

**FINANCING AFFORDABLE HOUSING FOR UNIVERSITY
WORKERS-THE CASE OF KWAME NKRUMAH
UNIVERSITY OF SCIENCE AND TECHNOLOGY**

by

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**A Thesis submitted to the Institute of Distance Learning, Kwame
Nkrumah University of Science and Technology in partial fulfillment of
the requirements for the degree of**

**COMMONWEALTH EXECUTIVE MASTERS OF BUSINESS
ADMINISTRATION**

APRIL 2012

DECLARATION

I hereby declare that this submission is my own work towards the Executive Masters of Business Administration and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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.....
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Supervisor Name Signature Date

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Prof. I. K. Dontwi
Dean, IDL Signature Date

DEDICATION

To the glory of Almighty God, I dedicate this research to my wife Sandra Agyapong and our wonderful twin boys-Jerome Yaw Asamoah and Jude Yaw Asamoah.

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ACKNOWLEDGEMENT

I thank Almighty God for giving me life to do this research. Special thanks go to my Supervisor, Mr. Clifford Amoako of the Department of Planning, KNUST-Kumasi.

I am grateful to Messrs Aristotle Ayensu, Eric Paul Tudzi, DeGraft and all those who assisted me in diverse ways.

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ABSTRACT

Housing is very essential for human survival. Housing investment funds, Household income levels, family size, rent payments for housing units, terms of residential tenancies, housing loan repayment conditions, price of building construction materials, government policy framework on housing provision, Private Sector initiative on housing and poor savings habit have bearing on the concept of housing affordability. Generally speaking, housing deficit is experienced all over the world and Public Institutions in Ghana are no exception.

In view of the above, this study attempted to highlight on issues involved in financing Affordable Housing for University Workers-The case of Kwame Nkrumah University of Science and Technology (KNUST). To achieve the goal of the study, the following objectives were accomplished-Finding out Categories of KNUST Staff Housing, Housing Finance Options for KNUST Staff and Alternative Arrangements for KNUST Staff Housing. Challenges and Prospects of financing Affordable Housing and ways to improve KNUST Staff Housing were also considered in the objectives of the study.

The study resorted to the use of Qualitative and Quantitative Research Approaches. The study used questionnaires and interviews to collect data from Respondents. Statistical Package for Social Scientists (SPSS) was used in Data Analysis. The source of Primary Data for the study was from responses of Respondents. Publications, Journals and World Wide Web (Internet) formed the core of Secondary Data for the study.

The study revealed that inequity in KNUST Staff Housing Policy, funding arrangements and cost of building construction materials are the major challenges associated with Affordable Housing provision for KNUST Staff. The prospects of the study were job creation, Staff motivation and employment of high calibre Staff to ensure effective and efficient teaching and learning at KNUST. The study recommended holistic approach (Self-Initiative and engagement of the Private Sector) to provide more avenues for KNUST Staff to have access to Affordable Housing Units. The study also highlighted on how payment of Staff Housing Incentives (Rent Subsidy and Owner-Occupier Allowance) could be repackaged to serve the housing needs of all KNUST Staff irrespective of conditions of service. The study was concluded by urging all Stakeholders in the Housing Industry to take measures to vigorously promote the interest of Affordable Housing Investment for the good of mankind.

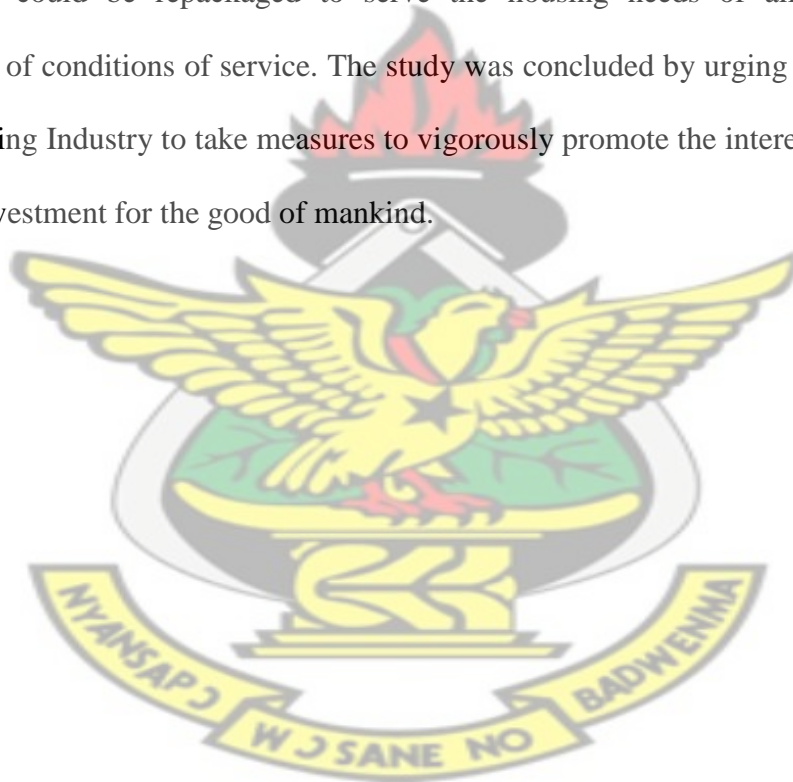


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LIST OF ABBREVIATIONS

AHURI	Australian Housing and Urban Research Institute
CDD	Centre for Democratic Development
CIH	Chartered Institute of Housing
ERSO	Experimental Reimbursable Seeding Operations
HFK	Housing Finance Kenya
HUD	Housing and Urban Development
IDL	Institute of Distance Learning
KNUST	Kwame Nkrumah University of Science and Technology
NACHU	National Cooperative Housing Union
NGO's	Non-Governmental Organizations
PAYE	Pay As You Earn
PHAs	Public Housing Authorities
QAPU	Quality Assurance and Planning Unit
SPSS	Statistical Package for Social Scientist
UNCHS	United Nations Commission on Human Settlement
UN-Habitat	United Nations Human Settlements Programme
PPSP	Public Private Sector Partnership

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CHAPTER ONE

THE ESSENCE OF AFFORDABLE HOUSING PROVISION

1.1 Background of the Study

In the opinion of Odoi and Akpey (1988), housing is a shelter or habitat set within a living environment and comprising infrastructural facilities like water supply, electricity, sanitation and other social services such as schools, clinics and shops.

United Nations Commission on Human Settlements (UNCHS), observed that there should be adequate shelter to make human settlement safer, healthier, livable, equitable and productive (UNCHS, 1996). This calls for discussion on Affordable Housing issues since Households are unique in terms of income earning capacities and desire for suitable residential accommodation. Houses are classified according to types, sizes and materials used for their construction. The nature of houses determines whether they are reasonably affordable or expensive.

Housing and Urban Development (HUD) of United States of America (USA) declared that housing affordability should not go beyond 30% of Household income (HUD, 2010). Australian Housing and Urban Research Institute (AHURI) stated that housing affordability refers to the capacity of Households to meet housing costs while maintaining the ability to meet other basic costs of living (AHURI, 2004). Chartered Institute of Housing (CIH) in the United Kingdom identified four (4) key variables that determine whether accommodation is affordable or expensive. These variables are rent levels, Household income, type of Household and eligibility of Household for housing benefits. Rent levels determine the willingness and ability of the Tenant to opt for residential accommodation of his/her choice. Household income is related to how much a Household has at its disposal to spend on decent Affordable Housing. The type of

Household is in connection with family size and its corresponding demand for suitable housing unit. Household eligibility for housing benefits depends on government legislation or policy framework on housing (CIH, 1992).

According to CHF International, Strategic Assessment of Affordable Housing Sector in Ghana indicate that previous governments attempt to subsidize housing production for the benefit of formally employed Workers has been unsustainable (CHF International, 2004). The Policy Brief of Bank of Ghana estimated that housing requirement in Ghana from the year 2001-2010, shall increase from 2,240,220 to 2,847,244 (Bank of Ghana, 2007).

Given the picture of housing deficit in Ghana, Employees of Public and Private Sectors shall bear the brunt of housing affordability. In the opinion of Ward (1982), there had not been strong collaboration between Private and Public Sectors to adequately increase supply of Affordable Housing Units. Real Estate Developers are concerned with profitable supply of Housing Units where *'ability and will'* to pay is paramount.

In the assertion of Australian Housing and Urban Research Institute (AHURI), acute shortage of Affordable Housing Units may create gaps in income levels between the rich and poor. AHURI further pointed out that differentials in housing affordability between areas may create labour market impediments by inhibiting migration to high employment and high cost locations and conversely encouraging migration to low employment and low cost areas (AHURI, 2007).

Affordable Housing investment demands collaboration between all Stakeholders in the Housing Industry. Housing problems are unending and the earlier steps are taken to curb shortages in housing production, the better for mankind.

It is the aim of this study to make suggestions as to how strategies could be fashioned out to address pertinent issues on Affordable Housing provision for Workers of Public Institutions in Ghana, of which KNUST Staff is no exception.

1.2 Statement of the Problem

The Corporate Strategic Plan of KNUST, christened PLAN2K14, revealed that deficiencies in the supply of KNUST Staff Accommodation have resulted in low levels of employee motivation (KNUST, 2005).

KNUST has Staff population of 3,309 comprising 882 Senior Members, 834 Senior Staff and 1,593 Junior Staff. The University has 567 Housing Units with the breakdown as follows-263 Senior Members Housing Units, 92 Senior Staff Housing Units and 212 Junior Staff Housing Units. It is worthy to note that 17.14% of KNUST Staff population enjoys University Housing Units (University Accommodation) and 82.87% are not entitled to University Accommodation (KNUST Estate Office Records, 2005).

As a result of distance to work, lateness, low job turnovers, ever increasing rent advance and despicable terms of residential tenancy agreements; majority of University Staff who are not accommodated by the University desire University accommodation, which they perceive to be '*affordable and convenient*'. The vast difference between Staff population and number of University Housing Units depicts huge Staff Housing deficit (KNUST Estate Office Records, 2005).

As per KNUST PLAN2K14, the University acknowledges the fact that Staff accommodation is essential to its development agenda. KNUST is experiencing academic expansion but existing Staff Housing Units have not seen significant increase in terms of

supply. In the midst of resource constraints, KNUST introduced Rent Subsidy and Owner-Occupier Allowance Schemes as Staff Housing Incentives to ease pressure on Staff accommodation. These Affordable Housing Schemes are meant for only Senior Members and few Chief and Principal Technicians in the Senior Staff category. Junior Staff, Senior Technicians and Technicians in the University are not entitled to Rent Subsidy and Owner-Occupier Allowance (KNUST Estate Office Records, 2005).

It is the aim of this study to suggest options that could streamline Affordable Housing issues for KNUST Staff.

1.3 Objectives of the Study

The goal of this study is how to finance Affordable Housing for KNUST Staff.

To accomplish this goal, the following specific objectives were accomplished:

1. To find out categories of Housing Units for KNUST Staff.
2. To find out Housing Finance Options for KNUST Staff.
3. To find out Alternative Arrangements for KNUST Staff Housing.
4. To identify Challenges and Prospects associated with provision of Affordable Housing for Staff of KNUST.

1.4 Research Questions

Research Questions of this study are as follows:

1. What are the categories of Housing Units for KNUST Staff?
2. What are the Options of Housing Finance for KNUST Staff?

3. What are the Alternative Arrangements for KNUST Staff Housing?
4. What are the Challenges and Prospects associated with Affordable Housing Scheme for KNUST Staff?

1.5 Scope of the Study

Although there are several Universities in Ghana, the study was restricted to KNUST based on proximity. The study is aimed at investigating how Affordable Housing could be provided for KNUST Staff to boost Employee motivation and productivity. The research discusses and analyzes the system of housing for KNUST Staff in the last three (3) years, that is, from 2009 to 2011.

This period was considered because of increased attention on housing problems for KNUST Staff and this is evidenced in the rush for Residential Accommodation Application Forms when vacant University bungalows are advertized.

1.6 Relevance of the Study

Ghana is saddled with problems of adequate supply of Affordable Housing to its citizens. The output of this research will contribute to knowledge and serve as basis for Policy Makers to make informed decisions relating to Affordable Housing Investments.

This research can provide database that will assist policy formulation in Affordable Housing Investment and can also serve as standpoint of moulding thoughts on Housing Policies in a Corporate Environment like KNUST.

Adequate supply of Affordable Housing is a phenomenon that is essential for human development. Majority of KNUST Staff are living outside University Campus and are affected by commuting distances to work. Central to the core business of the

University is teaching and learning. Where economically reasonable options of Affordable Housing Finance Scheme are available, Staff Members employed are motivated and this could reduce incidence of absenteeism, lateness and lower job turnovers that negatively impact on productivity.

