (-25.9%) has declined. However, settlements (202.6%) have grown significantly between 2002 and 2022. Consequently, peri-urbanization has negatively impacted the availability of, and access to, agricultural land, thereby compromising the livelihood outcomes of indigenous and migrant men and women as well as the existing customary and statutory interests on land management.

Table 2.1: Percentage Rate of Land Use Change in ASM between 2002 and 2022

Land Use	Vegetation (2022)	Farmland (2022)	Settlement (2022)	Row Total
Vegetation (2002)	**77.511**	54.855	29.041	100
Farmland (2002)	12.586	**18.891**	11.522	100
Settlement (2002)	9.904	26.254	**59.437**	100
Image Difference	-7.261	-25.964	202.594	

Source: Remote Sensing and GIS Laboratory (2022)

2.1.4 Indigenes

Amanor (2008)defines indigenes as members of a household with priority claims over land due to collective ancestral ties. Their opinions, customs, means of assistance, and their well-being are closely entwined with the land and resources they depend on. The realms of family succession systems define the user entitlements for indigenous people in many rural agrarian communities (Amanor, 2008). In Ghana, systems of inheritance provide different sets of land-use rights and entitlements to different groups of kin, such as control rights and rules regarding the types of crops that can be cultivated (Amanor, 2008).

A report by the World Bank (2022) indicates almost all of the land inhabited by indigenous people is held through traditional ownership, however, many governments legally acknowledge a minute percentage of this land as the property of indigenous people. When indigenous territories and lands are recognized, the possession and misuse of resources of nature,such as land, and the protection of border lines, are frequently insufficient. Indigenes face several challenges in the quest for equality in decision-making and political processes. Due to the history of injustice and marginalization, certain indigenous people, especially women, are more vulnerable to the effects of peri-urbanization and the associated land use shift. To reduce poverty and advance the Sustainable Development Goals (SDGs), stakeholders must strengthen governance, encourage public investment in the provision of high-quality services sensitive to cultural norms, enhance the security of land tenure, and support indigenous systems for resilience and livelihoods (World Bank, 2022).

2.1.5 Migrants

The UN Migration Agency (IOM) defines a migrant as any person traveling across an international border or within a state away from their regular place of residence, irrespective of the following factors: (1) the person's legitimate status; (2) if the movement is voluntary or involuntary; (3) the causes of the movement; (4) the duration of stay; and (5) the justifications for the movement (IOM, 2020).

As land user rights for natives are governed by family inheritance systems in many rural agricultural communities, the farming and work conditions which influence land use have effects on migrant users' rights. A distinction is made between settlers and migrants among non-indigenous people (Gyapong, 2021). Early-arriving ethnic groups with sizable populations are regarded as settlers rather than migrants. Such communities are occasionally permitted to designate their own chiefs as a sign of recognition. Through work, gifts, and sales, the people gain access to, and own, land. In contrast, migrants or 'foreigners' (termed 'ahɔhoɔ' in Akan), irrespective of the years spent in current settlements, have no officially-recognized chiefs, and their access to land is primarily through tenancy (Gyapong, 2021). Offspring and descendants of migrants are commonly referred to as the 'second generation' and the 'third generation' in the host societies (Chimienti et al., 2019). Additionally, other terminologies, such as '1.25', '1.5', and '1.75' generation migrants exist, referring to people who migrate with their families at various times during their formative years or the beginning of adulthood.

2.1.6 Gendered Experiences

If customary and statutory land administration were efficient and fair, it ought to take into

account the shifting dynamics of households and communities. A potential solution to overcoming economic and social disadvantages is to increase gender-inclusive access to land and the benefits it provides. The system must view men as 'an untapped resource' since they also experience discrimination in society due to such factors as age, health, income level, or education. Significant societal groups are often excluded from the benefits of land administration, management, and growth plans if gender inclusion is not enhanced. The Women's Summit (1998) finds that notable gender differences in access to land, housing, and essential infrastructure in most modern civilizations support this. Segregation based on land rights is unlawful according to the Commission on the Status of Women of the UN Economic and Social Council (1947).

Currently, there are inadequate guidelines enabling women to own land freely of their husbands or male relatives in many countries, including Ghana (FAO, 2002). Such guidelines include constitutional safeguards for women desiring to hold land independently. Even where such guidelines exist, the associated enforcement mechanisms are typically weak, making it difficult for statute law to consistently protect the autonomous rights of women (FAO, 2002). Although women's immediate possession of land through sale or succession is typically constrained, women in traditional or 'customary' societies have stronger management skills and use rights than men. Women produce most of the food households consume, hence, usually, traditional arrangements exist regarding indirect access to land in the form of usage rights derived from kinship relations and women's roles as partners, parents, siblings, or children. According to the FAO (2002), with the breakdown of conventional family structures, usage rights no longer provide enough security for women and other dependents. More women are becoming household heads due to labor mobility, divorce, separation, or death. As a result,

women are influencing most of the daily choices that impact housing, food production, and household finances. However,only a small percentage of such women have safe land rights. The FAO (2002) further affirms similar civilizations exist where inheritance of land is passed down through the female line; therefore, as societies evolve, male spouses and offspring suffer in such communities. The two primary obstacles to achieving gender equity in land administration are a) understanding and acknowledging the complexity of property ownership regimes relating to the dynamic roles of both men and women in today's societies, whether or not for reasons of human rights or economic efficiency, and b) providing efficient organizational frameworks to safeguard and strengthen equitable access to land in a society's unique land policing structures (FAO, 2002).

2.2 Overview of Peri-Urbanization in Ghana

The rapid peri-urbanization in Ghana results in massive expansions in both large cities (Dapilah et al., 2019) and areas such as ASM. Peri-urban centers are located between a city and the outskirts of an urban area (Cobbinah and Amoako, 2014; Ablo et al., 2020). Therefore, a 'peri-urban' center refers to the fringe of the city but also to a particular spatial context where rural and urban features co-exist in environmental, socio-economic, and institutional terms (Afriyie et al., 2020).

Peri-urbanization presents both opportunities and damaging effects on ecosystems and livelihoods (Appiah et al., 2014). Most of the woes of African cities, including the unplanned and rapidly-increasing settlements, unemployment, informality, lack of access to environmental services and infrastructure, are blamed on peri-urban transformation (Varkey and Manasi, 2019). The growing demand for arable land, especially amidst peri-urban transformation,

remains a major challenge. Agricultural land losses often occur in urban and peri-urban areas with high-quality farmlands. Such remains a disturbing phenomenon considering that land does not increase, but population grows (Kuusana and Eledi., 2015; Ablo et al., 2020). According to Rondhi et al. (2018), the rate of agricultural land conversion in Indonesia (East Java) is estimated at 187,720 hectares per year. In Chilean City, it is estimated that 1,417 hectares of agricultural and forest lands were converted into residential areas over a period of 25 years (cited by Abubakari et al., 2022). Appiah et al. (2014) indicate certain Ghanaian landowners convert land from agricultural uses to non-agricultural uses due to the high prices offered for land for non-agricultural uses.

The experience is not different from ASM where indigenes and migrants compete for arable land for non-agricultural uses. The scramble for land has increased land value since landowners prefer to allocate lands at exorbitant prices rather than high-value uses. Financial benefits accruing to landowners have become a priority, hence, paying little attention to community benefits (Yeboah and Shaw, 2013). Unfortunately, the situation is likely to worsen considering the growing population of ASM as a result of urban expansion.

2.2.1 Peri-Urban Transformation and Access to Land Use by Indigenes and Migrants

Boserup (1965) reveals land scarcity plays a significant role in the individualization and privatization of land access and rights. Boserup's (1965) revelation is corroborated by Deiniger et al. (2000) suggesting ancient hunter-gathering tribes claimed authority over pieces of land to sustain livelihoods. As society evolved, land ownership evolved with community members and clans claiming inalienable rights over land through succession, conquest, discovery, or gifts (Owusu, 2008; Oduro et al., 2015; Ricci, 2019; Bonye et al., 2020; Ablo et al., 2020). However,

such a communal system is vanishing gradually due to population growth and urbanization and related impacts. The shift from shared ownership to personal rights has created unhealthy competition between indigenes and migrants over limited land resources (Bartels, 2020). Customary land held in trust for indigenes by family heads and traditional leaders is allocated to migrants for financial gains (Yeboah and Shaw, 2013; Kuusana and Eledi, 2015).

Land commodification in peri-urban areas has affected the size, use, and ownership structure of land and farming practices, compelling indigenous farmers to re-organize farming strategies to include the application of both organic and inorganic fertilizers, tree cropping, and crop rotation, albeit at a high cost (Seto and Kuafmann, 2012; Toku et al., 2021). The extent of vulnerability is further exacerbated by weak institutional capacities and poor strategic planning in peri-urban areas to control land use (Toku et al., 2021). Peri-urban lands are more disorganized in terms of use, limiting the available livelihood options for indigenes due to the reduction in land size, outputs and benefits. Consequently, the battle between land acquisition for agricultural and non-agricultural land uses is lost to the latter (Kuusana and Eledi, 2015; Thuo, 2010). Owusu and Yankson (2017) indicate that while the majority of developing economies hinge on the agricultural sector, indigenes experience several cases of land encroachment and alterations. Owusu and Yankson's (2017) findings corroborate findings from the pilot study where indigenes, for fear of encroachment and adverse possession, have embraced non-farm livelihood activities as a coping strategy.

In the event of land diversification, migrants become major beneficiaries owing to land being lost to non-agricultural uses. Dapilah et al. (2019) argued that peri-urban transformation and shared natural resources in the Wa Municipality are the main drivers of the depletion of shea

trees and livelihood transformation in the Wa Municipality. Appiah et al. (2014), reveal the increasing rate of peri-urbanization is caused by increasing demand for residential, recreational, and commercial land uses. The situation has negative impacts on farming, local climate, and food security and increases the standard of living in the communities. Asafo (2020) indicates the transformational processes in peri-urban Accra are accompanied by uneven access to land and unequal power relations, causing several contentious tenure issues. Even though such tenure issues affect both indigenes and migrants, the former are affected more. According to Abdulai et al. (2022), despite the land conversion from agricultural to other uses, farming remains an integral livelihood activity for peri-urban households, but done in moderation owing to the loss of land. Therefore, the scholars recommend embracing and applying the ideals of negotiated planning to sustainable transformation in peri-urban communities. Similarly, a redefinition of the urban-peri-urban relationship ensures opportunities created by such a transformation are collectively shared (Toku et al., 2021). Afriyie et al. (2020) assert that protecting arable land and maximizing usage to avoid urban encroachment and reducing peri-urban households' vulnerabilities demand the implementation of effective policy interventions such as effective spatial planning through institutional strengthening, legislative enforcement, and widening market for agricultural goods and expanding non-farms. Proper allocation of land for both agricultural and non-agricultural uses is fundamental to ensuring productive land use between migrants and indigenes. Proper land allocation has the potential to resolve the problem of unplanned and poorly-organized peri-urban communities identified by Appiah et al. (2014) and Abubakari et al. (2022).

2.2.2. Peri- urban Livelihood Outcomes

The consequences of urban growth impact the livelihood situations of peri-urban residents in Ghana, either enhancing or deteriorating the livelihoods (Adomako, 2015). Available occupational sectors for peri-urban residents include salaried jobs and such informal economic pursuits as commerce, construction, and agriculture. Non-cash-based activities include home food production, fuel production, therapeutic herb gathering, or access to building or artisanal materials.

Brook and Dávila (2000) classify livelihood outcomes into coping and adaptive strategies. Contrary to coping strategies, which have been characterized as brief reactions to certain disturbances life continuity, adaptive strategies are lengthy alterations in attitudes and behavior caused by trauma or distress. Several peri-urban dwellers increase the reliance on agriculture, including livestock raising, aquaculture, forestry, and crop farming, to supplement incomes.

Urban areas are moving into the edges of rural areas, eating agricultural land, thereby reducing the quality and quantity of agricultural land and destabilizing the business of certain agricultural producers (Thuo, 2010). Even though agriculture remains a primary economic sector in peri-urban areas in several developing countries (Mandere et al., 2010), the value of agriculture is sharply declining as a result of urbanization and urban growth. Therefore, individuals are shifting to non-farm income-generating careers as a coping mechanism. Poor people previously relying on the availability of natural resources for sustenance are consequently compelled to depend on other non-agricultural activities, while others employ a great technique to improve farming practices (Adu-Ampong et al., 2008). According to the Akuapem South Medium Term Development Plan, the Agenda for Jobs (2018-2021), which was adopted for further planning

and assessment harmonized the issue of insufficient access to land for agriculture with the unfavorable socio-cultural environment for gender equality and gender disparities in access to economic opportunities.

2.3. The Theory of Access

Power is crucial in determining how land use patterns shift (Svarstad et al., 2018; Ahlborg and Nightingale, 2018). Contextually, power comprises regular interactions and networks, and as micropolitics which educate and mold the experiences of the individuals involved in land management during the urbanization of peri-urban zones (Ahlborg and Nightingale, 2018). The study applied the Theory of Access to investigate ASM peri-urban areas as sites of power and as parts of larger socio-natural processes where land is fiercely fought for and unevenly distributed. The ability to profit from tangible things, people, organizations, and symbols is the heart of the theory as put forward by Ribot and Peluso (2003). The theory, which emerged within common power structures and processes, conceptualizes actors' capacity to profit from resources and examines the procedures involved in the acquisition. According to Ribot and Peluso (2003), 'ability' is the capacity which enables or restricts a person's power to take use of resources. These powers, sometimes known as 'bundles of power', are a part of social interactions and have an impact on an actor's ability to take advantage of available resources.

The idea of property rights, on the other hand, emphasizes the rights (bundles of rights) to claim resources (Ribot and Peluso, 2003; Williams, 2013; Myers and Hansen, 2020). In situations where no rights exist, actors can, nonetheless, obtain resources. Ribot and Peluso (2003) suggest that shifting the focus from property and tenure to access highlights property as just one part of a broader set of factors. These factors include various institutions, social and economic

interactions, and ways of communicating that together influence how benefits are distributed. Although customary land allocation is largely based on inheritance and rights, such changes as the growing involvement of actors in land management necessitate a broader perspective to understanding how actors negotiate, form relationships, and profit from the control and access to contested land for non-agricultural activities in peri-urban ASM (Leduka, 2006; Rakodi, 2006; Arko-Adjei, 2011). As a result, the fundamental power dynamics and social features of how people utilize and manage land are better understood (Williams, 2013).

