

UNIVERSITY OF ENERGY AND NATURAL RESOURCES SUNYANI



**HOUSING AND RESIDENTIAL PREFERENCES AMONG LARGE-SCALE MINERS,
A CASE STUDY OF STAFF OF NEWMONT GHANA GOLD LIMITED**



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**HOUSING AND RESIDENTIAL PREFERENCES AMONG LARGE-SCALE MINERS,
A CASE STUDY OF STAFF OF NEWMONT GHANA GOLD LIMITED**

BY

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**This thesis is submitted to the Department of Geography and Sustainability Sciences,
University of Energy and Natural Resources, Sunyani, in partial fulfilment of the
requirements for the award of the degree of Master of Philosophy in Environmental
Planning and Development**

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DECLARATION AND CERTIFICATION

I hereby declare that this thesis is the result of my own original research towards the award of Master of Philosophy in Environmental Planning and Development in the Department of Geography and Sustainability Science, University of Energy and Natural Resources, Sunyani. This dissertation was done under supervision in accordance with procedures laid down by the University, and that, to the best of my knowledge, no part of it has been presented for another degree in this University or elsewhere, unless where due acknowledgement has been made in this work.

Stephen Oteng Mensah



25-09-2025

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25th September, 2025

Head of Department

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Date

DEDICATION

To God who gave me strength when the path felt heavy and clarity when the answers were not clear. To my family, whose love, patience and sacrifices carried me through moments seen and unseen. And to everyone who believed in me, encouraged me and stood by me along the way, this work is dedicated to you

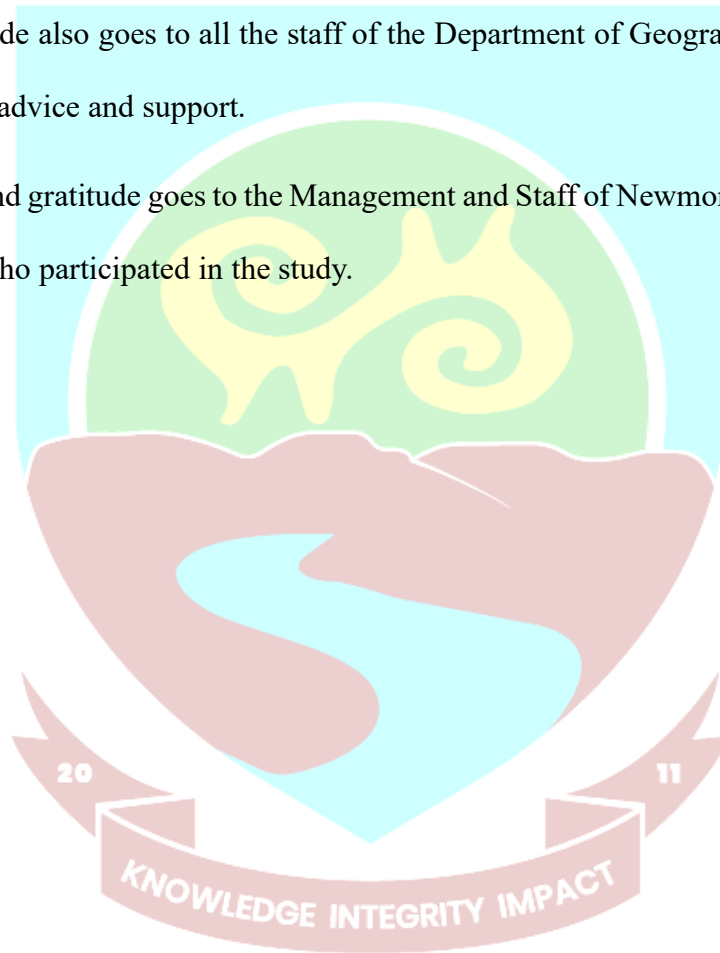


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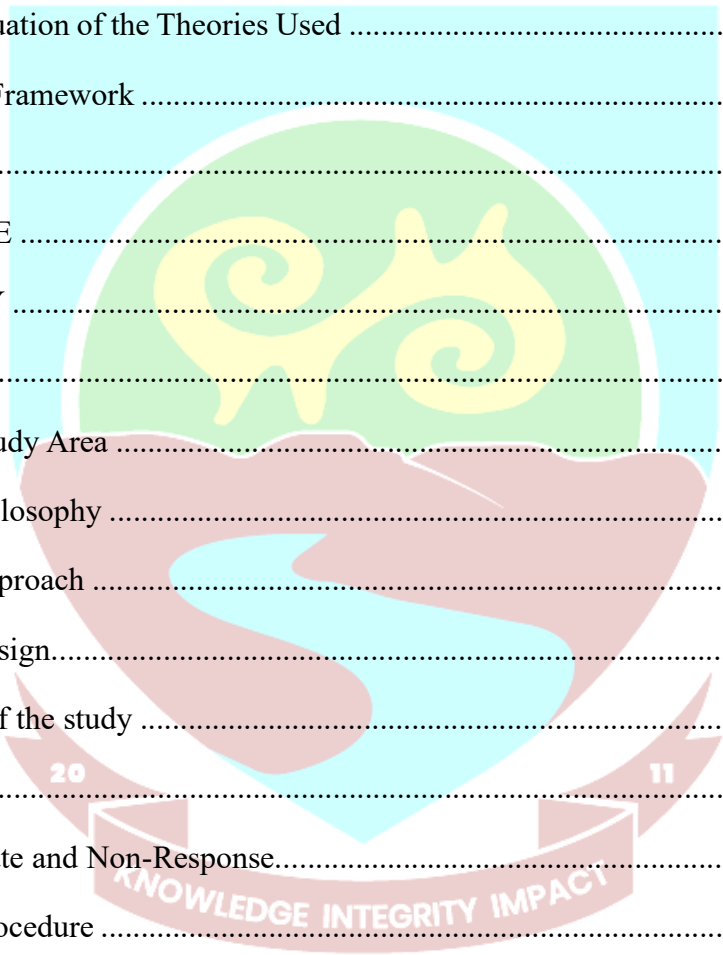
ABSTRACT

This study examined the housing and residential preferences of large-scale miners at Newmont Ghana Gold Limited in the Ahafo Region, with the aim of identifying their preferred housing types, assessing the factors that influence these preferences, and exploring the challenges they face in the rental housing market. The study adopted a mixed-methods descriptive design under the pragmatist paradigm. Data were collected through questionnaires and semi-structured interviews from a sample of 149 respondents. Quantitative data were analysed using descriptive statistics, correlation, and regression analysis in SPSS version 23.0, while qualitative data were subjected to thematic content analysis. The findings revealed a strong preference for modern housing units, with 49.7% favouring semi-detached houses and 28.9% preferring apartments, largely due to privacy, space, and family comfort. Income levels, household size, and proximity to the mine emerged as the most significant determinants of housing choice. The study also identified major rental challenges, with advance rent payments (mean = 3.61; $t = 5.99$, $p < 0.001$) and poor housing maintenance (mean = 3.30; $t = 2.96$, $p = 0.004$) as the most critical issues. The study concludes that miners' housing choices reflect rational decision-making consistent with Price Theory and the Theory of Consumer Behaviour as they seek to maximise satisfaction within the constraints of affordability, household needs, and work-related demands. It is recommended that the government strengthen enforcement of the Rent Act to curb unlawful advance rent demands, mining companies expand employer-provided housing schemes, and landlords adopt flexible payment and maintenance systems to improve tenant satisfaction. The study contributes to the literature on housing in resource-driven economies and offers practical insights for policy makers, mining firms, and housing developers seeking to improve housing accessibility and quality in Ghana's mining regions.

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LIST OF ABBREVIATIONS

GOG	Government of Ghana
MWRWH	Ministry of Water Resources, Works and Housing
GREDA	Ghana Real Estate Developers Association
HUD	Department of Housing and Urban Development
USA	United States of America
LI	Legislative Instrument
MMDAs	Metropolitan, Municipal and District Assemblies
NCCE	National Council for Civic Education
NGGL	Newmont Ghana Gold Limited
SD	Standard Deviation
TRA	Theory of Reasoned Action
UN	United Nations

WHO

World Health Organisation

GSS

Ghana Statistical Service

SPSS

Statistical Package for Social Sciences



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Housing refers to the actual buildings and related infrastructure that offer shelter, while residential preferences include the decisions people make about the location, kind, and characteristics of their homes based on social, economic, and personal reasons. Rental housing, which refers to properties rented from owners for recurring payments rather than outright ownership, is the main subject of this study. Employees in industrial mining operations, like those at Newmont Ghana Gold Limited, are referred to as large-scale miners. Because of their remote work locations and significant mobility, they frequently encounter particular housing issues.

Housing is one of the most essential elements in human lives; its multi-dimensional linkages with the socio-economic, cultural, political and environmental components of towns and cities affords it a unique character (UN-Habitat, 2010; Boamah, 2013). Over the years, the relationship between housing and the intents of governments to improve the quality of life of people has been given due recognition. Notwithstanding, the problems related to housing are overwhelming and appear in all manner of complex descriptions. This problem is further heightened in urban settings due to rapid urbanisation (Obeng-Odoom, 2018). Thus, housing the urban poor has become a daunting task.

Globally, the world is witnessing a very rapid and dynamic urbanisation process, characterised by increasing rural-urban migration, expansion of metropolitan areas, and rising housing demand in cities, especially in developing countries. Housing is a basic need that is necessary for human survival (Maslow, 1943). A study by Amole (2009) suggests that people with access to basic necessities like housing tend to be more productive at their workplaces. According to a study by

Barefield (2018), owning a house helps improve the self-esteem of an individual. Kumar (2012) also indicated that employees often perform more efficiently provided their housing needs have been satisfied. In Ghana, houses play a pivotal role in our society. Home ownership is often associated with success. In some traditional settings in Ghana, houses are passed on from one generation to another.

One critical element that cannot be overlooked is the issue of housing preference for urban residents. According to Yirenkyi (2014), several factors play a role in the selection and preference of homes by people. Some of these factors include family sizes, location and income levels (Yirenkyi, 2014). Mine workers attach more attention and seriousness to their residences after the work they have been employed to do. The residence of mine workers must meet the needs of mine workers and their families and respond to the demands of their social lives. The lives of mine workers in the residential environment, both inside and outside the city, have been of interest to researchers for decades (Li et al, 2019). Research has shown that the living environment and the changes that take place in it affect the emotional state of people (Amole, 2009). When people migrate due to occupation, most of them have to keep their expenses to a minimum at the initial stages to enable them to get their preferred choice of housing (Khozaei et al, 2011).

However, the issue of costs and economic savings has led to a minimalist view of the design of housing preference for many mine workers, which is why most estates, quarters and bungalows as residence do not meet the housing preference of mine workers. In recent times, housing units are less likely to meet the needs of individuals due to rental costs (Alleman, 2017). When resources are limited and a minimalist approach is applied, customer preferences from among the available options help the designer prioritise design choices.

Given the limitations of financial resources for the design and construction of housing units, designers and planners are often compelled to adopt cost-effective options. These may include reducing spatial footprints, simplifying interior layouts, modifying architectural forms, or using locally available building materials.

In the meantime, if architects and housing developers are made aware of mine workers' residential preferences such as proximity to work, number of rooms, or privacy needs—there is likely to be improved alignment between the design of housing units and the actual expectations of residents. Such awareness fosters coordination between design professionals and the target users, ensuring that housing solutions are both functionally appropriate and socially responsive.

In the mining sector, living conditions can vary depending on the approach a mining company adopts to provide housing for its workers (Gough et al., 2018). Some mining settlements consist of purposely built housing constructed by the mining companies for their employees, while others rely on personal factors that significantly affect housing preferences such as educational level, health status and income level. In the case of Sunyani, Ghana, the current housing and residential conditions for large-scale miners remain unclear. In order to have a deeper understanding and ascertain the actual needs and expectations of large-scale miners, it is critical to examine and pay attention to their housing choices.

1.2 Statement of the Problem

Maslow's hierarchy of needs places housing under the provision of the basic needs that are necessary for human survival (Maslow, 1943). Kumar (2014) indicates that employees often perform more efficiently provided their housing needs are satisfied. It is therefore, imperative to note that “success” in realising one's actual housing preferences depends on many factors. For

example, according to Yirenkyi (2014), several factors such as family size, location, educational level, income levels, marital status, sex and age play a critical role in the selection of housing types by households. Again, factors such as family structure, life-course events, and family and social ties have been found to significantly affect one's housing choices (Flage, 2018). They further posit that people prefer to live near places with positive features (e.g., parks, scenery) and more distant from places with negative features (e.g., noise, pollution). This implies that socio-economic background and other factors play a role in selecting a housing.

The mining industry in Ghana has been associated with several negative impacts on housing and residential preferences, such as displacement, forced relocations, and a lack of affordable housing, (Yirenkyi, 2014). The presence of mining companies in Ghana has led to a significant increase in the demand for housing, resulting in scarcity of affordable housing and an increase in housing rent (Rent Control Report, 2018). Mining companies in Ghana often have housing policies that are not aligned with the preferences and needs of staff (Mining Workers Associations, 2019). Access to housing in Ghana today represents one of the most difficult aspects of the transition to adult life (Yirenkyi, 2014). The high cost of accessing housing contributes not only to lowering the living standards of households, but also to delaying life projects and dampening expectations for the future (Zhou, 2018; Baker et al., 2016; Yirenkyi, 2014). Less affluent residents and households in Ghana experience insufficient housing conditions (Boamah, 2010). Despite the influence of socioeconomic characteristics of households on housing choices in other jurisdictions such as Europe (Baker et al., 2016, WHO, 2009), America (Kotulla et al., 2019) and Asia (Holmes et al., 2017), research that explores this problem on a wider scope is largely limited in Ghana. Even though some studies have been conducted on housing preference, urban housing studies have placed overwhelming emphasis on socioeconomic factors such as occupation, income, and education as causative agents in housing preferences (Fenelon et al., 2018). Social stratification

must be considered when looking at housing circumstances (Holmes et al.,2019). There has been a strong convergence between socioeconomic inequalities and housing inequalities. In a similar assertion, Zhou (2018) and Adjei & Kyei (2013) posit that households with inadequate incomes are more likely to live in substandard housing units. However, other factors such as level of education and the employment status of heads of households also play a significant role in determining household preference (Zhou, 2018). Baqutaya et al. (2016) and Elli et al. (2015) further state that education, income and marital status influence the decision of a household to choose a housing type. Their study further showed that, several factors influence housing and residential preferences of individuals. There are also limited studies on housing and residential preferences in Ghana, mostly among large-scale miners. In this light, this study was conducted to investigate the housing and residential preferences of large-scale miners at Newmont Ghana Gold Limited, Ghana. Large-scale miners in Ghana should ideally have access to high-quality, reasonably priced rental housing that meets both their family's needs and the demands of their line of work (such as being close to mine sites), with the Rent Act (1963) being effectively enforced to restrict advance rent and guarantee upkeep. The real situation, however, shows enduring gaps: miners must contend with expensive advance rents, poor maintenance, and varying corporate policies, which result in poor living conditions and decreased productivity.

1.3 Objectives

The overall objective of this study is to investigate the housing and residential preferences of largescale miners.

1.3.1 Specific Objectives

Specifically, the study seeks to:

1. Identify the types of housing units preferred by large-scale miners at Newmont Ghana Gold

Limited.

2. Assess the factors that influence the housing preferences of large-scale miners in Newmont Ghana Gold Limited.
3. Assess the housing rental challenges faced by large-scale miners in Newmont Ghana Gold Limited.

1.4 Research Question

Based on the objectives of this study, answers were provided for the following question:

1. What types of housing units are preferred by large-scale miners at Newmont Ghana Gold Limited?
2. What are the factors that influence the housing preferences of large-scale miners at Newmont Ghana Gold Limited?
3. What are the housing rental challenges faced by large-scale miners at Newmont Ghana Gold Limited?

1.5 Research Hypotheses

1. H_0 : the housing and residential preferences of miners are not significantly influenced by socioeconomic characteristics (income level, household size, financial importance). H_1 : the housing and residential preferences of miners are significantly influenced by socioeconomic characteristics (income level, household size, financial importance).
2. H_0 : the housing and residential preferences of miners are not significantly influenced by environmental and work-related factors (such as air/water quality, work schedules, and proximity to the mine).

H_1 : the housing and residential preferences of miners are significantly influenced by environmental and work-related factors (such as air/water quality, work schedules, and proximity to the mine).

3. H_0 : challenges with rental housing, such as high rent, poor maintenance, high rent, inadequate services, poor conditions, and a lack of legal agreements, are not significantly different from the neutral stance.

H_1 : challenges with rental housing, such as high rent, poor maintenance, high rent, inadequate services, poor conditions, and a lack of legal agreements, are significantly different from the neutral stance.

1.6 Significance of the Study

This research will serve as a relevant guide to inform the design of appropriate housing interventions for large-scale miners. It is expected to contribute to the development of housing preference models that better reflect the lived realities and expectations of mining sector workers. This will assist decision-makers, including policymakers, housing authorities, and private developers, to formulate responsive and sustainable housing strategies that integrate the preferences of various socio-economic groups, especially workers in extractive industries, into the broader urban housing framework.