Availability of decent Affordable Housing could bring about employment of high calibre Staff Members to promote the ideals of KNUST in the sphere of teaching and learning.

When Affordable Housing is increased in supply, University Staff could also be insulated from the grips of high rent advances and unreasonable terms of residential tenancies.

1.7 Organization of the Study

This study covers five (5) chapters. Chapter One (1) looks at introduction, problem statement, research questions, objectives, scope, relevance, organization and limitation of the study.

Chapter Two (2) gives an overview of financing Affordable Housing by reviewing works done by Experts in housing. This chapter dealt with definition of housing, types of housing, factors affecting demand and supply of Affordable Housing, types of Affordable Housing Schemes, financing options of housing, prospects and challenges associated with Affordable Housing provision.

Chapter Three (3) highlighted on Research Methodology and Profile of Study Area. The Research Methodology gave a view of how this study was carried out in the context of Research Design, Research Processes, Sampling Procedures and Data Collection.

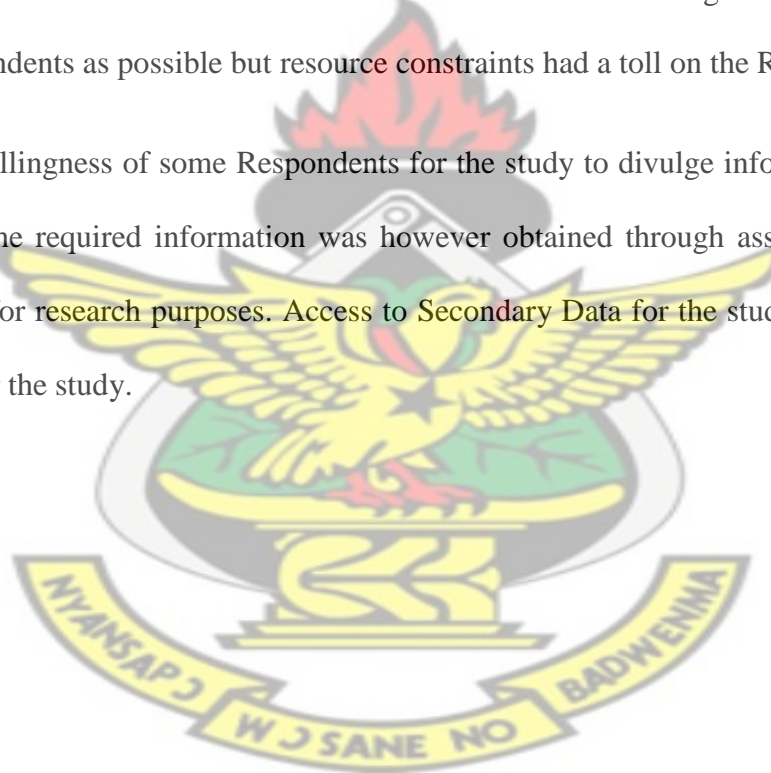
Chapter Four (4) dealt with Data Presentation, Discussion and Data Analysis. This chapter focused on Affordable Housing Options for KNUST Staff.

Chapter Five (5) was dedicated to Summary of Findings, Recommendations and Conclusion of the study. There was emphasis on Direction for Further Research in connection with the study.

1.8 Limitations of the Study

This research was carried out at KNUST and does not reflect general views of Employees of all Universities in Ghana. The ideal situation was to get feedbacks from as many Respondents as possible but resource constraints had a toll on the Researcher.

Unwillingness of some Respondents for the study to divulge information affected the study. The required information was however obtained through assurance that data collected is for research purposes. Access to Secondary Data for the study posed a major challenge for the study.



CHAPTER TWO

REVIEW OF CONCEPTS IN HOUSING PROVISION

2.1 Introduction

The study reviewed both empirical and theoretical literature on the subject under consideration. This chapter captured definition of housing, types of housing, factors affecting demand and supply of Affordable Housing, types of Affordable Housing Schemes, types of housing finance, prospects and challenges associated with Affordable Housing provision.

This chapter gives insight into how measures could be taken to promote sound housing investment to consolidate housing affordability for Employees of Public Institutions.

2.2 Definition of Housing

According to United Nations Commission on Human Settlement (UNCHS), housing is the residential environment, neighbourhood, micro-district or the physical structure that man uses for shelter and the environs of that structure including all necessary services, facilities, equipment and devices needed for the physical health and social well-being of the family and the individual (UNCHS,1996).

In the opinion of Linn (1983), housing can be defined to include not only the structure of the shelter but also the plot on which the shelter stands. Housing is viewed from two (2) diametrically opposed philosophical perspectives. The first school of thought sees housing as economic or investment good. The second school of thought views housing as a vehicle for meeting the shelter needs of lowest income groups (Kemeny, 1992).

Clapham et al (1990) argued that housing provision could be viewed as market model or social democratic model. The market model suggests that social aims in housing are best pursued with a minimum of State intervention. The social democratic model is of the mentality that State intervention is required to secure a just distribution of various rights of citizenship in relation to housing. Housing is an embodiment of comfort, amenity and convenience. It includes provision of services such as water, telephone, electricity, waste disposal and drainage facilities; security and fire protection. Housing must be considered in relation to its surroundings and basic infrastructure necessary for its functionability.

It could be inferred that housing provision should be under absolute or partial control of government of a country. Housing provision must meet aspirations of Stakeholders in housing industry with respect to contentious issue of affordability. Housing provision gives an idea as to types of houses needed for habitation. A discussion on types of housing could show how housing is classified.

2.3 Types of Housing

Housing is the single most important land use in towns and represents a very significant proportion of all planning applications for development (Linn, 1983). For the purpose of this study, discussion on Public Housing and Rental Housing is considered.

2.3.1 Public Housing

Public Housing is a form of housing, which emphasizes the role of the State in helping to provide housing for the poor in the society (Van Vliet, 1990). Ball (1988) stated that Public Housing is provided at a price, which is not principally determined by

profit motive. Public Housing is allocated according to housing need and subject to considerable State regulation.

Public Housing are owned and operated by Public Housing Authorities (PHAs). The central government pays for the original capital cost of housing development and gives support for ongoing cost of building maintenance. Public Housing residents generally spend 30% of their income on rent. About 1.2 million Public Housing units are available for the poor in the United States of America (HUD, 2003).

All things being equal, rent paid for Public Housing must be reasonably far below economic rent and any approach to Public Housing Project calls for absolute or partial government intervention. Power (1993), revealed that Government-Provided Housing and Government-Sponsored Housing are the two (2) broad approaches to Public Housing investment. The former involves large scale government ownership and management of housing units disengaged from market rents. The housing units under Government-Provided Housing are strictly allocated according to need. The latter approach is one that is nearer market rents and independent Landlords with the support of government are commissioned to build, allocate and manage Government-Sponsored Housing to serve public interest.

Ogunshakin and Olayiwola (1992) stated that “Official interventions in housing are politically necessary options aimed at the control and regulation of the contents of housing through the urban space in order to prevent a disruption of the system or the total collapse of the prevailing social superstructure of the society. Private market mechanisms cannot meet the housing needs of the low income groups nor do they have incentives to embark on housing for a segment of the population that cannot pay for it”.

The State is seen as powerhouse in Public Housing projects. It provides regulatory framework and logistic support to make Public Housing project successful. What is left is identification of those in need of Public Housing and affordable rent payable. If the State is unable to fully support Public Housing, few entities that could assess funds take advantage of the housing industry and invest in Rental Housing.

2.3.2 Rental Housing

Martin and Nell (2002) were of the view that Rental Housing and home ownership create a healthy and vibrant housing sector. Each offers a range of choices to meet lifestyle and economic needs of Consumers. Housing policy should therefore strive to create both forms of tenure in order to promote vibrant housing sector.

According to HUD (2003), housing market is closely connected to Household income, which is determined primarily in labour markets. It is assumed that Households maximize their happiness or utility by consuming within the limits of their budget. Each Household must decide on their preferred mix of housing and non-housing consumption. Generally, a Household acts as a “Price Taker,” because it either accepts or rejects rent set by a Landlord. To get different rent for housing, Household must choose housing unit of different quality or location.

The quantity of Rental Housing demanded by Households in a particular housing market depends on population changes, Household formation, income, quality of housing units, local amenities and prices of housing units. The quantity of Rental Housing supplied to a particular housing market is a function of housing unit prices, land values, construction costs, maintenance costs, vacancy rates, cost of capital and return on investment (De Leeuw and Ekanem, 1971). If price of Rental Housing unit is greater than land value plus construction and maintenance costs, it is signal to Producers to supply

more housing units. Increases in house prices stimulate production of housing units. Increases in land value, construction cost and maintenance cost reduce supply of housing units in an economy. Land value is determined by competition from Housing Developers and non-residential uses. Construction costs are largely driven by labour cost and cost of building materials. If return on Rental Housing is higher than return on another investment of equal risk (in the stock market, for example), then more capital will be supplied for producing Rental Housing. Rental Housing is common all over the world (De Leeuw and Ekanem, 1971).

Generally speaking, condition of Rental Housing reflects the state of overall housing stock and depends on a country's housing policy. Tenants in Rental Housing bracket are sometimes torn between paying high or low rent in their quest for a decent accommodation. Some could not endure long periods of high rent advances, insecure tenancies and poor housing conditions. The least they could afford is to squeeze themselves and procure vacant unencumbered plot of land and build progressively or incrementally, based on specified building construction schedule and available resources.

2.4 Factors Affecting Demand and Supply of Affordable Housing

Households ultimately choose homes that maximize their utility subject to budget constraints (O'Sullivan, 2003). Budget constraints have bearing on demand and supply interactions in the housing market. Factors affecting demand and supply of Affordable Housing are discussed below:

2.4.1 Household Income on Accommodation

According to O'Sullivan (2003), Household normally spends between two (2) and three (3) times its annual income when purchasing a home and are also required to make large down payment. Abrams (1971) stated that if housing is produced and supplied at

lower unit cost, new dwellings could be built in large numbers. Arnot (1987) was of the notion that as mortgage rates decrease, Households may have greater incentive to invest in purchasing homes that are considerably affordable and will therefore demand less Rental Housing units.

Housing is big investment and few people could afford. Those who cannot afford housing investment automatically become Renters or Squatters of houses in which they perceive to have their housing and other personal satisfaction. If housing units are available and suitable, housing rents become relatively affordable.

2.4.2 Availability and Suitability of Housing Units to Households

The supply of Affordable Housing units continues to decline as Landlords find it more profitable to convert government subsidized units into market rate apartments and luxurious condominiums. The economic boom has resulted in the gentrification of once affordable neighborhoods forcing low income residents to either pay more than the recommended share of income on housing costs or relocate to less adequate housing (Song, 2000).

A study by Rohe et al (2001) shows that people who are satisfied with their homes and neighbourhoods are more productive at work.

The desire of property owners to maximize returns in housing investment could create shortage in housing units. Price paid for housing coupled with disposable income of prospective Tenants militates against issues of availability and suitability of housing units. An attempt to build is dependent on type and cost of construction materials.

2.4.3 Types of Construction Materials for Housing Provision

Price of building construction materials determines whether housing unit could be demanded and supplied at highly expensive or reasonably affordable rates to Household.

Investors in the housing industry are saddled with ever increasing prices of building construction materials for housing projects.

Agus (2000) was of the notion that price increase of raw materials such as cement, steel bars, bricks and timber affect housing affordability.

2.4.4 Location of Housing Unit

The location of housing unit could influence its affordability. Sommerville and Holmes (2001) developed a model depicting movement of housing units into and out of the affordable housing market. They found out that Affordable Housing units located in an area heavily concentrated with unaffordable housing units are more likely to become unaffordable themselves.

The quality of housing units depends on location where high income Households pick the best places to live and over time protect their chosen properties with zoning regulations that create obstacles for low cost housing (HUD, 2003).

2.4.5 Availability of Financing Options

An attempt by Investors to fund Affordable Housing projects is not an easy task. UN-HABITAT is of the opinion that financing Affordable Housing is frustrating and when funds are available, unreasonably high interest rates and unfriendly or stringent terms of loan repayments are disincentive to Affordable Housing investment (UN-HABITAT, 2008).

2.4.6 Government Policy Framework on Housing

Government housing policy could determine availability and affordability of housing units. This depends on commitment of the State to vigorously pursue social welfare programmes.