According to Ribot and Peluso (2003), the collection of forces, also known as mechanisms of access, which determines how actors can profit from resources is categorized into two: relational/structural mechanisms of access and rights-based processes of access. Such legal entities as statutes and customary laws which affect an actor's capacity to gain access to resources, comprise the legal mechanisms of access (Ribot and Peluso, 2003). The legal mechanisms of access are influenced by institutional policies or conventional practices which either open or close players' access to resources. Considering that tenure formalization gives individuals security, the wealthy and powerful are typically seen as players employing expensive and bureaucratic procedures to gain more control over land at the price of the weak and the disadvantaged (Wehrmann, 2008; Ubink, 2008; Leduka, 2006). Additionally, wealthy and powerful individuals' connections to such non-state actors as chiefs and family heads offer protection for access to, and control over, the land. Illicit or unlawful means, on the other hand, refer to "the enjoyment of advantages from goods in ways that are not socially sanctioned by the state and society". The use of force, assault, corruption, and bribery as a method of access is considered illicit or illegal (Ribot and Peluso, 2003; Aguirre, 2013). Illegal access enables beneficiaries to develop or regulate access to resources which they ordinarily would not obtain.

Structural/relational mechanisms of access emphasize the cultural and socio-economic elements which either support or impede an individual's access to resources (Ribot and Peluso, 2003). Structural or relational elements, including technology, capital, market, labor opportunities, knowledge, authority, social identity, and social relations or social capital, have been identified as influencing access (Ribot and Peluso, 2003; Wehrmann, 2008; William, 2013). Structural or relational processes offer actors the ability to bargain, and places the actors in a position to control access (Ribot and Peluso, 2003; William, 2013).

The dependence on the Theory of Access is justified by the increasing demand for land by new and diverse actors such as real estate firms, business moguls, welfare associations, and the actors' capacity to access land based on circumstances rather than rights. Additionally, the study examines the implications of such circumstances on migrants and indigenes as they fight to keep the access to land to secure livelihoods.

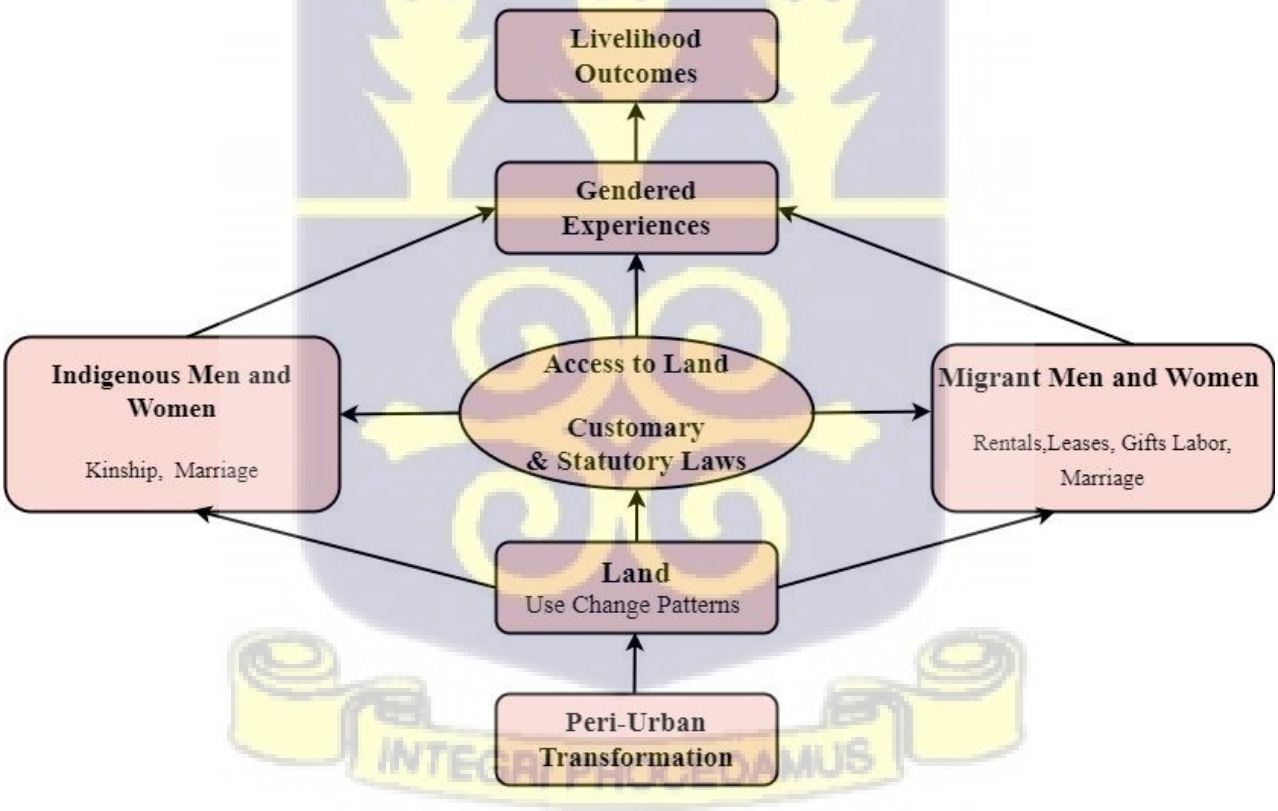
2.4 Conceptual Framework of Peri-Urban Transformation and Land Use Change

Peri-urbanization results in an increasing demand for land for non-agricultural uses (see Figure 2.2). The evolving networks of state and non-state institutions with conflicting interests further exacerbate issues of uneven access to land and uncertainties surrounding land ownership and legitimacy (Sward, 2017). Undeniably, such factors influence land access and use for indigenes and migrants. With no formal claim to farmland under customary land tenure systems, migrants typically rely on rentals, leases, gifts, labor or marriage to gain access to, and use of, land secured through locals.

Furthermore, by examining the gendered experiences of indigenes and migrants towards access

to, and use of, land, the understanding of why and how state and non-state institutions navigate and respond to peri-urban transformation is deepened. Though agriculture remains a predominant economic sector in peri-urban regions in most developing parts of the world, the economic value of agriculture is significantly declining as a result of a staggering number of indigenous and migrant households that currently engage in agriculture as a full-time economic activity (Mandere et al., 2010). Moreover, constant changes in livelihood outcomes influenced by peri-urban transformation and associated land use change are, to a greater extent, dependent on gender and a person's indigene and migrant status.

Figure 2.2. Conceptual Framework of Peri-Urban Transformation and Land Use Change



Source: Author's Conceptual Framework (2022)

CHAPTER THREE: RESEARCH METHODOLOGY

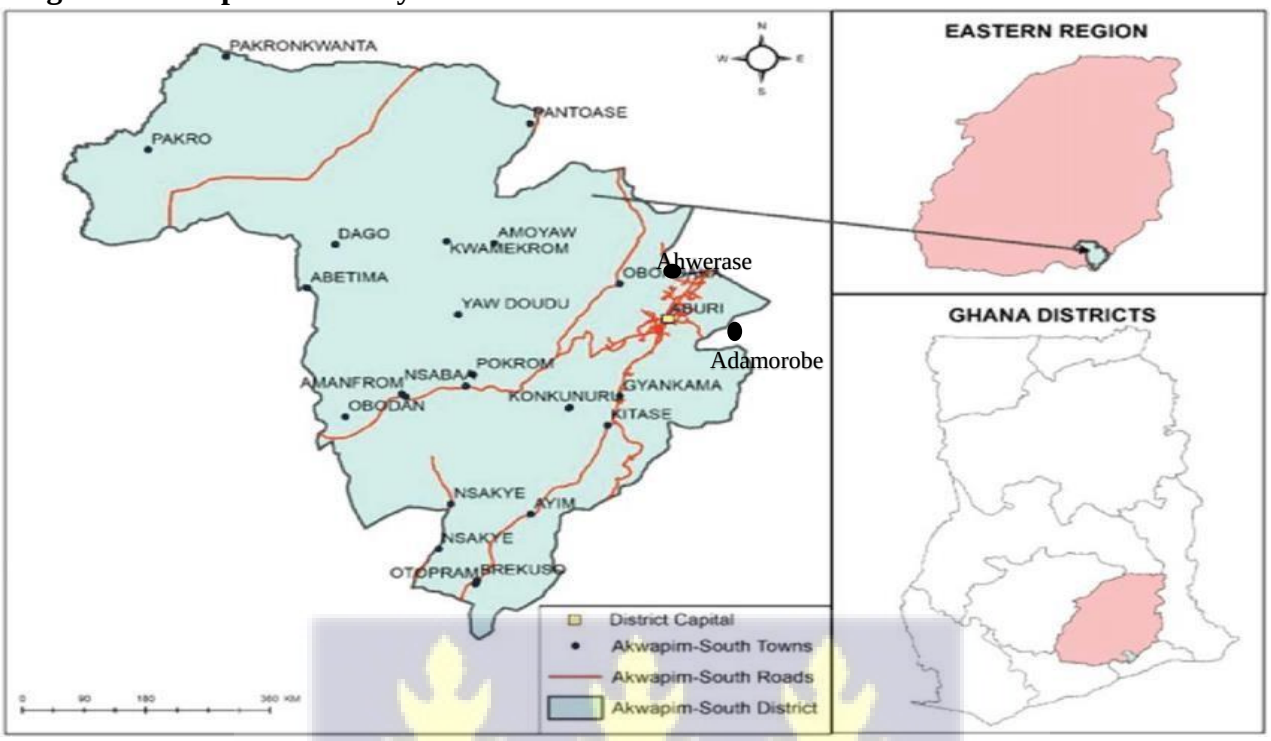
3.0 Introduction

This chapter presents the methodology applied in the study. It begins with the study area, profiles of the selected peri-urban communities and the methodology which spells out the research design, the types and sources of data, sampling technique and size determination. Further, the analysis and presentation of results as well as ethical considerations are presented.

3.1 Study Area

Akuapem South Municipality shares boundaries with Nsawam/Adoagyiri Municipality to the west, Kpone-Katamanso District to the south-east, Ga East Municipality to the south, and Akwapim North Municipality to the north-east (Akuapem South Medium Term Development Plan, 2022). ASM lies between latitudes 5.5°N and 5.58°N and longitude 0.0°W. Major towns include Aburi, Kitasi, Ahwerase, Adamorobe, Berekuso, Pakro, and Konkonuru. Rural communities include: Nsakye, Attakrom, Oboadaa, Pokrom-Nsabaa, Aburi-Amanfro, Dumpong, Obodan, Dago, Fahiankor and Ahyiresu (Akuapem South Medium Term Development Plan, 2022). Economically, ASM relies on agriculture and tourism. Therefore, development plans are concentrated in these two sectors with the view to expanding other sectors. The weather in the municipality is generally cool, accounting for the high migration to, and within, the municipality (Davis, 2017). Notable landmarks include the Peduase Lodge, Aburi Botanical Gardens, Aburi Girls' Senior High School, Aburi Craft Village, and Adonten Senior High School. The map of the area is shown in Figure 3.1.

Figure 3.1: Map of the Study Area



Source: Adopted from Appiah et al. (2021)

3.2 Profile of Selected Peri-Urban Communities

3.2.1. Ahwerase

Ahwerase shares boundaries with Aburi, the capital of the municipality. The town is noted for the famous Odwira festival, a historical event celebrated to show gratitude to the ancestors of the land and to exhibit the people's culture and tradition. The festival serves as one of the biggest revenue sources for town and the municipality. According to the Akuapem South Medium Term Development Plan (2018-2021), the proximity of Ahwerase to Aburi and Accra, coupled with the favorable climatic conditions, renders the town appropriate for human settlement and a major element contributing to the town's rapid peri-urban transformation. Ahwerase boasts of substantial portions of agricultural land on which both food and cash crops are cultivated by both indigenes and migrants whose access to the lands are based on

sharecropping, outright purchase, or family ownership.

3.2.2. Adamorobe

Adamorobe is located 40km away from Greater Accra, in a valley at the base of the Akuapem hills, and 2km from Aburi. A hunter discovered the area to be rich in game and food, particularly pineapples, known in Akan as ‘aborobe’. When the hunter eventually relocated to the area, he called the area ‘Medan M'aborobe. meaning ‘I depend on my pineapples’; The name was corrupted to ‘Adamorobe’. According to Sarpong (2018), the community has a female chief, who also serves as the queen mother. She is the second female chief of Adamorobe. Dwellers speak Asante Twi, Fante, and Ga, however, Akuapem Twi is the primary dialect. Agriculture is the predominant economic activity for both indigenes and migrants. A quarry at the town's entrance has recently seen increased stone extraction for commercial use, employing people from far and near. Due to Adamorobe's favorable climate and proximity to Accra, people who used to commute daily are relocating. Demand for residential and commercial land use is high, as is the case in peri-urban communities in ASM, compromising availability and access for agriculture by both indigenes and migrants.

3.3 Methodology

3.3.1 Research Design

The study employed the mixed research approach to accomplish the research objectives (Creswell, 2014). To deepen the understanding of the gendered experiences of peri-urban development, land use change patterns, and livelihood diversification, the technique allows for the collection, analysis, integration, and interpretation of quantitative and qualitative data

(Creswell, 2014; Johnson and Onwuegbuzie, 2004). The study assessed the livelihood strategies of indigenous and migrant men and women by collecting both quantitative and qualitative data. According to Wasti et al. (2022), the main objective of a mixed-methods research design is to deepen the understanding of a phenomenon by offering a richer picture to improve the description and understanding of the phenomenon. Mixed-methods research has gained popularity for combining quantitative and qualitative data to draw conclusions which are more robust than conclusion drawn from a single methodology (Wasti et al., 2022). Peri-urban transformation and land access involve socio-economic, cultural, and historical dimensions which are best captured through mixed-methods. Therefore, the study was able to address not only the 'what' (quantitative data) but also the 'why' and 'how' (qualitative insights) behind observed trends. Given the study's focus on gendered experiences and the diverse nature of the population (indigenous vs. migrant), mixed-methods was the appropriate approach to capture the breadth of experiences and the specific challenges different subgroups face.

3.3.2. Target Population

Population is the group of distinct elements from which a sample is selected to examine a research problem (Kumekpor, 2002). The study's population were the indigenes and migrants in peri-urban communities in ASM. Individuals knowledgeable in issues of peri-urban transformation and land use change were selected as respondents. The criteria for eligibility included status of individuals (indigene or migrant household heads or spouses or persons) aged at least 28 years; having lived in ASM for at least 10 years; and knowledgeable in issues concerning access to land and land use change. The criteria allowed for precise conclusions and ensured equal representation of all subgroups.

3.4 Types and Sources of Data

The study employed primary and secondary data. Neuman (2010) asserts primary data offers data interpretation based on current issues which may not be present in existing data, whereas secondary data is drawn from existing sources. Primary data was obtained through household surveys, in-depth interviews, and key informant interviews while secondary data was obtained from journals, articles, and reports relating to peri-urbanization, land use change, and gender. Reports from the ASM and the Ghana Statistical Service were also used.

3.5 Primary Data Collection Methods

As indicated earlier, the primary data was collected with both qualitative and quantitative data collection techniques, namely in-depth interviews, key informant interviews, and household surveys.

3.5.1 Method of Quantitative Data Collection

Quantitative data was collected from sampled indigenous men and women as well as migrant men and women (household heads or their spouse or persons aged 28 years and above) in Ahwerase and Adamorobe with semi-structured questionnaires. The questions were categorized under such sections as the background information of respondents, views on peri-urban transformation, land ownership/tenure, effects of peri-urbanization and land use change, livelihood challenges and outcomes, and the gendered experiences of indigenes and migrants.