In contributing to the ongoing debate on housing policy direction in developing countries, the study also seeks to highlight and resolve the disconnect between what large-scale miners prefer and what housing providers currently offer. The findings will enhance the understanding of housing challenges in Ghana's mining zones and contribute to improved delivery models. Academically, the study adds to the body of literature on rental housing preferences and

challenges, with practical implications for tenant-focused housing policy in Ghana and other developing economies.

1.7 Organisation of the Study

The study is organised into five chapters. Chapter One provides a general introduction which includes the background of the study, statement of the problem, research objectives, research questions, and significance of the study. Chapter Two presents a review of relevant literature on housing and residential preferences. It covers theoretical and conceptual frameworks, housing as a basic human need, determinants of housing preference, the relationship between housing and job satisfaction, rental housing quality, and housing issues in mining communities, with a focus on the Ghanaian context. Chapter Three outlines the research methodology. It discusses the research design, approach, study population, sampling procedures, data collection instruments and processes, reliability and validity issues, data analysis techniques, and ethical considerations. Chapter Four presents the results and discusses the findings in relation to the research questions and existing literature. Chapter Five provides a summary of the key findings, draws conclusions, and offers recommendations for policy, practice, and further research.

1.8 Scope of the Study

The Ahafo Region of Ghana is the geographical scope of this study, which focuses on employees at Newmont Ghana Gold Limited's Ahafo Ano South Plant Site, which includes mining communities in Sunyani Municipality and Asutifi North/South Districts. Theoretically, it is based on the theories of consumer behaviour, price theory, and planned behaviour to explain housing options and limitations. In terms of methodology, it uses a contemporaneous mixed-methods approach that combines quantitative surveys with qualitative interviews and observations, focusing only on the issues and preferences of 149 miners (senior and junior personnel) regarding

rental accommodation. The survey focuses exclusively on Ghanaian employees of Newmont Ghana Gold Limited; foreigners and non-miners are not included. Home ownership and nonmining workers are also not included in the study.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature relevant to housing and residential preferences, with emphasis on the housing situation in Ghana and its implications for mine workers. It highlights key issues such as housing affordability, quality, access, rental systems, and the growing mismatch between housing supply and the needs of various socio-economic groups. Attention is given to how factors such as income level, family size, location, tenure arrangements, and workplace proximity influence housing choices. The review also draws on relevant theories, including Maslow's Hierarchy of Needs and Price Theory, to explain the role of shelter in human well-being and the economic dynamics of housing demand. This literature provides the foundation for understanding the context and determinants of housing preferences among large-scale miners and guides the framework and focus of the study.

2.2 The Concept of Housing

Housing has been explained and defined in different ways by different researchers and institutions. For the purpose of this study the term housing is defined based on the government of Ghana's definition of housing which include the physical shelter and related services and infrastructure as well as the inputs such as land and finance required to produce and maintain it (GoG/MWRWH, 2009). All over the world, people live in different types of houses that meet their needs. The type of housing people live in is an indication of their level of poverty or wealth (Amenyah & Fletcher, 2021) which includes compound houses, huts, detached, semi-detached, flats or apartments. Fiadzo (2019) noted that the dominant type of housing in Ghana is the compound house (single storey traditional compound houses, multi-storey compound houses). This type of housing

represented about 72% of all housing types in the country between 1991 and 1992 (Ghana Statistical Service, 1995). However, the 2020 population and housing census report on housing types indicates that most households reside in rooms in compound houses (51.5%) followed by separate houses (28.7%). This represents a reduction in the percentage of compound houses. Though it remains the most occupied housing type in the city, compound house is one of the most adaptable housing designs the low-income households enjoy. Fiadzo (2019) defines a compound house as a traditional house design that consists of a large rectangular structure with generally seven or more rooms arranged around three sides of a courtyard.

Bryne and Diamond (2017) observed that housing still remains a topical issue although much has been said and written about it. This is because it has four basic functions, which include the following: firstly, housing is a fundamental human need that protects humans from the harsh weather conditions of the earth. Secondly, affordable housing serves as the basis for other necessities of life such as education and good health. Access to affordable housing gives humans the ability to acquire or have access to other necessities of life. As stated in the constitution of Ghana (Article 18 of the 1992 Constitution), the right to adequate housing is linked to the citizen enjoying other human rights including security, education and health.

Thirdly, inadequate housing mainly results in negative externalities such as crime, diseases and poverty. Individuals who do not have access to adequate housing are, therefore, deprived of other necessities of life resulting in them engaging in unapproved acts in order to satisfy their housing needs. As argued by Chao (2016) the state of housing in a country has a direct impact on the level of public health, crime rate and many other social problems of importance. Finally, housing market cannot provide houses that will be enough for the society. Some schools of thought argue that

improved housing markets will provide a number of positive externalities, as well as direct consumption benefits (Bank of Ghana, 2017).

Housing forms a major part of the development processes of a nation. Some authors and institutions explain development of a nation to include the provision of affordable housing to its citizens. For instance, Yalley and Ofori-Darko (2018) opined that, housing has an important effect on the socio-economic development of a nation. Since 1945, housing experts have articulated three views about the role of housing for economic development (Harris & Arku, 2016). Again, it is said that the key to ameliorating poverty is providing houses which are affordable (Menson, 2014). Adequate housing is one of the effective means to alleviate poverty because shelter is usually the most expensive item for households (UN-Habitat, 2010). Nevertheless, urbanisation and sporadic development in many countries has resulted in current housing deficit and also deprived residents of decent and affordable housing.

Generally, to understand the housing market in developing countries, it is important to note that prices are determined by the supply and demand and the behaviour of sellers, buyers, producers, consumers and government policies. According to a report by the Africa rental Housing conference, it is known that housing supply is affected by availability of land, infrastructure, building materials, organisation, building industry, skilled and productive labour. On the other hand, demand is affected by demographic conditions, rate of urbanisation, rate of new household formation, property rights regime, housing finance, fiscal policies, subsidies and the prevailing macroeconomic conditions.

2.2.1 Housing Situation in Ghana

The housing situation in Ghana has deteriorated in recent years, especially in rapidly urbanising areas. According to UN-Habitat (2022), Ghana faces a growing housing deficit, with a significant portion of the population living in overcrowded and substandard conditions. The challenge is particularly severe in urban centres such as the Greater Accra and Ashanti Regions, where population growth and rural-urban migration continue to outpace housing supply (UN-Habitat, 2022; Ghana Statistical Service [GSS], 2021).

Like many developing countries, Ghana is experiencing an acute housing shortage. Although the national population continues to rise annually, the growth in housing stock remains insufficient to meet the increasing demand (Bank of Ghana, 2017). Factors influencing housing access include income level, household size, age, and geographic location (Ministry of Works and Housing [MoWH], 2021; GSS, 2021). The country struggles with providing affordable and adequate housing to a broad spectrum of its population, particularly low- and middle-income groups.

A report by the Ministry of Works and Housing (2021) reveals that in most regions, the number of households exceeds the number of available housing units. This discrepancy has led to overcrowding and informal housing arrangements in several communities. Despite the high concentration of housing units in the Ashanti and Greater Accra Regions, demand continues to outstrip supply, especially for affordable housing. UN-Habitat (2022) estimates that nearly 60 percent of urban households in Ghana reside in single-room dwellings, a key indicator of overcrowding and inadequate housing.

Further compounding the issue is the rising cost of housing construction and rental. Osei-Tutu and Adjei-Kumi (2019) observe that housing in urban Ghana is becoming increasingly unaffordable,

both for public and private developments. Similarly, the Bank of Ghana (2017) identifies housing as the single most expensive item in the average household's expenditure, surpassing food and transportation in many cases.

Over the years, urban house prices continue to be unaffordable to a significant number of urban low-income households (Addo, 2015). High housing costs can have serious implications on a family's budget especially where there is little income left to meet other family responsibilities like paying for utilities, education, health care, transportation, retirement and family emergencies. Although governments have developed housing programs with the view of addressing urban lowincome housing in Ghana, the end products have been taken over by the middle to high-income groups (Addo, 2015).

2.2.2 The Concept of Rental Housing

Rental housing is often regarded as a transitional stage toward home ownership or as a temporary form of accommodation. However, it is commonly associated with complex management challenges and regulatory issues (Peppercorn & Taffin, 2019). In Ghana, rental housing was introduced to provide citizens with access to decent shelter in the absence of home ownership. Peppercorn and Taffin (2019) define rental housing as property owned by someone other than the resident, where the occupant pays a periodic rent to the owner.

Based on this definition, rental housing can take several forms, one of which is social rental housing. Social rental housing refers to accommodation provided by public authorities, non-profit institutions, or housing associations at below-market rents to meet the housing needs of lowincome or disadvantaged groups (Scanlon, Whitehead, & Arrigoitia, 2014). It is typically funded through government subsidies or tax incentives and is often regulated to ensure long-term affordability,

tenant protection, and quality standards (UN-Habitat, 2020). Social rental housing plays a crucial role in reducing housing inequality and homelessness in many European and Latin American countries, where it is seen as a stabilising mechanism within broader welfare systems. For instance, countries like the Netherlands, Austria, and France have maintained strong social rental sectors, representing over 20–30% of total housing stock (Whitehead & Scanlon, 2007).

In contrast, Ghana's rental market is overwhelmingly dominated by private rental housing, largely provided by individual landlords, often informally and without regulatory oversight. This private market is concentrated in low-income communities, where tenancy conditions may lack legal protections, and housing quality is often inadequate (Peppercorn & Taffin, 2019). While some formal private rental exists in urban centres, there is a notable absence of structured, state-supported social rental housing in Ghana's urban policy landscape.

Globally, rental housing represents a significant portion of the housing stock, even in developed economies. Ballesteros (2014) reports that nearly half of the urban population in developing countries live in rental housing. Countries like Colombia, South Africa, and Indonesia are actively developing rental housing markets to expand urban housing options. In Africa, only one in four households own their homes; the rest either rent or live rent-free with extended family (UNHabitat, 2022). This highlights the challenges many households especially in rural and low-income settings face in achieving homeownership, thus making rental housing a critical component of urban housing systems.

The Africa Rental Housing Conference (2022) notes that, in developed economies, rental housing is shaped by factors such as culture, housing policy, historical patterns, and credit accessibility—

not necessarily wealth. However, in many developing countries, rental housing is more directly linked to economic constraints, with ownership largely accessible to a small urban elite.

Historically, governments in developing countries once focused on rental housing provision. However, over time, policy attention shifted toward promoting homeownership. This shift mirrored the model popularised in Western countries, particularly the so-called “American Dream” of universal homeownership. Governments believed that homeownership appealed more to voting populations and therefore prioritised it over public rental programs, often neglecting rental housing in policy and planning agendas.

Despite the reduced emphasis on rental housing by many governments, progress has been made in the past two decades. In many developing countries, the public sector has moved from directly constructing rental housing to leveraging the capacity of the informal sector. However, a wide gap remains between housing policy formulation and its actual implementation, especially regarding rental accommodation (Dzangmah, 2018).

Rental housing remains a valuable tenure option for both high- and low-income households. While some critics downplay its importance in housing policy discussions, rental housing continues to offer spatial flexibility, income generation for landlords, and mobility for tenants, especially vulnerable populations such as transitional workers, migrants, and low-income families. According to Belsky and Drew (2017), renters tend to be younger, more mobile, or economically constrained, which makes rental housing a more viable option than ownership for these groups. In the Ghanaian context, rental housing plays a central role in addressing the shelter needs of the majority. It offers affordability, accessibility, and flexibility, especially for urban dwellers and those employed in sectors such as mining where work-related mobility is high.

2.2.3 Factors that Influence the Housing Preferences in Ghana

The affordability of rents is a major issue in most discussions about the widening use of the private housing rental among lower-income households. In the case of the private housing rental, landlords tend to have a greater say in the determination of rental prices although demand and supply play a role. In many ways, Economic factors such as rising costs of key building materials, high rates of inflation, depreciating value of the local currency (Cedi) and speculative housing activities have contributed to produce the soaring rental housing prices (Luginaah, Arku, & Baiden, 2010). Egert and Mihaljek (2017) established that a robust negative relationship exists between real interest rate and housing prices.

Additionally, different authors found out that there is a positive relationship between the income of individuals and prices of houses (Mihaljek, 2017; Marco, 2018). Rents in poor settlements appear to rise and fall with wages. When real incomes fall, rents tend to fall with them (Ballesteros, 2014). In areas where majority of the population belong to the middle-income or the high-income groups, renters turn to pay more for their rental housing units as compared with a community with low-income population.

The location of an apartment can have a significant impact on the level of rent that a household is likely to pay (Amenyah & Fletcher, 2021). Marco (2018) cited an instance where rent is charged based on the location of the rental unit. For instance, in New York City, rent is charged based on location with Manhattan commanding the largest rent. According to Selim (2018) in Turkey rents in urban areas are higher than rents in rural areas by some 26.3 percent. Although prices in urban areas are higher, there are also differences in rental housing prices within a particular urban centre. This may be as a result of the state of the housing facilities or conditions of the house as well as the location of the unit in the area. For instance, the price of a rental unit that is closer to the central

business district may be higher than the one which is located at the outskirts of the town. Jaffe and Bussa (2017) present a model that can be used to predict market rents and argues that their model is pragmatic in its ability to estimate rent directly as a function of distance from an economic focal point based upon the adjusted rent per square foot relationship (Sirmans, Turnbull & Benjamin, 2019).

Population is one major non-economic factor that influences rental housing prices. Amenyah and Fletcher (2021) state that there is a positive relationship between population growth and housing prices. As population increases, it often leads to excess demand for accommodation in the short run, which puts upward pressure on rents. When the supply of rental housing fails to meet this rising demand, landlords are incentivised to increase prices to maximise profit. In addition to demand-driven factors, the physical and locational characteristics of a housing unit also influence its rental price. These characteristics include both the structural features of the unit and the amenities it offers. For instance, Selim (2018) notes that apartments aged between 5 to 10 years tend to command lower rents compared to newer units that are less than 5 years old, due to depreciation and wear. Empirical studies by Zietz, and Sirmans (2008), Selim and Marco (2018), and Amenyah and Fletcher (2021) have shown that several housing attributes significantly affect rental values. These include the size of the apartment (square footage), number of bedrooms, number of bathrooms, overall room count, type of house (e.g., detached, semi-detached, apartment), building quality, and available infrastructure or amenities such as water supply systems, air conditioning, natural gas connections, swimming pools, and parking space. Units with more desirable features typically attract higher rents due to increased utility, comfort, and market appeal.

Additionally, Dassah (2017) states in her report that “the use of space within and around housing is influenced in several ways by cultural forces”. Therefore, in a culture that deals mainly with the extended family system, the householder is more likely to prefer a bigger 5-bedroom house when his family is only made up of his wife and one child; since his focus is on the other relations that will be living with them. Butressing this point, Lee & Parrott (2014) established that the design and use of houses reflect cultural values and ideas of different individuals and therefore, people may have different satisfaction with certain dwelling-types according to their cultural backgrounds. Just as the housing preference of householders could be based on their style of living, they could choose a house based on the amount of money that they make at work.

According to Beamish, Goss, & Emmel (2018); when houses are chosen based on lifestyle and demographic factors, it means that they are chosen based on the whole way of living of the individual. In effect, it does not represent the person’s choice of furniture or choice of paint but rather the person’s particular style of living. According to the same authors, the lifestyle of individuals could be influenced by factors like household type, social class and housing values. The social class factor is also said to include factors like education, income and occupation of the householder. Lastly, the housing values are made up of the values that tie in to that of the household. Examples of economic, family, personal and social values were given by Beamish, Goss, & Emmel (2018).

2.2.4 Housing Rental Challenges Miners Face in Ghana

Globally, the provision of adequate housing has become a huge challenge for national authorities in most developing countries. More people are becoming homeless, slums and squatter settlements are increasing as the provision of housing is left to the private sector (Addo, 2015). For instance, the corporate sector including Ghana Real Estate Developers Association (GREDA) supplies a

number of the national housing stock in Ghana (Addo, 2015). Similarly, other individuals and privately owned companies contribute substantially to the supply of houses in Ghana. The increase in the supply of land in the nation is said to be one of the major challenges that governments had to tackle in order to help the country increase its supply of housing to cater for the housing needs of the country. Similarly, lack of secure and transparent access to land title forms one of the major challenges facing the supply of housing in Ghana (Bank of Ghana, 2017). Asare and Whitehead (2016) noted that because of discrepancies and inefficiencies in land administration in Ghana, there is insecurity in land title and land tenure that disturbs the land market.