South Africa, Singapore, Cuba and Sweden have the best success stories in providing housing for the poor. Minimum standards for housing and services have been

laid out by the State and a viable market for low cost housing has been established through subsidy programme. This has been made possible through establishing partnership with housing institutions, communities, Private Sector and Non-Governmental Organizations (NGOs). Accordingly, 1.4 million houses with secure tenure have been constructed in the last ten (10) years for the poorest of the poor (European Journal of Economics, Finance and Administrative Sciences, 2010: Issue 19).

2.5 Types of Affordable Housing Schemes

According to United Nations Commission on Human Settlements (UNCHS), Affordable Housing is increasingly becoming a scarce commodity in many cities in developing world due to rapid population growth. People are homeless in the sense that they live in insecure or temporary structures or in squatter settlements (UNCHS, 1996). Types of Affordable Housing Schemes as fashioned out by an Educational Institution, State and Private Sector are outlined below:

2.5.1 Affordable Housing Scheme of an Educational Institution-The case of Harvard University in United States of America (USA)

Harvard University in United State of America (USA) has helped to put up more than 4,350 units of Affordable Housing in its Boston and Cambridge Campuses. The University decided to boost provision of Affordable Housing units by investing US\$20million for over 20years in 2% low interest loans. The US\$20million Affordable Housing Investment was christened Harvard 20/20/2000 Initiative.

Harvard 20/20/2000 Initiative creates and preserves Affordable Housing for low and middle income residents in its Cambridge and Boston Campuses. Affordable Housing Scheme was created in response to growing need for Affordable Housing following the

end of rent control in the 1990s, during which Boston and Cambridge Campuses witnessed skyrocketing housing costs while Federal and State resources declined.

Duration of tenancy in Harvard University's Housing Unit is one (1) year renewable and rent payable varies depending on type of accommodation. For example, Studios cost US\$1,440-US\$1,634 per year and one (1) bedroom convertibles cost US\$1,804-US\$1,990 per year. Rent payable includes all utilities and internet services depending on the nature of housing unit. Rent reviews for all Harvard Housing Units do not exceed 1% of the existing rent payable. The University could offer its Tenants to pay existing rent or new market rent, whichever is lower as a result of extension of tenancy. In terms of rent payment, Harvard University Faculties could determine rents below market rate as a form of financial aid to Tenants. Rents are paid via deductions from monthly salaries of Staff Members.

Maintenance of Harvard University Housing Units is at no cost to Tenants and Maintenance Team gives quick responses to all maintenance requests on '*all-day- all-night*' schedules. The University provides central security systems for all categories of Staff via application of Biodata Software. It is estimated that Harvard 20/20/2000 houses at least 65% of Harvard University Community. Affordable Housing Initiative of Harvard University has facilitated in the building of 16 new affordable condominiums at Harvard University Community like Creighton Commons (Source: www.HarvardUniversity.com).

2.5.2 Affordable Housing Scheme of a State-The case of the government of the Republic of Ghana

The Gold Coast Annual Report (1947) of the Republic of Ghana traced the efforts of successive governments of Ghana in connection with Affordable Housing initiative as follows:

The four (4) year Development Plan of 1944 had an objective of resolving acute urban housing problem in Accra, Sekondi Takoradi and Kumasi-these areas were in dire need of housing because of industrialization, urbanization and population growth. Low Cost but well designed houses were constructed using local raw materials. The housing provision project was not satisfactory to augment housing supply.

The Development Plan of 1951 to 1958 sought to continue with the ideals of housing provision under the four (4) year Development Plan of 1944. The demand for housing exceeded supply and Housing Development Loan Scheme (HDLS) was introduced for individuals who want to own houses. Whoever wanted the HDLS has to pay 20% of the total cost of the residential property and the loan repayment was at an interest rate of 2.5%. The Ministry of Works and Housing administered the Housing Development Loan Scheme with budgetary allocation of 2 million Pounds Sterling. The housing scheme failed because of cash flow, demand and supply problems.

From 1959 to 1964, housing policy of government paved way for individual home ownership and Public Housing. The Ghana Housing Corporation (GHC) was established to provide housing for high, middle and low income groups. The housing units built was 6700 with the distribution as follows: high income group-200 housing units, middle income group-1500 housing units and low income group-5000 housing units. The low income group was given an offer of subsidized rents and the middle and high income

groups were given the option of owning the housing units they live in either by outright sale or hire purchase with 5% interest on outstanding balance. The government used 6.8% of its resources to promote Affordable Housing. Cash flow problems and non-involvement of the Private Sector killed the housing initiative. In the intervening period of 1964 to 1970, the Private Sector was involved in housing provision. The government and Private Sector contributed 55% and 45% of their resources respectively to promote housing in Ghana. Sites and services were developed and whoever wants to own a landed property has a repayment period of 15 to 20 years depending on the terms and conditions of house ownership.

From 1968-date, there had been efforts to solve the problem of Affordable Housing provision via state, private sector and technical partnership. The famous Low Cost Housing Programme of 1972 to 1975 made tremendous impact in providing 40,000 housing units out of the targeted 60,000 housing units.

In the fourth Republic of Ghana, the GH¢30million Affordable Housing Initiative for about 8,000 Affordable Housing units and STX US\$10billion for 200,000 Affordable Housing under the forth Republic of Ghana are yet to see the light of the day and subsequently reduce housing deficit.

2.5.3 Affordable Housing Scheme by Private Sector-The case of the Lilayi

Housing Estate in the Republic of Zambia

The Lilayi Housing Estate is situated approximately 10km south of downtown Lusaka, the capital of the Republic of Zambia. The Lilayi Housing Estate has a housing stock of 3700 housing units, constructed to International ISO 9001:2000 Standards including paved roads, storm-water drainage, hot and cold water, electricity, sewerage, schools, clinics, worship centres, shopping areas, transport networks, recreational and

sports facilities, security services (Police and Fire Services) and Estate Management Office.

A typical two (2) bedroom house cost One Hundred and Ninety Five Million Kwacha (K195, 000,000) and three (3) bedroom flat is offered for Two Hundred and Eighty Five Million Kwacha (K285, 000,000) based on the Home Ownership Scheme of Lilayi Housing Estate. The Home Ownership Scheme enables you to pay monthly installments over a maximum period of fifteen (15) years, once an initial minimum down payment of 20% of the price of the housing unit has been made.

The Home Ownership Scheme is available for all Zambian citizens and permanent residents in Zambia. The mortgage rate for Home Ownership Scheme is fixed at 14% for the entire repayment period for home ownership for fifteen (15) years. Mortgage interest rate is partially indexed against the United States Dollar allowing prospective home owners to benefit from rises in the Zambian Kwacha but exposing them to a Dollar Linked Liability. As per the provisions in the Home Ownership Scheme, monthly mortgage repayments made by prospective home owners is less than 28% of their gross monthly income. All housing prices are subject to change before final sales documents are signed. Once contracts are signed, prices are fixed for the entire repayment period for home ownership (Source: www.lilayi housing estate.com).

From the issues above, there is clear indication of the need to provide adequate supply of housing units to reduce homelessness. The question of housing investment funds was brought to bear as well as the capacity of the individual, government and Private Sector to get the needed resources for better Affordable Housing unit. It looks as if stakeholders in the housing industry are trying to provide adequate housing but their efforts are not enough to create sufficiency and self-reliance in housing investment. A

look at housing finance could provide the needed mechanisms to finance Affordable Housing.

2.6 Housing Finance

King (2009) defined housing finance as what allows for production and consumption of housing. Housing Finance is a major factor that determines the quality and tenure of housing consumption, overall financial portfolio of the public, stability and effectiveness of the financial system (Diamond and Lea, 1992).

Struyk and Turner (1986) and Stephens (2000 & 2002) argued that housing finance plays an important role in shaping a country's wider housing system and the housing system takes important social and economic consequences. It stands to reason that development of a viable housing finance system could positively impact on housing policy directions.

The position of Scholars on housing finance varies depending on the aspect of housing. Omirin (1998) researched into land accessibility and low income housing in metropolitan Lagos and based on her analysis of house builder's behaviour of selected low income earners of Lagos, she posited that it is wrong notion to continue to rank land accessibility as the greatest constraint of house builders. She stated that lack of finance and escalating cost take precedence over land accessibility.

Malpass and Murie (1991) depict the need for housing finance. They asserted that in order to build a house, a builder brings together land, labour and materials using borrowed money to finance housing project. They further made distinction between development finance and consumption finance. The former refers to money, which is needed to pay for the initial construction of housing whereas the latter refers to the ways

in which households meet the cost of buying or renting. What consumers need is some method of spreading the cost of housing over a long period, thereby reducing cost to an affordable proportion of regular income in terms of housing affordability.

According to Rakhodi (1991), finance for house construction and purchase is in very limited supply in the third world. The formal sector housing finance is only available to small portion of urban population.

Bichi (2002) differentiated between housing affordability and housing finance affordability. Housing affordability is generally an issue of absolute poverty-households that cannot afford minimum housing standard available and require assistance. Housing finance affordability describes the problem of low and moderate income groups with regard to high cost of housing finance.

Housing finance is the money we use to build and maintain the nation's housing stock. It also refers to the money we need to pay for housing in the form of rents, mortgage loans and repayments. The high cost of housing in relation to incomes means that consumers and other Stakeholders of housing industry require some method of spreading that cost over long time. An outline of types of housing finance is crucial in an attempt to find answers to sources of funds for housing projects.

2.7 Types of Housing Finance

Chiquier and Lea (2009) were of the opinion that various types of housing finance are limited and this affect growth and development of housing industry.

The types of housing finance discussed in this study are UN-Habitat's source of housing finance called Experimental Reimbursable Seeding Operations (ERSO),

Mortgage Financing, Personal or Group Savings and Public Private Sector Partnership in housing finance.

2.7.1 Experimental Reimbursable Seeding Operations (ERSO)-UN-HABITAT

Source of Housing Finance

Experimental Reimbursable Seeding Operations (ERSO) operates on the basic premise of providing loans for affordable housing development for the poor in the society. The impact of ERSO FUND is that over 1,760 low income households in Nicaragua, Nepal, Kenya, Uganda, Tanzania, Bangladesh and Palestine have benefited from the ERSO FUND. The major challenge to ERSO FUND is regular income and judicious management practices to yield desired return on housing investment. ERSO FUNDING PROGRAMME is designed to become a self-sustaining by:

- i. Constructing Affordable Housing units that would reach low income salaried workers of public institutions; and
- ii. Providing good leadership drive in Affordable Housing investment programmes via institution of housing loan schemes and access to capital market.

2.7.2 Mortgage Financing

Ferguson states (in Porteous, 2006) that only a quarter to a third of households in most emerging markets can afford mortgage to purchase the least expensive developer built housing unit. ERSO FUND has partnered Housing Finance Kenya (HFK) to provide over 100 mortgages for low income groups to facilitate access to affordable housing and this has considerably reduced burdens in Affordable Housing acquisition (UN-HABITAT, 2007).

Supply of mortgages has been limited by low incomes and savings habits. The recent financial crisis has had negative impact on housing finance systems and particularly deterred commercial provision of mortgage finance (UN-HABITAT, 2009).

2.7.3 Household or Cooperative Savings

Housing finance could be possible through household savings supplemented by small credits. However, low income households typically pay very high rates for housing as and when they borrow (Mitlin, 2008). Rutherford (2000) corroborated statement by Mitlin (2008) that low income households are affected by unreasonably high interest rates and terms of repaying housing loans.

People can form Cooperative Unions to boost housing supply. According to 2010 UN-HABITAT REPORT on Organization, Management and Financing of Cooperative Housing in Kenya, the National Cooperative Housing Union (NACHU) in Kenya has been able to support 200,000 people through its membership drive to have access to Affordable Housing (UN-HABITAT, 2010).

Neither the Public nor Private Sector has had it rosy in terms of funding housing projects. This calls for mutual collaboration via Public Private Sector Partnership (PPSP) in housing finance.

2.7.4 Public Private Sector Partnership in Housing Finance

Public Private Sector Partnership (PPSP) is a contractual arrangement between public sector agency and private whereby resources and risks are shared for the purposes of delivering a public service or developing public infrastructure (Hardcastle & Boothroyd, 2003).

Public Private Sector Partnership duly represents a strong expansion of regime theory, which attempts to explain how governments enact their civil and political goals (Austin & McCaffrey, 2002).

In the opinion of Salsich (1999), Affordable Housing provision via Public Private Sector Partnership is due to various governments' intention to be facilitators of housing provision rather than actual providers of housing.

Private Sectors face problems when dealing with the Public Sector. The position of Hardcastle & Boothroyd (2003) was that some of the risks faced by the private partner include inability to complete intended development, lack of support from the public partner and insufficient revenues from the project. The public partner faces risks like non-completion of projects and potential for malfeasance in housing investment.