3.5.2 Method of Qualitative Data Collection

Qualitative data was obtained through five key informants, namely the ASM Planning Officer,

assemblymen and traditional leaders of Ahwerase and Adamorobe. The interviews offered insights into the perceptions and contributions of both state and non-state actors to issues of peri-urban transformation and associated land use change in the Municipality. Additionally, in-depth interviews were conducted with eight (8) respondents - one indigenous and one migrant couple (4 respondents) from Ahwerase, and the same (4 respondents) for Adamorobe. The couples met the criteria of being at least 28 years of age, lived in the community for at least 10 years, and also being well-versed in issues of access to and use of land. This was aimed at assessing their unique experiences in accessing land in the municipality. In all, qualitative data was obtained from 13 respondents.

3.6 Sampling Technique and Size Determination

The study employed the multistage sampling technique which involved the application of two or more techniques until a sample size from the population was obtained. Stratified random sampling was applied under probability sampling techniques to select the peri-urban communities, which was categorized under indigene and migrant dominance (Table 3.1). Out of the 10 peri-urban communities, three were dominated by indigenes, whereas seven were dominated by migrants (Akuapem South Municipal Assembly, 2022).

Table 3.1: Peri-Urban Communities Categorized Under Indigene and Migrant Dominance

Peri-Urban Communities (Indigene-Dominated)	Population Size	Peri-Urban Communities (Migrant-Dominated)	Population Size
Nsakye	1,011	Aburi	10,458
Pokrom	2,374	Brekuso	2,309
Ahwerase	**853**	Kitase	2,662
		Konkonuru	1,463
		Adamorobe	**2,290**
		Gyankama	1,283

Source: Akuapem South Municipal Assembly, 2022

Following the eligibility criterion of selecting indigenes and migrants, Table 3.2 shows the population sizes of the selected peri-urban communities.

Table 3.2: Population Sizes of Selected Peri-Urban Communities

Community	Total Population Size	Population size (28 years and above)
Ahwerase	853	530
Adamorobe	2290	1076
TOTAL	3143	1606

Source: Akuapem South Municipal Assembly (2022)

Considering the combined population size of 1606 indigenes and migrants who are 28 years and above, the study adopted Yamane's (1967) formula:

$n=N/1+N\ (e^2)$;

where n = sample size,

N= population size, and

e = margin of error.

Therefore,

N: population size = 530 + 1076 = 1606

e: margin of error = 0.06

Substituting the above values into the formula;

$n = 1606/1+1606(0.06^2) = 236.8 = 237$.

A maximum sample size of 250 respondents was selected to account for attrition of 5) percent. Out of the total sample size of 250, a proportionate stratified sampling (40% and 60%) was applied to select 100 respondents for Ahwerase (, with 60 indigenes (29 males and 31 females) and 40 migrants (19 males and 21 females) (Table 3.3). This was because Ahwerase is smaller

in size compared to Adamorobe and has more indigenes than migrants, as sourced from the Planning Department of the Akuapem South Municipal Assembly. On the other hand, Adamorobe had 150 respondents 60 indigenes (29 males and 31 females) and 90 migrants (44 males and 46 females). This was also informed by the community's larger size as compared to Ahwerase and its migrant dominance compared to indigenes. Moreover, the Akuapem South Medium Term Development Plan (2018-2021) indicates the ratio of males to females is 48.6% to 51.4%. Thus, the study applied this ratio to determine the number of males and females to be sampled.

Table 3.3: Sample Determination for Selected Peri-Urban Communities

Selected Peri-Urban Communities	Sample Size	Indigenes		Migrants	
		M	F	M	F
Ahwerase (Indigene-Dominated)	100	29	31	19	21
Adamorobe (Migrant-Dominated)	150	29	31	44	46

Source: Researcher's Construct (2022)

Ahwerase and Adamorobe were segmented into clusters from which households were selected. Ahwerase was categorized under two clusters or zones, A and B. Zone A covered the left side of the Aburi-Ahwerase-Mamfe road, from Da Guys Pub to the chief's palace. Zone B covered the right side of the road, using Da Guys Pub and the chief's palace as landmarks. The researcher walked through Ahwerase to determine the distribution of household structures. Following this, 60% of respondents were selected from the left as this part had more household structures than the opposite side. Similarly, Adamorobe was categorized under two zones. Zone A covered the area from AKOA Beverages Limited to Gontey while Zone B covered the opposite stretch. Therefore, 60% of household structures were selected from the right while

40% were selected from the left. This was to ensure all households in each community had equal chances of being selected.

Qualitative data collection was conducted using Key Informant and In-Depth Interviews with selected individuals holding relevant knowledge and perspectives. A purposive sampling technique was used to ensure that respondents had specific insights into the topics under investigation. The Key Informant Interviews (KIIs) involved a total of eight (8) respondents (an indigenous and migrant couple each from Ahwerase and Adamorobe) selected based on their expertise and knowledge in peri-urban transformation. These interviews provided an overview of perspectives essential to the study's objectives. In-Depth Interviews (IDIs) were conducted with five (5) key stakeholders, including the Municipal Planning Officer from the Akuapem South Municipal Assembly, Assemblymen from Ahwerase and Adamorobe, as well as Traditional Leaders from Ahwerase and Adamorobe. Table 3.4 outlines the quantitative data sources and sampling methods.

Table 3.4: Primary Data Sources and Sampling Methods

Type of Data	Sampling Technique	Sample Size	Respondents
Quantitative (Surveys)	Multistage Sampling Stage 1: Stratified Random Sampling (Peri-Urban Communities Categorized Under Indigene and Migrant Dominance)	Ahwerase – 853 Adamorobe – 2,290	Indigenous and Migrant Couples – Ahwerase Indigenous and Migrant Couples – Adamorobe
	Stage 2: Disproportionate stratified sampling (Population Sizes of Individuals aged 28+ years in Selected Peri-Urban Communities)	Indigenes and Migrants in Ahwerase and Adamorobe	Indigene-Dominated: Nsakye, Pokrom, **Ahwerase** Migrant-Dominated:Aburi, Brekuso, Kitase, Konkonuru**,** **Adamorobe,** Gyankama
	Stage3: Disproportionate stratified sampling (Sample Determination for Selected Peri-Urban Communities)	Male and female household heads or their spouse or persons aged at least 28 years and have lived in the municipality for at least 10 years	Ahwerase – 100 (29 male indigenes, 31 female indigenes,19 male migrants, 21 female migrants) Adamorobe – 150 (29 male indigenes, 31 female indigenes, 44 male migrants, 46 female migrants)

Source: Researcher's Construct (2022)

3.7 Analysis and Presentation of Results

Responses from the household survey were coded and analyzed using STATA Version 12. The data was analyzed with such descriptive and inferential statistics as mean, mode, and percentages and subsequently presented in tables and charts, reflecting the objectives of the study. The qualitative data from the in-depth and key informant interviews supported the

quantitative data by providing a detailed understanding of peri-urban transformation, land use change, and the gendered experiences of indigenes and migrants. The qualitative data was transcribed and structured into relevant thematic areas such as the nature and trends in peri-urban indigenous and migrant access to land, land ownership and tenure for indigenous and migrant men and women, factors influencing indigenes and migrants' access to land, and livelihood challenges and outcomes.

3.8. Ethical Considerations

Ethical considerations involve a set of principles which guides the conduct of a study, ensuring the study is conducted responsibly (Gray et al., 2017). The study adhered to the prescribed ethical procedure before, during, and after data collection. An introductory letter was obtained from the Institute of Statistical, Social and Economic Research (ISSER) and submitted to the Municipal Coordinating Director of the ASM, indicating the purpose, period of data collection, and the target population of the study. Moreover, the researcher engaged with respondents before administering the questionnaires to help address all ethical concerns the respondents had.

CHAPTER FOUR: ANALYSIS OF FINDINGS AND PRESENTATION OF RESULTS

4.0 Introduction

The chapter analyzes the field data and presents the results using charts and tables. The questionnaire responses were cleansed using the STATA version 12. Out of the 250 filled questionnaire received, 150 (60.0%) were from Adamorobe while the remaining 100 (40.0%) were from Ahwerase. This was a fair representation since Adamorobe is more populated than Ahwerase.

The presentation of the analysis is structured as follows: socio-demographic information of respondents; indigenous and migrant men and women's access to land in Ahwerase and Adamorobe; assessment of influential factors of land access and uses among male and female indigenes and migrants in Ahwerase and Adamorobe; livelihood challenges posed to indigenes and migrants in Ahwerase and Adamorobe on land access and their adaptation strategies.

4.1 Socio-Demographic Information of Respondents

The variables qualifying the socio-demography of the respondents included age, sex, level of education, marital status, status of respondents (migrant or indigene), and duration of residence. Each variable was analyzed for each town. The variables were paired and analyzed accordingly. The results are shown in Table 4.1 and Table 4.2.

4.1.1 Age and Sex Distribution of Survey Respondents

Respondents' age and sex data are presented in Table 4.1. The 28–35-year group was the highest among males and females in Ahwerase representing 32 percent of the total respondents. On the

other hand, the age range of 44–51-year group recorded the highest, with 30 percent in Adamorobe. In sum, 110 (44%) of the respondents are between the ages of 36-43 years in both communities. This finding corresponds with the ASM Assembly (2022) report that the dominant age distribution in Akuapem South District is 35-60 years. The results in Table 4.1 also show that females dominate the sample in these two towns compared to their male counterparts. This is represented by 52 percent and 51 percent for Ahwerase and Adamorobe respectively. This finding coincides with Ministry of Finance 2021-2024 Programme Based Budget Estimates for ASM that there are more women than men in the communities. Thus, the findings of the current study lend credence to the feminine voice.

Table 4.1: Age Distribution of Respondents by Gender and Location

Community	Age Range	No. of Respondents		Percentage (%)
Ahwerase (n=100)		Male	Female	
	28-35	13	19	32.0
	36-43	14	12	26.0
	44-51	8	6	14.0
	52-59	7	10	17.0
	60+	6	5	11.0
	Total	**48**	**52**	**100.0**
Adamorobe (n=150)				
	28-35	26	31	12.0
	36-43	26	15	16.0
	44-51	7	22	30.0
	52-59	9	4	17.0
	60+	5	5	25.0
	Total	**73**	**77**	**100.0**

Source: Field Data (2022)

4.1.2 Level of Education and Marital Status of Respondents

Respondents' level of education and marital status were analyzed to ascertain how both variables influence peri-urban transformation and land use changes. The results are shown in

Table 4.2 and Table 4.3. From Table 4.2, respondents in Ahwerase and Adamorobe with secondary education are significantly higher than other levels. This is seen in the values 55 and 86 respectively. In total, more than half of the respondents (56%) in Ahwerase and Adamorobe have received secondary level education. Additionally, a total of 72 (29.0%) of respondents in both communities have tertiary education. ASM (2023) boasts of landmark educational structures, including Aburi Girls' Senior High School and Adonten Senior High School. Moreover, the proximity of the two communities to Tema and Accra promotes higher learning and educational pursuits among inhabitants.

Table 4.2: Educational Level of Respondents by Location

Community	Educational Level	No. of Respondents	Percentage (%)
Ahwerase	Basic	15	15.0
	Secondary	55	55.0
	Tertiary	30	30.0
	Total	100	100.0
Adamorobe	Basic	22	15.0
	Secondary	86	57.0
	Tertiary	42	28.0
	Total	150	100.0

Source: Field Data (2022)

Table 4.3 reveals high divorce cases in Adamorobe (39) as compared to Ahwerase (11), which further implies more married persons in Ahwerase than in Adamorobe. In both communities, a total of sixty-five (65) respondents, representing 26%, were married while fifty (50) respondents, representing 20%, were divorced.

Table 4.3: Marital Status of Respondents by Location

Community	Marital Status	No. of Respondents	Percentage (%)
Ahwerase	Single	18	18.0
	Cohabiting	20	20.0
	Married	37	37.0
	Divorced	11	11.0
	Separated	4	4.0
	Widowed	10	10.0
	Total	**100**	**100.0**
Adamorobe	Single	38	25.0
	Cohabiting	22	15.0
	Married	28	19.0
	Divorced	39	26.0
	Separated	14	9.0
	Widowed	9	6.0
	Total	**150**	**100.0**

Source: Field Data (2022)

To ascertain the number of years respondents have lived in the communities, the survey required respondents to indicate such. The findings are shared in Table 4.4. Analysis of the years respondents have spent in the study revealed crucial insights about the relationship between such variables and land access. The relationship deepens the understanding of the social dynamics of land ownership and access in peri-urban areas where land remains a key resource amid urban expansion. Men in Ahwerase, as primary heirs in matrilineal inheritance systems, enjoy more stable and long-term land access. Male indigenes hold secure land tenure due to their status as long-term residents and their direct access to inherited land. This is as a result of male indigenes having lived in Ahwerase for decades, ensuring stronger ties to the land and greater control over it.

Similarly, the duration of stay plays a role for female indigenes. In the Akuapem matrilineal system, women can inherit land, and females with longer period of stay are more likely to hold inherited land. In Adamorobe, the distribution of respondents across the different duration

categories shows a mix of short- and long-term residents. The largest proportion of respondents (33%) have lived in the community for 41–50 years, while 23% have lived for 51–60 years. The findings corroborate findings by Abdulai et al. (2022) and Kuusana and Eledi (2015), indicating people who have lived for more than 10 years in peri-urban communities have a fair understanding of the community and can speak to any significant changes or new developments.

Table 4.4: Respondents' Duration of Stay by Gender and Location

Community	Duration of Stay	Male	Female	Percentage (%)
Ahwerase	10-20	5	2	7.0
	21-30	5	5	10.0
	31-40	14	19	33.0
	41-50	21	21	42.0
	51-60	2	3	5.0
	Above 60yrs	1	2	3.0
	Total	**100**		**100.0**
Adamorobe	10-20	2	3	3.0
	21-30	13	7	13.0
	31-40	13	14	18.0
	41-50	25	25	33.0
	51-60	15	20	23.0
	Above 60	5	8	9.0
	Total	**150**		**100**

Source: Field Data (2022)

4.1.3. Key Informant Interviews and In-Depth Interviews

Table 4.5 and Table 4.6 describe respondents in the Key Informant Interviews and In-Depth Interviews respectively. The respondents were purposively sampled based on expertise and experience in the key areas of the study, particularly peri-urban transformation and land use changes in ASM.