Another contributing factor is the rapid increase in the cost of materials used for building houses over the years. Prices of material such as cement, roofing sheets, woods and others used in building keep increasing with time. On the other hand, traditional earth-based material and technologies that are relatively cheaper are scarcely used in the urban areas now, partly for reasons of social acceptability (UN-Habitat, 2022). There is also the challenge of home financing which has been a major problem affecting the supply of housing. In developing countries, owners of private housing companies depend on their savings or loans from families to start and complete building projects. The UN explains this further by stating that the main financing mechanism for house-building in most developing countries is to save up from earnings and windfall gains and to buy building materials in advance (UN Habitat, 2022). Financial challenges do not pertain to just individuals but also the government, especially in Ghana.

The rental housing sector has some benefits associated with it. However, there are complex challenges associated with the rental housing sector as well (Arku, Luginaah, & Mkandawire, 2018). For instance, rent affordability, inadequate facilities and services, security of tenure and poor housing quality. These challenges faced by tenants mostly occur as a result of ignoring

important aspects of the rental sector having specific impact on the wellbeing and the health of the renters that tend to occupy them. Rent affordability and system of payment, there are differences in rent setting among landlords based on their target market (Ballesteros, 2014). Ballesteros (2014) also states that often times tenants even in the low-income sector would consider the rent levels high. Rent affordability is ultimately an elusive concept that demands subjective judgments about how much income is too much to spend on housing (Belsky & Drew, 2017).

According to the Department of Housing and Urban Development (DHUD) of United States of America (USA), housing is considered affordable when a household pays not more than 30 percent of their net-income on rent. In the same sense, Belsky and Drew (2017) explain that by convention, housing expenses that consume more than 30 percent but less than 50 percent of household income are considered moderate cost burdens and housing expenses that consume more than half of the household's income are considered to have severe cost burdens. They go on to say that very low-income households (households with incomes of half or less of median income) with severe cost burdens or living in substandard housing or crowded conditions are counted as having "worst case housing needs".

The rental affordability problems of the affected population are hardly a new phenomenon. Also, the author states that the traditional measure of rental affordability does an adequate job of measuring the magnitude of rental affordability problems and tracking changes in them over time and among sub-groups. Evidently, it shows that households spending more on housing leave them with less to spend not only on daily necessities but also on savings for the future. Likewise, the amount left to be spent on healthcare is affected. According to Belsky and Drew (2017), unaffordable housing or rent has adverse consequences for the households that suffer from them. Relatedly, relatively expensive housing may force some low-income tenants to use more of their

resources to obtain shelter, leaving less income for the affected households to cater for other necessities such as food (Krieger & Higgins, 2016). The effects of unaffordable housing clearly generate negative externalities that have public costs. Related to rental affordability and availability problems is the nature of the rental payment system, which tends to put tremendous pressure on many residents (Luginaah et al., 2021).

In Ghana, there is the system of payment where tenants are expected to pay in advance the rent of the house for a given period of time. This system of payment is known as the advance rent. The practice of advance rent is inconsistent with the respective rent acts of most countries (Arku, et al., 2018). Homeowners or landlords in Ghana for instance, typically require private renters to pay a huge sum of two to five years advance for the rental unit and failure for the tenants to pay this advance rent will result in the eviction of the affected tenants. Usually, advance rent payment creates difficulties for tenants as the amounts they are required to pay sometimes from two to three years of the affected individual's salary. In some instances, some tenants borrow money to pay off their rent. In other instances, homeowners ask existing tenants to pay more in addition to the already agreed amount in order to make up for much better offers coming from others in search of accommodation. When existing tenants fail to pay the additional rent, they may stand the risk of being evicted from their houses which might leave the households homeless. Due to the absence of legal agreement between tenant and landlords, especially in the private informal rental housing sector, the problem of eviction is a serious issue for tenants.

Usually, there is no agreement between the landlord and the tenant to show when tenure ends and, in some cases, terms of renewal of tenancy is absent. Tenancy agreements are generally oral, landlords/ladies rarely record their tenancy agreements formally and most do not give receipts

(Arku, et al., 2018). As a result, landlords are left alone to evict tenants within their own power. In most cases, landlords do not provide tenants eviction time notice to allow the affected tenants to find a new house within the stipulated eviction time period and this can affect the tenants psychologically. Additionally, the constant anxiety about them being evicted contributes to more stress and ill-health (Luginaah, et al., 2021).

Ballesteros (2014) noted that the quality of rental housing is a key concern. This means that the quality of rental housing is largely a function of rent levels. It is expected that tenants in high and middle-income rental housing units enjoy good or high-quality building because they pay higher rent while tenants with low incomes have poor quality buildings due to their relatively cheaper rents. Housing quality is influenced by several factors, which include materials of the outer walls, materials of the roofs, type of water services, type of sewage services, tenure and food markets, public transportation, primary schools, secondary schools and the availability of health clinic/hospitals.

The UN-Habitat (2022) further added that inadequate maintenance makes the quality of rental housing even more inferior to owner-occupied housing. Timely maintenance depends a lot on where the landlord lives and how good the landlord-tenant relationship is. Landlords who live in the same house with the tenants turn to do maintenance on time. Tenants are sometimes made to do maintenance work on their own or to pay additional money for maintenance work to be done in their houses and rooms. There is also the issue of overcrowding in most rental housing units, especially in the low-income communities. The UN-Habitat (2022) identifies that overcrowding is often a problem, especially in situations where tenants have different needs. For example, women with low-income status and young children tend to live in crowded rental units with other

people. In an effort to reduce costs, some households live in substandard housing and share with others in residences too small to effectively meet their needs (Belsky & Drew, 2017).

Among low-income households, private renters are no more likely to be overcrowded than are social housing tenants (Kemp, 2018). It is common to find that low-income rental units (whether single rooms, apartments or houses) have many persons squeezed into small spaces. Belsky and Drew (2017) argue that the consequences of inadequate and crowded housing are far-reaching and often disturbing and are associated with chronic health problems, more hospital visits and higher medical expenses, lower productivity, lower social participation and worse outcomes for children in affected households. Poor health from exposure to housing problems may impact employment opportunities and outcomes for residents. This makes it difficult for affected persons or renters to earn the money necessary to improve their home or move to a better one (Smith, 2019).

Availability of facilities and services, most rental houses are associated with poor housing facilities. Another attribute of rental housing which can have a considerable effect on its value is its proximity to places of employment, transport, schools, healthcare, markets, places of worship and other neighbourhood-level social infrastructure (UN-Habitat, 2022). In houses with poor housing facilities and where tenants do not have easy access to transport, schools, healthcare and other social infrastructure, tenants are faced with the challenge of travelling over a long distance to enjoy such facilities.

This means that, such residents will have to endure the cost of such movement which may come in the form of money, distance to be covered or both. Also, tenants are inconvenienced when facilities such as toilets, bathrooms, pipes and kitchens are not available or are not located in the house. Most rental housing lack basic housing infrastructure or facilities. This makes it difficult for tenants to live conveniently. The availability of facilities has implications on health and the

environment (Amenyah and Fletcher, 2021). According to Amenyah and Fletcher (2021), concerns about sanitation arise and there is a challenge of refuse management in growing cities. Also, access to utilities such as electricity, water and sanitation is important.

Many rental housings particularly in developing countries including Ghana are characterised by poor sanitation, poor drainage and poor waste management practices. These challenges tend to have negative effects on the health of affected tenants. Usually, in the outbreak of disease such as cholera, diarrhoea, and malaria that is associated with poor housing sanitation. The affected tenants spend additional money to treat them, which invariably lower their household income. Poor maintenance, building maintenance is the combination of technical and administrative actions to ensure that the items and elements required for the building of a facility (house) are of an acceptable standard to perform their required functions (Ali, Kamaruzzaman, Sulaiman & Cheong Peng, 2010).

It can be argued that most people do not understand the importance or significance of building maintenance and its management. Particularly, most people do not know that the efficiency of a building maintenance system contributes to the incomes of rental housing companies (in this case landlords/landladies) (Zawawi & Kamaruzzaman, 2019). Maintaining housing units is important for rental houses. Successive English House Condition Surveys have shown that for many decades the private rental sector has been characterised by poor dwelling conditions, including high levels of disrepair (Kemp, 2018). Owners must take responsibility for maintenance of the home and the risks associated with uncertain future maintenance costs with rents or monies collected from tenants (Belsky & Drew, 2017). Likewise, tenants are expected to manage the houses they live in and facilities available to reduce damage and to prolong the lifespan of the houses they rent.

Despite the importance of housing maintenance, it is not a practice done often in rented houses. This is mainly due to the cost involved in maintenance. Basically, maintenance and operating expense contributes one-third to one-half of the total cost of a house depending on the type of housing, which include apartment and flat. Relatedly, housing maintenance costs management is often discussed in the literature due to the continuous increase in housing maintenance costs (Ali, Kamaruzzaman, Sulaiman & Cheong Peng, 2010). In most developing countries, tenants face the challenge of poor maintenance of houses either by landlords or other tenants expected to do daily cleaning of the housing units. Addo (2015) in her study indicates that the shared facilities in multihabited dwellings are inadequate and lack regular maintenance. The challenge of poor housing maintenance is common to rented houses. In the middle of the 19th century, pathologist Rudolf Virchow advised city leaders that poorly maintained and crowded housing are associated with higher rates of infectious disease transmission (Krieger & Higgins, 2016). Housing conditions such as electrical faults, exposed roofs and cracked walls if not maintained exposes tenants living in the affected houses to future danger.

2.3 Theoretical Underpinnings

Every research is backed by a theory or a set of theories. In this study, the theory of planned behaviour and the price theory provide the theoretical basis for the study.

2.3.1 The price Theory

Price theory is the set of ideas that lie at the core of economic theory. Specifically, the Price theory explains how relative prices are determined and how prices function to coordinate economic activity as explained by David Friedman in 1990 (Friedman, 2007). This theory states that a market economy is coordinated through the price system. In the theory, it is argued that the value of goods to those who ultimately consume them is reflected in the price purchasers are willing to pay. Price

theory is concerned with explaining economic activity in terms of the creation and transfer of value, which includes the trade-off goods and services between different economic agents (Ozer & Phillips, 2012).

There is the assumption that agents take the prices of all goods as given. However, if goods are bought and sold in a market, prices will depend on the balance between demand and supply. In this study, therefore, the theory of price explains that rental housing as a commodity has prices for each housing unit and the prices are determined in the market by both the demand and supply sides. In rental housing, the supply hand represents the providers of the rental unit. The demand hand represents the consumers of the rental housing unit.

In the context of this study, the theory was applied to explain the pricing dynamics of rental housing among large-scale miners. Rental housing, as a commodity, is subject to market forces where supply is represented by landlords or providers, and demand is represented by miners seeking accommodation. The study's findings showed that miners' housing choices were highly sensitive to rent levels, with many respondents emphasising the burden of advance rent payments and high monthly costs. This outcome reflects the theoretical position that when demand for housing outstrips supply, especially in mining regions experiencing rapid in-migration, rental prices rise. Conversely, where housing supply is inadequate or poorly maintained, tenants may still be forced to accept higher prices, demonstrating the market imbalance described by price theory.

Price theory is criticised for its presumption of perfect information and rational agents, which may not hold true in real-world markets like Ghana's rental sector where there are behavioural biases (like social norms influencing choices) and information asymmetry (like hidden maintenance issues) (Simon, 1957). In spite of this, it is however useful for examining housing market coordination.

2.3.2 Theory of Consumer Behaviour

This theory was developed by Ajzen in 1988 (Ajzen, 2011). The theory proposes a model which can measure how human actions are guided. It predicts the occurrence of a particular behaviour, provided that the behaviour is intentional. This theory was developed based on the Theory of Reasoned Action (TRA) by Ajzen and Fishbein in 1980 (Ajzen). The Theory of Reasoned Action resulted from attitude research from the Expectancy Value Models. The TRA was formulated after the estimation of the discrepancy between attitude and behaviour. Primarily, TRA measures voluntary behaviour. Specifically, it looks at the individual's intention to perform a given behaviour. Later, it was realised that behaviour appeared not to be 100% voluntary but could be controlled. This led to addition of the notion of perceived behavioural control and the subsequent development of the theory of planned behaviour. The theory of planned behaviour is a theory which predicts deliberate behaviour. This is because behaviour can be deliberative and planned. In the theory, interventions are designed to change the behaviour of individuals. According to the theory of planned behaviour, performance of behaviour is a joint function of intentions and perceived behavioural control (Ajzen, 1991).

Although there is not a perfect relationship between behavioural intention and actual behaviour, behavioural intention can be used as a proxy to measure actual behaviour. Also, variables in planned behaviour model can be used to determine the effectiveness of the implementation of interventions where variables that measure actual behaviour are not readily available. The theory of planned behaviour postulates three conceptually independent determinants of intention. Intentions to perform behaviours of different kinds can be predicted with high accuracy from attitudes toward the behaviour, subjective norms and perceived behavioural control. These intentions, together with perceptions of behavioural control account for considerable variance in actual behaviour (Ajzen, 1991).

Furthermore, the theory of planned behaviour distinguishes between three types of beliefs behavioural, normative and control as well as the related constructs of attitude, subjective norm and perceived behavioural control. The theory of Planned behaviour explains that attitude toward a behaviour is a person's overall evaluation of behaviour. The theory assumes that two components, beliefs about the consequences of a behaviour (behavioural beliefs) and the corresponding positive or negative judgements the behaviour work together to produce outcome evaluations of the behaviour under consideration. Also in the theory, subjective norm is explained as a person's own estimate of the social pressure to perform the target behaviour. Subjective norms are assumed to have two components which interact: beliefs about how other people behave and beliefs about how people would like them to behave.

Similarly, perceived behavioural control has two aspects; how much a person has control over behaviour and how confident a person feels about being able to perform or not perform the behaviour (Ajzen, 1991). Although there is enough evidence about the significant possibility of some relationships between behavioural beliefs and attitudes toward the behaviour, normative beliefs and subjective norms, and control beliefs and perceptions of behavioural control, the exact significance of these relationships still remain uncertain. The theory of planned behaviour is used in this study in order to understand the decision an individual will make in renting a particular housing unit. It shows that the decision of an individual is influenced by different factors. The attributes in this theory represents the individual's knowledge of the consequences of making the choice to rent a particular unit and the accompanied negative and or positive outcomes.

The subjective norms in this case represent the influence of the society that will influence the individual's rental decision. Then there is the perceived behavioural control which is the persons control over the behaviour where the decision is made with confidence. These choices make the

individual settle in a particular rental house. For instance, society influences and individual decisions are found to affect rental choices. This is to say that rental choices have implications. These implications can be the benefits of their choices or challenges of their choices.

The Theory of Planned Behaviour has been criticised for placing too much focus on rational purpose while ignoring unconscious factors or outside obstacles like housing market policy enforcement (Sniehotta et al., 2014). This study justifies its usage to explain miners' deliberate choices by mapping variables like 'importance of social connections' to subjective norms, 'cost importance' to attitudes, and 'confidence in securing housing' to perceived behavioural control.

2.3.3 Critical Evaluation of the Theories Used

Although Price Theory and the Theory of Consumer Behaviour presume perfect knowledge and perfectly rational agents, these assumptions are breached in Ghana's rental markets where information asymmetry, landlord power, and cultural duties dominate. Similarly, the Theory of Planned Behaviour has been critiqued for over-emphasising individual agency while underplaying structural constraints such as weak Rent Act enforcement (Conner & Armitage, 1998). These limitations are minimised in this study by triangulating survey data with qualitative interviews and visual evidence (Appendix II) that depict structural constraints beyond individual control.

2.4 Conceptual Framework

A conceptual framework constructed by Dzangmah (2012) was adapted for the purpose of this study. The original Dzangmah (2012) framework, which highlights urban rental locations (peripheral, inner cities, townships) and types (detached, semi-detached, block), was modified to better align with mining contexts by incorporating work-related factors (e.g., proximity to mines), environmental/health influences, and rental challenges (e.g., advance rent, poor maintenance).

This ensures linkage to all objectives: housing types (demand characteristics), influencing factors (supply/demand interactions), and challenges (gaps in demand/supply). The adaptation addresses the original's urban-general focus by justifying emphasis on miners as a particular low-/middle-income demand group in resource-driven locations. This framework discusses the relationships in the rental housing sector. The conceptual framework that indicates both the demand and supply sides of a rental housing sector and their connections which include the government, private formal and private informal providers and high, middle and low-income consumers. Notable among the characteristics of private formal providers is that they are registered with the Registrar Generals' Department.

This provides them with legal backing that allows them to make use of tenancy agreements and operates mostly on large scale. The reverse holds true for the private informal providers. In his framework, the supply of rental housing is influenced by many factors, which include the nature of housing policy, availability of credit and land tenure system. On the other hand, demand characteristics of rental housing include quality of housing unit, access to basic infrastructure and services, location, income level and mobility. Furthermore, the conceptual framework shows that rental housing is common to urban areas. Rental accommodation can be found in urban peripheral areas, inner cities and in townships. Notable among the types of rental housing unit provided in urban areas are detached, semi-detached, block of flats and compound houses. These types of houses have quality characteristics which include physical condition of structures, access to basic infrastructure and services, social and economic access as well as environmental quality. Although the various components of Dzangmah's (2012) conceptual framework are connected to each other, there seem to be no output component for the framework, which shows where these connections or links lead to.