Problem of qualitative housing has been a concern for both government and Private Sector and these entities make effort through various activities to bridge the gap between housing supply and demand but the cost of building materials, deficiency of housing finance arrangement, stringent loan conditions from mortgage banks, government policies amongst other problems have affected housing delivery significantly (Raji, 2008).

According to the Governing Council of the United Nations Human Settlements Programme (UN-Habitat) in 2009, a strategy was proposed to focus on promoting Affordable Housing Finance system through Public Private Sector Partnership as follows:

- i. Developing guidelines for Public Private Partnerships and building the capacity of public institutions to negotiate such partnerships;
- ii. Promoting innovative ways to support private sector provision of housing finance;

- iii. Facilitating access to private sector resources for Affordable Housing Finance through savings schemes, microfinance, community funds and flexible mortgaging; and
- iv. Ensuring the provision of serviced land and infrastructure to encourage Private Sector investment in housing (UN-HABITAT, 2009).

2.8 Challenges of Financing Affordable Housing

African cities are experiencing some of the fastest rates of urbanization in the world. The most striking aspect of these urbanizing cities is the extent of informal development. It is not just the urban poor that live in informal settlements but modest and middle income households are unable to access Affordable Housing (UN-Habitat, 2005).

That notwithstanding, challenges of Affordable Housing provision could be spelt out in the context of financial constraints, building standards, confused state of land tenure and delays in land title registration.

2.8.1 Financial Constraints

As per the assertions of De Soto (2000), housing investment is demands sufficient funds. Studies have shown that it is not easy to come by collateral security to obtain financial facility for housing investment. This has really disqualified potential mortgagors from the housing industry.

Ferguson (1999) posited that characteristics of traditional mortgage market do not suit conditions of low or moderate income households. The quest to finance decent housing affects Estate Developer and Consumer of the housing unit. Neither the Builder nor the Consumer can readily obtain Affordable Housing finance in a country; many housing Developers have difficulty obtaining funding for their projects (Quayson, 2007).

In Ghana, only 5% of those who want to own a house can do so from their own resources, 60% would need some form of financial assistance and remaining 35% are not capable of owning or building a house in their lifetime (Derban, 2002).

At least three major reasons can be singled out for the inability of majority of the population in developing countries to get access to housing loans-these are absence of good collateral, informality and instability of income and lack of information on Borrowers. Banks tend to offer short term credit to large enterprises with better information and financial strength. Instability in income combined with long maturity makes housing finance a very risky business for Commercial Banks. (Erhard, 1999).

2.8.2 Building Standards

Building standards are essential for public health, structural safety and aesthetic value and these can increase cost. Building standards are sometimes set beyond affordability levels (Moavenzodeh, 1987).

Choguill (1985) observed that imposition of high standards in housing makes it difficult for low income groups to meet repayment requirements under full cost recovery policies; a factor which puts their properties in jeopardy. Moreover, these standards are designed along western lines and are not modified to suit local requirements.

2.8.3 Confused State of Land Tenure and Delays in Land Title Registration

According to Report by Centre for Democratic Development (CDD) in Ghana, lack of uniformity, administrative requirements and dualism in land tenure is risky for an effective housing finance market (CDD Report, 2000).

The 2004 World Bank Report estimated that registering formal ownership/lease over a piece of unencumbered land in Ghana is the third longest registration process in the world (World Bank, 2004).

2.9 Prospects of Financing Affordable Housing

The benefit of quality Affordable Housing to every nation is extremely massive; it impacts on the economic, socio-cultural and political life of people; it provides shelter for sleep; serve as a shield against elements of the weather and other hazards; it affects efficiency and stability of a whole economy and financial markets; and hence has a significant impact on the productivity and growth of all nations (Ethiopian Journal of Environmental Studies and Management Vol.3 No.3 2010.).

The prospects of financing Affordable Housing are addressed in relation to increase in house ownership and job creation.

2.9.1 Increase in House Ownership

Advancement in the housing industry could lead to increase in home ownership and vibrant rental market. Formation of Housing Development Cooperatives lowers individual housing costs and offer economies of scale in housing development. Indian Housing Cooperatives enjoy preferential treatment in the allocation of government land, credit and other subsidies such as low interest rates and duty exemptions and this effectively increases supply of housing units (Sukumar, 2001).

In China, housing market was liberalized during the late nineties. For people living in sub-standard living conditions, a one-time equity grant based on the market value of their existing housing are given to enable them access mortgage instruments. Land leases are auctioned to Developers to supply housing on a home ownership basis. Developers are provided incentives in the form of tax exemptions and China has developed more than 20 million housing units during the last five (5) years.

Chile has pioneered in the upfront capital subsidy programme in housing for the poor since 1977 and has set aside 5.8 % of its national budget for providing such

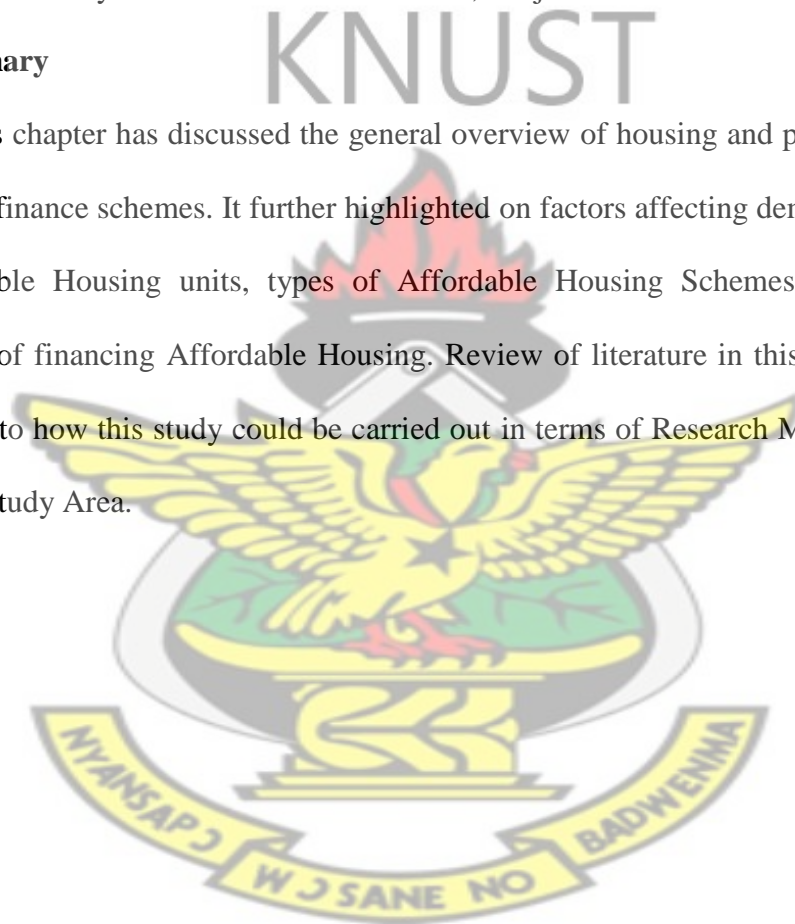
subsidies (European Journal of Economics, Finance and Administrative Sciences, 2010: Issue 19).

2.9.2 Job Creation

It is important to note that Affordable Housing investment has the tendency to provide employment in a country. Wood (2004) revealed that \$61.4 million paid by the United States Department of Housing and Urban Development (HUD) to housing providers eventually resulted in the creation of 1,100 jobs.

2.10 Summary

This chapter has discussed the general overview of housing and pointed out types of housing finance schemes. It further highlighted on factors affecting demand and supply of Affordable Housing units, types of Affordable Housing Schemes, prospects and challenges of financing Affordable Housing. Review of literature in this chapter has set the tone as to how this study could be carried out in terms of Research Methodology and Profile of Study Area.



CHAPTER THREE

RESEARCH METHODOLOGY AND PROFILE OF STUDY AREA

3.1 Introduction

This chapter discussed Research Design, Research Processes, Sources of Data, Population of the study, Sampling Techniques and Sample, Data Requirements and Sources of Data Requirements; Method of Data Analysis and Profile of Study Area.

3.2 Research Design

According to Jankowicz (2000:190), research design is defined as the deliberately planned arrangement of conditions for the analysis and collection of data in a manner that aims to combine relevance to research purpose with the economy of procedure.

The idea behind research design is that different kinds of data gathering are combined so that the data will be:

- i. relevant to the thesis or argument that will be presented;
- ii. an adequate test of the thesis;
- iii. accurate in establishing causality in situations where the researcher wish to go beyond description to provide explanations for whatever is happening; and
- iv. capable of providing findings that can be generalized to situations other than those of the immediate organization.

This research is aimed at obtaining an understanding of how Affordable Housing could be financed for Employees of Public Institutions. There are many Universities in Ghana and for the purpose of this study; KNUST was used as a Case Study because of proximity.

In view of the above, the study adopted the use of interviews and questionnaires to provide insight into the issue under consideration. The study also opted for Case Study Approach because it has the advantage of allowing for a thorough description and analysis. Case Study Approach focus on variables (policies, processes, people and other factors) that have bearing on the research and thereby providing basis for further studies in the subject under review.

3.3 Research Processes

This research went through different stages before completion and at each stage an approach or various approaches were adopted to ensure the success of the study. At each stage of the research, problems encountered had their respective solutions. Research Processes for the study are discussed below:

3.3.1 Definition of Problem and Preparation of Project Synopsis/Proposal

A problem (Social, Cultural, Technological, Religious, Economic, Political and Environmental) must be identified before research is carried out. In conducting research, attention should be given to '*Research Topic*' that has connection with problem identification.

The Research Topic must be of interest to promote growth and development. There was difficulty in selecting '*Research Topic*' and that originality, availability of Secondary Data and Primary Data were duly considered. After considering all factors in relation to the study, the research was restricted to Affordable Housing Finance for University Workers-the case of KNUST.

Project Proposal was submitted for approval and problem definition or identification was contentious. To enrich the project proposal, the research was guided by the thoughts of the Project Topic.

Resources (Time and Funds) posed challenges for the research and the hurdle was cleared by reasonably dealing with relevant issues (general and specific) of the project work.

3.3.2 Review of Relevant Literature

After selecting Research Topic and dealt with problem definition or identification, literature on the housing industry was obtained to review works done by Experts in the housing industry. It was not easy getting updated or current literature but Secondary Data like Publications, Journals, Textbooks and Internet did the trick.

3.3.3 Design of Field Survey Instruments

Considering the nature of the study, a Case Study Approach was adopted. Simple and Purposive Random Sampling Techniques were used to select Respondents (Staff Members, Estate Officer, Finance Officer, Head of Quality Assurance and Planning of KNUST) for the study.

Questionnaires and Interviews were used in data collection for the research. Determination of Sample Size was hectic but application of De Vaus Formula ensured accurate adoption of Sample Size. Data Collection problems were resolved by assuring Respondents of confidentiality of information given for the research.

3.3.4 Data Analysis and Reporting

Data Analysis and Reporting were based on Findings of the research. A clear demonstration of Data Analysis and Reporting was by the use of Qualitative (Use of Valid Statements) and Quantitative (Use of Mathematical Statements) Approaches.

The problem associated with Data Analysis and Reporting were resolved by the use of Statistical Package for Social Scientists (SPSS).

3.4 Sources of Data

The study used Primary Data and Secondary Data. Primary Data was obtained from responses of KNUST Staff, Estate Officer, Finance Officer and Head of Quality Assurance and Planning Unit, after administering questionnaires and conducting interviews based on the sample size. Secondary Data was obtained from Publications, Websites, Reports and Journals.

3.5 Data Requirements and Sources of Data Requirements

The following were the data requirements for the study:

- i. Categories of KNUST Staff Housing;
- ii. Housing Finance Options for KNUST Staff accommodation;
- iii. Alternative Arrangements for KNUST Staff Housing;
- iv. Challenges and Prospects of KNUST Staff Affordable Housing investment; and
- v. The way forward to improve KNUST Staff Housing.