Table 4.5: Key Informant Interviews

Title	Age	Sex	Educational Level	Years in Office	Roles/Responsibilities
State Actors					
1. Municipal Planning Officer - ASM	43	Male	Tertiary	4	He ensures the rules and regulations stipulated in the Lands Act and other legislative or executive instruments are adhered to.
2. Assemblyman (Ahwerase)	50	Male	Tertiary	10	He is a representative of the electorates at the municipal assembly. He is also an intermediary for the public and families that own land, ensuring the sale and use of land adhere to established protocols.
3.Assemblyman (Adamorobe)	47	Male	Secondary	6	Municipal assembly representative and intermediary between the populace and the landowning families, ensuring the sale and use of land are in line with laid-down procedures.
Non-State Actors					
Non-State Actor 1 (Ahwerase)	58	Male	Secondary	19	He ensures peace and harmony prevail among the populace. He also serves as an intermediary between the people and the ancestors, as well as between the people and ASM.
Non-State Actor 2 (Adamorobe)	65	Male	Basic	30	Intermediary between the people and the ancestors. Additionally, he ensures peace and stability among the people.

Source: Field Data (2022)

Table 4.6 presents the demographic information of participants in the in-depth interviews. An indigenous and a migrant couple were purposively selected from each community.

Table 4.6 In-depth Interviews

Title and Community	Age	Educational Level	Hometown	Years of Living in Community
1. Ahwerase – Indigenes				
Male	57	Primary	Ahwerase	57
Female (Spouse)	50	Primary	Ahwerase	50
2. Ahwerase – Migrants				
Male	50	Secondary	Tsito-Volta Region	30
Female (Spouse)	40	Primary	Keta-Volta Region	30
3.Adamorobe – Indigenes				
Male	65	Tertiary	Adamorobe	65
Female (Spouse)	54	Secondary	Adamorobe	54
4.Adamorobe – Migrants				
Male	62	Tertiary	Kumawu-Ashanti Region	28
Female (Spouse)	58	Tertiary	Mampong-Ashanti Region	28

Source: Field Data (2022)

Through the interviews, the study deepened the understanding of household dynamics, including land access, decision-making processes, and the interplay between indigenous and migrant perspectives within the same family unit. In peri-urban communities, decisions regarding land access and use often involve both the respondents and spouses as such decisions are influenced by the contributions, roles, and status of both parties. Therefore, the inclusion of both partners captured diverse insights, particularly on how gender, origin (indigene or migrant status), and education level influence access to land.

4.2 Respondents' Experiences of Peri-Urban Transformation

Table 4.7 presents the general consensus among participants that they have witnessed a 100% growth in both in-migration and the population of their communities in the past decade. Respondents indicated the availability of economic opportunities (34.8%), the proximity of the

communities to Accra and other urban areas (20%), and favorable weather and climatic conditions (19.2%) were the major factors accounting for the population growth. Moreover, high in-migration (16.4%), high demand for land (5.6%) and the availability of extra land and economic opportunities (4%) were indicated by the respondents as some of the reasons for the upsurge in population.

Table 4.7: Opinions of Respondents on Indicators of Peri-Urban Transformation by Location and Gender

Indicator	Trend	Frequency				Percentage (%)
		Ahwerase		Adamorobe		
		M	F	M	F	
Population	Increased	48	52	73	77	100
In-Migration	Increased	48	52	73	77	100
Availability of Extra Land	Increased	0	0	1	0	0.4
	Decreased	27	29	61	73	76.0
	Unchanged	21	23	11	4	24.0
Access to Land for Indigenes	Increased	7	12	3	11	13.0
	Decreased	25	29	48	62	66.0
	Unchanged	16	11	22	4	21.0
Access to Land for Migrants	Increased	34	39	56	61	76.0
	Decreased	14	6	4	11	14.0
	Unchanged	0	7	13	5	10.0
Change in Land Use	Increased	41	40	70	67	87.0
	Unchanged	7	12	3	10	13.0
Non-Agricultural Livelihoods	Increased	44	46	68	74	93.0
	Unchanged	4	6	5	3	7.0

Source: Field Data (2022).

Regarding access to land, Table 4.7 shows indigenes' access to land has not changed (63%) while migrants' access to land has increased (91%) in the past 10 years. However, 33% of respondents observed indigenes' access to land has declined over the same period. Non-State Actor 2 disclosed:

"Although indigenes and migrants are actively engaged in the purchase of land,

the demand by migrants is higher than the demand by indigenes. Migrants purchase as many as 100-200 acres of land for real estate purposes. I also mentioned that lands are now being sold in foreign currencies, and this is because of its high demand and scarcity, especially in urban areas."

Responding to the question, "What are the changes you have witnessed in the community with regard to population?", State Actor 1 stated:

"There has been a dramatic increase in population over the years. For instance, in 2010, the Population and Housing Census (PHC) indicated that the population of the municipality was just around 37,000. It has now shot up to almost 78,000. I want to believe that this figure is not accurate as many people were in Accra as at the time of the census, so they were not counted as part of the population of the municipality."

Such factors as favorable weather conditions and good climate were indicated by 14.8 percent of the respondents as influencing the population growth. Urbanization, the serene nature of the community, and shortage of land in Accra and neighboring communities together were admitted by 80.8 percent of respondents as reasons for the population growth.

Table 4.8.: Drivers of Population Growth by Location

Drivers of Population Growth	Frequency		Total
	Ahwerase	Adamorobe	
Availability of economic opportunities	31 (31%)	46 (30%)	77 (30.8%)
Proximity to Accra and other urban areas	12 (12%)	22 (15%)	34 (13.6%)
Favorable weather/climate	17 (17%)	20 (13%)	37 (14.8%)
High in-migration	16 (16%)	34 (23%)	50 (20%)
High demand for land	15 (15%)	21 (14%)	36 (14.4%)
Availability of extra land and economic opportunities	9 (9%)	7 (5%)	16 (6.4%)
Total	100	150	250 (100%)

Source: Field Data (2022)

The qualitative data supported many of the quantitative findings. Migrant Couple 2 (Female) stated, *"There has been an astronomical increase in the sale of land, mostly due to the municipality's proximity to Accra, and also due to its favorable climatic conditions"*.

Non-State Actor 1 revealed:

> *"Due to its proximity to urban centers, excellent temperature, and the shortage of lands in urban regions, the town has experienced an influx of migrants during the past ten years. Although there were formerly more lands accessible than there are now, the increased demand for residential and commercial usage by both indigenes and migrants has resulted in a shortage. In truth, farms and farmlands are no longer available."*

The findings align with the GSS's (2013) report, which reveals that, whereas the expansion of large cities is linked to urbanization, the growth of many smaller towns and fringe communities is tied to the expansion of non-farm economic activities and the movement of workers from

other rural areas to such smaller peri-urban communities. However, respondents were divided on their opinion about the effects of these dynamics on the availability of additional lands. Whereas 42 percent indicated available land remained unchanged in the past 10 years, 58 percent of the respondents were of the opinion that there has actually been a reduction in the availability of extra lands for other purposes. Responding to the question, "What is the tenure duration for indigenes and migrants to hold their land rights?", Migrant Couple 4 (Female) said:

> *"Deeds of conveyance or outright sales were the main methods used by the local authority to transfer land. The government modified that to leaseholds for 99 years and 55 years recently."*

Several participants observed land ownership by migrants has increased in the last decade. According to State Actor 3:

> "*The community has seen an influx of migrants over the years due to its proximity to urban areas and the construction of motorable roads throughout the community. For instance, the road that links Aburi to Oyibi is currently under construction. Purchasing lands here also happens to be litigation-free, so it attracts many investors."*

Although there were overlapping responses, for those who indicated that indigenes' access to lands have declined (Table 4.9), some factors they observed as giving rise to the decline included population growth (28.4%), the increasing demand for residential and commercial lands (31.2%), demand for land for other purposes (7.6%), and the demand for land by migrants (23.6%). Such factors as the need to sell off indigenous lands to raise money for pressing situations or to use the lands for other purposes were identified by 9.2 percent of the respondents

as being behind the decline in indigenous access to lands.

Table 4.9: Factors Causing Changes to Indigenous Lands by Location and Gender

Factors	Frequency				Percent
	Ahwerase		Adamorobe		Total
	M	F	M	F	
Demand for land by migrants	11	16	17	15	23.6
Population growth	15	13	19	24	28.4
Demand for land for other purposes	4	4	5	6	7.6
Demand for residential and commercial land uses	14	14	26	24	31.2
Lands are sold to meet pressing needs	2	1	3	3	3.6
Pressure on land to be sold off for financial gains by those who hold it in trust leaving a fraction for indigenes	2	4	3	5	5.6
Total	100		150		100.0

Source: Field Data (2022)

Explanations proffered by the respondents for the rise in migrant land ownerships were not particularly different from those given for the decline in indigenous lands. However, as presented in Table 4.10, majority of the respondents (30%) stated the growing demand for land by migrants for residential and commercial uses contribute to spikes in migrant access to lands. Rapid agricultural land conversion to other uses accounted for 15.6 percent. A total of 12.8 percent indicated the availability of land and economic opportunities are responsible for the growing share of migrant land while a total of 25.2 percent observed the availability of non-agricultural livelihoods, coupled with the demand for non-agricultural land uses, contributes to the rising access to land by migrants

Table 4.10: Factors Giving Rise to Changes to Migrant Lands by Location and Gender

Factors	Frequency				Percent
	Ahwerase		Adamorobe		
	M	F	M	F	
Availability of non-agricultural livelihoods	3	4	7	10	9.6
Agricultural land conversion to other uses	7	6	15	11	15.6
Availability of economic opportunities	6	8	9	18	16.4
Availability of land and other economic opportunities	7	8	8	9	12.8
Demand for non-agricultural land uses	5	12	11	11	15.6
Demand for residential and commercial facilities	20	14	23	18	30.0
Total	100		150		100

Source: Field Data (2022)

Table 4.11 shows that 31.2 percent of the respondents believe the upsurge in demand for residential lands is responsible for the transformations in non-agricultural livelihoods while about a fifth more attributed the increase to the unattractiveness of agriculture to the youth. Scarcity of agricultural lands, in-migration, urbanization, and population growth were each identified by at least 10 percent of the respondents as driving forces of change in non-agricultural livelihoods.

Table 4.11: Causes of Increase in Non-Agricultural Livelihoods

Causes	Frequency	Percentage (%)
Scarcity of agricultural lands	30	12.0
Demand for residential land uses	78	31.2
High in-migration	25	10.0
Urbanization	30	12.0
Youth not attracted to farming	55	22.0
Population growth	32	12.8
Total	**250**	**100**

Source (Field Data,2022)

The qualitative interview data also unearthed the theme of the various livelihood challenges and outcomes of indigenous and migrant men and women amidst peri-urban transformation and land use change. State Actor 1 for instance stated:

> "*For agriculture, the time spent in cultivating, for instance pineapple, coupled with the fact that agriculture is capital-intensive, coerce these local landowners to accept these juicy offers of the buyers. Considering the fact that they are peasant farmers, it is sometimes difficult for them to afford certain farm tools and equipment. In fact, some families have sold off most of their lands, and now cannot afford to set up a building to live in. Some families have as many as 200-300 acres."*

The respondent added, *"the average price of land in this municipality is now going for twenty to thirty thousand dollars. Some are going for 80,000 to 100,000 dollars"* which is several times higher than what the average farmer accrues from farming in 10 years. Thus, the lack of interest in agriculture in the study communities is in some way connected to the low returns compared to the investment required to undertake productive farming. State Actor 1 in responding to the question "Why do indigenes sell off their lands in this community?" stated:

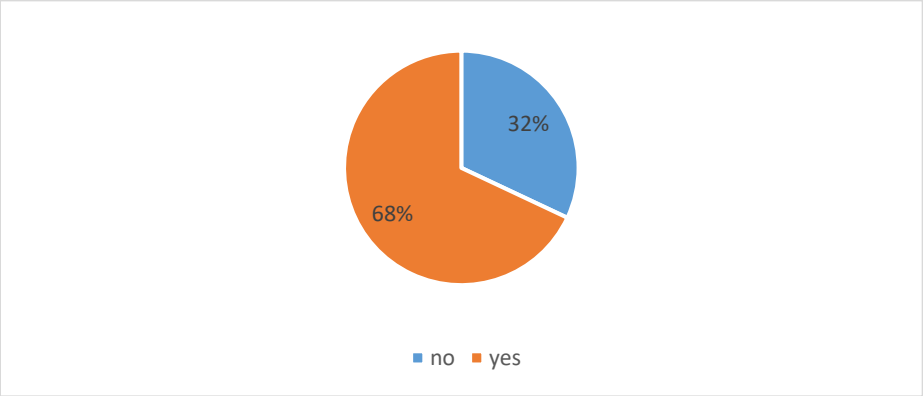
> *"Over the past ten years, lands are being sold due to the high demand for residential land uses. Again, due to financial and/or health reasons, landowning families are compelled to sell off rather than lease their lands."*

4.3 Land Ownership and Tenure

In line with the discussion on indigenes and migrants' access to land, the respondents were asked to indicate whether they owned lands or not, what uses they put the land to if any, and the proportion of land apportioned to those uses. Figure 4.1 shows 68 percent of the respondents

owned lands.

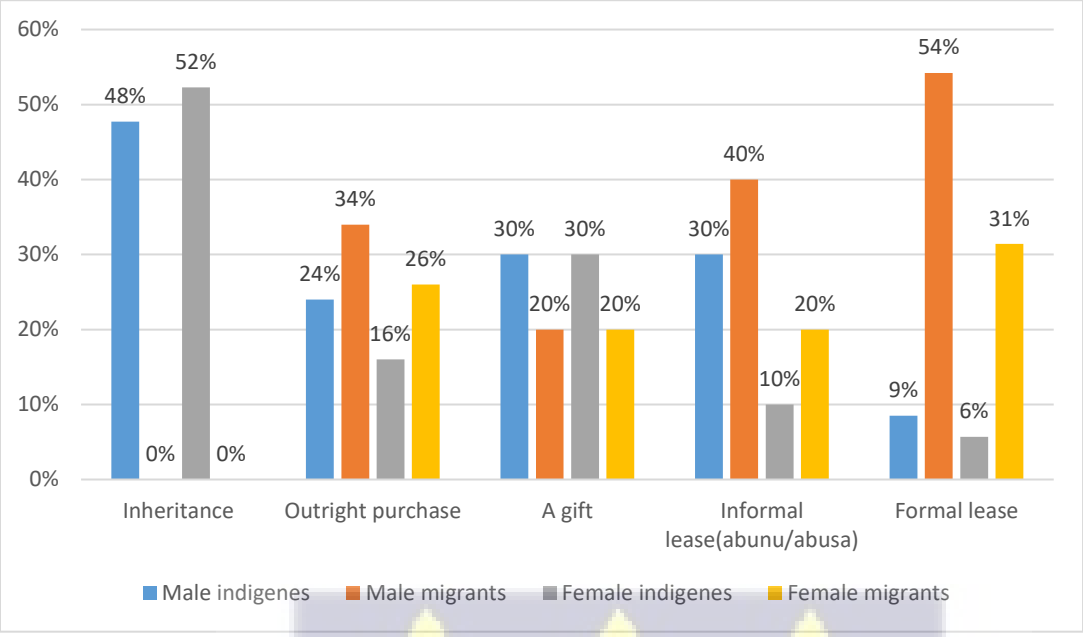
Figure 4.1: Land Ownership Status of Respondents



Source: Field Data (2022)

As presented in Figure 4.3, 48 percent of male indigenes and 52 percent of female indigenes disclosed they inherited their land. While majority of male migrants (34%) indicated they acquired their land through outright purchase, 24 percent of male indigenes acquired their land through same means. Among the females, 26 percent of female migrants and 16 percent of female indigenes purchased lands outright. The highest proportion of informal lease (abunu/abusa) was recorded by male migrants (40%) whereas the least was recorded by female indigenes (10%). Male indigenes and female migrants recorded 30 percent and 20 percent respectively. In the case of formal leases, male migrants had the highest subscription (54%) while female indigenes had the least (6%). Both male and female migrants were ineligible for land inheritance as they are not first settlers. Furthermore, more female indigenes obtained their lands through inheritance due to the matrilineal family system of the Akuapems.