The conceptual framework (Figure 2.1) is adapted and greatly extended from Dzangmah (2012), whose original model comprised only income, household size, and location. The present analysis includes (i) work-related factors (shift patterns, proximity to mine), (ii) environmental/health concerns, and most crucially (iii) rental-market structural impediments (illegal advance rent, poor maintenance, weak enforcement) as mediating variables. This expansion directly operationalises the three specific aims of the study.



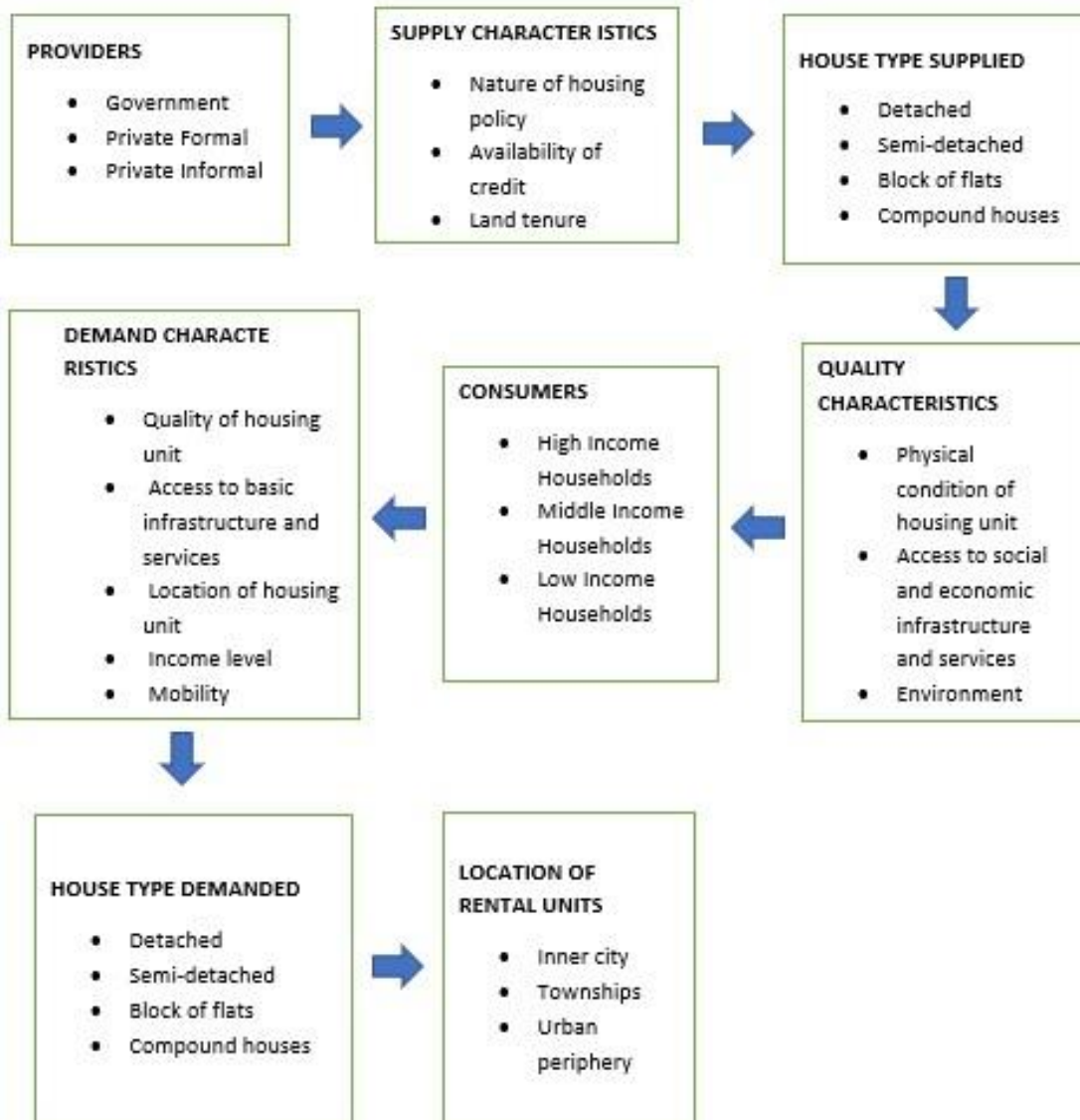


Figure 2. 1: Functional Rental Housing Sector. Source: Dzangmah (2012)

2.5 Summary

This chapter reviewed literature and came out with theoretical backing for the study highlighting on specific issues. Housing in literature was seen as a basic need for the development of the individual and the nation at large. Access to adequate housing is a fundamental right for every individual. The literature, has noted that rental housing was an alternative type of housing for many urban residents who could not afford to own a house. Literature showed that there are many challenges present in the sector. Also, economic and non-economic factors were noted to have

major influence on rental prices. Furthermore, literature on the study helped identify that rental housing comprised of both the demand factors and the supply factors that needed to be looked at from both points of view to help develop a good study.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the profile of the study area and the methods adopted for the study. It also provides a sufficient explanation of all the elements used in the study including research philosophy, approach, research design, sources of data, sampling (population of the study, sampling technique and sample size), instrumentation (types of research instrument(s), validity and reliability, data collection procedures, data processing and analysis and ethical consideration.

3.2 Profile of Study Area

The study was conducted in the Newmont Ghana Gold Limited, Ahafo South Plant Site with specific focus on Sunyani and Kenyase towns. Adjei & Kyei (2013) asserted that, both Kenyase and Sunyani are major towns that provide supplies and fuel for the Newmont Ghana Gold mining operations due to the short distance between the two cities and the Newmont plant site. Both towns also provide accommodation facilities for majority of staff of the mining company. In terms of proximity, the areas are close to the researcher and very accessible. Newmont Ghana Gold Limited (NGGL) is a multinational mining company operating in Ghana. The company has two plant sites, one at Ahafo and Newmont Golden Ridge Ltd located at Akyem (Ansu-Mensah et al., 2021). Commercial production at Ahafo began in 2006. Ahafo has two primary ore zones: Ahafo South and Ahafo North. Mining is currently underway at Ahafo South. Newmont Ghana Gold Limited is selected because of its major contribution to large-scale mining in Ghana.

The Sunyani Municipal as shown in figure 3.1 is one of the 261 Metropolitan, Municipal and District Assemblies (MMDAs) in Ghana, and forms part of the 12 of Municipalities and Districts in the Bono Region with the capital as Sunyani. The Municipality was established on 10th March, 1989 by a legislative instrument (LI) 1473. This was the period Ghana adopted the District

Assembly concept. The overall goal is to accelerate growth and development in the Municipality. The Sunyani Municipality lies within the middle belt of Ghana with heights from 750 feet (229 meters) to 1235 feet (376 meters) above sea level. The topography of the municipality is fairly flat thus suitable for large scale agricultural mechanisation. The physiography of the Sunyani area is mainly Forest Dissected Plateau. Ground elevation rises to between 240 m and 300 m above sea level, and the landscape is either undulating or rugged. Sunyani had a population of 193,595 at the 2021 population and housing census.



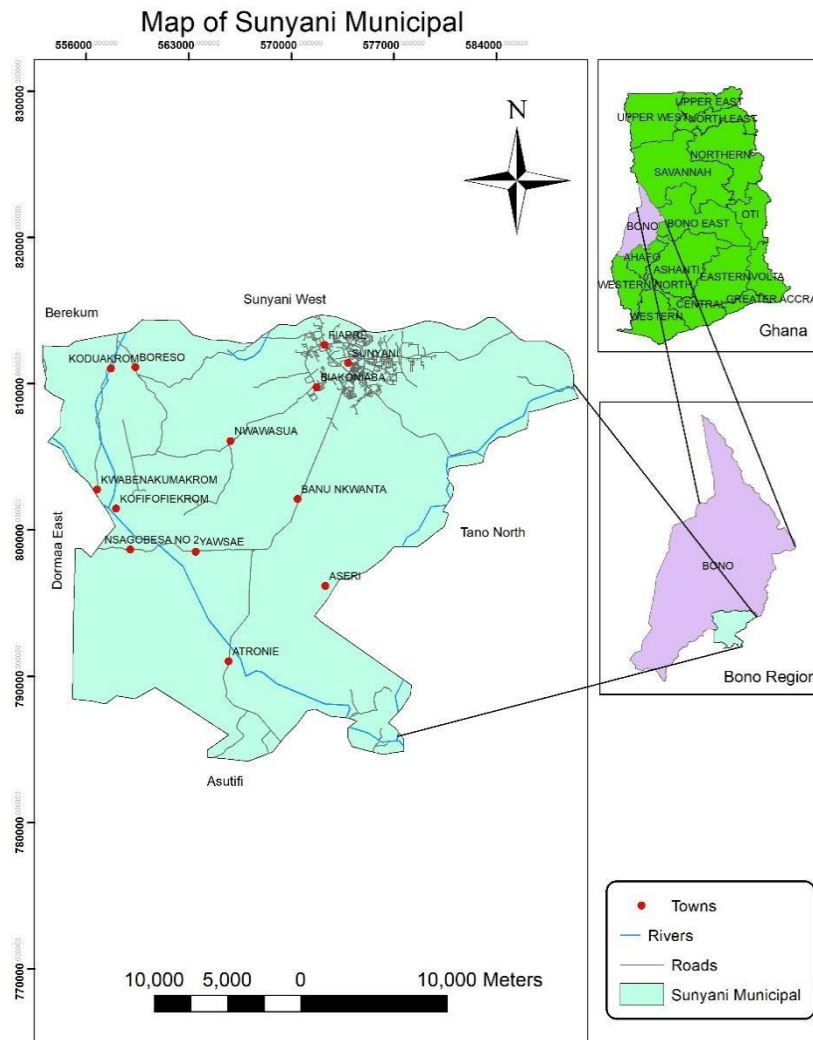


Figure 3. 1: Map of Sunyani Municipal

Asutifi North District is one of six administrative districts within Ghana’s Ahafo Region. The district was established in 2012 following the division of the former Asutifi District into two separate administrative units; Asutifi North and Asutifi South. The re-demarcation resulted in Asutifi North occupying the northern portion, with Kenyase designated as the district capital. Geographically, the district is situated in the eastern part of the Ahafo Region and shares socioeconomic linkages with nearby urban centres, including Sunyani. According to the Ghana

Statistical Service (2021), Asutifi North has an estimated population of approximately 73,556, of which about 68% reside in rural areas. The local economy is primarily agrarian, with the majority of residents engaged in crop cultivation and related agricultural activities. However, the establishment of large-scale mining operations in the area has stimulated a gradual expansion of the service sector, especially in and around Kenyase. Access to basic amenities remains a development challenge. Close to 15% of households lack access to safe drinking water, relying instead on rivers, streams, unprotected wells and springs, dugouts, or water supplied by tanker services. Sanitation infrastructure is also limited, with almost half of the population depending on public toilet facilities and about 5% practicing open defecation in surrounding fields and bushes. Sunyani and Kenyase were purposively selected as the study sites due to their central role in accommodating miners and their associated housing demands. While Kenyase serves as the primary operational hub for mining activities, Sunyani functions as a regional urban centre that attracts mining staff seeking more diverse housing options.

3.3 Research Philosophy

The study used a pragmatic approach, which permits a variety of approaches to solve real-world issues and presupposes that knowledge is created through practical consequences. In terms of ontology, it sees reality as both objective (like rental prices) and subjective (like preferences); in terms of epistemology, it blends positivist (quantitative data) and interpretivist (qualitative insights) methods. Flexibility and a focus on problem-solving are strengths; possible incoherence when combining paradigms is a downside. In order to solve the practical knowledge gap in miners' housing, this philosophy was justified for the current study since it is consistent with the mixedmethods design, allowing for the integration of statistical analysis of preferences with thematic investigation of issues.

3.4 Research Approach

In the conduct of scientific research, one key component to consider is the research approach. According to Creswell (2013), research approaches spell out the plans and procedures for which the assumptions of detailed methods of data collection, analysis, and interpretation would be undertaken. In order to provide thorough insights, the study used a concurrent mixed-methods approach, collecting and integrating quantitative and qualitative data at the same time.

Mixed methods research has the advantage of overcoming the weaknesses that are inherent when adopting mono method research (Brierley, 2017). Also, the mixed methods approach addresses a range of research questions and by so doing can provide a complete knowledge that can enhance theory development and practice (Brierley, 2017). This approach was adopted because it offers researchers the opportunity to use two or more instruments in collecting and analysing data which helps in achieving the various objectives of both qualitative and quantitative data research.

3.5 Research Design

The study used a descriptive mixed-methods methodology, which uses narratives and statistical summaries to describe events. When examining trends and experiences, such as housing choices, it is appropriate. Clarity and applicability are strengths; restricted causality inference is a downside. This approach was justified because it provided a balanced picture of the realities faced by miners by defining housing kinds (objective 1), evaluating factors (objective 2 by regression), and examining obstacles (objective 3 via t-tests and themes). This design is considered the best for the study because it deals with evaluating and summarising the correlations between variables.

(Gay, 1992).

3.6 Population of the study

The target population in this research study constituted Newmont Ghana Gold Limited staff residing in Sunyani, Kenyase, Ntotroso and Hwidiem. According to the Human Resource Department of Newmont Ghana Gold Limited, Ahafo Ano South Plant Site, total population of staff at Newmont Ghana Gold Limited, Ahafo Ano South Plant Site is 3000. Out of this number, management is made up of 275 staff. The study considers the management as the accessible population for this study. Therefore, the target population comprised of 275 employees at the Ahafo Ano South Plant Site of Newmont Ghana Gold Limited, both senior (45.6 %) and junior (54.4 %) levels since management granted access to this group for pragmatic reasons.

3.7 Sample Size

The accessible target population was 275, and a sample of 163 was calculated using Yamen's (1967) formula. Even though 275 was feasible, logistical issues (such as shift schedules and remote locations) prevented all of them from being selected, therefore sampling was required to guarantee viability while maintaining consistency.

$$n = 1 + \frac{N}{20} + Ne^2$$

Eq.1

Where; n=

sample size

N=population size

e= error margin

$$n = 1 + \frac{275}{20 + 275 (0.05)^2}$$

n= 163.

3.8 Response Rate and Non-Response

149 of the 163 surveys that were sent out were completely filled out and returned, yielding a high response rate of 91.4%. Rather than intentional denial, the 14 non-responses were mostly caused by time limits and night shift scheduling difficulties and not systematic refusal. Therefore, it is unlikely that these missing cases will significantly skew the results.

3.9 Sampling Procedure

The study adopted the convenience sampling technique. Convenience sampling is a nonprobabilistic sampling technique applicable to qualitative or quantitative studies that involves selecting participants based on their accessibility and availability to the researcher. Convenience sampling was used in this study because of the special characteristics of the research environment and Newmont Ghana Gold Limited's organisational structure. Large-scale miners, who make up the target population, are subject to stringent safety regulations, controlled access, and shift rotation. Applying probability-based sampling techniques without interfering with production or going against corporate policies is challenging due to these limitations.

Because the study's focus is context-specific, this strategy was also acceptable. Rather than extrapolating results to all Ghanaian miners, the goal was to investigate and comprehend the housing preferences, requirements, and residential experiences of miners inside this specific firm.

The research objectives were sufficiently satisfied by the rich and pertinent insights provided by the reachable respondents. Convenience sampling generally matched the goal of the study as well as the practical reality of the research setting. It respected institutional limitations and operational safety regulations while facilitating access to valuable data.

3.9.1 Justification for Using Convenience Sampling Technique and Generalisability

Because of the stringent access restrictions at Newmont Ghana Gold Limited, convenience sampling was specifically selected as the best method for this investigation. According to the company policy and the Data Protection Act 2012 (Act 843), the entire staff list is considered confidential, making it difficult to use probability-based techniques that need a sampling frame. Convenience and snowball referrals were used to reach shift workers and those residing in private rentals after first contacts were made through HR and welfare officers. Strong analytical generalisability to comparable large-scale mining contexts in Ghana is supported by the achieved sample (n=149), which closely resembles NGGL's 2024 workforce profile on grade (junior vs. senior), gender, and residential location (within $\pm 4\%$), despite its non-probability nature (Yin, 2014; Patton, 2015).

3.10 Observational Evidence and Photographic Documentation

Direct monitoring of rental units was carried out in Kenyase, Ntotroso, and Sunyani (June 2024) in addition to surveys and interviews. Photographs showing inadequate maintenance conditions were taken with the tenants' full consent. These offer a visual triangulation of the qualitative and quantitative results and are shown in Appendix II.