The sources of data collection were Estate Office, Finance Office, Quality Assurance and Planning Unit (QAPU), Senior Members, Senior Staff and Junior Staff of

KNUST. A summary of data requirements and sources of data requirements are presented in the table below:

Table 3.1 Data Requirements and Sources of Data Requirements

Data Requirements	Sources of Data Requirements
Number and types of University houses.	Estate Officer, KNUST
Number of Staff in University houses.	Estate Officer, KNUST
Number of Staff in rented premises.	Estate Officer, KNUST
Number of Staff in Owner-Occupier.	Estate Officer, KNUST
Rent paid by Occupants of University houses. Challenges and prospects of Affordable Housing Project. Rent Subsidy and Owner-Occupier Allowance paid to qualified Staff.	Estate Officer, KNUST
University Housing Policy.	Estate Officer, KNUST
Rent paid by Staff in University Houses.	Finance Officer, KNUST
Rent Subsidy and Owner-Occupier Allowance paid to qualified Staff.	Finance Officer, KNUST
Challenges of Staff Housing Finance.	Finance Officer, KNUST

Researcher's Work, August, 2011

Table 3.1 Data Requirements and Sources of Data Requirements Continued

Data Requirements	Sources of Data Requirements
Views on Affordable Housing Finance.	Finance Officer, KNUST
Staff accommodation status, Staff housing finance options, alternative arrangements of Staff housing, prospects and challenges associated with Affordable Housing Provision.	KNUST Staff
Views on Affordable Housing investment.	KNUST Staff
Comprehensive KNUST Staff List.	Head of Quality Assurance and Planning Unit (QAPU), KNUST

Researcher's Work, August, 2011

3.6 Population

For the purpose of this study, the population consists of Estate Officer, Finance Officer, Head of Quality Assurance and Planning Unit, Senior Members, Senior Staff and Junior Staff of KNUST.

3.7 Sampling Techniques

Purposive Sampling and Simple Random Sampling were used in this study. According to Trochim (2006), Purposive Sampling involves the assembling of a sample of persons with known or demonstrable experience and expertise in some area. Purposive Sampling assisted the Researcher to solicit for information from Heads of Department of

Estate Office, Finance Office and Quality Assurance and Planning Unit (QAPU) of KNUST.

Simple Random Sampling was used to take out sample size from KNUST Staff population for the study. According to Trochim (2006), simple random sampling is a sampling procedure that assures that each element in the population has an equal chance of being selected. To ensure proper random sampling, KNUST Staff List was obtained from Quality Assurance and Planning Unit and Staff names were written on pieces of paper, put into a basket for shuffling before picking those to be selected. The rationale behind simple random sampling is that every Staff Member stood the chance of being selected for the purpose of the study.

3.8 Sample Size

The grand total sample size for the study is 360 and the breakdown is as follows:

Using De Vaus (2002) formula that is given by $n = N/1 + N(1-\alpha)^2$, a sample size of 357 was obtained from the KNUST Staff.

De Vaus (2002) formula is given by $n = N/1 + N(1-\alpha)^2$. Given a confidence level of 95% that is acceptable for this study based on Staff categories and accommodation status and where 'N' is the sample frame, 'n' is the sample size, (1- α) is the margin of error; the formula works as follows:

$$\begin{aligned} n &= N/1 + N(1-\alpha)^2 \\ &= 3,309/1 + 3,309(1-0.95)^2 \\ &= 357 \text{ approximately} \end{aligned}$$

The Staff sample size of 357 was apportioned among the Staff categories on the basis of their weight-96 Senior Members representing 26.89%, 89 Senior Staff representing 24.93% and 172 Junior Staff representing 48.18%. Heads of Department of Estate Office, Finance Office and Quality Assurance and Planning Unit were contacted for the purpose of the study. The sum total of Heads of Department contacted was three (3).

3.9 Data Collection Instruments

Interviews and questionnaires were used in data collection processes. The interviews conducted were not structured.

3.10 Validation of Questionnaires

Set of proposed questionnaires based on research questions and objectives for the study were administered to test validity before the study was conducted. The proposed questionnaires were subjected to critical analysis before they were administered for the purpose of the study.

3.11 Data Analysis and Reporting

Data collected was analyzed using Statistical Package for Social Scientist (SPSS). The results were presented using statistical tools such as tables, frequency, mean, standard deviation and percentages.

3.12 Profile of Study Area

Kwame Nkrumah University of Science and Technology (KNUST) is located in the Kumasi Metropolis. It is situated approximately on a sixteen (16) square kilometre Campus of undulating land and pleasant surroundings. It is about seven (7) kilometers

away from the Central Business District of Kumasi. The University presents a panorama of beautiful and modern buildings interspersed with verdant lawns and tropical flora, which provide a cool and refreshing atmosphere for effective teaching, learning and research work (University Relations Office, KNUST, 2011).

KNUST was first established as Kumasi College of Technology, which was officially opened on 22nd January 1952 with 200 Teacher Training Students transferred from Achimota to form the nucleus of the new college. Initially, School of Engineering, Department of Commerce, Pharmacy Department, School of Architecture, Town Planning and Building were established. Currently, the University has six (6) Colleges based on the Collegiate System and Institute of Distance Learning (IDL) that run a lot of Bachelors, Masters, Diploma, Certificate and Doctor of Philosophy Degree Programmes (University Relations Office, KNUST, 2011).

KNUST has Staff population of 3,309 comprising 882 Senior Members, 834 Senior Staff and 1,593 Junior Staff. KNUST Staff Members are assigned to academic and non-academic units of the University. Available Tourist Sites of the University are Botanic Gardens, Peace Pole, Art Gallery and the Museum. KNUST lands are free from litigation or boundary disputes (University Relations Office, KNUST, 2011).

CHAPTER FOUR

AFFORDABLE HOUSING OPTIONS FOR KNUST STAFF

4.1 Introduction

This chapter is for data presentation, discussion and analysis of responses from KNUST Staff and Heads of Department at Estate Office, Finance Office and Quality Assurance and Planning Unit. Statistical methods employed were tables, percentages and frequency. The statistical software for analysis of data was Statistical Package for Social Scientist (SPSS).

4.2 Current Housing Policy for KNUST Staff

- **Background to KNUST Housing Policy**

Since the establishment of KNUST in 1952, the University was responsible for the provision of furnished accommodation for its Staff. Staff Members could demand change of furniture and other household items through Stores and Supplies of the University. Rent payable by Staff for University accommodation was far below economic rent and rent payable was deducted from Staff monthly salary. All maintenance works on University housing units were done at no cost to University Staff. Campus Security was provided and Senior Officers of the University had access to telephone facility at highly subsidized tariff (KNUST Estate Office Records, 2001).

From 1960's to the late 1970's, University housing allowances were paid to Senior Members, Senior Staff and Junior Staff, to enable them satisfy other housing wants that could not be provided by the University. Payment of University housing allowance was

25% of Staff basic salary taxable under Pay As You Earn (PAYE) tax regime (KNUST Estate Office Records, 2001).

In 1980's to date, increase in Staff population and resource constraints called for rationalization of Staff accommodation via Affordable Housing interventions like Rent Loan, Rent Advance, Rent Subsidy, Owner-Occupier Allowance and Points System. Rent Loan was given to Junior Staff and Senior Staff to enjoy decent rented premises. Rent Advance was meant for Senior Members who are in rented housing units. Repayment of Rent Loan attracted an interest rate of 3% deductible from monthly salary of qualified Staff. Rent Loan given to Senior Staff and Junior Staff could not pay for one (1) year rent advance. Rent Advance was a form of interest free reimbursable housing funds paid to Senior Members after they have prefinanced the search for their own accommodation. Rent Loan and Rent Advance were replaced with Rent Subsidy (KNUST Estate Office Records, 2001).

- **Provisions of KNUST Housing Policy**

As of now, KNUST has decoupled provision of accommodation from employment. After employment, Staff is advised to find his or her own residential accommodation except on special occasion where the University is obliged to provide ready accommodation for Visiting Scholars and those whose services are urgently needed by the University. The types of Staff housing are University Accommodation, Rented Premises and Owner-Occupier. University Accommodation is for those allocated University bungalows, Rented Premises are for Staff who go their way to rent residential accommodation and Owner-Occupier are for Staff who have built their houses (KNUST Estate Office Records, 2001).

As a matter of fact, KNUST Housing Policy has introduced Rent Subsidy, Owner-Occupier Allowance and Points System to rationalize Staff accommodation. Rent Subsidy is payable to Senior Members and some Chief and Principal Technicians in the Senior Staff category. Rent Subsidy is 40% of basic salary of qualified Staff and Owner-Occupier Allowance is 50% of basic salary of qualified Staff. Rent Subsidy and Owner-Occupier Allowance are taxable per Tax Regime in Ghana. Junior Staff are not entitled to Rent Subsidy and Owner-Occupier Allowance as per KNUST Housing Policy. The Points System is meant to allocate limited University housing units to Staff based on employment status, period of service to the University, number of children below 18 years and current accommodation of Staff. The University Housing Policy stipulates that rent shall be increased every two (2) years and that internal repairs shall be done at no cost to the University. Any Staff given a University housing unit shall prefinance its maintenance before reimbursement by the University (KNUST Estate Office Records, 2001).

On the issue of Leave of Absence and Study Leave, the University may decide to charge economic rent for occupation of its housing unit. When Staff resigns or his/her appointment is terminated, the affected person is evicted from his or her bungalow with immediate effect. It is only the Vice-Chancellor, Pro Vice-Chancellor, Registrar and Chairman or Chairperson of specified University Housing Committee that has the mandate to call for 'Out-of-Turn' accommodation to Staff. The 'Out-of-Turn' accommodation means that the Staff concerned is not affected by the Points System of University Housing Allocation. The University Housing Policy stipulates that there shall be Senior Member Housing Committee, Senior Staff Housing Committee and Junior Staff Housing Committee headed by a Member of Convocation (Senior Member Class). On

demise of Staff, the widow is given University accommodation (KNUST Estate Office Records, 2001).

4.3 Characteristics and Structure of Respondents

Table 4.1 shows composition of Respondents from KNUST Staff categories- Senior Members, Senior Staff and Junior Staff. By identification, Senior Members are '*High Class Staff*'; Senior Staff are '*Middle Class Staff*' and Junior Staff are '*Junior Class Staff*'. Senior Staff and Junior Staff are also classified as '*Supportive Staff of the University*'. The Respondents consist of 26.89% Senior Members, 24.93% Senior Staff and 48.18%. Junior Staff.

Table 4.1 Characteristics and Structure of Respondents

Staff Category	Male	Female	Total (Percentage)
Senior Members	73	23	96(26.89%)
Senior Staff	48	41	89(24.93%)
Junior Staff	62	110	172(48.18%)
Total	183(51.26%)	174(48.74%)	357

Source: Author's Field Survey, August, 2011

This sample is proportional to Staffing of the University at the time of the study. This was done to ensure fair distribution of questionnaire to obtain views of each of the Staff category. The study comprises of 51.26% Male Respondents and 48.74% Female Respondents-this percentage is attributed to the Simple Random Sampling Technique

used for the administration of questionnaire for the study. It is evident from Table 4.1 that Junior Staff constitutes majority of KNUST Staff population followed by Senior Members and Senior Staff respectively. Increase in Junior Staff population is due to the fact that sanitary, landscaping and other minor works of the University have to be carried out to ensure safety, comfort, convenience and amenity in the University Planning Scheme.

4.4 Categories of KNUST Staff Housing (University Accommodation, Rented Premises and Owner-Occupier)

4.4.1 University Accommodation

Table 4.2 gives a tabular representation of types of KNUST Staff Housing (University Accommodation). These housing units range from one (1) to three (3) bedrooms. Some bedrooms have Outhouses (Boys Quarters) and others have not.

Table 4.2 Types of KNUST Staff Housing (University Accommodation)

Staff Category/Housing Type	Senior Members	Senior Staff	Junior Staff
1 Bedroom with Outhouse	Nil	Nil	Nil
2 Bedrooms with Outhouse	23	Nil	Nil
3 Bedrooms with Outhouse	12	Nil	Nil
1 Bedroom	Nil	Nil	24
2 Bedrooms	Nil	12	10
3 Bedrooms	Nil	3	Nil
Total	35	15	34

Source: Author's Field Survey, August, 2011

It could be seen from Table 4.2 that Senior Members have access to more bedrooms than Senior Staff and Junior Staff. Senior Staff Members may be entitled to two (2) or three (2) bedrooms without Outhouses. Junior Staff predominantly enjoy one (1) bedroom apartment and few of them are given two (2) bedrooms. One (1) bedroom to a Senior Member is considered Temporary Accommodation or Transit Quarters per KNUST Housing Policy. Occupants of some Senior Staff and Junior Staff accommodation share common facilities like toilet, bathroom and kitchen-this breed inconvenience in terms of housing. Senior Staff and Junior Staff of KNUST have makeshift garages to park their cars.

Inferring from Table 4.2, Senior Members have advantage in terms of University accommodation and this may be due to their conditions of service.