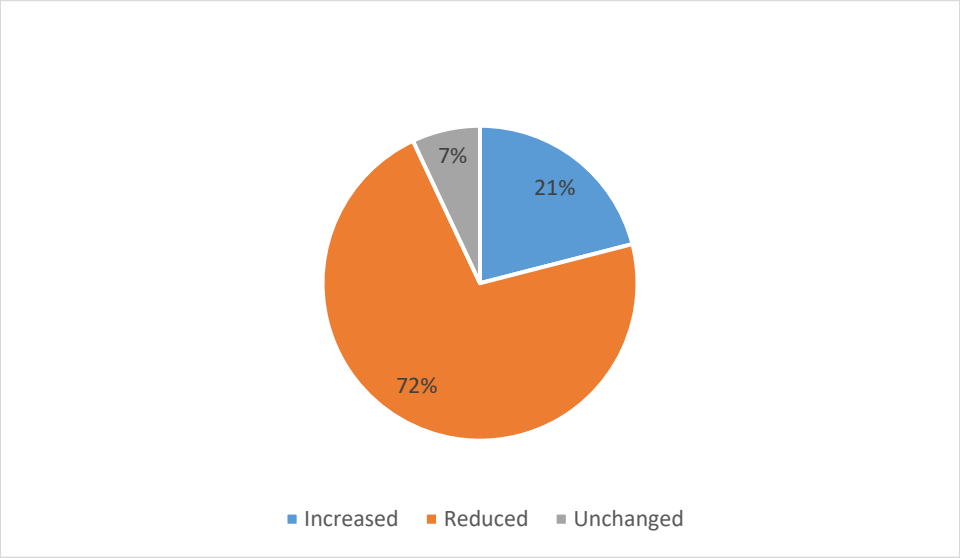
Figure 4.2: Mode of Land Acquisition by Migration Status and Gender



Source: Field Data (2022)

When the 68 percent of respondents who owned lands were asked if the size of land they owned has changed in the last ten years, 72 percent of them disclosed that the size had reduced while 7% stated otherwise. The remaining 21 percent observed they acquired more lands during the ten-year period (Figure 4.3).

Figure 4.3: Proportion of Lands owned by Respondents in the last 10 Years



Source: Field Data (2022)

The data from Table 4.12 highlights notable trends in land ownership dynamics across gender, migration status, and community. Land reduction appears to be a significant challenge, especially among female migrants and indigenes. In Adamorobe which is migrant dominated, 70.4 percent of female migrants reported a reduction in their land sizes, reflecting the highest proportion of land reduction among all groups. This observation is echoed by 70.9 percent of female indigenes in Ahwerase, which is indigene-dominated. A high proportion of male migrants (63.1%) also experienced similar reductions. These findings suggest that both migration status and gender play key roles in determining access to and retention of land. Interestingly, the data also reveals disparities in land stability. In Ahwerase, a higher proportion of male migrants (26.3%) reported no changes in their land sizes compared to male indigenes (13.7%), while in Adamorobe, the opposite trend is observed, with more male indigenes (20.6%) reporting unchanged land sizes compared to male migrants (13.6%). Another significant observation is the increase in land sizes for more male indigenes in both

communities whereas for the females, the situation was similar for the indigenes in Ahwerase and the migrants in Adamorobe. These observations highlight the complex interplay between gender, migration, and community location in shaping land ownership experiences. The reduction in land among vulnerable groups, particularly female migrants and indigenes, underscores the need for targeted interventions to address land security and equity challenges.

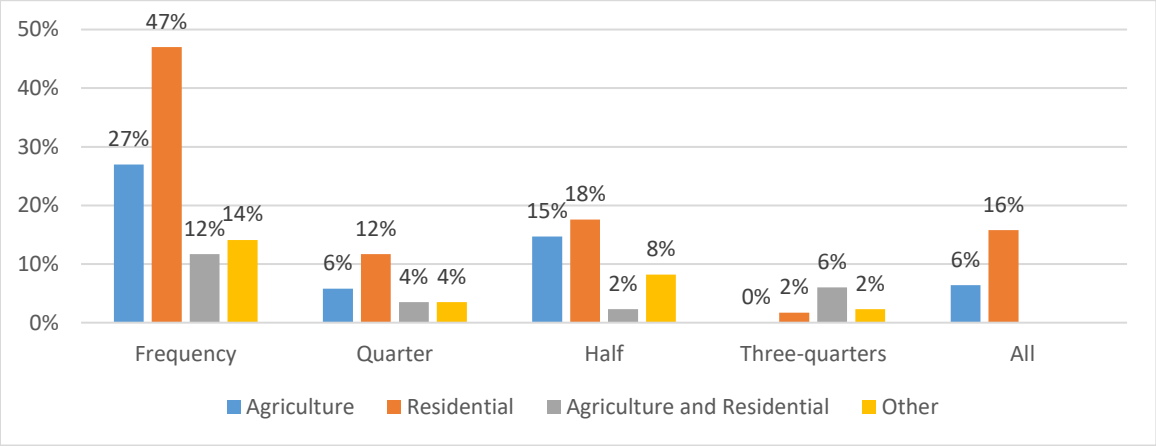
Table 4.12: Proportion of Lands Owned by Respondents by Location, Migration Status and Gender

	Ahwerase			Adamorobe		
	Increased	Reduced	Unchanged	Increased	Reduced	Unchanged
Male Indigenes	17.2%	68.9%	13.7%	24.1%	55.1%	20.6%
Male Migrants	10.6%	63.1%	26.3%	13.6%	72.7%	13.6%
Female Indigenes	19.3%	70.9%	9.6%	6.4%	77.4%	16.1%
Female Migrants	19.0%	66.6%	14.2%	18.1%	70.4%	15.9%

Source: Field Data (2022)

In investigating the various uses to which participants put these lands to in order to put into perspective what could have caused the reduction in available land, the analysis revealed residential land uses dominated with 47 percent, followed by agriculture with 27 percent, other economic activities with 14 percent, and both agriculture and residential uses with 12 percent (Figure 4.4). The proportion of land allocated to these activities, according to the participants, ranged from half for residential activities (18%) to a quarter for agriculture and residential activities. Additionally, 16 percent indicated they used all of their land for residential purposes, whereas only 6% used all their land for agricultural activities.

Figure 4.4: Land Use Allocations



Source: Field Data (2022)

In response to the question, "Have there been any changes in the way indigenes and migrants value land in the community over the past 10 years?", Indigene Couple 3 (Female) stated:

> *"Landowning families are now being coerced by their family heads and chiefs to sell off the lands to investors at unbeatable prices. In a way, the lands are highly valued, but to the extent that they are being sold off to others means that they are not as valuable to the indigenes as they made it out to be. High in-migration and its associated demand for land means that the migrants also value the land."*

For the 53 participants who indicated they used to own lands but have currently lost it (Table 4.13), 22.2 percent of indigenes and 46.1 percent of migrants in Ahwerase indicated they sold their lands to migrants. In Adamorobe, 37.5 percent of indigenes and 13.3 percent of migrants sold their lands to migrants. However, 6.2 percent of indigenes in Adamorobe lost their lands through lease agreements that transferred such lands to migrants. Land sales and leases to non-family indigenes were admitted by 43.4 percent of indigenes in Adamorobe as reasons for

losing their land. Sales and leases to indigenous family members and forceful takeovers by statutory or customary authority were mentioned by 18.6% as the causes of their loss.

Table 4.13: Reasons for Losing Land by Migration Status and Location

Factors	Ahwerase		Adamorobe	
	Indigenes	Migrants	Indigenes	Migrants
Sold to migrant	22.2%	46.1%	37.5%	13.3.%
Sold to indigene (non-family member)	11.1%	0.0%	12.5%	0.0%
Leased to migrant	11.1%	30.7%	6.2%	20.0%
Leased to indigene (non-family member)	0.0%	0.0%	12.%	0.0%
Distributed among family/household members	0.0%	0.0%	6.2%	6.6%
Given to relative	22.2%	0.0%	6.2%	20.0%
Leased to indigene (family member)	0.0%	0.0%	6.2%	13.3%
Sold to indigene (family member)	22.2%	0.0%	6.2%	13.3%
Forcefully taken over by customary/statutory authority	0.0%	0.0%	6.2%	0.0%
Other	11.1%	23.0%	0.0%	13.3%

p-value: 2.93e-06

Source: Field Data (2022)

The chi-square test for Table 4.13 suggests that there is a significant association between reasons for losing land and the status of respondents (indigenes vs. migrants). Indigenes face higher risks due to social, financial, or legal factors. The results align with the objective of understanding peri-urban land dynamics, demonstrating land ownership and retention are deeply influenced by socio-political factors. State Actor 1 indicated:

> *"Each family has a family head as well as a chief. Any individual who needs access to land must consult with the family. Lands are not sold outright to indigenes or family members. In rare cases, land may be sold to family members provided the buyers have the funds to purchase it. Similarly, stool lands are not sold out to indigenes or migrants. These lands are transferred from one chief or royal family to the next."*

Overall, the trend in access and usage right of land for indigenes and migrants in the last 10 years is that migrants' access to land has increased while indigenes' access has declined. This finding is consistent with Aryeetey et al. (2007), asserting peri-urbanization leads to massive transfer of land from indigenous landowners to migrants to the extent that indigenous land shares diminish over time. Such a phenomenon is driven by population growth, internal migration, and the favorable weather and climatic conditions which increase the demand for land for residential purposes.

4.4 Factors Influencing Peri-Urban Indigenous and Migrant Men and Women's Access to Land

Access to land and use of land remain important issues for migrants and indigenes, as such variables influence livelihoods. The findings highlight the factors which influence access to land and use of land.

4.4.1 Analysis of the Perception of Respondents on Factors Influencing Land Access Among Indigenous and Migrant Men and Women

Respondents were asked about their perceptions on factors that influence land access. The means and standard deviations of the ratings are presented in Table 4.14. Respondents were of the view marital status influences access to land and use of land, with a mean of 3.21 and a standard deviation of 0.73. The finding is consistent with Ukekwe (2018), highlighting marriage as an important factor in terms of access to land and resource allocation. The finding is particularly true for indigenous and migrant women who are often disadvantaged in terms of access to land and resources. (Ukekwe, 2018). In addition, Müller and König (2013) suggested

marriage paves the way for people to gain access to land and resources, especially women in agricultural households where they remain the primary labor force.

Table 4.14: Ratings on Factors Influencing Access to and Use of Land by Migration Status

	Migrants			Indigenes		
Statements	M	SD.	I	M	SD	I
a. One's marital status influences his/her access to and use of land	3.21	0.73	N	3.14	1.22	N
b. The demand for land determines one's access to and use of land	4.07	1.52	A	3.93	0.96	A
c. One's income determines his/her access to and use of land	4.45	1.26	SA	4.32	1.37	SA
d. The type of land use determines one's access to land	3.11	0.85	N	2.95	1.05	N
e. High/low productivity influences a person's access to and use of land	3.05	1.31	N	3.33	0.64	N
f. One's gender influences his/her livelihood outcomes	4.19	1.51	A	4.38	0.74	A

Notes: M - Mean, N - Neutral, SA - Strongly Agree, SD - Standard Deviation, I – Indicators, A - Agree

Source: Field Data (2022)

Both migrants and indigenes agreed to the second statement, "The demand for land determines one's access to and use of land", with a mean of 4.07 and a standard deviation of 1.52. The finding coincides with Kaufmann et al. (2003), indicating access to land is driven by demand, as land is a limited, finite resource subject to increasing demand. This is particularly true for migrant men and women, who tend to experience competing demands with indigenes for land access and use (Kaufmann et al., 2003). In response to the question, "Describe the values or importance of lands to the indigenes and migrants in the community", Indigene Couple 3 (Female) said:

> "*Lands are valuable resources to both indigenes and migrants. They are the main sources of livelihood in the municipality. They serve as the primary means of*

survival, as cultivating them means that food will be gained to feed oneself and the family as well. Indigenes, in particular, hold the lands in high esteem, so it is rather unfortunate that lands are now being sold at outrageous prices due to high demand."

With no formal claim to farmland under customary land tenure systems, migrant men and women typically rely on rentals, leases, gifts, labor, or marriage to gain land access and use through locals (typically chiefs or local families) (Afikorah-Danquah,1997). Additionally, Kaufmann et al. (2003) suggest land access and use is subject to various economic and political factors, including the growth of capital and the consolidation of land ownership.

The third statement suggested that one's income determines his/her access to and use of land and this was agreed to by both indigenes and migrants with a mean of 4.45 and a standard deviation of 1.26. The finding is consistent with Hagemann et al. (2018), asserting access to land is closely linked to an individual's ability to pay for land, with affluent individuals being more likely to gain access to land. Considering that tenure formalization offers individuals security, affluent individuals employ expensive and bureaucratic procedures to gain more control over land at the expense of the poor, particularly indigenous and migrant women (Wehrmann, 2008). Moreover, having ties with such non-state actors as chiefs and family heads provides protection for gaining access to and controlling the land. Similarly, wage labor is a possible means of obtaining access to land, especially for migrant men with higher earning potential compared to migrant women (Miguel et al., 2020). Furthermore, Kaufmann et al. (2003) find access to land is an important factor in terms of migration and employment.

The fourth statement, “The type of land use determines one's access to land”, received a neutral rating with a mean of 3.11 and a standard deviation of 0.85. The finding is inconsistent with literature, as certain authors suggest land access and use is determined by the type of land use while others suggest access to land is determined by a combination of economic and political factors (Kaufmann et al., 2003). Therefore, it is likely both factors influence access to land, depending on the context.

The fifth statement, “high/low productivity influences one’s access to and use of land”, received a neutral rating with a mean of 3.05 and a standard deviation of 1.31. This is consistent with literature, suggesting productivity influences access to land, with high productivity generally associated with greater access to land (Van der Geest and Kotzé, 2003). Productivity is a key factor in terms of access to land resources, as it can determine who is able to access land (Kaufmann et al., 2003).