3.11 Research Instrument

In conducting this study, data was collected from both primary and secondary sources. The primary data was collected using interview guide and questionnaire. Quantitative data were collected using questionnaires whilst qualitative data were collected using interview guide. The primary data were collected from the selected sample whilst available sources of secondary data were gathered from other literature sources. The interview guide was employed for its known advantage of building a good rapport, creating a relaxed atmosphere in which respondents easily cooperate, answer

questions, and clear misconceptions about any aspect of the study (Kumekpor, 2002; Mensah, 2010). Hockey, Robinson and Meah (2008) indicates that, the questionnaire is used because of its flexibility and ability to easily explore emerging themes and ideas. The questionnaire was divided into four major sections (i.e., A to D). Section A sought for information on the demographics of the respondents, section B focused on the housing and residential preference of large-scale miners, section C dealt with the factors that influence the housing and residential preferences of large-scale miners as section D focused on the housing rental challenges faced by large-scale miners.

3.12 fieldwork/Data Collection Exercise

Data were collected between June 1 and June 30, 2024, mostly in the afternoons and evenings on working days to accommodate miners' shifts. Questionnaires were given out in person at the plant site, designated bus stops and residences, key informants were interviewed over the phone or in person, and site visits were noted for visual evidence of housing conditions. The study also used non-participant observation as a method to capture pictorial evidence of housing types and conditions, supporting findings with photos (e.g., semi-detached units).

3.13 Validity and Reliability of Data Collection Instrument

Middleton (2019) asserts that reliability and validity are concepts used to evaluate the quality of research. Reliability is about the consistency of a measure and validity is about the accuracy of a measure. In this study, the researcher sought to ensure the validity and reliability of the research instruments by having an initial review by the supervisor before taken to the field. The reliability was further tested by estimating the Cronbach alpha of the scale items in the questionnaire. Before collecting full-scale data, a pilot study will be conducted for the present study. The pilot study will seek to assess the essential requirements during instrument purification such as testing questions wording, sequence, layout, familiarity with respondents, response rate, questionnaire completion time and analysis process (Ticehurst & Veal, 2000).

3.14 Data Processing and Analysis

The responses from the questionnaires were cleaned, coded and entered into Statistical Package for Social Science (SPSS) version 23 for analysis. The data were screened to ensure that every information is entered accurately. Data collected were coded into IBM Statistical Packages for Social Sciences (SPSS) version 27 and were analysed using descriptive statistics, specifically, frequency, percentage, mean and standard deviation. The inferential statistics were analysed using logistic regression model, and one-sample t-test.

The formula for calculating each of these analyses is as follows:

$$\text{Mean } \bar{X} = \frac{\sum X_i}{N} \quad \text{Eq.2}$$

Where:

\bar{X} = Population Mean

$\sum X_i$ = Sum of each value in the population N

= Total Population

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (X_i - \bar{X})^2}{N}} \quad \text{Eq.3}$$

Where:

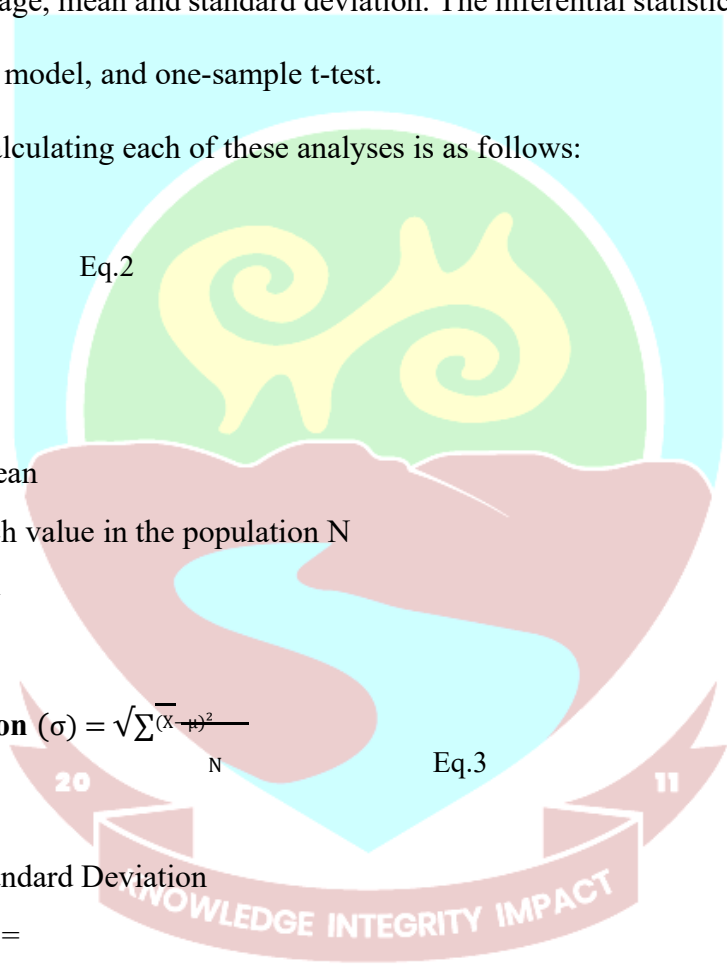
σ = Population Standard Deviation

\sum = Summation X =

Each Value μ =

Population Mean

N = Total Population



Multiple Binary Logistic Regression Model

$$\pi(X) = \frac{\exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k)}{1 + \exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k)} \quad \text{Eq.4}$$

Where;

$\pi(X)$: The probability that the binary outcome variable (Y) is equal to 1, given the values of the predictor variables (X_1, X_2, \dots, X_k)

β_0 : The intercept of the model. It represents the log-odds of the outcome when all predictor variables are zero

$\beta_1, \beta_2, \dots, \beta_k$: The regression coefficients for each predictor variables (X_1, X_2, \dots, X_k) exp:

The base of the natural logarithm (approximately 2.718)

One Sample T-test

$$t = \frac{(\bar{x} - \mu_0)}{\frac{(s)}{\sqrt{n}}} \quad \text{Eq.5}$$

Where;

t: Test statistics

\bar{x} : Sample mean

μ_0 : Hypothesised population mean

s: Sample's standard deviation

n: Sample size

Qualitative data obtained from interviews was first transcribed verbatim after which it was coded using MaxQDA, a qualitative tool. Following the examples of prior research (Atiso & Kammer, 2018; Jamil & Appiah-Adjei, 2019), this study employed the thematic analysis to obtain the needed

information to complement the qualitative data. Thematic analysis aids in the classification of data into relevant themes so that the many features of the study can be interpreted (Boyatzis, 1998; Braun & Clarke, 2008). The themes extracted from the research questions guided the analysis of the interview data. In the process of transcribing the interview data, the researcher ensured that grammatical errors were corrected and punctuations appropriately used.

3.15 Ethical Considerations

The research was conducted ethically and the rights of the participants were protected throughout the research process. The participants were informed about the research and their consent were obtained before any data collection. The researcher assured participants of confidentiality and anonymity. According to Kelley et al., (2003), these are the most important ethical issues to adhere to when conducting a survey. In addition, they were assured that all information obtained would be used for the intended purpose.

3.16 Summary

The study adopted the mixed-methods descriptive design. The study adopted the mixed method, thus, both qualitative and quantitative research designs approach through the pragmatist paradigm. The study considered questionnaires and interview guides as the data collection instruments. The study also employed the convenience sampling technique. The study had a total population of 275 and a sample size of 163. Data collected from interviews were coded and analysed based on thematic content analysis. Data collected were coded into IBM Statistical Packages for Social Sciences (SPSS) version 27 and were analysed using descriptive statistics, specifically frequency, percentage, mean and standard deviation. The inferential statistics were analysed using logistic regression model, and one-sample t-test. The results were presented in tables.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 INTRODUCTION

This chapter presents the results of the data collected from the field. The results are presented according to the study objectives. A total of 149 respondents participated in the study. The chapter presents and analyses the results using means, standard deviation, sample t-test and binary logistic regression.

4.2 DEMOGRAPHIC CHARACTERISTICS

The study assessed the age, marital status, religion, professional status and work experience of the study participants as summarised in table 4.1 below.

Table 4.1: Demographic characteristic of Newmont Ghana Gold Limited staff

Variable	Frequency (n=149)	Per cent
Gender		
Male	82	55.03
Female	67	44.97
Age		
20-29	37	24.8
30-39	52	34.9
40 and above	60	40.3
Income		
2,000 – 2,999	18	11.0
3,000 – 3,999	24	14.7
4,000 – 4,999	32	19.6
5,000 – 5,999	28	17.2
6,000 – 6,999	25	15.3
7,000 – 7,999	20	12.3
8,000 and above	16	9.8
Marital status		
Married	90	60.4
Divorced	00	00.0
Separated	00	00.0
Single	59	39.6

Religion		
Christian	102	68.5
Islam	31	20.8
Traditionalist	7	4.7
Others	9	6.0
Professional Status		
Senior staff	68	45.6
Junior staff	81	54.4
Work Experience		
Less than 1 year	15	10.1
1-5 years	49	32.9
6-10 years	53	35.6
11 and above years	32	21.5

Source: Field survey (2024)

The study revealed that, respondents who were 41 years and above constituted the largest proportion of respondents (40.3%). This indicates that a significant number of Newmont Ghana Gold Limited employees are in the stage of life where housing preferences matter due to other social factors like establishing a nuclear family and securing prestige in social status in the community in which they live. Those between the ages of 31– 40 were 34.9%. These individuals may prefer suburban housing with family-friendly amenities such as schools and recreational facilities (Erickson, Martinengo, & Hill, 2010). Meanwhile, approximately 25% of respondents were aged between 20 and 30 years old. This group is predominantly represented within the 10.1% identified as being in the early stages of their careers and is also more likely to be among the 39.6% of the participants who reported being single.

In terms of the income levels of the study participants, the largest proportion of respondents (19.6%) earned between GHS 4,000–4,999, followed by 17.2% in the GHS 5,000–5,999 bracket. Fewer miners (9.8%) reported earning GHS 8,000 and above. This suggests that while a majority of miners fall within the mid-income brackets (GHS 3,000–6,000), only a small fraction belong to

the highest income category, which may influence their ability to afford higher-rent housing options such as semi-detached houses and apartments.

Concerning marital status, the majority of the respondents were married (60.4%), while 39.6% were single. Housing preferences for the married cohort may differ, regarding choice for family-oriented housing or proximity to schools and healthcare facilities. Marriage determines the number of people in a household, thereby affecting the kind of house that can accommodate the family.

Again, the majority of the respondents were Christians (68.5%), whilst 20.8% were Muslims. Approximately 5% identified as Traditionalists and 6.0% belonged to other and non-religious groups, including Buddhists, Baha'is and Atheists, etc. This religious distribution reflects the broader demographic composition of Ghana, where Christianity remains the dominant religion; though Islam is steadily growing and could potentially become the majority by 2096 (AbrahamsAppiah, 2023).

Furthermore, in terms of professional status, 54.4% of the respondents were classified as junior staff, while 45.6% were senior staff. Junior staff includes securities, cleaners, cooks, drivers, national service personnel, etc, while senior members were people at management level such as; managing director, chief surveyor, blasting supervisor, regional environmental manager etc. Housing preferences may differ significantly between these groups. Adjei & Kyei (2013) suggest that, professional level is one of the main causative agents of housing choices among workers. Similarly, 35.6% of the respondents had worked with Newmont Ghana Gold Limited for 6–10 years, 32.9% had worked for between 1–5 years, and 21.5% had worked for 11 years or more. Only 10.1% had worked for one year. The distribution suggests that a significant proportion of respondents have accumulated substantial experience in their respective roles, thus, a relatively stable workforce, with a significant proportion of staff having intermediate to long-term tenure.

Demographic and socioeconomic variables are primary determinants of preference of housing type in countries such as Canada and Nigeria (Kotulla et al., 2019; Ikenna & Sebnem, 2019).

Demographic variables have been found to have influence on residential choices because household composition is related to housing needs (Kamyar et al., 2019).

4.3 HOUSING AND RESIDENTIAL PREFERENCES OF MINERS

4.3.1 Current Residence of Miners

The study identified three main types of housing occupied by large-scale miners in the study area: semi-detached houses, flats/apartments, and compound houses (including single-room units).

These categories formed the basis for assessing miners' current location, type of housing, and duration of stay at their present residences. Housing plays a pivotal role in shaping the well-being of individuals and their households, and understanding miners' residential patterns offers valuable insights into their quality of life, mobility, and socio-economic positioning within mining communities.

Table 4. 2: Housing and residential preferences of large-scale miners (current residence of miners)

Variable	Category	Frequency	Percentage
Current location	Kenyase	57	38.3
	Sunyani	53	35.6
	Others	39	26.1
Type of housing	Semi-detached house	56	37.6
	Flat/Apartment	48	32.2
	Compound house	45	30.2
Duration of stay at current residence	Less than 1 year	13	8.7
	1-5 years	61	41

6-10 years	47	31.5
11 years and more	28	18.8

Source: Field survey (2024)

The geographical distribution of respondents provides insight into preferred residential areas for large-scale miners. As shown in Table 4.2, the highest proportion of respondents reside in Kenyase (38.3%), followed by Sunyani (35.6%), while 26.2% live in other locations such as; Hwidiem, Ntotroso, Wamaheneso, Duayaw Nkwanta and Yamfo. The results suggest that though proximity to one’s place of work is important to miners, several miners (35.6%) also prefer to stay in urban areas such as Sunyani where better accommodation can be found. However, the others living in other locations indicate a segment of miners who prioritise affordability, environmental conditions, or proximity to family.

The survey results revealed that 37.6% of the miners reside in semi-detached houses, while 32.2% live in flats or apartments. The remaining 30.2% occupy compound houses. This pattern suggests a strong preference for structured housing units such as semi-detached houses and flats/apartments. Discussions during field interviews revealed that this preference is linked to perceived privacy, better facilities, and, in some cases, housing provisions by the employer. One respondent explained:

“The company’s bungalows and apartments give you privacy and better utilities. You don’t have to share everything with other tenants like in a compound house.” (Field interview, 2024)

On the other hand, miners living in compound houses cited affordability, proximity to family, or personal preference for communal living as reasons for their choice. A participant noted:

“I could afford a flat, but I prefer to stay closer to relatives in town. A compound house makes that possible.” (Field interview, 2024)

In terms of residential stability, Table 4.2 shows that 40.9% of miners had lived in their current homes for 1-5 years, and 31.5% for 6–10 years, indicating that over 70% had resided in the same home for more than one year. Respondents opined that shorter stays were often due to recent transfers, newly secured accommodation, or changing family circumstances rather than random movement. For example, one miner shared:

“I just got transferred to Kenyase last year, so I am still settling in. Once I know the area better, I might move to a bigger place.” (Field interview, 2024)

4.3.2 Type of Housing Preferred by Miners

After understanding the current residence of respondents, it was necessary to assess their preference. This is because some could be residing in a particular type of residence out of convenience and not necessarily Therefore, the results showed that miners predominantly preferred semi-detached houses (49.7%) and flats/apartments (28.9%), with a smaller proportion opting for compound houses (21.5%). Those who preferred semi-detached houses said it was a preference for modernity and privacy. This, they claimed was linked to the desire for greater privacy, space, and improved facilities. As one respondent explained:

“A semi-detached house is perfect for my family because it gives us enough space and privacy.” (Male, 35 years)

Preferences for housing size revealed that most miners favoured two-bedroom (50.3%) and threebedroom (28.9%) units, largely to accommodate family size and provide adequate privacy. A miner aged 44 remarked:

“Bungalows or bigger houses of about three-bedrooms are ideal for me because I’m planning to settle permanently, and they provide all the comfort my family will require.”

Table 4. 3: Type of housing preferred by miners

Variable	Category	Frequency	Percentage
Satisfaction with current accommodation	Very dissatisfied	17	11.4
	Dissatisfied	22	14.8
	Neither dissatisfied nor satisfied	26	17.4
	Satisfied	52	34.9
	Very satisfied	32	21.5
Preferred house/residence	Semi-detached house	74	49.7
	Flat/Apartment	43	28.9
	Compound house	32	21.5
Preferred dwelling unit	Chamber and hall	31	20.8
	Two bedrooms	75	50.3
	Three bedrooms and above	43	28.9

Source: Field survey (2024)

Although over half of the respondents (56.4%) reported being satisfied with their current housing, the narratives collected during interviews suggested that satisfaction levels varied depending on personal circumstances. For example, a 27-year-old miner living in a single room in a compound house noted:

“It suits my lifestyle now because I don’t need much space, but in the future, I might move to something bigger.”

These findings highlight that while most miners preferred modern, self-contained housing with adequate bedrooms, their specific choices were influenced by factors such as family needs, stage in career, and long-term settlement plans.

4.3.3 Expenditure Patterns and Housing Affordability

Analysis of miners’ monthly expenditure patterns shows that housing-related costs constitute a major share of their household budgets. Rent emerged as the largest single expense, averaging GHS 1,809.21 per month (see Table 4.4). This relatively high figure is partly influenced by the fact that 36% of respondents reside in Sunyani, where average rental rates are higher than in Kenyase and other surrounding towns. As one participant explained:

“Living in Sunyani is convenient for my children’s schooling, but the rent is far higher than what colleagues pay in Kenyase.” (Male, 39 years)

A closer comparison of the two main residential areas shows significant differences in average rental costs (Table 4.5). In Sunyani, a single room costs about GHS 650, compared to GHS 350 in Kenyase. Similarly, a chamber and hall averages GHS 1,000 in Sunyani but GHS 750 in Kenyase, while a two-bedroom apartment is GHS 1,600 in Sunyani compared to GHS 1,250 in Kenyase. These variations illustrate why miners in Sunyani face higher rental burdens, which inflates the overall average rent observed in the study.