4.4.2 Rented Premises

Considering Rented Premises as type of Staff Housing, Table 4.3 indicate that Senior Members could afford two (2) or more bedrooms with required facilities followed by Senior Staff. Junior Staff could at least opt for one (1) bedroom and only few Junior Staff can rent two (2) bedrooms.

Table 4.3 Types of KNUST Staff Housing (Rented Premises)

Staff Category/Housing Type	Senior Members	Senior Staff	Junior Staff
1 Bedroom	Nil	33	121
2 Bedrooms	23	28	17
3 Bedrooms	21	9	Nil
Above 3 Bedrooms	3	Nil	Nil
Total	47	70	138

Source: Author's Field Survey, August, 2011

Table 4.3 gives an indication that Senior Members have income capacity to opt for desirable accommodation unlike Senior Staff and Junior Staff who may be considerably affected by resource constraints. The choice of a residential unit is affected by rent that is duly reflected in the price of construction materials. It is pertinent to note that choice of decent residential accommodation is the prerogative of each Staff category depending on priority levels.

As stated by O'Sullivan (2003), Household income has bearing on choice of residential accommodation. De Leeuw and Ekanem (1971) were of the view that rental market is affected by income levels and construction cost.

4.4.3 Owner-Occupier

As pointed out in Table 4.4, those in Owner-Occupier Class are predominantly Senior Members as against few Senior Staff who are in the rank of Chief and Principal Technicians.

Table 4.4 Types of KNUST Staff Housing (Owner-Occupier)

Staff Category/Housing Type	Senior Members	Senior Staff	Junior Staff
Owner-Occupier	14	4	Nil
Total	14	4	0

Source: Author's Field Survey, August, 2011

From Table 4.4, University Housing Policy lends more support to Senior Members in terms of Owner-Occupier Status. Junior Staff, Senior Technicians and Technicians in the University are not considered in the Owner-Occupier Scheme, even though some have built their own houses.

As pointed out in the problem statement, KNUST Affordable Housing Scheme is skewed towards Senior Members and few Senior Staff population in the rank of Chief and Principal Technicians. The University places more premium on Senior Member accommodation than that of Senior Staff and Junior staff.

The above assertions are clear manifestation of the fact that the University intends rationalizing Staff accommodation but financial resource constraints is a bane to its noble intentions.

4.5 Assessment of Current KNUST Staff Accommodation

In the analysis of current Staff accommodation, Respondents were asked to show the state (good or satisfactory) of their current accommodation in terms of location (distance to work), convenience (family size and bedroom size) and cost (rent, utilities, and other housing services). Each question asked elicited responses like ‘*Strongly Agree*’, ‘*Agree*’, ‘*Neutral*’, ‘*Disagree*’ and ‘*Strongly Disagree*’.

4.5.1 University Accommodation in terms of Location

Question: Are you of the view that accommodation location poses problems to your work in the University?

Table 4.5 Staff Housing in terms of Location (University Accommodation)

Responses/Staff Category	Senior Members	Senior Staff	Junior Staff	Total
Strongly Agree	Nil	Nil	Nil	0
Agree	Nil	Nil	Nil	0
Neutral	Nil	Nil	Nil	0
Disagree	6	1	4	11
Strongly Disagree	29	14	30	73
Total	35	15	34	84

Source: Author’s Field Survey, August, 2011

It could be deduced from Table 4.5 that Staff in University accommodation do not have problems commuting from their residences to place of work and this is evidenced in their ‘*Disagree*’ and ‘*Strongly Disagree*’ responses.

4.5.2 University Accommodation in terms of Convenience

An assessment was made to determine convenience in University accommodation as per Table 4.6. The question asked was '*Is University accommodation convenient for you?*'. Senior Member Respondents were of the opinion that they are relatively comfortable with their current University accommodation by adopting '*Strongly Agree (10)*' and '*Agree (25)*' responses. Junior Staff seems not to be satisfied in their current accommodation and they gave '*Strongly Disagree (19)*' and '*Disagree (15)*' responses. Senior Staff who were '*Neutral (4)*' could not tell whether University accommodation is convenient. Senior Staff also gave '*Disagree (4)*' and '*Strongly Disagree (5)*' responses.

Table 4.6 Staff Housing in terms of Convenience (University Accommodation)

Responses/Staff Category	Senior Members	Senior Staff	Junior Staff	Total
Strongly Agree	10	Nil	Nil	10
Agree	25	2	Nil	27
Neutral	Nil	4	Nil	4
Disagree	Nil	4	15	19
Strongly Disagree	Nil	5	19	24
Total	35	15	34	84

Source: Author's Field Survey, August, 2011

Disparities in responses per Table 4.6 show that Senior Members probably have small family sizes as compared to Senior Staff and Junior Staff of the University. These go a long way to confirm the assertions by Rohe et al (2001) that housing satisfaction is a form of motivation at work.

4.5.3 University Accommodation in terms of Cost

The question of ‘*Do you consider your accommodation cost affordable?*’ was put before Respondents. Unanimously, Senior Members, Senior Staff and Junior Staff Members of KNUST asserted that the cost of University accommodation is ‘*relatively affordable*’. This is clearly demonstrated by their responses per Table 4.7.

Table 4.7 Staff Housing in terms of Cost (University Accommodation)

Responses/Staff Category	Senior Members	Senior Staff	Junior Staff	Total
Strongly Agree	32	9	3	44
Agree	3	6	31	40
Neutral	Nil	Nil	Nil	0
Disagree	Nil	Nil	Nil	0
Strongly Disagree	Nil	Nil	Nil	0
Total	35	15	34	84

Source: Author’s Field Survey, August, 2011

Further probe of housing affordability indicate that rent levels are relatively lower compared to open market. Rent payable is deducted in installments from monthly salaries of KNUST Staff. The University goes further to provide electricity subsidy and waste management services at no cost to University housing Occupants. There is also no incidence of arbitrary increases in rent and where need be, Workers Union in the University negotiate on behalf of Occupants of University Housing Units. The reason why University Staff desire University accommodation is the fact that University housing rents are far below open market rent.

4.5.4 Rented Premises in terms of Location

As regards Rented Premises, Staff were asked ‘Are you of the view that accommodation location poses problems at work?’ and varied responses were given per Table 4.8.

Table 4.8 Staff Housing in terms of Location (Rented Premises)

Responses/Staff Category	Senior Members	Senior Staff	Junior Staff	Total
Strongly Agree	8	35	74	117
Agree	10	15	13	38
Neutral	18	3	32	53
Disagree	5	8	7	20
Strongly Disagree	6	9	12	27
Total	47	70	138	255

Source: Author’s Field Survey, August, 2011

Senior Members, Senior Staff and Junior Staff Respondents were of the view that accommodation location poses problems at work. They gave their opinions via responses like ‘*Strongly Agree (117)*’ and ‘*Agree (38)*’. Other Staff Members responded ‘*Disagree (20)*’ and ‘*Strongly Disagree (27)*’ in connection with accommodation location. Some Staff Members were undecided and their responses were classified as ‘*Neutral (53)*’.

It may be that those who agreed that residential location poses problems at work did not have accommodation of their choice due to income levels, family attachment and other reasons. Some are affected by traffic congestion and those who had diverse views may relegate location of accommodation to the background on grounds of type of

accommodation; resources and opportunities at their disposal. Some Respondents may initially be enjoying Affordable Housing but economic and other factors could render their habitat unaffordable as pointed out by Sommerville and Holmes (2001).

4.5.5 Rented Premises in terms of Convenience

In Table 4.9, the question of convenience associated with rented premises was met with mixed feelings. The resultant picture was that majority of Staff Members were of the opinion that rented premises are inconvenient as per '*Strongly Agree (93)*' and '*Agree (83)*' responses. Others disagreed and few were undecided as stated in Table 4.9.

Table 4.9 Staff Housing in terms of Convenience (Rented Premises)

Responses/Staff Category	Senior Members	Senior Staff	Junior Staff	Total
Strongly Agree	23	29	41	93
Agree	24	22	37	83
Neutral	Nil	1	32	33
Disagree	Nil	8	16	24
Strongly Disagree	Nil	10	11	22
Total	47	70	138	255

Source: Author's Field Survey, August, 2011

Inconvenience in terms of rented premises could be attributed to the fact that residential tenancies are not favourable in terms of rent payment. There is also an issue of family size and income levels for desired accommodation. Those who were not affected by convenience in accommodation may be having enough disposable income and other resources to cater for their housing needs. Others may not be mindful of consequences

associated with convenience in residential accommodation. De Leeuw and Ekanem, 1971 were of the view that family size has an impact on convenience of accommodation. Rohe, Zandt, and McCarthy (2001) pressed on the need for housing satisfaction as a form of motivation at work.

4.5.6 Rented Premises in terms of Cost

Housing affordability question was asked and Respondents gave different responses. Unanimously, KNUST Staff Members in rented premises agreed that rented premises are not affordable. This is evident in their '*Strongly Agree*' and '*Agree*' responses. Some Staff Members were undecided and others were of the view that housing cost is not an issue. Table 4.10 shows responses in connection with affordability of rented premises.

Table 4.10 Staff Housing in terms of Cost (Rented Premises)

Responses/Staff Category	Senior Members	Senior Staff	Junior Staff	Total
Strongly Agree	12	24	41	77
Agree	6	21	22	79
Neutral	8	5	37	50
Disagree	8	11	10	29
Strongly Disagree	13	9	28	20
Total	47	70	138	255

Source: Author's Field Survey, August, 2011

This may be due to the fact that rents keep increasing arbitrarily or in economic terms. Rent advance payable for a decent accommodation is not affordable. Others who disagreed discounted the issue of housing affordability.

Those who discounted issue of affordability may be income inelastic. Rented Premises in Kumasi and its environs could command rent between GH¢1,000.00 to GH¢1,500.00 for one (1) bedroom (Single Room) for two (2) years and GH¢2,500.00 to GH¢3,000.00 for two (2) bedrooms for two (2) years. Rent paid for rented premises could be arbitrarily increased by Property Owners and these affect income levels of Tenants. Responsiveness to cost of housing may be due to increasing level of building construction materials, property location and desire of property owners to match rent against indicators like petroleum increases and inflation. High or low cost of housing may be attributed to types of construction materials used for construction as opined by Agus (2000).

4.6 Housing Finance Options for KNUST Staff Accommodation

When asked about how Staff Members finance their current accommodation the responses were spelt out in Table 4.11.

Table 4.11 Staff Housing Finance Options (Rented Premises, Owner-Occupier and University Accommodation)

	Senior Members	Senior Staff	Junior Staff
Rented Premises	Rent Subsidy (47)	Rent Subsidy (70)	Nil (138)
Owner-Occupier	Owner Allow.(14)	Owner Allow.(4)	Nil(0)
University Housing	Rent Deduc. (35)	Rent Deduc. (15)	Rent Deduc.(34)
Total	96	89	172

Source: Author's Field Survey, August, 2011

Respondents finance their current accommodation through Rent Subsidy (40% of Basic Salary), Owner-Occupier Allowance (50% of Basic Salary) and rent deduction from monthly salary. From Table 4.11, Senior Members and some Senior Staff enjoy Rent Subsidy and Owner-Occupier Allowance. Junior Staff, Senior Technicians and Technicians of the University do not enjoy Rent Subsidy and Owner-Occupier Allowance. Rent is deducted from the salary of Occupants of KNUST Staff housing Units. The Housing Finance Scheme was adopted by the University to ease pressure on Staff accommodation.

4.7 Housing Rents and Payments of Staff Housing Incentives

4.7.1 Rent Determination for a decent Affordable Housing

Access to decent Affordable Housing is unique opportunity for every individual. When asked what type of rent is fair and reasonable for a decent Affordable Housing, it was realized from Table 4.12 that majority of Respondents representing 83.47%, which is

made up of 73 Senior Members, 77 Senior Staff and 148 Junior Staff, were of the opinion that “Negotiable Rent based on ability to pay and provision of concessions like tax holidays and subsidies to Housing Providers” is appropriate. This is an indication of the fact that most of University Staff cannot afford to pay high rent advances let alone finance their housing needs for years to come based on prevailing economic trends in the country. The total support for Negotiable Rent as per Table 4.12 indicates how sensitive Staff is in terms of rent, income levels, suitability and availability of housing units. Table 4.12 demonstrates issues of Housing Rents Payment Arrangements.