Finally, respondents agreed gender influences one's livelihood outcomes., with a mean of 4.19 and a standard deviation of 1.51. The finding is supported by Müller & König (2013), suggesting land access and use is influenced by gender. Gender influences access to land in various ways, including through the control of household resources, control of marital property, and marriage (Müller and König, 2013). Since women frequently generate the majority of the food consumed by households, customary provisions exist for indirect access to land in the form of use rights obtained through family connections and women’s status as spouses, mothers, sisters, or daughters. According to FAO (2002), with the breakdown of conventional family structures, such usage rights no longer provide enough security for women and other dependents. Control of land by women is often limited since women have less access to

resources, such as legal recognition and credit, than men, which makes it difficult to gain access to land to secure livelihoods (Ukekwe, 2018).

Respondents generally agreed all these factors influence land access and use, although there was less agreement on the effect of productivity. This is consistent with FAO (2010), suggesting access to land is determined by a combination of economic, political, social, and gender factors.

4.5 Effects of Peri-Urban Transformation on Indigenous and Migrant Men and Women's Access to Land

In line with the third research question, respondents were asked to indicate whether the factors identified in the literature on peri-urban transformation were observable in the communities. Table 4.15 presents activities/factors exerting pressure on the land in the communities. Hospitality was indicated by 79 percent of respondents as exerting pressure on lands, with Ahwerase recording the highest (83.0%). This is because the hospitality industry increases the demand for land originally meant for agricultural purposes. The finding is consistent with Ravetz et al. (2013) indicating that due to their strategic locations and diverse territorial structure, peri-urban zones experience and endure push-and-pull tendencies from both cities and rural areas. Motivated by the proximity to Greater Accra, favorable climatic conditions, and the availability of economic opportunities, individuals, especially foreign nationals, engage in speculative demand for land in the municipality for hospitality purposes (hotels, guest houses, resorts). Recreational activities in Ahwerase had a higher score of 63 percent, while Adamorobe recorded 45.3 percent. For in-migration, Adamorobe recorded 80.6 percent. Residential properties recorded a higher percentage in Adamorobe (62.6%) than in Ahwerase (59%). According to the Akuapem South Medium Term Development Plan (2018-2021),

agriculture and tourism are the main drivers of the economy in ASM. Agriculture has declined over the past decade due to peri-urban transformation, characterized by high in-migration and population growth (Reddy et al., 2018). Consequently, this has increased the demand for land for residential, recreational, and hospitality purposes to meet the demands of the growing population.

Table 4.15: Activities Exerting Pressure on Land by Location

Activities/Factors	Yes (%)		No (%)	
	Ahwerase	Adamorobe	Ahwerase	Adamorobe
Hospitality	83.0	48.0	17.0	52.0
Recreational activities	69.0	45.3	31.0	54.6
Residential properties	59.0	62.6	41.0	37.3
Food crop farming	44.0	28.0	56.0	72.0
In- migration	74.0	80.6	26.0	19.3
Commercial activities	78.0	62.0	22.0	38.0
Cheap cost of lands	12.0	5.3	88.0	94.6
Livestock rearing	36.0	55.3	64.0	44.6
Industry/Manufacturing	71.0	69.3	29.0	30.6

Source: Field Data (2022)

Except for food crop farming, certain respondents indicated commercial, industry/manufacturing, and livestock rearing activities have increased the demand for land as agricultural activities are capital-intensive but do not yield immediate benefits. This has decreased the availability of land for other activities and, thus, has affected land access by low-income indigenes and migrants. Low-income inhabitants, therefore, seek employment in industries, tourist destinations, and hospitality centers. Others are compelled to venture into livestock rearing or securing their small portions of land for subsistence farming. Finally, the cheap cost of land in the past encouraged more people to purchase land, thereby increasing the demand for land (Joshi, 2019). However, the past decade has seen an increase in the cost of

land due to the high demand for residential, commercial, and recreational activities.

Table 4.16 highlights the effects of peri-urbanization on land access for both indigenes and migrants in the two study communities. In Ahwerase, majority of female indigenes (83.8%) and female migrants (80.9%) reported being affected by peri-urban transformation, indicating that women, irrespective of indigeneity, are more affected. This is largely due to the social or economic dynamics which place women in more vulnerable positions when accessing land or holding land rights. However, male indigenes and migrants reported being less affected, with only 31 percent and 36 percent respectively. In Ahwerase, men, especially indigenes, have more stable land access or are better able to mitigate the effects of peri-urban transformation. A similar pattern is observed in Adamorobe, though less. Majority of female indigenes (74.1%) were affected, though not as much in Ahwerase. Female migrants were affected at a lower rate (58.7%), suggesting female migrants face slightly better conditions in Adamorobe compared to Ahwerase. Among the male respondents in both communities, 37.9 percent of indigenes and 34.09 percent of migrants reported being less affected by the transformation. The chi-square test for Table 4.14 produced a chi-square statistic of 31.76 with a p-value of 3.96 and 5 degrees of freedom, suggesting a significant association. In both communities, gender plays a significant role in how peri-urban transformation affects access to land. Women, both indigenes and migrants, are disproportionately affected compared to men. This points to a broader social and economic vulnerability among women regarding land access, especially in areas undergoing rapid urbanization and land-use changes. The slightly higher stability for men, particularly male indigenes, potentially stems from stronger traditional claims or social networks which enable them to better protect or negotiate land rights.

Table 4.16: Peri-Urban Transformation and Land Access by Location, Migration Status and Gender

Group	Percentage Affected	Percentage Not Affected
Ahwerase (n=100)		
Female indigenes	83.8%	16.0%
Female migrants	80.9%	19.0%
Male indigenes	31.0%	68.9%
Male migrants	36.0%	63.1%
Adamorobe (n=150)		
Female indigenes	74.1%	25.8%
Female migrants	58.7%	41.3%
Male indigenes	37.9%	62.0%
Male migrants	34.1%	66.0%

p-value: 2.93e-06

Source: Field Data (2022)

When participants were asked to indicate the effects of these pressures on the communities, 39.2 percent indicated the pressures have led to a fall in farmlands, 28.8 percent expressed difficulty in accessing land, 25.6 percent indicated the pressures have led to a reduction in land for other purposes, and 6.4 percent stated the pressures have led to other land-related challenges. These are presented in Table 4.17.

Table 4.17: Challenges with Land by Location

Challenges	Frequency (N=250)		Percentage
	Ahwerase	Adamorobe	
Decrease in farmland	37	61	39.2
Difficulty in accessing land	35	37	28.8
Reduction in land for other purposes	34	30	25.6
Other challenge (political interference)	6	10	6.4
Total	250		100

Source: Field Data (2022)

4.6 Agriculture-Related Livelihood Adaptation Strategies of Indigenous and Migrant Men and Women

Generally, all respondents identified a variety of agriculture-related livelihood adaptation strategies for dealing with the pressures of land use change (Table 4.18). The strategies included crop cultivation on owned small portion of land, with the highest recorded among female migrants (23.8%) in Ahwerase; crop cultivation on other small portion of land, with the highest recorded among male indigenes (31.0%) in Ahwerase; livestock rearing recorded the highest among male migrants (26.3%) in Ahwerase compared to female migrants (19.5%) in Adamorobe). In Adamorobe, female indigenes (25.8%) are more engaged in tree cropping as compared to their counterparts (15.7%). Land rotation is also more common among male indigenes in Adamorobe (20.6%), followed by female migrants (15.2%).

Table 4.18: Agriculture-Related Livelihood Adaptation Strategies by Location, Migration Status and Gender

Strategies	Ahwerase (%)				Adamorobe (%)			
	Indigenes		Migrants		ndigenes		Migrants	
	M	F	M	F	M	F	M	F
Crop cultivation on own small portion of land	20.6	12.9	5.2	23.8	17.2	9.6	22.7	15.2
Crop cultivation on other small portions of land	31.0	16.1	15.7	19.0	10.3	6.4	13.6	26.0
Livestock rearing	10.3	9.6	26.3	9.5	10.3	16.1	11.3	19.5
Aquaculture	6.8	22.5	10.5	14.2	3.4	12.9	18.1	6.5
Tree Cropping	13.7	19.3	15.7	9.5	13.7	25.8	18.1	6.5
Organic Farming	10.3	6.4	10.5	14.2	24.1	19.3	13.6	10.8
Land Rotation	6.8	12.9	15.7	9.5	20.6	9.6	9.0	15.2

Source: Field Data (2022)

The findings are in line with literature on agricultural adaptation strategies. According to Thondhlana et al. (2015) and Habtamu and Damte (2015), farmers respond to changing pressures of peri-urban transformation through such adaptation strategies as diversification of

crops, agroforestry, intensification of production, intercropping, and improvements in water and land management. Responding to the question, "What are the distinctions between current and previous livelihood activities of indigenes and migrants?", Indigene Couple 3 (Male) said:

> *"Most of the people who used to engage in farming activities are now either unemployed or engaging in trading or commerce, artisanship, and service jobs such as teaching, and cleaning."*

Brook and Dávila (2000) classify livelihood outcomes into coping and adaptive strategies. Coping strategies are characterized as brief reactions to certain disturbances for life to continue, while adaptive strategies are lengthy alterations in attitudes and behaviors caused by trauma or distress. Findings from the current study and literature suggest both indigenous and migrant populations respond to the pressures of peri-urban transformation by adopting various agriculture-related livelihood adaptation strategies.

Thus, in the Ahwerase and Adambrobe communities, diversification and intensification of production practices have been adopted by both indigenous and migrant populations as adaptation strategies. Regarding crop cultivation on small portions of land, migrants and the majority of indigenous women have adopted labor-intensive cropping systems, including intercropping, improved fallow farming, and slash and burn techniques. This finding is supported by Kebrom et al. (2016), arguing that indigenous male and female farmers adopt modified cropping systems which involve intensification of production practices and diversification of crop varieties. Similarly, in terms of crop cultivation on other small portions of land, indigenous and migrant men have adopted crop rotation and crop diversification.

Moreover, livestock production and aquaculture have been adopted mostly by migrant men and women, as evidenced by 24 percent and 10 percent of respondents, respectively.

Furthermore, tree cropping and agroforestry have been adopted by indigenes and migrants. According to Ayenew et al. (2018), agroforestry remains a sustainable farming system adopted by smallholder farmers in peri-urban areas to deal with external pressures of peri-urban transformation. The authors argue agroforestry is a good adaptation strategy for increasing food security and improving livelihoods since the strategy combines the benefits of trees and agriculture. Furthermore, the current study shows both indigenes and migrant men and women (8%) have adopted organic farming as an adaptation strategy. This finding aligns with evidence by Tesfaye and Yuan (2013), arguing organic farming is a sustainable and eco-friendly food production system adopted by smallholder farmers against external pressures of peri-urban transformation. Additionally, respondents identified land rotation as an adaptation strategy adopted by indigenous and migrant men and women in the study communities. This finding is supported by Abebe and Adefris (2019), stating land rotation is a sustainable agricultural practice adopted by smallholder farmers in peri- urban areas to increase crop productivity.

4.7 Non-agricultural Livelihood Adaptation Strategies of Indigenous and Migrant Men and Women

The study investigated the coping strategies adopted by indigenous and migrant men and women to deal with the land scarcity and livelihood challenges posed by peri-urban transformation. Non-agricultural livelihood strategies, as presented in Table 4.19, include taking up formal/office jobs (32%), artistry (12%), artisanship (18%), dressmaking (14%), service (14%), repairs (5%), and commerce (5%). The adoption of such strategies is indicative

of the increased transformation of the peri-urban landscape. The increase in non-agricultural livelihood strategies reflects several changes in land shares within and between the two peri-urban communities. Among these are changes in indigenous and migrant land shares, and within this context, the influx of new people with different land rights has caused inhabitants to adapt to the changing socio-economic contexts. This is evidenced in the various strategies adopted, such as formal/office jobs and artisanship, which are becoming common. By taking on formal/office jobs, both indigenous and migrant men and women can access economic opportunities which the formal sector provides. The shift from agricultural livelihoods to such services is indicative of changing land share dynamics. Many respondents had limited access to agricultural land and were, thus, turning to service occupations as a means of generating income.

Table 4.19: Non-Agricultural Livelihood Adaptation Strategies by Location, Migration Status and Gender

Strategies	Ahwerase (%)				Adamorobe (%)			
	Indigenes		Migrants		Indigenes		Migrants	
	M	F	M	F	M	F	M	F
Formal/Office jobs (32%)	1.6	2.4	4.4	3.6	4.8	4.0	6.4	4.8
Artistry (beadmaking, basket weaving, wood carving) (12%)	3.2	1.6	1.6	0.8	2.4	0.8	1.2	0.4
Artisanship (blacksmith, welding, carpentry, masonry) (18%)	3.6	0	3.2	0	5.2	0.8	4.4	0.8
Clothing (tailoring, seamstress) (14%)	0.4	3.2	0.8	4.0	1.2	2.8	1.2	0.4
Service (hairdressing, eateries, hotels/ guest houses, recreational centers) (14%)	0.8	3.6	1.2	4.4	0.4	1.2	0.8	1.6
Repairs (cars, motorcycles, etc.) (5%)	0.8	0	1.6	0	0.4	0	2.0	0
Commerce (5%)	0.4	1.2	0.4	0.8	0	0.8	0.4	1.2

Source: Field Data (2022)

4.8 Livelihood Challenges and Outcomes of Indigenous and Migrant Men and Women Amidst Peri-urban Transformation and Associated Land Use Change

Respondents were asked to indicate the extent to which they agreed or disagreed to eight statements on factors affecting indigenous and migrant men and women's access to land identified from literature. The means and standard deviations of the ratings are presented in Table 4.20.

Both indigenes and migrants agreed to the first statement, *"One's level of education positively influences their livelihood outcome"* with a mean of 4.13 and a standard deviation of 1.16. Education is a key factor in accessing resources and opportunities for migrants (Agyeman et al., 2011). Education offers the skills, knowledge, and experience needed to access viable economic resources and opportunities. This was reflected in the submission by Indigene Couple 1 (Female):

> *"Indigenes, and to some extent, migrants, have equal rights of access and use of land. However, indigenous women are sometimes disadvantaged because their views and opinions do not matter in times of decision-making on how lands should be used. Migrants are often more well-to-do than indigenes, so the migrant men and women have some equal rights when it comes to land. The only restrictions will be due to certain factors such as education and income."*

Table 4.20: Ratings of Respondents on Factors that Affect Livelihoods by Migration Status

	Migrants (n = 130)			Indigenes (n=120)		
Statements	M	SD	I	M	SD	I
One's **level of education** positively influences their livelihood outcome	4.13	1.16	SA	4.05	1.04	SA
One's **technical training** positively influences their livelihood outcome	2.16	1.84	D	2.22	1.8	D
One's physical ability positively influences their livelihood outcome	2.12	1.08	D	2.33	0.84	D
One's **ownership of assets** positively influences their livelihood outcome	3.85	1.74	A	4.12	1.11	A
One's **years of living in this community** positively influences their livelihood outcome	2.15	1.87	D	2.41	0.55	D
One's **age** positively influences their livelihood outcome	3.95	1.6	A	4.2	1.36	A
One's **sex** positively influences their livelihood outcome	4.32	1.12	A	4.17	0.65	A
One's **status as an indigene or migrant** positively influences their livelihood outcome	2.84	1.07	N	3.01	1.3	N

Notes: M=Mean, SA=Strongly Agree, SD=Standard Deviation, I=Indicator, N=Neutral, D=Disagree, A=Agree,

Source: Field Data (2022)

The second statement, *"One's technical training positively influences their livelihood outcome"*, was disagreed to by respondents with a mean of 2.18 and a standard deviation of 1.84. This finding aligns with Kyei and Sarpong (2018), suggesting technical training is not enough to gain access to land or resources. Technical training maximizes land productivity; however, it is not enough to gain access to land or resources if other factors such as the level of education and access to capital are not considered.