Table 4.4: Respondents’ Expenditure Pattern

Category	Average (GHS)
Rent	1,809.21
Electricity	285.62
Water	106.53
Internet	218.83
Clothing	800.00

Food 1,500.00

Source: Field survey (2024)

Table 4.5: Average Monthly Rent by Housing Type and Location

Housing Type	Sunyani (GHS)	Kenyase (GHS)
Single Room	650	350
Chamber & Hall	1,000	750
2-Bedroom Apartment	1,600	1,250

Source: Field survey (2024)

Other housing-related expenses included electricity (GHS 285.62), water (GHS 106.53), and internet services (GHS 218.83). Together, these costs highlight the significant proportion of miners' incomes allocated to securing and maintaining accommodation. Beyond housing, respondents also reported notable expenditure on food (GHS 1,500.00) and clothing (GHS 800.00). While these are not direct housing costs, they influence overall household budgeting and can affect the choice of housing types. A female respondent living in a rented flat commented:

“Sometimes I have to adjust other expenses, like clothing or entertainment, just to keep up with rent and utilities.” (Female, 34 years)

These findings suggest that while miners may have relatively stable incomes, high housing costs—especially in urban centres like Sunyani—place pressure on their ability to allocate funds to other essential household needs. Therefore, the null hypothesis is rejected and the alternate hypothesis accepted.

4.4 FACTORS THAT INFLUENCE HOUSING AND RESIDENTIAL PREFERENCES OF LARGE-SCALE MINERS

The analysis of housing and residential preferences among staff of Newmont Ghana Gold Limited reveals several intersecting factors shaped by economic conditions, work-related demands, social and family needs, and environmental considerations. The binary logistic regression model, provides an understanding of the key drivers behind housing choices among mining staff. Income level, household size, access to housing benefits, and cost considerations were the major factors determining housing decisions as indicated in Table 4.6.

Table 4. 6: Factors influencing housing and residential preferences of large-scale miners

Variable	Coefficient (β)	Standard Error	p-value
Economic factors			
Income Level (Ref: GHS1000-2000)			
GHS3000-4000	0.85	0.34	0.015**
GHS5000-6000	1.22	0.42	0.004***
GHS7000+	1.87	0.50	0.001***
Household Size (Ref: <3)			
3-5	0.55	0.28	0.08
6-10	1.14	0.38	0.002***
Above 10	1.75	0.45	0.000***
Housing Benefits (Yes = 1)	2.01	0.62	0.000***
Cost Importance			
Neutral	0.32	0.21	0.12
Important	1.05	0.31	0.009***
Very Important	1.92	0.39	0.000***
Work-Related Factors			
Work Schedule Affects Housing (Yes)	0.76	0.30	0.020**
Proximity to Mine (Yes)	1.49	0.42	0.002***
Family and Social Factors			
School/Childcare Access (Very Important)	0.98	0.37	0.007***
Social Connections (Very Important)	0.62	0.28	0.06

Environmental and Health Factors

Air and Water Quality (Very Important)	1.31	0.36	0.001***
Health Concerns About Mining (Very Important)	0.79	0.29	0.015**
<hr/>			
Number of obs	149		
Pseudo R ² (Nagelkerke)	0.67		
Log-likelihood	-82.34		
Chi-square	0.0000		

N=149, **p-value=0.05, and ***p-value=0.01

Source: Field survey (2024)

4.4.1 Economic Factors

The regression analysis revealed a significant association between miners' income levels and their preference for employer-provided housing. The results revealed that miners earning above GHS 7000 with coefficient of 1.87 at P = 0.01 would demand for more employer-provided housing than those earning below (6.49 times more likely). Likewise, those earning between GHS 5000 to GHS 6000 with coefficient of 1.22 at P = 0.04 would demand for more employer-provided housing than those earning below but less than those earning above GHS 7000 (3.38 times more likely). The result also revealed that those earning between GHS 3000 to GHS 4000 would demand for employer-provided housing less than those with higher income (2.35 times more likely to choose employer housing with a coefficient of 0.85 at p = 0.015). Generally, the regression analysis revealed that miners earning higher income would demand for employer-provided housing than those earning lower income. While no physical assessment of housing units was conducted, respondents often described employer-provided housing as being "better maintained" and "more convenient" than private rentals, citing access to utilities, security services, and proximity to the workplace. For example, one male respondent (aged 40) explained:

“The company houses are well taken care of. You don’t worry about water or electricity interruptions, and repairs are done quickly.”

Household size was also a strong predictor of preference. Miners having household size above 10 with coefficient of 1.75 at $p = 0.000$ would demand for employer-provided housing than those with lower household size. In the same vein, household between 6 and 10 with coefficient of 1.14 at $P = 0.002$ would demand for employer-provided housing than households below it, but less than those with higher family size. However, households between 3 and 5 showed weak significance $P = 0.08$ and low coefficient of 0.55. This indicates that this household size does not consider employer-provided housing as a necessity. Consequently, households with larger sizes would demand more for employer-provided housing than those with lower household size. Larger households often require more living space and stable arrangements; which employer housing appears to provide. One miner with eight dependents stated:

“It’s important to have a house with enough space for my kids to play and grow, and the company houses usually have that.”

Access to employer-provided housing inures to benefits such as subsidised rent, regular maintenance, and utility coverage also significantly increased the likelihood of choosing such housing ($\beta = 2.01$, $p = 0.000$). Respondents frequently associated these benefits with reduced financial pressure, allowing them to allocate more income toward savings or other family needs. The perceived importance of cost was another statistically significant factor. Miners who rated cost as “very important” with coefficient of 1.92 at $P = 0.000$ would demand for employer-provided housing than those who do not rate it as important. Miners who rated cost as important with coefficient of 1.05 at $P = 0.009$ would demand for employer-provided housing than those who do not rate it as important. Generally, those who rated cost as very important would rather opt for

employer-provided housing than those who do not see it as an important factor. This emphasis on affordability was echoed by almost all the respondents. A 33-year-old miner explained:

“Affordability is key for me since I am saving to buy a house in the future. Company housing gives me that chance.”

Economic considerations, particularly income, household size, and cost management, play a central role in shaping residential preferences in the mining sector. The null hypothesis is therefore rejected and the alternate hypothesis accepted.

4.4.2 Work-Related Factors

Work schedules and proximity to the mine emerged as key determinants of miners' housing choices. The regression results indicated that miners whose housing decisions were influenced by proximity to mine site with coefficient of 1.49 at $P = 0.002$ would demand for employer-provided housing more than those who considered work schedules. We therefore reject the null hypothesis and accept the alternate hypothesis. Likewise, those who considered work schedules with coefficient of 0.76 at $P = 0.020$ would also demand for employer-provided housing at a rate that is lesser than those who consider proximity to mine site. Hence, we reject the null hypothesis and accept the alternate hypothesis. The results revealed that proximity in this context was the most important factor that determines miners demand for employer-provided housing. As one 38-yearold miner explained:

“Living close to the mine site is essential because my shifts are long, and I need to minimise travel time to rest and recover.”

Similarly, another respondent highlighted how proximity enhances productivity, stating:

“Being close to work means I can get enough rest and be ready for my next shift.”

Such preferences align with Amenyah and Fletcher’s (2021) observation that location significantly shapes housing choices, as workers often balance convenience against cost.

4.4.3 Family and Social Factors

Family needs especially access to schools and childcare were another important driver of housing preference. Miners who considered these services “very important” with coefficient 0.98 at $P = 0.007$ would demand for employer-provided housing than those who view social connections as very important. We therefore reject the null hypothesis and accept the alternate hypothesis. One 31-year-old father shared:

“I choose housing based on how close it is to my children’s school. Education is my top priority.”

Child-friendly spaces also featured prominently in the narratives. For example, a respondent with young children noted:

“Having a safe compound where my children can play is just as important as the rent price.”

While the statistical association between “social connection” and housing choice was weaker ($\beta = 0.62$, $p = 0.06$), interview responses suggest that informal support networks and community familiarity still influence decisions, even if not strongly reflected in the model outputs. Therefore, we accept the null hypothesis and reject the alternate hypothesis.

4.4.4 Environmental and Health Factors

Environmental and health considerations were statistically significant in shaping housing preferences. Miners who rated air and water quality as “very important” with coefficient 1.31 at P

= 0.001 would demand for employer-provided housing more than those who rated health concerns about mining very important. Hence, we reject the null hypothesis and accept the alternate hypothesis. In the same vein, those who rated health concerns about mining as very important with coefficient 0.79 at $P = 0.015$ would also demand for employer-provided housing at a rate lesser than those who rated air and water quality as very important. Therefore, we reject the null hypothesis and accept the alternate hypothesis. Here, the analysis revealed that those who are concerned about air and water quality see this factor as the most important in their demand for employer-provided housing. Several respondents linked housing choice to access to basic amenities that support a healthy living environment. One miner explained:

“I need housing with reliable water, electricity, and proper sanitation. It’s frustrating when these are missing.”

This mirrors Selim’s (2018) findings that households in urban mining regions often pay higher rents to secure better environmental conditions and infrastructure.

4.4.5 Security and Quality of Housing

Although security and housing quality were not included as variables in the regression model, they featured strongly in respondents’ accounts. Many miners emphasised personal safety and the protection of family members as decisive factors in choosing where to live. One worker stated:

“Security is my number one concern. I want to live in a place where I feel safe, especially at night.”

Others preferred gated communities or housing with formal security systems. Quality of housing, including access to utilities, clean environment, and maintenance was also frequently mentioned. Dissatisfaction with poorly maintained rental units was common among respondents, as illustrated by a 36-year-old miner:

“It’s frustrating when basic amenities are missing or repairs take too long.”

Even in the absence of direct economic or environmental pressures, these security and quality concerns shaped decision-making, underscoring the multidimensional nature of housing preference in the mining context.

4.5 HOUSING RENTAL CHALLENGES FACED BY LARGE-SCALE MINERS

The study examined key challenges faced by large-scale miners in securing and maintaining rental accommodation. Responses were measured on a five-point Likert scale, with 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Table 4.7 summarises the descriptive statistics.

Table 4. 7: Housing rental challenges faced by large-scale miners

Rental challenges	Mean	SD
Expensive Rent	3.01	1.17
Inadequate services	2.96	1.31
Poor housing quality	3.08	1.24
Advance rent payment	3.61	1.25
Lack of legal agreement	2.38	1.13
Lack of maintenance	3.30	1.25

Scale: 1-1.8 = Strongly Disagree, 1.81-2.60 = Disagree, 2.61-3.40 = Neutral, 3.41-4.20 = Agree, 4.21-5.0 = Strongly Agree

Source: Field survey (2024)

The results show that advance rent payment emerged as the most pressing challenge (Mean = 3.61, SD = 1.25), with many miners agreeing that the requirement to pay large sums upfront poses a significant financial burden. This concern was strongly mentioned, with several respondents

highlighting the difficulty in securing accommodation due to demands for one or two years' rent in advance. Lack of maintenance was the second-highest challenge (Mean = 3.30, SD = 1.25). Respondents reported that many rental properties suffer from inadequate upkeep, including faulty plumbing systems, leaking roofs, and poor sanitation facilities. As one miner put it:

“Sometimes you have to fix things yourself or pay extra for repairs before the landlord acts.”

Poor housing quality (Mean = 3.08, SD = 1.24) was also identified as a concern, with complaints about overcrowding, substandard building materials, and lack of basic amenities such as functional kitchens and in-house toilets. Interestingly, lack of legal agreements recorded the lowest mean score (Mean = 2.38, SD = 1.13), indicating that most miners did not perceive the absence of written contracts as a major challenge. While some respondents acknowledged the risks of informal tenancy arrangements, this issue was generally overshadowed by financial and quality-related concerns.

Beyond housing structure and legal arrangements, inadequate services (Mean = 2.96, SD = 1.31) and expensive rent (Mean = 3.01, SD = 1.17) remain notable issues. Respondents particularly cited unreliable water supply, inconsistent electricity, and poor waste management systems. As one respondent shared:

“When water and waste systems don't work well, you end up spending more on health than on rent itself.”

To determine whether miners' perceptions of each rental housing challenge were significantly different from a neutral position (Mean = 3.00 on the Likert scale), a one-sample t-test was conducted. The test compares the observed mean score for each challenge against the neutral value,

where values significantly above 3.00 indicate that respondents generally agreed the challenge was important, and values significantly below 3.00 indicate disagreement (See table 4.8).

Table 4. 8: Miners’ Perception of Rental Housing Challenges

Rental challenges	Mean	SD	df	Mean difference	Std. Error Mean	T	Sig. (2tailed)	Cohen’s d	95% Confidence interval of the difference
Expensive Rent	3.01	1.17	148	0.01	0.096	0.07	0.944	0.01	[2.82, 3.20]
Inadequate services	2.96	1.31	148	-0.04	0.107	-0.37	0.709	-0.03	[2.75, 3.17]
Poor housing quality	3.08	1.24	148	0.08	0.102	0.79	0.429	0.06	[2.88, 3.28]
Advance rent payment	3.61	1.25	148	0.61	0.102	5.99	<0.001	0.49	[3.41, 3.81]
Lack of legal agreement	2.38	1.13	148	-0.62	0.093	-6.67	<0.001	-0.55	[2.20, 2.56]
Lack of maintenance	3.30	1.25	148	0.30	0.102	2.96	0.004	0.24	[3.10, 3.50]

Source: Field survey (2024)

The one-sample t-test analysis (neutral value = 3) indicated that advance rent payment was the most critical rental housing challenge (mean = 3.61, mean difference = 0.61, t = 5.99, p < 0.001, Cohen’s = 0.49). Miners consistently viewed the requirement to pay one to two years’ rent upfront as a significant financial strain. A 25-year-old respondent remarked: *“Paying two years’ rent in*

advance is a huge challenge. It's hard to save that kind of money while managing other expenses,” while another (aged 32) described it as *“a constant stress”*. These findings highlight how advance payment demands, which often exceed the legal six-month limit stipulated in Ghana’s Rent Act, restrict housing accessibility and affordability.

Lack of maintenance was the second most significant challenge (mean = 3.30, mean difference = 0.30, $t = 2.96$, $p = 0.004$, Cohen’s $d = 0.24$), with respondents citing structural neglect, delayed repairs, and landlords’ reluctance to address problems. As a 31-year-old miner explained, *“The houses are often poorly maintained, and landlords take forever to fix even simple problems,”* while another (aged 44) reported having to personally fund repairs.

By contrast, lack of legal agreements was found to be significantly below the neutral value of 3 (mean = 2.38, mean difference = -0.62, $t = -6.67$, $p < 0.001$, Cohen’s $d = -0.55$), indicating that most miners did not perceive the absence of formal tenancy contracts as a major housing challenge. On the other hand, expensive rent (mean = 3.01, mean difference = 0.01, $t = 0.07$, $p = 0.944$, Cohen’s $d = 0.01$), inadequate services (mean = 2.96, mean difference = -0.04, $t = -0.37$, $p = 0.709$, Cohen’s $d = -0.03$), and poor housing quality (mean = 3.08, mean difference = 0.08, $t = 0.79$, $p = 0.429$, Cohen’s $d = 0.06$) were not significantly different from the neutral benchmark, suggesting mixed perceptions among respondents regarding the severity of these challenges. Therefore, we reject the null hypothesis and accept the alternate hypothesis.

Also, affordability concerns were evident in miners’ narratives. For example, a 30-year-old worker explained, *“Rental prices are so high that it’s difficult to find a decent place within my budget,”* while another (aged 40) added, *“The cost of rent keeps going up, but the quality doesn’t match the price.”* Overall, this analysis confirms that financial burdens particularly advance rent payments

and maintenance deficiencies are the most pressing rental housing challenges for large-scale miners. While legal and regulatory issues are less critical, affordability concerns remain for some households, underscoring the need for stronger enforcement of rental regulations and improved housing quality standards. Therefore, we reject the null hypothesis and accept the alternate hypothesis.

Although independent-samples t-tests showed no significant differences between Sunyani and Kenyase on some items, one-sample t-tests confirmed that advance rent (mean = 3.61, $t = 5.99$, $p < 0.001$) and poor housing maintenance (mean = 3.30, $t = 2.96$, $p = 0.004$) were rated as severe problems by the entire sample. The non-significance of other items reflects aggregation bias: junior staff consistently scored challenges above 4.0. Photographic evidence in Appendix II (Photos E1 & E2) visually confirms the widespread nature of ceiling damage, exposed wiring, and uncollected refuse.