Table 4.12 Types of Rent for a Decent Affordable Housing

Item	Senior Member	Senior Staff	Junior Staff	Total (Percentage)
Economic Rent-rent determined by demand and supply mechanisms	23	12	24	59(16.53%)
Negotiable Rent based on ability to pay and provision of concessions like tax holidays and subsidies to Housing Providers	73	77	148	298(83.47%)
Adoption of other rent payment options	0	0	0	0(0.00%)
Total	96	89	172	357 (100.00%)

Source: Author’s Field Survey, August, 2011

As stated in the European Journal of Economics, Finance and Administrative Sciences, 2010, governments promote Affordable Housing by giving tax incentives and housing subsidies to Estate Developers.

The remaining 16.53% of the Respondents, which is made up of 23 Senior Members, 12 Senior Staff and 24 Junior Staff were also of the opinion that they will opt for “Economic Rent-rent determined by demand and supply mechanisms”. This shows that rent payable may not be thorny issue but what is needed is the provision of a residential unit in a good location with required facilities for human comfort and development. Their income responses to rent charges are inelastic in the economic sense.

The above indicates the willingness of Staff to cooperate with University Authorities for decent Affordable Housing. Respondents were not in favour of economic rent payment for decent housing and of the Staff interviewed, 70% were of the view that *‘the University should see adequate supply of Staff housing as an incentive package to significantly increase productivity and payment of negotiable rent is laudable’*. The remaining 30% had different opinion on grounds that *‘much as the University should cater for Staff housing, nothing good comes easy but demands sacrifices and that payment of economic rent is not out of place’*.

As pointed out by Song (2000), in the face of economic rent payment, there could be some level or certain degree of satisfaction but low income earners shall be forced to either pay more than recommended share of their income on housing or may relocate to housing units that may not give them acceptable form of satisfaction.

4.7.2 Rent Payable for University Accommodation

An analysis was made of monthly rent payable by Occupants of University accommodation and Table 4.13 spelt out the details as follows:

Table 4.13 Rent payable by Occupants of University Accommodation per month

Item	Frequency	Range of Amount	Average Amount Payable	Estimated Paid Amount
Senior Member	263	GH¢ 35.00- GH¢80.00	GH¢ 55.00	GH¢ 14,465.00
Senior Staff	92	GH¢ 30.00- GH¢50.00	GH¢ 40.00	GH¢ 3,680.00
Junior Staff	212	GH¢ 8.00- GH¢16.00	GH¢ 12.00	GH¢ 2,544.00
Total				GH¢ 20,689.00

Source: Author's Field Survey, August, 2011

As of the time of the study, there were 263 Senior Members, 92 Senior Staff and 212 Junior Staff that have been given University accommodation. There is a range of rent payable for University accommodation. Using the average amount payable to the University, the total estimated amount paid by Senior Members is GH¢14,465.00, GH¢3,680.00 for Senior Staff and GH¢2,544.00 for Junior Staff respectively. Hence the total amount accrued from rent payment with respect to University accommodation is GH¢ 20,689.00 per month.

It is clear from Table 4.13 that Senior Members enjoy the most decent of housing units in the University and rent payable is far below economic rent in the open market. Even though it is the aim of the University to accommodate Staff, Senior Members are 'pampered' when it comes to Staff accommodation. Senior Staff in particular pay rent close to what Senior Members are paying and housing facilities they enjoy is no where near that of Senior Members.

4.7.3 Staff Housing Incentive Payment (Owner-Occupier Allowance)

Owner-Occupier Allowance paid to qualified KNUST Staff was assessed and Table 4.14 gives an overview of the issue at stake. From Table 4.14, it was found out that the University pays an amount of GH¢ 90,480.00 as Owner-Occupier Allowance to qualified KNUST Staff who have built their houses.

Table 4.14 Owner-Occupier Allowance paid to qualified KNUST Staff per month

Item	Frequency	Incentive	Average Amount Payable	Estimated Amount Paid
Senior Member	180	50% of Basic Pay	GH¢ 400.00	GH¢ 72,000.00
Senior Staff	70	50% of Basic Pay	GH¢ 264.00	GH¢ 18,480.00
Junior Staff	0	0	0	GH¢ 0.00
Total				GH¢ 90,480.00

Source: Author's Field Survey, August, 2011

The payment of Owner-Occupier Allowance is a way to encourage Senior Members and some Senior Staff to build their own houses to subsequently ease pressure on University accommodation. Junior Staff are not paid Owner-Occupier Allowance because the University has not provided for them per its Staff Housing Policy. The payment of Owner-Occupier Allowance is an acknowledgement of the fact that KNUST views Staff housing as a way to motivate its Employees to boost productivity. It must be stated that Owner-Occupier Allowance paid to qualified KNUST Staff is taxable.

4.7.4 Staff Housing Incentive Payment (Rent Subsidy)

Rent Subsidy paid to qualified KNUST was looked at and Table 4.15 gave the details as follows:

Table 4.15 Rent Subsidy paid to qualified KNUST Staff per month

Item	Frequency	Incentive	Average Amount Payable	Estimated Amount Paid
Senior Member	180	40% of Basic Pay	GH¢ 282.00	GH¢ 50,760.00
Senior Staff	70	40% of Basic Pay	GH¢ 190.00	GH¢ 13,300.00
Junior Staff	0	-	-	GH¢ 0.00
Total				GH¢ 64,060.00

Source: Author's Field Survey, August, 2011

All Senior Members and some Chief and Principal Officers in the Senior Staff category enjoy Rent Subsidy and in all the University pays GH¢64,060.00 as Rent Subsidy to qualified Staff. As usual, Rent Subsidy is taxable. Junior Staff do not enjoy Rent Subsidy in the University.

4.7.5 Differences in Rent Payable and Staff Housing Incentives

Differences in payment of Rent, Rent Subsidy and Owner-Occupier Allowance was assessed as per Table 4.16. By and large, it was found out that the University spends GH¢154,540.00 per month on Owner-Occupier Allowance and Rent Subsidy and is able to collect an amount of GH¢20,689.00 as rent in respect of University accommodation.

Table 4.16 Differences in the payment of Owner-Occupier Allowance, Rent

Subsidy and Rent for University accommodation per month

Item	Incentive	Rent Payable	Difference
Owner Occupier	GH¢ 90,480.00	-	
Rent Subsidy	GH¢ 64,060.00	-	
University Acco. Charges	-	GH¢ 20,689.00	
Total	GH¢ 154,540.00	GH¢ 20,689.00	GH¢ 133,851.00

Source: Author's Field Survey, August, 2011

In balancing the sheet, the University pays an amount of GH¢133,851.00 that is more than what it is able to collect as rent from Staff who enjoy University accommodation.

It could be asserted that the University has not done thorough prudent financial assessment in relation to its housing policy.

4.8 Alternative Arrangements for KNUST Staff Housing

In the analysis of Alternative Arrangements for Staff Housing, Respondents were asked to show the extent to which they agree with the factors in Table 4.17. Each question was based on a 5-point weighted Likert Scale as shown below:

4 = Strongly Agree, 3 = Agree, 2 = Disagree, 1 = Strongly Disagree

From Table 4.17, it is evidently clear that almost all the Staff of the University agreed in principle that the University should make it a policy to accommodate all Staff immediately after employment. A higher mean value of more than 3.50 shows unilateral agreement on such a policy and a small standard deviation shows the consistency with which Respondents agree to the assertion of providing Staff accommodation immediately after employment.

Table 4.17 Alternative Staff Housing Arrangements

Item	No	Mean	Std Dev
With recent problems associated with decent supply of housing, would you recommend university accommodation immediately after employment	357	3.73	0.778
Are you of the view that the University should try to find sustainable approach to provide affordable housing for its Staff immediately after employment	357	3.69	0.657

Source: Author's Field Survey, August, 2011

It is worthy to note that 75% of University Staff interviewed posited that '*as soon as practicable, the University should arrange to accommodate Staff immediately after employment and take steps to drastically reduce or phase out shortages in Staff housing*'. Nevertheless, it was found from the Respondents that University position on Staff accommodation was earlier linked to employment status. The University has totally decoupled accommodation from employment and Staff members are advised to find their

own accommodation after employment. The University could go its own way to provide accommodation to an employee based on the need for the services of that employee.

University lands are free from boundary disputes and welcoming Self-Initiative or Public Private Sector Partnership through Build Operate Transfer (BOT), Design Build Operate and Manage (DBOM) and Design Build and Maintain (DBM) would not be out of place.

Due to the policy of the University with respect to the provision of Staff accommodation, Staff were asked to provide an alternative to amend the gloomy housing situation and at the same time increase adequate supply of housing units to University Staff. As shown in Table 4.18, majority of the Staff sample representing 43.70% agreed on the policy that “the University should invest a reasonable proportion of its income (rent collected and other disposable income) in the provision of affordable housing”.

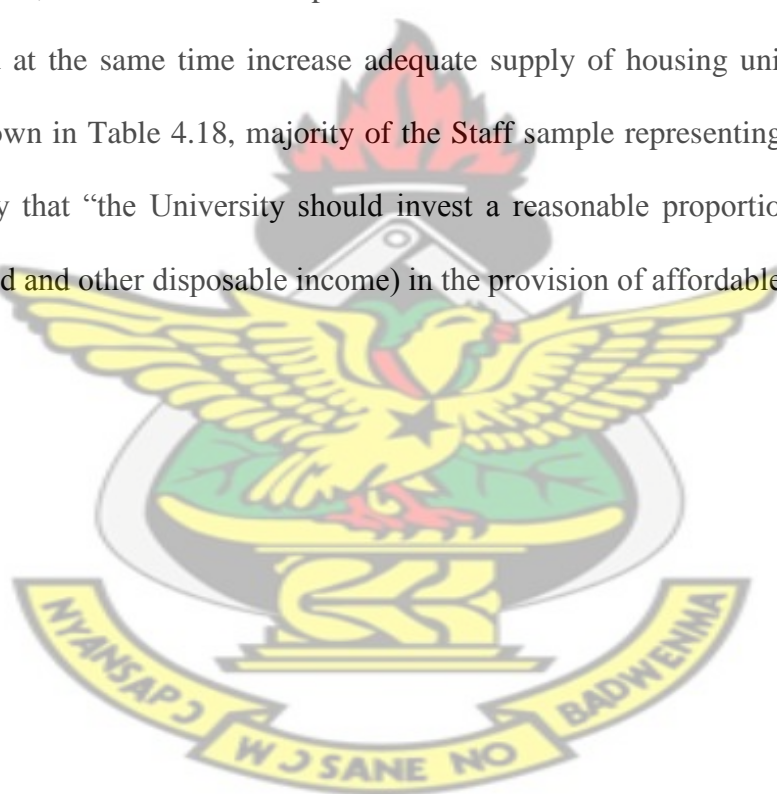


Table 4.18 Types of Sustainable System for Alternative Staff Housing

Item	Senior Member	Senior Staff	Junior Staff	Total (Percentage)
Investing a reasonable proportion of university's income (rent collected and other disposable income) to boost the supply of affordable housing	39	53	64	156(43.70%)
Encourage Public Private Sector Partnership in affordable housing investment via issuance of shares	47	21	20	88(24.65%)
Encourage Public Private Sector Partnership in affordable housing via Build Operate and Transfer (BOT) or other housing investment alternatives	3	15	79	97(27.17%)
Adopt Other options like mortgage financing, self-financing, etc	7	0	9	16(4.48%)
Total	96	89	172	357(100.00%)

Source: Author's Field Survey, August, 2011

A total of 24.65% of the Respondents were also of the view that “the University should encourage Public Private Sector Partnership in Affordable Housing investment via issuance of shares”, 27.17% of the Respondents advocated for “Public Private Sector Partnership in Affordable Housing investment via Build Operate and Transfer”.

On the issue of types of sustainable system for affordable housing investment at KNUST, 65% of the Staff interviewed unanimously state that *‘there is shortage in Staff housing and that the University should adopt all the sustainable approaches indicated in Table 4.18’*.

This shows that University Staff would welcome any form of sound housing policy that would significantly increase the supply of Staff housing.

The European Journal of Economics, Finance and Administrative Sciences (2010) also endorsed Public Private Sector Partnership in housing as evidenced in the Republic of South Africa.

However, on the issue of other adoptions such as mortgage financing (housing loans) and self-financing, it was found to be unpopular among the selected Staff as an alternative of Staff housing finance.

Mortgage financing has not been fully developed to realize its potential in housing provision as confirmed by Ferguson (in Porteous, 2006). De Soto (2000) and UN-HABITAT (2009) corroborated the assertions of Ferguson with respect to mortgages.

4.9 Challenges and Prospects of KNUST Staff Housing

When asked about the challenges and prospects of Staff Housing Finance, the following responses were given:

4.9.1 Challenges of Staff Housing Finance

Challenges associated with Staff Housing Finance are as follows:

- Ineffective mobilization of income to fund affordable housing;
- High interest rates and unfriendly terms of housing loan repayments; and
- Ever increasing cost of building construction materials.