The third statement, *"One's physical ability positively influences their livelihood outcome"*, was also disagreed to by the respondents with a mean of 2.12 and a standard deviation of 1.08. Lange et al. (2020) find physical ability has no significant impact on access to land or resources

for indigenous and migrant men and women, as such factors as education and access to capital are more important.

The fourth statement, *"One's ownership of assets positively influences their livelihood outcome"*, was agreed to with a mean of 3.85 and a standard deviation of 1.74. This finding is consistent with literature, suggesting ownership of assets can be important for access to land or resources (Arnold, et al., 2018). Such assets as land, livestock, and capital are important, especially for male and female migrants to gain access to resources and opportunities in a new area. The observation was made by Non-State Actor 1:

> *"Lands here originally belong to families. There are no stool lands in the municipality. Most of the lands belonging to the Akuapems have been forcefully taken over by other families. For instance, the surrounding areas, including Ayi Mensah, Oyarifa, and Danfa all the way to Shiashie originally belonged to the Akuapems."*

He also added:

> *"However, these areas were taken away from the Akuapems due to scarcity of lands. Both indigenes and migrants have land access and use rights, but indigenes are the primary owners of the land. The family head and chief are custodians of the lands. The kingmakers, also known as Mmerewatia (mothers or sisters of the chief), have a say in the sale and use of family lands."*

The fifth statement, *"One's years of living in this community positively influences their livelihood outcome"*, was disagreed to by both indigenes and migrants with a mean of 2.15 and

a standard deviation of 1.87. Literature suggests years of living in a community may not be a significant factor in determining access to land or resources (Karim et al., 2017). However, the finding conflicts with Afikorah-Danquah (1997), suggesting migrants' access to land is strongly associated with how long they have lived in a community and the social capital they have built over the course of their stay in the community.

The sixth statement, *"One's age positively influences their livelihood outcome",* was agreed to by both migrants and indigenes with a mean of 3.95 and a standard deviation of 1.6. According to Budhathoki and Akbar (2019), age can be an important factor, especially regarding indigenous and migrant men's access to land or resources. The most significant impact of an aging population occurs in work productivity. According to Mishra et al. (2010), older workers, on average, tend to be less productive than younger workers. However, offspring of aging farmers are more likely to engage in non-agricultural activities due to higher income and the ability of non-agricultural activities to offer better strategies for exiting agriculture (Mishra et al., 2010).

The seventh statement, *"One's sex positively influences their livelihood outcome in this community"*, was also agreed to by both migrants and indigenes with a mean of 4.32 and a standard deviation of 1.12, being consistent with findings by Agyeman et al. (2011) that sex can be an important factor when it comes to access to land or resources. For example, in Akan matrilineal system of inheritance, property and land are passed down through the mother's line. Additionally, gender influences a person's ability to control and manage inherited land, with women facing barriers to exercising control over land in a male-dominated society.

Moreover, the matrilineal inheritance system and gender norms in Akan societies impact the livelihood outcomes of indigenous men and women. Indigenous women with secure rights to inherit land through their mothers are likely to have a stronger foundation for their livelihoods, as they have access to a valuable resource for agricultural production, housing, or collateral (Agyeman et al., 2011; FAO, 2010). On the other hand, indigenous men without secure rights to inherit land may have fewer opportunities to establish their livelihoods, thereby relying on their spouses or female relatives for access to land. The situation can limit indigenous men's control over their own livelihoods and reduce their economic independence. This was captured by State Actor 2:

> *"The Akuapems are matrilineal in dispensation, what is also known as uncle-inheritance, so lands are actually owned by women. This means that the children of mothers are eligible for inheritance, rather than those of men."*

Furthermore, gender norms and expectations influence how indigenous and migrant men and women use their land and resources. For example, women may face cultural or institutional barriers to accessing credit, markets, or training, which limit their ability to realize the full potential of their land and resources (FAO, 2010). State Actor 1 argued:

> *"Indigenes (both men and women) are mostly disadvantaged since they do not have the resources. One's ability to afford determines who gets what. For migrants, their ability to afford land depends on their financial dispensation. However, the issue of land guards could pose several challenges when it comes to ownership, so as a female, you may not have anyone to support you, so you may be terrorized. Males are also prone to being molested or terrorized, but not as much as the women."*

Overall, the matrilineal inheritance system and gender norms in Akan communities shape the opportunities and challenges indigenous and migrant men and women in their livelihoods, impacting their economic security and independence.

The eighth statement, *"One's status as a migrant or an indigene positively influences their livelihood outcome"*, was disagreed to by the two groups with a mean of 2.84 and a standard deviation of 1.07. The finding is in line with Gebremedhin and Ali (2020), suggesting the status of a migrant or an indigene is not an important factor in determining access to land or resources.

The findings from the study are indicative of the challenges migrants face in accessing land in a new area. Education, technical training, physical ability, asset ownership, years of living in a community, age, sex and status as a migrant or an indigene may all determine access to land or resources. However, the results suggest such factors may not be as influential as access to capital and other factors.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0. Introduction

This chapter presents the summary of the findings based on the research objectives, conclusions, and recommendations. The summary contains the key findings from the analysis of data in Chapter Four, and based on these, conclusions and recommendations are made.

5.1. Summary of Findings

Despite being predominantly rural, ASM's peri-urbanization process is progressively moving in the direction of a completely urbanized area (Akuapem South Medium Term Development Plan, 2018-2021). Due to the strategic locations and diverse territorial structure, the peri-urban zones experience push-and-pull tendencies from both cities and rural areas. Considering the unequal distribution of, and access to, social resources such as land, it is imperative to investigate how indigenous and migrant men and women respond to urban transformation and new livelihood requirements. Therefore, the study aimed to identify the nature and trends in indigenes' and migrants' access to land over the past decade, examine the factors influencing indigenes' and migrants' access to land, determine the extent to which peri-urban transformation affects indigenes' and migrants' access to land, and identify the livelihood challenges and outcomes of indigenous and migrant men and women.

Findings from the data analysis are as follows:

i. Examination of the trends in peri-urban indigenous and migrant access to land in ASM in the past decade revealed an upsurge in the population and in-migration rates, with respondents attributing the increase to such factors as the availability of economic

opportunities and the proximity of the communities to Accra. Respondents were divided on whether the availability of extra land for other purposes had changed over the period, however, a majority observed access to land for migrants had increased while indigenes' access had not changed and 33% observed indigenes' access to land had declined. The reasons for the decline in indigenous access to land were identified as population growth, increased demand for residential and commercial land, demand for land by migrants, demand for land for other purposes, and selling off indigenous lands for other reasons. Factors influencing the rise in migrant land ownership were identified as the growing demand for land by migrants for residential and commercial purposes, rapid agricultural land conversion, availability of land and economic opportunities, availability of non-agricultural livelihoods, and demand for non-agricultural land uses. The study further found residential land use accounted for the largest share of land use, followed by agriculture. Overall, the findings suggested the expansion of non-farm economic activities and the movement of workers from other rural areas to smaller peri-urban communities are the driving forces of change in both agricultural and non-agricultural livelihoods.

ii. In investigating the factors influencing indigenes' and migrants' access to land amidst peri-urban transformation, the study revealed land ownership patterns and changes in land sizes are influenced by inheritance, outright purchase, informal lease (abunu/abusa), and formal lease. Male migrants are more likely to purchase lands outright or obtain land through formal leases, while female indigenes are more likely to inherit lands due to the matrilineal inheritance system of the Akuapems. Moreover, it is evident that both male and female migrants are ineligible for land inheritance as they

are not first settlers of the land. This is attributable to several factors, including the conversion of land for residential use, agriculture, and other economic activities. Residential land use accounted for the largest share of the various uses to which participants put their land. Additionally, land sales and leases to indigenes and takeovers by statutory or customary authority contribute to land loss.

iii. The findings suggest land access and use in peri-urban areas is influenced by a complex interplay of factors, including marital status, demand, income, ethnicity, migration status and education. Such factors shape land access and use, and potentially result in inequalities and marginalization for indigenous and migrant women. However, the type of land use and productivity received neutral ratings. While certain factors have a stronger influence in certain contexts, it is important to consider all such factors when examining land tenure and livelihood outcomes. Additionally, the study found gender has an effect on land access, therefore, the need exists to work towards gender equality in land ownership and control. The research further revealed food crop farming, livestock rearing, residential properties, commercial facilities, recreational centers, hospitality, industry/manufacturing, and high in-migration into the communities put pressure on the lands in peri-urban centers. Hospitality was identified as exerting the most pressure on land in the community. The study found the cost of land in the past encouraged hordes of people to acquire land in ASM peri-urban centers, thereby increasing the demand for land in the communities. However, the past decade has seen an astronomical increase in the cost of land, due to the high demand for residential, commercial, and recreational purposes.

iv. In examining the extent to which peri-urban transformation affects access to land for indigenous and migrant men and women, the study found that they all face livelihood challenges due to the difficulties in accessing land. The challenges include limited access to credit and other resources, limited opportunities for income generation, and poverty. The study found the challenges are due to the rapid urbanization and transformation. Land scarcity and changes in land shares have resulted in challenges to agricultural livelihoods, leading to the adoption of non-agricultural livelihood strategies such as formal/office jobs, artisanship, dressmaking, services, repairs, and commerce. The adaptation strategies allow inhabitants to access new sources of income, improve quality of life, and cope with changing socio-economic contexts. Additionally, indigenous and migrant populations in the study communities are adapting to the pressures of peri-urban transformation by adopting agriculture-related livelihood strategies, including crop cultivation on small portions of land, livestock rearing, aquaculture, tree cropping, organic farming, and land rotation.

v. The study found education positively influences one's livelihood outcome. Education enables migrants to gain the skills and knowledge needed to access economic resources and opportunities. However, technical training alone is insufficient to gain access to land or resources without considering such other factors as education and access to capital. Physical ability was found to have a limited impact on access to land or resources, whereas ownership of such assets as land, livestock, and capital positively influences one's livelihood outcome. Years of living in the community was found to have little impact on access to land or resources, while age and sex were identified as important factors in access to land or resources. Finally, one's status of origin in a

community (whether migrant or indigene) was found to have little impact on access to land or resources.

5.2. Conclusions

From the analysis of the results, the following conclusions are drawn:

i. Peri-urban transformation in ASM is driven by non-farm economic activities and high in-migration, leading to changes in both agricultural and non-agricultural livelihoods. As a result, an increasing demand exists for land, particularly for hospitality, residential, recreational, and commercial purposes, livestock rearing and industry/manufacturing activities, thereby reducing the availability of land for agriculture The demand negatively affects access to land by low-income peri-urban indigenous and migrant men and women.

ii. Both indigenous and migrant men and women face numerous livelihood challenges due to the difficulty in accessing land. The challenges include limited access to credit and other resources, limited opportunities for income generation, and poverty. However, indigenous and migrant women are more prone to such livelihood challenges due to gender disparities.

iii. Concerning non-agricultural livelihood strategies, the approaches adopted to improve and sustain livelihoods include formal/office jobs, artistry, artisanship, dressmaking, services, repairs, and commerce. The adoption of these strategies reflects the

transformation of the peri-urban landscapes of Ahwerase and Adamorobe. Due to the higher educational levels among males in Adamorobe, male indigenes and male migrants in Adamorobe venture into non-agricultural livelihoods than those in Ahwerase. More female indigenes and female migrants in both communities venture into the service industry. As such, the study concludes education, asset ownership, age, and gender, are important factors in access to land or resources and shape livelihood outcomes.

5.3. Recommendations

Based on the findings, the following measures have been recommended to enhance the strategies aimed at mitigating the negative impacts of peri-urbanization and associated land use changes:

i. The ASM should promote and develop sustainable land-use policies to balance the demand for land use while protecting the rights of indigenous and migrant men and women to access land for livelihood activities. To achieve this, stakeholders should initiate collaborative management approaches to land decision-making processes. Moreover, stakeholders must agree to promote gender equality in access to land and resources by ensuring women and vulnerable groups have equal opportunities to acquire and own assets.

ii. The local government system must prioritize the development of infrastructure and services to support both agricultural and non-agricultural livelihoods, including rural electrification, improved water supply, and market access. As population pressures on

land, peri-urban transformation, and migration become stronger, the commercialization and individualization of land rights emerge alongside land scarcity. Under such conditions, migrants compete with urban indigenes over scarce land resources. The development of alternative livelihood strategies, such as formal employment, artistry, artisanship, dressmaking, services, repairs, and commerce should be encouraged to reduce the dependence on agriculture as the primary source of livelihood. Additionally, investing in skills development, basic education, economic prosperity, and health will curb rural out-migration. Such initiatives have the potential to bridge the disparities between rural and urban populations.

iii. Access to credit and other resources must be accessible to enable low-income peri-urban indigenes and migrants to start and sustain their own businesses. In the absence of credit and other resources, peri-urban farmers and landowners are compelled to sell off lands due to high demand, coupled with the fact that commercial agriculture is capital-intensive. Therefore, stakeholders must ensure farmers and community members are sensitized on the importance of agriculture as a more sustainable land use. Additionally, government should subsidize input costs for farmers motivate the farmers to keep their farmlands.

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APPENDICES

Appendix 1: Interview Guide for Municipal Officer/State Actor-Akuapem South Municipal Assembly

My name is Gifty Boahemaa Appea, a student of the Institute of Statistical, Social and EconomicResearch, University of Ghana. I am conducting a study on the topic 'Peri-Urban Transformationand Land Use Change: The Gendered Experiences of Indigenes and Migrants in the Akuapem South Municipality'. This research is being conducted in partial fulfilment of obtaining a Master of Arts Degree in Development Studies from the University of Ghana. Your support and co- operation will be appreciated and please be assured that your responses will be treated with utmostconfidentiality. Please note that participation in this interview is voluntary, and you may choose to end the interview at any point in time.