4.6 Discussions

4.6.1 Housing Preferences, Quality of Life, and Family Needs

The findings show that miners predominantly preferred semi-detached houses (49.7%) and apartments (28.9%), while fewer people had preference for compound housing and single rooms reflecting a clear desire for privacy, adequate space, and improved living standards. Field narratives confirmed these preferences, with respondents stressing the importance of independent facilities and family comfort.

These preferences can be interpreted through the Theory of Consumer Behaviour, which emphasises that individuals make choices to maximise satisfaction (utility) within the limits of their resources and circumstances (Varian, 2010). In this study, miners expressed strong preferences for semi-detached houses and apartments because these options maximised their utility

by offering greater privacy, security, and family-oriented benefits compared to shared arrangements.

The Price Theory further clarifies these outcomes, particularly the distribution of housing choices across respondents. Price signals in the housing market influence demand by guiding households toward what is feasible within their income and resource levels (Friedman, 2007; Ozer & Phillips, 2012). In this case, miners who selected semi-detached houses or apartments likely did so in response to both their preferences and their ability to meet the associated costs. Conversely, the smaller share of respondents who lived in compound housing or single rooms illustrates how some households adjusted their consumption in line with constraints, demonstrating the role of affordability in shaping choices.

Beyond economics, the Theory of Planned Behaviour (Ajzen, 1991) also provides insight into the miners' choices. The decision to prefer semi-detached houses or apartments is influenced not only by personal attitudes toward comfort and privacy (behavioural beliefs) but also by social expectations (subjective norms) and the miners' confidence in their ability to secure such housing (perceived behavioural control). For instance, narratives in the study revealed that family needs and social aspirations strongly shaped these preferences, highlighting that housing decisions are both rational and socially embedded.

The findings also resonate with a study by Obeng-Odoom (2018). He highlights the symbolic role of housing as both an economic and social good, while Amenyah and Fletcher (2021) confirm that household composition and income constraints remain central to housing demand. Within the mining context, these results suggest that miners' preferences are shaped by both economic rationality (price and affordability) and utility considerations (comfort, family needs, and social aspirations).

4.6.2 Economic and Social Determinants of Housing Choice

Income, household size, and affordability emerged as central determinants of the housing preferences of the miners. Regression results indicated that miners with higher incomes were more likely to access employer-provided housing, while those with lower-income emphasised affordability as a key constraint. Responses from the field reinforced this, with miners frequently citing the balance between cost and quality in their housing decisions.

This is consistent with the Theory of Consumer Behaviour, which suggests that households allocate their income among competing needs to maximise satisfaction. For miners, higher incomes expand their set of feasible housing options, allowing them to choose units that better align with their preferences. Lower-income miners, however, face stronger budget constraints and therefore, compromise on quality or location in order to remain within their financial means.

The findings also align with the Price Theory, which emphasises the relationship between supply, demand, and price (Friedman, 2007). In contexts where housing demand exceeds supply, increase in prices limits access for lower-income earners. The fact that larger households were more likely to prefer employer housing reflects this dynamic: as household needs increase, the price of adequately sized units in the open market may exceed what miners can afford, thereby pushing them toward employer-subsidised housing.

These results mirror national-level observations by Amenyah and Fletcher (2021), who found that affordability remains the dominant factor in Ghana's housing market. Similarly, Agyei and Kyei (2013) observed that family size increases demand for larger and more permanent housing units. In the mining context, the integration of income, price, and family needs explains why

employer-provided housing becomes particularly attractive: it reduces financial burdens while offering adequate space and stability.

The findings confirm that the housing choices of miners are shaped by economic rationality (price signals and affordability constraints) and social considerations (household size and family needs). The combination of the Price Theory and the Theory of Consumer Behaviour provides a comprehensive explanation of how miners balance preferences with financial capacity in making housing decisions.

4.6.3 Work-Related and Environmental Factors in Residential Decision-Making

The findings revealed that miners whose housing choices were influenced by proximity to mine site preferred to live in employer-provided houses than those who considered work schedules. Insights from the field support this, with miners emphasising the need to minimise commuting time due to long shifts.

The Theory of Consumer Behaviour (Varian, 2010) helps explain this pattern, as miners weigh the trade-offs between different housing attributes such as location, cost, and comfort to maximise overall satisfaction. In this case, proximity to work and reduced commuting costs (both financial and physical) increase the utility of employer-provided housing, even when alternatives may be available at lower rents farther from the mine. The Price Theory further clarifies this behaviour by suggesting that where time and transportation costs are high, effective housing “prices” include not only rent but also hidden costs such as commuting expenses, fatigue, and lost rest time (Varian, 2014). Thus, the preference of miners for housing close to the mine reflects a rational adjustment to minimise total living costs.

Environmental and health concerns also emerged as important factors influencing residential decisions. Miners who rated air and water quality as “very important” would significantly opt for employer-provided housing, reflecting perceptions that such housing provides better sanitation, cleaner water, and reduced dust exposure. This is consistent with findings by Selim (2018), who observed that households in environmentally vulnerable regions tend to pay higher rents for improved conditions, and with Gough et al. (2018), arguing that mining companies often establish housing schemes that guarantee basic infrastructure as a way of retaining staff. Similarly, UNHabitat (2022) reports that amenities such as access to clean water and sanitation significantly shape rental housing demand in urban Africa.

Beyond environmental quality, miners also highlighted access to reliable utilities and services as a core factor in their decisions. This aligns with studies by Ballesteros (2014) and Dzangmah (2018), who found that the presence or absence of utilities such as water, electricity, and waste management significantly influence housing affordability and tenant satisfaction in developing countries. In the current study, some respondents expressed dissatisfaction with rented properties that lacked adequate amenities, noting the stress caused by intermittent water supply or unreliable electricity.

The findings illustrate that work-related factor (proximity and schedules) and environmental concerns (quality of air, water, and utilities) combine to shape miners’ residential choices. From the perspective of the Theory of Consumer Behaviour, miners adjust their choices to maximise satisfaction by prioritising location and environmental quality even when costs are higher. The Price Theory reinforces this by showing how these non-rent costs such as time, transport, health risks, and environmental quality are effectively capitalised into housing prices, making employer-provided housing particularly attractive.

4.6.4 Rental Housing Challenges and Policy Implications

The study revealed that the most significant rental housing challenges faced by miners were advance rent payments and poor maintenance of housing units, while issues such as lack of legal agreements appeared less critical. These findings have both economic and policy implications.

From the lens of the Theory of Consumer Behaviour, struggles with advance rent payments reflect the constraints imposed by limited liquidity (Quigley & Raphael, 2004). While miners may have sufficient income to cover monthly rents, the demand for one to two years advance in rent represents a financial burden that exceeds their immediate purchasing capacity. This misalignment between income flow and rental payment structures reduces utility, as miners must either deplete savings or compromise on preferred housing options. Respondents described this as a major source of stress confirming Peppercorn and Taffin's (2019) observation that rigid rental arrangements disproportionately disadvantage workers in transitional housing markets.

The Price Theory also explains these outcomes, as advance rent payments effectively raise the “shadow price” of housing beyond its nominal monthly rent. By demanding large upfront sums, landlords reduce the effective affordability of units, thereby restricting access for many miners.

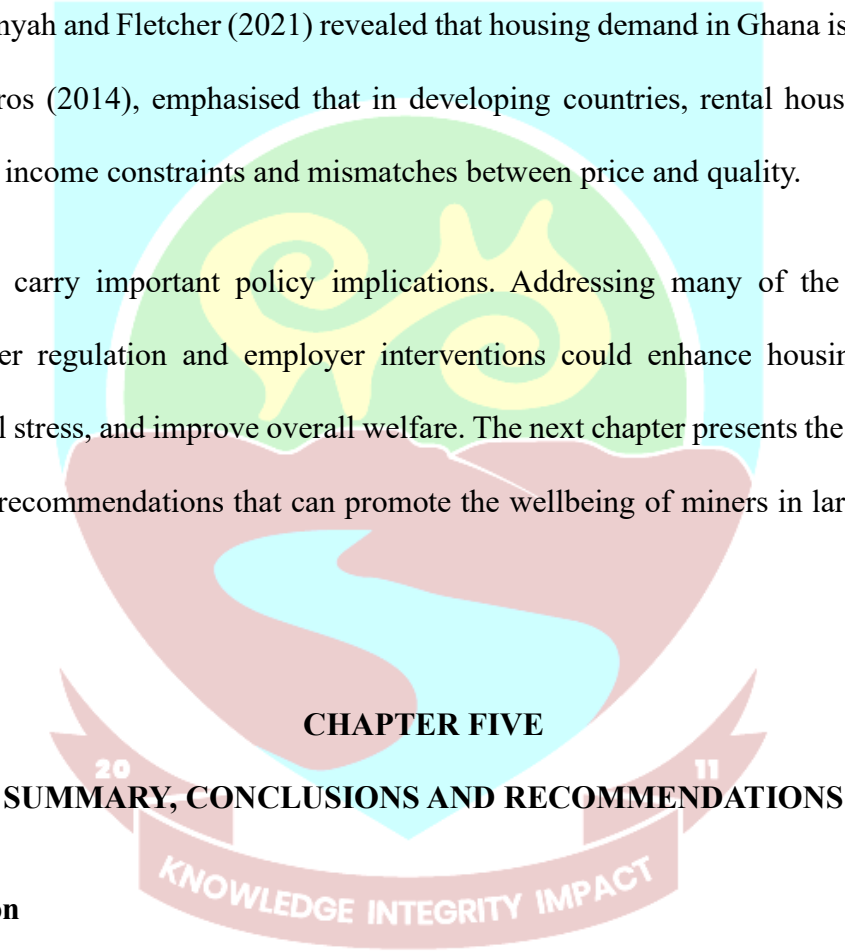
This echoes findings by Osei-Tutu and Adjei-Kumi (2019), who reported that the high and inflexible cost of housing in Ghana remains a major constraint on access. Moreover, despite the Ghana Rent Act (1963) capping advance rent at six months, weak enforcement allows landlords to continue demanding two years upfront, as also highlighted by Ehwi, Asante, and Gavu (2024).

Poor housing maintenance emerged as another key challenge, with respondents citing leaking roofs, broken plumbing, and delayed repairs. These housing problems reflect a broader problem identified by UN-Habitat (2022), which notes that in many African urban contexts, maintenance

deficiencies make rental housing inferior to owner-occupied housing. However, Consumer Behaviour some miners tolerate poor maintenance despite dissatisfaction: their choices are constrained by affordability and availability. For many, the utility of securing shelter outweighs the disutility of poor conditions, leading to acceptance of substandard housing.

Affordability concerns were also raised, though they did not emerge as statistically significant in the t-test. Amenyah and Fletcher (2021) revealed that housing demand in Ghana is price-sensitive, whilst Ballesteros (2014), emphasised that in developing countries, rental housing markets are shaped by both income constraints and mismatches between price and quality.

These findings carry important policy implications. Addressing many of the housing issues through stronger regulation and employer interventions could enhance housing accessibility, reduce financial stress, and improve overall welfare. The next chapter presents the summary of the major finding, recommendations that can promote the wellbeing of miners in large scale mining companies.



5.1 Introduction

This chapter presents the key findings of the study on housing and residential preferences among large-scale miners, with a specific focus on staff of Newmont Ghana Gold Limited in the Ahafo Region. The chapter begins with a summary of the study’s background and objectives, outlines the major findings, and proceeds to draw conclusions. It then proposes recommendations directed at

various stakeholders and concludes with the limitations of the study and suggestions for future research.

5.2 Summary of the Study

The primary aim of this study was to investigate the housing and residential preferences of largescale miners, focusing on staff of Newmont Ghana Gold Limited. Specifically, the study pursued three objectives:

- (i) to identify the housing units preferred by large-scale miners at Newmont Ghana Gold Limited
- (ii) to assess the factors that influence the housing preferences of large-scale miners at Newmont Ghana Gold Limited
- (iii) to assess the housing rental challenges faced by large-scale miners at Newmont Ghana Gold Limited

The review of related literature provided both empirical and theoretical foundations for the study. Housing was consistently emphasised as a fundamental human need and a prerequisite for social and economic development (UN-Habitat, 2010; Obeng-Odoom, 2018). Literature also highlighted rental housing as an important alternative for urban residents who are unable to afford home ownership, particularly in contexts of rapid urbanisation. At the same time, several studies documented the persistent challenges in Ghana's housing sector, including affordability issues, poor maintenance, and inadequate regulatory enforcement. Both economic factors (such as income and rent levels) and non-economic factors (such as household size, proximity to work, and access to services) were identified as central determinants of residential

choice, reflecting the interaction between demand- and supply-side dynamics in housing markets.

To address the research objectives, the study employed a concurrent descriptive mixed-method design under the pragmatist paradigm, integrating both quantitative and qualitative data. Primary data were collected using questionnaires and semi-structured interview guides. A total target population of 275 staff was considered, from which a sample of 163 respondents was drawn using a convenience sampling technique.

Quantitative data were coded into IBM Statistical Packages for Social Sciences (SPSS) version 27 and were analysed using descriptive statistics, specifically, frequency, percentage, mean and standard deviation. The inferential statistics were analysed using logistic regression model, and one-sample t-test, while qualitative data were coded and subjected to thematic content analysis. The results were presented in tables and narrative summaries to provide a holistic understanding of the housing experiences of miners.

5.3 Key Findings of the Study

- ❖ The results showed that miners predominantly preferred semi-detached houses (49.7%) and apartments (28.9%), with only a small proportion residing in compound houses or single rooms. In terms of dwelling size, two-bedroom units (50.3%) and three-bedroom units (28.9%) were most preferred, reflecting household size and family needs. Insights from respondents reinforced these preferences, as miners consistently emphasised the need for privacy, adequate space, and family comfort. Satisfaction with current housing was

moderate, with 56.4% reporting satisfaction, though many younger staff indicated that their present housing was only temporary and not their ideal choice.

- ❖ The findings revealed that housing choices were shaped by multiple interrelated factors. Higher income levels increased access to employer-provided housing, while affordability concerns were particularly significant for lower-earning miners. Household size also strongly influenced preferences, as larger families required more spacious dwellings. Proximity to the mine and work schedules were critical in determining housing options that minimised commuting and aligned with long shifts. Air and water quality, sanitation, and basic infrastructure were found to also influence housing preferences, with employer housing often perceived to offer better conditions. Among these factors, the work-related factors mainly proximity to work with (β) = 1.49 and p-value = 0.002*** was the main factor that influence large scale miner's choice of housing and residential preferences.
- ❖ The results indicated that advance rent payment was the most significant challenge, confirmed by a one-sample t-test ($t = 5.99, p < 0.001$). Miners expressed difficulty with paying one to two years' rent in advance, which strained household finances. Poor housing maintenance was the second most significant challenge ($t = 2.96, p = 0.004$), with respondents reporting issues such as leaking roofs, faulty plumbing, and delayed repairs. By contrast, lack of legal agreements was rated significantly below neutral ($t = -6.67, p < 0.001$), indicating it was not perceived as a widespread issue. While expensive rent, inadequate services, and poor housing quality were not statistically significant, qualitative responses still highlighted affordability pressures, especially in Sunyani, where rents are considerably higher than in Kenyase.

5.4 Conclusions for the Study

The study set out to investigate the living and dwelling decisions of mass miners in Newmont Ghana Gold Limited and, in the process, has unearthed a lot of information on the interrelationship between occupational needs, economic facts, social needs, and institution structures.

- ❖ Objective 1: to identify the housing units preferred by large-scale miners at Newmont Ghana Gold Limited - The study indicates that residential decisions among miners are a long way from merely accessing shelter but are greatly determined by ideas of family stability, privacy, status, and standard of living. In this instance, the home turns into a basic desire and a marker of social upward mobility. Large-scale miners at Newmont Ghana Gold Limited favour contemporary private homes. The most popular types are semidetached homes (49.7%) and apartments/flats (28.9%). This indicates a definite preference for privacy, space, security and family comfort over conventional shared homes.
- ❖ Objective 2: to assess the factors that influence the housing preferences of large-scale miners at Newmont Ghana Gold Limited - Elucidating these choices through the theories of the Price Theory and the Theory of Consumer Behaviour demonstrates miners' dual nature in decision-making. Affordability and restricted budget guide miners towards certain forms of housing at one level, following the economic principle of price and demand. On the other hand, social expectations, family requirements, and personal tastes reveal how calculative reason and subjective norms shape behaviour beyond economic reason. This theoretical connection highlights that housing preference emerges from both social meaning and calculative reason.
- ❖ Objective 3: to assess the housing rental challenges faced by large-scale miners at

Newmont Ghana Gold Limited - The study also emphasises the persistent barriers in Ghana's rental housing sector. Advance payment of rents and unseemly maintenance practices contribute to the weakening of miners' ability to render their options for housing consistent with their ambitions, even when their income levels are reasonably stable. These challenges reflect broader structural shortcomings in the enforcement of rental legislation and provision of tenant protection, which suggests that the limitations facing miners are both as structural as they are individual.