Do I have your permission to proceed? 1. Yes 2. No (End Interview)

SECTION I: Background Information of Respondent

1. Can you please introduce yourself? (Name, age, level of education, how long you have been inthis position/office)

2. Briefly describe your roles and responsibilities as a Municipal Planning Officer.

SECTION II: Land Use and Access Policies

1. What are the existing policies guiding the sale and acquisition of land in the Municipality andits peri-urban areas?

2. To what extent have these policies changed and what has accounted for the change?

SECTION III: Peri-Urban Transformation and Its Associated Challenges

3. What are the observed changes in the municipality for the past ten years with regards topopulation?

4. To what extent has the growth of the municipality encroached on peri-urban agricultural landsin the Municipality?

5. What has been the state of land sale in the municipality for the past decade?

6. What are the reasons for which local landowners sell their lands?

7. What are the developing benefits and difficulties related to peri-urban expansion in the Akuapem South Municipality??

SECTION IV: Effects of Land Use Change on Livelihoods of Peri-Urban Households

8. What are the effects of current land uses on livelihood assets in peri-urban communities? Pleaseexplain *[Effects on land and other natural resources (streams, wetlands,etc; community relations; income (farm income, savings, credit, etc.); physical assets (equipment, livestock, poultry, housing,etc.)]*

9. What are the distinctions between current and previous livelihood activities of indigenes and migrants?

SECTION V: Gendered Experiences of Indigenes and Migrants

10. What are the statutory arrangements on access to and use of land for indigenous men and women as well as migrant men and women for the past ten years?

11. Are there any restrictions/conflicts between current statutory arrangements and

customary tenure arrangements for indigenous men and women as well as migrant men and women? Why orwhy not?

12. What, in your view, can be done to ensure sustainable livelihoods for indigenous men and women as well as migrant men and women amidst rapid peri-urban transformation and its associated land use change in the municipality?

Appendix 2: Interview Guide for Non-State Actors/Traditional Leaders; Assemblymen

My name is Gifty Boahemaa Appea, a student of the Institute of Statistical, Social and Economic Research, University of Ghana. I am conducting a study on the topic 'Peri-Urban Transformation and Land Use Change: The Gendered Experiences of Indigenes and Migrantsin the Akuapem South Municipality'. This research is being conducted in partial fulfilment of obtaining a Master of Arts Degree in Development Studies from the University of Ghana. Your support and co-operation will be appreciated and please be assured that your responses will be treated with utmost confidentiality. Please note that participation in this interview is voluntary, and you may choose to end the interview at any point in time.

Do I have your permission to proceed? 1. Yes 2. No (End Interview) Community/Town: ……

SECTION I: Background Information of Respondent

1. Can you please introduce yourself? (name, age, level of education, how long you have been inoffice)

2. Briefly describe your roles and responsibilities.

SECTION II: Land Ownership

3. Describe the customary arrangements of the municipality in the context of land ownership,rights and responsibilities for indigenes and migrants.

4. What is/are the tenure duration for indigenes and migrants to hold their land rights?

SECTION III: Peri-Urban Transformation and Land Use Change

5. Describe the changes you have observed in the municipality with regards to population.

6. What were the uses of land in peri-urban communities in the past ten years?

7. What has been the state of land sale (in terms of pricing, proportion, type of buyers-indigenes,migrants) in the municipality for the past ten years?

8. What are the reasons for which local landowners sell their lands?

SECTION IV: Land Tenure and Acquisition

9. What are the methods used to transfer land ownership (through sale) to indigenes and migrants in the Municipality?

10. How much have the following aspects of traditional land tenure and management practices transformed, and what are the root causes behind these changes?

a. Land ownership

b. Use rights

c. Mode of transferring land

Appendix 3: In-Depth Interview Guide for Indigenous and Migrant Couples

My name is Gifty Boahemaa Appea, a student of the Institute of Statistical, Social and Economic Research, University of Ghana. I am conducting a study on the topic 'Peri-Urban Transformation and Land Use Change: The Gendered Experiences of Indigenes and Migrantsin the Akuapem South Municipality'. This research is being conducted in partial fulfilment of obtaining a Master of Arts Degree in Development Studies from the University of Ghana. Your support and co-operation will be appreciated and please be assured that your responseswill be treated with utmost confidentiality. Please note that participation in this interview is voluntary, and you may choose to end the interview at any point in time.

Do I have your permission to proceed? 1. Yes 2. No (End Interview)Community/Town: ……

SECTION I: Background Information of Respondents

1. Can you please introduce yourself? (name, age, level of education, ethnicity of respondent andspouse, hometown region, region of birth, how long you have been living in the community)

SECTION II: Land Ownership and Tenure for Indigenes and Migrants

2. What are the customary arrangements of the community in the context of land ownership, rightsand responsibilities for indigenes and migrants?

3. What are the land management (sale, access, and usage) entitlements of indigenes and migrants within this community??

4. Which land use type is predominant in the community, and how much has it transformed in the last decade? Please elaborate on the reasons behind these transformations.

5. How long can indigenes and migrants retain their land ownership rights?

6. Describe the values or importance of lands to the indigenes and migrants in the community

7. Have there been any shifts in the attitudes of both natives and non-natives towards the value of land within the community in the last decade?

8. What are the distinctions between current and previous livelihood activities of indigenes andmigrants?

9. What are the effects of current land uses on livelihoods in the community?

SECTION III: Gendered Experiences of Indigenes and Migrants

10. What rights of use to land do indigenous men and women as well as migrant men and womenpossess?

11. Are there any restrictions to these land use rights? Why or why not?

Appendix 4: Semi-Structured Questionnaire for Peri-Urban Households

My name is Gifty Boahemaa Appea, a student of the Institute of Statistical, Social and EconomicResearch, University of Ghana. I am conducting a study on the topic 'Peri-Urban Transformationand Land Use Change: The Gendered Experiences of Indigenes and Migrants in the Akuapem South Municipality'. This research is being conducted in partial fulfilment of obtaining a Master of Arts Degree in Development Studies from the University of Ghana. Your support and co- operation will be appreciated and please be assured that your responses will be treated with utmostconfidentiality. Please note that participation in this interview is voluntary, and you may choose to end the interview at any point in time.

Do I have your permission to proceed? 1. Yes 2. No (End Interview) Community/Town: ……

SECTION I: Background Information of Respondents

1. Name: ……
2. Age: .....years
3. Gender: 1. Male [ ] 2. Female [ ]
4. Marital Status: 1. Single [ ] 2. Married [ ] 3. Co-Habiting [ ] 4. Divorced [ ]
5. Widowed [ ]
6. Ethnicity:

1. Akan [ ] 2. Ewe [ ] 3. Ga-Adangbe [ ] 4. Mole Dagbani [] 5. Guan [ ] 6. Grusi [] 7. Other (specify) ……...

6. Region of Birth? ……

7. How long have you been living in this community?

…….

8. Hometown Region? ……

9. If married/divorced/widowed, what is/was the ethnicity of your spouse?

1. Akan [] 2. Ewe [ ] 3. Ga-Adangbe [ ] 4. Mole Dagbani [ ] 5. Guan [ ]

6.Grusi [ ] 7. Other (specify) ……...

10. What is your highest completed level of education? 1.Basic/JHS [ ] 2. Secondary [ ]

3.Tertiary [ ] 4.Other (specify)

……

SECTION II: Views on Peri-Urban Transformation

11(i). Have you noticed any of the following in your community? (Indicate your choice by ticking in the boxes provided). Please state the cause(s) of these changes **if your choice is "increase" or "decrease"** for each factor

	Increase	**Decrease**	**Unchanged**	**11(ii). Cause(s) of Change**
1. Population				
2. In-migration				
3. Availability of extra land				
4. Access to land forindigenes				
5. Access to land formigrants				
6. Changes in land use				
7.Non-agricultural livelihoods				

SECTION III: Land Ownership/Tenure

12. Are you a landowner?

1. Yes [] (please proceed to questions 13-19) 2. No [] (please proceed to questions 20-23)

13. If **YES** to question 12, how did you acquire the land?

1. Through formal lease [ ] 2. Informal lease (abunu/abusa) [ ] 3. A gift [ ]

4.Outrightpurchase [ ] 5. Through inheritance [ ]

14. How many acres of land do you own?

…….

15. Has the size of the land you own changed over the past ten years?1. Yes [ ] 2. No [ ]

16. What use(s) did you put the land to in the past 10 years? Please indicate as many as applicable.

1. Agriculture [ ] 2. Residential [ ] 3. Agriculture and Residential [ ]

4. Other(Specify) ……

17. Please indicate the proportion(s) of land used for your chosen option(s) in question 16.

Type of Land Use	Quarter	Half	Three-quarters	All
1. Agriculture				
2. Residential				
3. Agriculture and Residential				
4. Other (specify)……				

18. What use(s) have you currently put the land to? Please indicate as many as applicable.

1. Agriculture [ ] 2. Residential [ ] 3. Agriculture and Residential [ ] 4.Other (Specify) …….

19. Please indicate the proportion(s) of land being used for your chosen option(s) in question

Type of Land Use	Quarter	Half	Three-quarters	All
1. Agriculture				
2. Residential				
3. Agriculture and Residential				
4. Other (specify)…….				

20. If **NO** to question 12, did you use to own any piece of land?

1. Yes [ ] 2. No [ ] (proceed to section IV)

21. If **YES** to question 20, how many acres of land did you use to own?

……

22. What use(s) did you put the land to? Please indicate as many as applicable.

1. Agriculture 2. Residential 3. Agriculture and Residential 4. Other (Specify) …….

23. Why did you lose the land you used to have access to? (Indicate as many as applicable)

Reasons for loss of land

1. Sold to indigene (family member) [ ]

2. Sold to indigene (non-family member) [ ]

3. Leased to indigene (family member) [ ]

4. Leased to indigene (non-family member) [ ]

5. Sold to migrant [ ]

6. Leased to migrant [ ]

7. Given to relative [ ]

8. Forcefully taken over by customary/statutory authority [ ]

9. Distributed among family/household members [ ]

10.Other (specify)……

SECTION IV: Effects of Peri-Urbanization and Land Use Change on Indigenes and Migrants

24. Does any of the following exert pressure on lands in your community? (indicate as many asapplicable)

Activities/Factors	**Yes**	**No**
a. Food crop farming		
b. Livestock rearing		
c. Residential properties		
d. Commercial purposes		
e. Recreational purposes		
f. Hospitality purposes		
g. Industry/Manufacturing		
h. In- migration		
i. Cheap cost of lands		

25. Does peri-urban transformation and land use change affect you and your household members?1. Yes [ ] 2. No [ ]

26. If **YES**, in what ways are you being affected? Indicate as many as applicable

1. Farm lands are now scarce [ ]

2. Difficulty in accessing land [ ]

3. Decrease in farm size [ ]

4. Other (specify)……..

SECTION V: Livelihood Challenges and Outcomes

27. As settlements gradually extend into your farm land, what coping mechanism(s) do/did youadopt? Please tick as many as applicable under each activity

I. Agriculture related activities		**II. Non-Agricultural activities**	
1. Crop cultivation on own small portion of land		1. Formal/Office jobs	
2. Crop cultivation on other small portion of land		2. Artistry (beads making, basket weaving, wood carving)	
3. Livestock rearing		3. Artisanship (blacksmith, welding, carpentry,masonry)	
4. Aquaculture		4. Clothing (tailoring, seamstress)	
5. Tree cropping		5. Service (hairdressing, eateries, hotels/guest houses, recreational centers)	
6. Organic farming		6. Repairs (cars, motorcycles, etc.)	
7. Land rotation		7. Commerce	
8.Other(specify):…….. …… ……		8.Other(specify):…… …… ……	

28. Do these factors influence an **indigene's** livelihood outcome? Please indicate your level of agreement or disagreement for each of these factors where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

	Strongly Disagree 1	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
a. An indigene's **level of education** positively influences their livelihoodoutcome					
b.An indigene's **technical training** positively influences their livelihoodoutcome					
c.An indigene's **physical ability** positively influences their livelihoodoutcome					
d. An indigene's **ownership of assets** positively influences their livelihood outcome					
e.An indigene's **years of living in community** positively influences their livelihood outcome					
f. An indigene's **age** positively influences their livelihood outcome					
g. An indigene's **sex** positively influences their livelihood outcome					
h.One's **status as an indigene** positively influences their livelihoodoutcome					

29. Do these factors influence a **migrant's** livelihood outcome? Please indicate your level of

agreement or disagreement for each of these factors where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
a. A migrant's level of education positively influences their livelihood outcome					
b.A migrant's technical training positively influences their livelihood outcome					
c.A migrant's physical ability positively influences their livelihood outcome					
d. A migrant's ownership of assets positively influences their livelihood outcome					
e.A migrant's years of living in community positively influences their livelihood outcome					
f. A migrant's age positively influences their livelihood outcome					
g. A migrant's sex positively influences their livelihood outcome					
h.One's status as a migrant positively influences their livelihoodoutcome					

30. What are the **main** and one other challenge associated with these livelihood activities?

(i). Main challenge:……

……

(ii). Other challenge:……..

……

31. Do you obtain income from any other source apart from the livelihood activities you

currentlyengage in? 1. Yes [ ] 2. No [ ]

32. If yes, please indicate the source of income.

1. Family/children [ ] 2. LEAP [ ] 3. Remittances [ ] 4. Land/house rent [ ] 5. Gift [ ]

6. Pension [ ] 7. Others (specify)……

33(i). The following table assesses the gendered experiences of **indigenes** amidst peri-urban transformation and land use change. Please indicate your agreement or disagreement with the statements on a scale of 1-5, where **1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree.**

	Indicate your agreement or disagreement on a **scale of 1-5(skip pattern for chosen scale of 1, 2 or 3)**	33(ii). If your chosen scale is **4(agree)** or **5 (strongly agree)**, indicate if statement goes more in favor of **males=1** or **females=2 (male-inclined=1** or **female-inclined=2)**
a. The **educational level** of an indigene determines their access to and use of land		
b. The **marital status** of an indigene influences their access to and use of land		
c. The **demand for land** determines an indigene's access toand use of land		
d. The **income category** of an indigene determines their accessto and use of land		
e. The **type of land use** determines an indigene's access toland		
f. **High/low productivity** influences an indigene's access toand use of land		
g. The **gender** of an indigene influences their livelihood outcomes		

34(i). The following table assesses the gendered experiences of **migrants** amidst peri-urban transformation and land use change. Please indicate your agreement or disagreement with the statements on a scale of 1-5, where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree.

	Indicate your agreement or disagreement on a **scale of 1-5(skip pattern for chosen scale of 1, 2 or 3)**	34(ii). If your chosen scale is **4(agree)** or **5 (strongly agree)**, indicate if statement goes more in favor of **males=1** or **females=2 (male-inclined=1** or **female-inclined=2)**
a. The **educational level** of a migrant determines their access to and use of land		
b. The **marital status** of a migrant influences their access to and use of land		
c. The **demand for land** determines a migrant's access to and use of land		
d. The **income category** of a migrant determines their access to and use of land		
e. The **type of land use** determines a migrant's access to land		
f. **High/low productivity** influences a migrant's access to and use of land		
g. The **gender** of a migrant influences their livelihood outcomes due to peri-urban transformation and land use change		