In general, the research confirms that residential choice for large-scale miners is complex, representing a precarious balance between economic affordability, occupational convenience, social well-being, and institutional restriction. Placing these findings in embedded economic and behavioural theory, the research does not only provide an empirical account of miners' experience of housing but also a conceptual model explaining household choice and linking it to broader structural forces within Ghana's housing market.

5.5 Recommendation to the Study

The following recommendations were made based on the findings of the study:

5.5.1 Recommendations for Miners

To improve housing outcomes for large-scale miners, it is important to strengthen both collective initiatives through miners' associations and individual strategies that enhance housing affordability and quality. The following measures are proposed:

- **Employer-Supported Housing Schemes:** Mining companies, in collaboration with workers' welfare associations, could expand employer-provided housing units or negotiate partnerships with private developers to deliver affordable housing that aligns with miners' preferences.
- **Housing Finance and Savings Mechanisms:** Welfare associations can establish dedicated savings and loan schemes tailored for housing. This would allow miners to accumulate funds gradually and access low-interest loans for rent advances, home construction, or renovations. Such schemes could be modelled on existing cooperative credit systems in Ghana.
- **Tenant Education and Advocacy:** Miners' associations can play a stronger role in educating members about their rights under the Rent Act, 1963 (Act 220), and advocating collectively for fair rental practices. Through this, miners can better navigate challenges such as excessive advance rent demands.
- **Collective Bargaining for Rental Agreements:** Associations may also consider negotiating block rental agreements with landlords in areas like Sunyani and Kenyase, where many miners reside. Such collective arrangements could secure more favourable rental terms and reduce the burden of individual negotiations.

5.5.2 Recommendation for Policy Makers

To strengthen housing delivery and improve affordability for miners and other workers, policy makers should consider the following:

- **Strengthen Rent Control Enforcement:** The Rent Control Department should actively monitor rental housing markets in Sunyani, Kenyase, and other mining communities to ensure compliance with rent advance regulations and prevent exploitation of tenants.

Policy direction: Enhance Rent Control operations by establishing dedicated monitoring teams, enforcing mandatory certification of rental units and implementing fines or sanctions for non-compliant landlords. Public education initiatives led by the Rent Control Department and the Municipal and District Assemblies should also be developed to improve knowledge of tenants' rights and landlord obligations.

- **Ensure Minimum Standards in Rental Housing:** Municipal and District Assemblies (e.g., Asutifi North, Asutifi South, and Sunyani Municipal Assembly) should establish monitoring teams to inspect and certify that rental units meet basic facility standards (e.g., water supply, sanitation, and safe electrical connections) before they are let out.
- **Incentivise Landlord Compliance:** Government could reduce or subsidise property taxes for landlords who register with the Rent Control Department and comply with fair rental practices, thereby encouraging formalisation of rental markets and reducing tenant vulnerability.

5.5.3 Recommendations for Land lords

Landlords are key stakeholders in shaping the rental housing experience of miners. Their actions directly affect the quality, affordability, and reliability of housing. The following recommendations are proposed:

- **Maintain Housing Quality:** Landlords should be monitored by the Sunyani Municipal Assembly and Asutifi North/South District Assemblies to carry out routine maintenance on rental units to prevent structural deterioration and health risks for tenants.

- **Adhere to Rental Regulations:** The Rent Control Department should enforce existing laws to ensure landlords comply with legal agreements and fair rental practices, protecting both landlord and tenant rights.
- **Participate in Registration Schemes:** Landlords should be encouraged by the Rent Control Department to register their properties formally, which enhances transparency, reduces disputes, and supports effective rent regulation.

5.6 Limitations of the Study

1. This research was not without limitations as in the case of every empirical study. First, while the study employed a mixed-methods approach, the quantitative data relied heavily on self-reported responses from miners. Such responses are subject to recall bias and potential exaggeration, which may affect the accuracy of reported expenditures, household size, and housing preferences.
2. Second, the study was geographically limited to miners in the Sunyani Municipality and the Asutifi North and South Districts. Although these areas are key sites of mining activity, the findings cannot be generalised to all mining communities in Ghana, where housing markets and living conditions may differ significantly.
3. Third, income data and rental expenditure patterns were collected in ranges rather than exact figures. While this approach facilitated respondent cooperation, it limited the depth of analysis, particularly in correlating income with housing preferences.

5.7 Suggestions for Future Studies

Further studies should be undertaken to assess the effect of rental housing challenges on the spatial and economic (socio-economic) wellbeing of large-scale miners in Ghana. There is the need to research into the local potentials that exist for effective housing supply in Ghana. This will help

identify the prospects and challenges of the existing housing delivery system and enable us to resolve the supply deficient system in Ghana. There is also the need to evaluate the existing control framework for housing delivery in Ghana. This involves the evaluation of how the existing legal, regulatory and institutional frameworks for housing is responsive to our current housing development needs.

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APPENDICES

APPENDIX I

UNIVERSITY OF ENERGY AND NATURAL RESOURCES SUNYANI
SCHOOL OF GEOSCIENCES
DEPARTMENT OF GEOGRAPHY AND SUSTAINABILITY SCIENCES
QUESTIONNAIRE

This questionnaire is to seek for information on housing and residential preferences among large scale miners, a case study of Newmont Ghana Gold Limited staff in Ghana. Your participation in the exercise is very much needed. Responses will be clearly used for academic purposes and so any information given by respondent will be treated as confidential as possible. Your anonymity is also assured. Thank You.

SECTION A

Demographic Data

Instruction: (Tick [] the applicable option)

1. Gender
 - a. Male
 - b. Female
2. Age
 - a) a. 20-30 years
 - b) b.31-40 years
 - c) c. 41 and above years
3. Marital Status
 - a. Married
 - b. Divorced
 - c. Separated
 - d. Single
4. Religion
 - a) Christianity
 - b) Islam

- c) Traditionalist []
- d) Others []

5. Professional Status

- a. Senior Staff []
- b. Junior Staff []

6. Work Experience

- a) Less than 1 year []
- b) 1-5 years []
- c) b. 6-10 years []
- d) c. 11 and above years []



SECTION B

HOUSING AND RESIDENTIAL PREFERENCES OF MINERS

Instruction: Please kindly provide answers to the following questions on your current living situation

6. Where is your current location?
 - a. Sunyani []
 - b. Kenyase []
 - c. Others []
7. What type of housing do you currently occupy?
 - a. Semi-detached house []
 - b. Flat/Apartment []
 - c. Compound house []
 - d. Single room []
8. How long have you lived in your current residence?
 - a. Less than 1 year []
 - b. 1-5 years []
 - c. 6-10 years []
 - d. 11 years and more []
9. How satisfied are you with your current living situation?
 - a. Very Dissatisfied []
 - b. Dissatisfied []
 - c. Neither dissatisfied nor satisfied []
 - d. Satisfied []
 - d. Very Satisfied []
10. What type of house/residence do you prefer to stay in?
 - a. Semi-detached house []
 - b. Flat/Apartment []
 - c. Compound house []
 - d. Single room []
11. What type of dwelling unit do you prefer in your house?
 - a. Chamber and hall []

b. Two bedrooms []

c. Three bedrooms and above []

12. How much do you spend on:

i. Rent

a. Less than GHS 500.00 []

b. GHS 500.00 - GHS 1099.00 []

c. GHS 1100.00 – GHS 1599.00 []

d. GHS 1600.00 – GHS 2000.00 ii. []

Electricity.....

a. Less than GHS 500.00 []

b. GHS 500.00 - GHS 1099.00 []

c. GHS 1100.00 – GHS 1599.00 []

d. GHS 1600.00 – GHS 2000.00 iii. []

Water

a. Less than GHS 500.00 []

b. GHS 500.00 - GHS 1099.00 []

c. GHS 1100.00 – GHS 1599.00 []

d. GHS 1600.00 – GHS 2000.00 []

iv. Internet

a. Less than GHS 500.00 []

b. GHS 500.00 - GHS 1099.00 []

c. GHS 1100.00 – GHS 1599.00 []

d. GHS 1600.00 – GHS 2000.00 []

v. Clothing

a. Less than GHS 500.00 []

b. GHS 500.00 - GHS 1099.00 []

c. GHS 1100.00 – GHS 1599.00 []

d. GHS 1600.00 – GHS 2000.00 []

vi. Food

a. Less than GHS 500.00 []

b. GHS 500.00 - GHS 1099.00 []

c. GHS 1100.00 – GHS 1599.00 []

d. GHS 1600.00 – GHS 2000.00 []



SECTION C

FACTORS THAT INFLUENCE HOUSING AND RESIDENTIAL PREFERENCES OF LARGE-SCALE MINERS

Instruction: Please kindly provide answers to the following questions below.

Economic Factors

- 13. What is your income level?
 - a. GHS1000.00-GHS2000.00 []
 - b. GHS 3000.00-GHS 4000.00 []
 - c. GHS 5000.00-GHS 6000.00 []
 - d. GHS 7000.00 and Above []
- 14. What is your family size/household size?
 - a. Less than 3 []
 - b. 3-5 []
 - c. 6-10 []
 - d. Above 10 []
- 15. How important is cost when considering housing options?
 - a. Not Important []
 - b. Neutral []
 - c. Very Important []
 - b. Important []

Work-Related Factors

- 16. Does your work schedule determine your housing needs
 - a. Yes []
 - b. No []
- 16a. If No, why?

.....

- 16b. If yes, how does your work schedules (rotating shifts, long hours impact your housing needs?

.....

- 17. Do you require housing close to the mine site?
 - a. Yes []
 - b. No []
- 17a. If No, why?

.....

- 17b. If yes, how does your house being close to mine site impact your housing needs?

.....

Family and Social Factors

- 18. How important is access to schools and childcare when choosing a residence?
 - a. Very Important []
 - b. Important []
 - c. Neutral []

d. Not Important []

19. Do you have family members who live with you?

a. Yes []

b. No []

20. How important is community and social connections in your housing decision?

a. Very important []

b. Important []

c. Neutral []

d. Not Important []

Environmental and Health Factors

21. How important is access to outdoor recreation and natural environments in your housing decision?

a. Very Important []

b. Important []

c. Neutral []

d. Not Important []

22. Are you concerned about the impact of mining on your health and well-being?

a. Very Important []

b. Important []

c. Neutral []

d. Not Important []

23. How important is air and water quality in your housing choice?

a. Very Important []

b. Important []

c. Neutral []

d. Not Important []

24. Would you prefer housing with features that reduce exposure to environmental hazards? a. Yes []

b. No []

24a. If No, why?

24b. if yes, why?

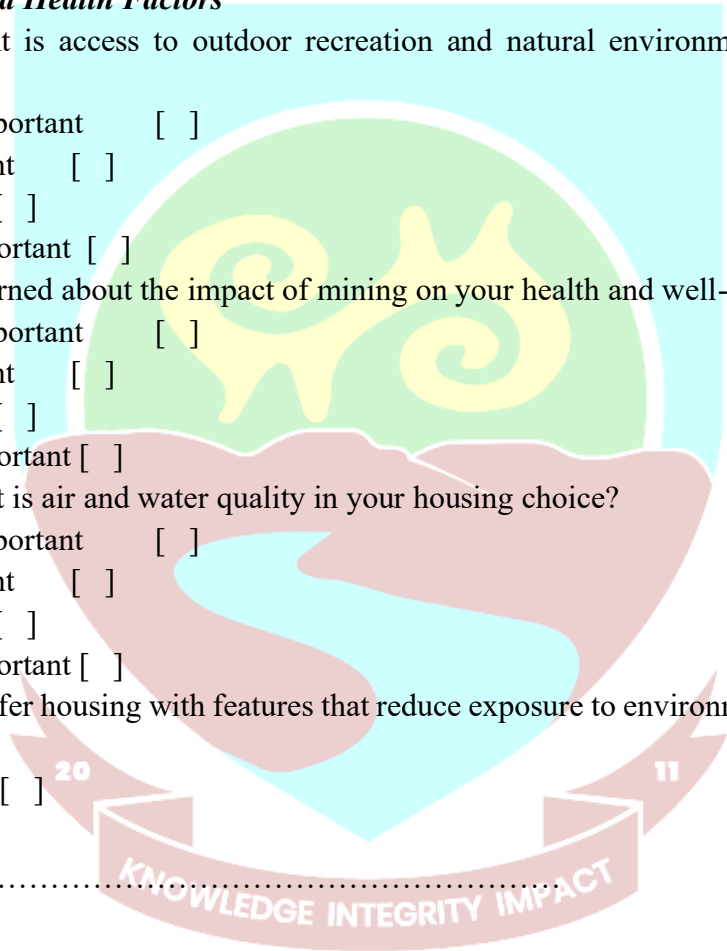
25. How important is access to healthcare and medical services in your housing decision?

a. Very Important []

b. Important []

c. Neutral []

d. Not Important []





SECTION D

HOUSING RENTAL CHALLENGES FACED BY LARGE-SCALE MINERS

Instruction: Please tick (✓) in the appropriate column to indicate whether you Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) or Strongly Agree (SA).

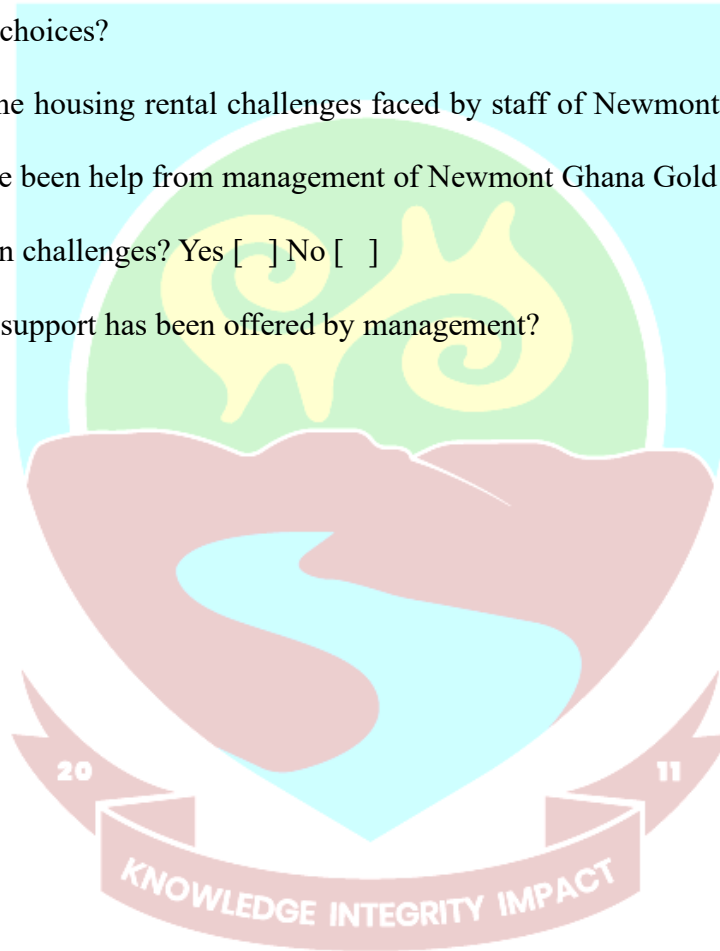
	Variables	SD	D	N	A	SA
26	Expensive Rent					
27	Inadequate services					
28	Poor housing quality					
29	Advance rent payment					
30	Lack of legal agreement					
31	Lack of maintenance					



UNIVERSITY OF ENERGY AND NATURAL RESOURCES SUNYANI
SCHOOL OF GEOSCIENCES
DEPARTMENT OF GEOGRAPHY AND SUSTAINABILITY SCIENCES

INTERVIEW GUIDE FOR NEWMONT GHANA-AHAFO KENYASE PLANT SITE MANAGEMENT

1. Age
2. For how many years have you worked at Newmont Ghana Gold Limited?
3. What type of house/resident do you prefer as a staff of Newmont Ghana Gold Limited?
4. In your opinion, what are the factors that influence staff decisions on housing and residential choices?
5. What are the housing rental challenges faced by staff of Newmont Ghana Gold Limited?
6. Has there been help from management of Newmont Ghana Gold Limited towards accommodation challenges? Yes [] No []
7. If yes, what support has been offered by management?



APPENDIX II PHOTOGRAPHIC EVIDENCE OF POOR HOUSING CONDITIONS IN PRIVATE

RENTALS OCCUPIED BY NEWMONT STAFF

Photo E1



In a chamber and hall unit used by junior employees of Newmont Ghana Gold Limited, Kenyase, June 2024, Photo E1 depicts

significant ceiling damage that occasionally exposed electrical cables. This demonstrates

the chronic lack of maintenance (mean = 3.30, t = 2.96, p = 0.004) and critical bad housing quality (mean

= 3.08, t = 0.79, p = 0.429) that respondents stated. Tenant granted photograph of only ceiling solely for anonymity



Photo E2

Uncollected waste and overgrown compound in a multi-family rental block occupied by staff of Newmont Ghana Gold Limited, Kenyase, June-2024. This demonstrates the pervasive substandard compound and

sanitation challenges faced in the private rental market.