4.9.2 Prospects of Staff Housing Finance

Prospects associated with Staff Housing Finance are follows:

- Job creation ;
- Employment of high calibre staff to promote effective teaching and learning; and
- Staff motivation to increase productivity.

4.10 Summary

KNUST Staff Accommodation Policy, Housing Finance Options for KNUST Staff Housing, Alternative Arrangements for KNUST Staff Housing, Challenges and Prospects of Staff Housing have been discussed in detail. This has set the tone for Summary of Findings, Recommendations, Conclusion and Directions for Further Research.



CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This chapter covers summary of findings, recommendations and conclusion as regards financing affordable housing for University workers-the case of the Kwame Nkrumah University of Science and Technology. The study revealed that the University agrees in principle to wholly or partially provide housing for Staff. The University has not made frantic efforts to vigorously boost affordable housing for its Staff. Summary of findings in connection with the study are outlined as follows:

5.2.1 Categories of Staff Housing

As indicated in Tables 4.5, 4.6 and 4.7, the study revealed that generally, Staff Members in University accommodation do not have problems with distance to work and they find their current accommodation relatively affordable. Some of the Staff in University accommodation felt that their current accommodation poses inconvenience due to family sizes, number of bedrooms and size of bedrooms.

KNUST Staff in rented premises were generally affected by accommodation location, convenience and cost. The Staff had issues with their accommodation location and pointed out that cost of housing is high. This is indicated in Tables 4.8, 4.9 and 4.10.

5.2.2 Staff Housing Finance Options

Table 4.11 summed up options of housing finance available to KNUST Staff. Senior Members had the advantage as against Senior Staff in the rank of Chief and Principal Technicians. Junior Staff are not considered in the housing finance options.

Disparities in Staff housing incentives have virtually rendered some Junior Staff 'homeless'. Senior Members are paid high Rent Subsidy and Owner-Occupier Allowance because of their monthly salary levels and other income generation avenues.

5.2.3 Housing Rents and Payment of Staff Housing Incentives

As shown in Table 4.12, 83.47% of Respondents opted for negotiable rent based on ability to pay and 16.53% rooted for Economic Rent determined by demand and supply mechanisms in the open market. Tables 4.13 to 4.16 indicate that rent received from University accommodation is far lower than Rent Subsidy and Owner-Occupier Allowance paid to qualified KNUST Staff.

5.2.4 Alternative Arrangements for Staff Housing

As indicated in Tables 4.17 to 4.18, the research revealed the desire of KNUST Staff to welcome alternative approaches to boost Staff housing. One striking feature is that 43.70% of the Respondents pushed for the notion of KNUST to consider investing its disposable income in Affordable Housing. More than 50% of the Respondents advocated for Public Private Sector Partnership.

Self-Financing and Mortgage Financing in housing provision did not receive massive endorsement.

5.2.5 Challenges and Prospects of Affordable Housing Provision

According to the study, funding, institutional policies, income levels and rent payment options may militate against sound Affordable Housing intentions. There is also huge potential for increase in Staff productivity if Affordable Housing issues are given the needed attention.

5.3 Recommendations

Deducing from the summary of findings of the study the following recommendations could go a long way to address Affordable Housing problems for KNUST Staff.

5.3.1 Categories of KNUST Staff Housing

The University must desire to provide adequate Affordable Housing to its Staff. The provision of the housing units could take the form where the University mobilizes funds from the capital market in the long term to boost Affordable Housing production. Another long term housing arrangement is for the University to arrange for mortgage facilities to provide Affordable Housing for its Staff depending on some parameters like income levels and working age of employees.

In the short term to medium term, the University may have to examine its finances in terms of rent payments and other sources to significantly increase supply of Affordable Housing units to its Staff.

5.3.2 Staff Housing Finance Options

There seems to be inequity in Staff Housing Finance Options. Some Staff are given Rent Subsidy and Owner-Occupier Allowance and majority of KNUST Staff are not entitled to any Staff Housing Finance Option.

In the shortest possible time, the University must provide options to cater for those who do not enjoy any Housing Finance Options under the University Housing Policy. This shall go a long way to address inequities in housing finance for KNUST Staff and promote Staff motivation that could enormously impact on productivity.

5.3.3 Housing Rents and Payment of Staff Housing Incentives

It is the opinion of this study that the University should call for thorough appraisal of its finances in terms of Affordable Housing Provision. As soon as practicable, Senior Members must be made to pay '*relatively higher rent*' since they enjoy more space and convenience in terms of University Housing Policy. Rent payments for Senior Staff and Junior Staff Housing Units must be reasonably increased as and when the need arises and the increase must not unreasonably affect their disposable incomes.

The University must in the long term engage Real Estate Developers to build Affordable Housing Units that are covered by lots of concessions (tax rebates and long payback periods) guarded by clear cut contract implementation-this shall serve the interest of majority of University Staff who opted for negotiable rent for housing based on ability to pay.

In the medium to long term, the University must have a critical look at the differences in rent receivable, Rent Subsidy and Owner-Occupier Allowance-this would enable the University to think of how Rent Subsidy and Owner-Occupier Allowance could be repackaged to serve Affordable Housing needs of all KNUST Staff irrespective of Staff Category.

It is suggested that the repackaging of Rent Subsidy and Owner-Occupier Allowance should adopt the following mechanisms:

- i. At least 1% of Rent Subsidy and Owner-Occupier Allowance payable to qualified KNUST Staff must be retained for investment, to boost production of Affordable Housing, through the establishment of Housing Bond or Housing Shares Floatation in the Stock Market;

- ii. KNUST Staff Members who are affected by 1% retention in their Staff Housing Incentives (Rent Subsidy and Owner-Occupier Allowance) automatically become Preference Shareholders in the Housing Bond Investment. They shall continue to enjoy Preference Shareholding Status until pension and after pension. They have the option to offload their Preference Shareholding Status through outright sale; and
- iii. The Public must be enticed to invest in the proposed Housing Bond through Initial Public Offer at the Stock Market.

5.3.4 Alternative Arrangements for Staff Housing

It is strongly advised that in the short, medium and long terms, the University must actively engage the Private Sector and partner it in sufficient production of Affordable Housing. The short term measure is to attract the attention of the Private Sector by presentation of housing investment ideas.

The medium term is for the University to have a thorough analysis as to how to effectively and efficiently partner able and willing Private Sector in housing development. The long term is for the implementation of terms of contract of the Affordable Housing project.

5.3.4 Challenges and Prospects of financing Affordable Housing

There should be concerted effort by all housing stakeholders to respect contract terms and avert the incidence of biases towards contract administration and other rubrics of housing.

5.4 Conclusion

It must be stated that problem identified gives a clue to its solution. Housing has been a major issue in the advancement of humanity. The ever increasing human population and its associated poverty have dire consequences on housing provision. The affordability tag on housing shall continue to elude man if steps are not taken to holistically involve housing Stakeholders in an objective and unbiased discourse.

Affordable Housing are few and many are demanding them for habitation but the means to secure or lay hands on such accommodation is predominantly constrained by low income levels and funding options. It is hoped that findings and recommendations of the study would go a long way to improve supply of Affordable Housing for KNUST Staff and also assist Policy Makers to make informed decisions in relation to Affordable Housing investments.

5.5 Direction for Further Research

Researchers should explore other factors that could serve as basis to provide sustainable approach in financing Affordable Housing for Employees of Public Institutions. The current evidence shows that funding arrangements are one of the major challenges in Affordable Housing provision.

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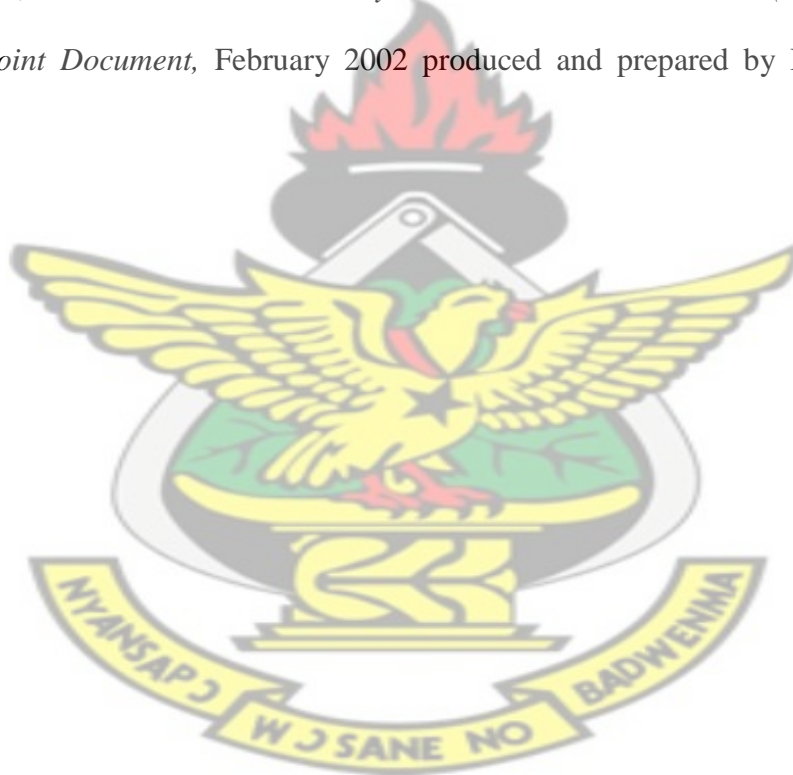
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APPENDICES

APPENDIX A

QUESTIONNAIRE ADMINISTRATION FOR KNUST STAFF

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

KNUST

COMMONWEALTH EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION

PROJECT TOPIC

FINANCING AFFORDABLE HOUSING FOR UNIVERSITY WORKERS-THE CASE
OF KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI-GHANA

UNDERTAKING

The purpose of this questionnaire is to collect data for the aforesaid Project Topic. Data collection is solely for academic purpose and Respondents are assured of confidentiality of information provided.

ADDITIONAL INFORMATION

Please, use the Tick (✓) Sign where appropriate. Kindly give reasons for your answers in the spaces provided in the questionnaire.

QUESTIONNAIRE FOR KNUST STAFF MEMBERS

A. STAFF DATA

1. Staff Rank: Senior Member () Senior Staff () Junior Staff ()

B. CATEGORIES OF STAFF ACCOMMODATION

1. Which type of accommodation are you enjoying? a. University Accommodation ()
b. Rented Premises () c. Owner-Occupier ()

2. How many bedrooms are you living in?

a. One (1) Bedroom ()

b. Two (2) Bedrooms with an Outhouse (Boys Quarters) ()

c. Three (3) Bedrooms with an Outhouse (Boys Quarters) ()

3. Do you share facilities like kitchen, toilet and others with somebody?

a. Yes () b. No ()

4. How do you assess your current accommodation in terms of location?.....

.....

5. How do you assess your current accommodation in terms of convenience?...

.....

6. How do you assess your current accommodation in terms of cost?.....

.....

C. KNUST STAFF HOUSING FINANCE OPTIONS

1. How do you finance your current accommodation?
 - a. By Rent Subsidy
 - b. Owner-Occupier Allowance
 - c. Rent deduction from salary
2. How much do you pay as monthly rent for accommodation?
3. How much are you given as Rent Subsidy per month?
4. How much are you given as Owner-Occupier per month?

D. ALTERNATIVE HOUSING ARRANGEMENTS

1. With recurrent problems associated with decent supply of housing, would you recommend University accommodation immediately after employment?
 - a. Strongly Agree () b. Agree () c. Strongly Disagree () d. Disagree ()
2. Are you of the view that the University should try to find a sustainable approach to provide affordable housing for its Staff immediately after employment?
 - a. Strongly Agree () b. Agree () c. Strongly Disagree () d. Disagree ()
3. What types of sustainable system do you suggest?
 - a. Investing a reasonable proportion of University's income (rent collected and other disposable income) to finance affordable housing for KNUST Staff ()

- b. Encourage Public Private Sector Partnership in affordable housing investment for KNUST Staff via issuance of shares ()
- c. Encourage Public Private Sector Partnership in Affordable Housing provision for KNUST Staff via Build Operate and Transfer (BOT) or other housing investment alternatives ()
- d. Mortgage Financing to provide Affordable Housing for KNUST Staff ()
- e. Adoption of all the above stated approaches ()
- f. Adoption of other alternatives. Please, specify.....
.....

E. CHALLENGES AND PROSPECTS OF STAFF HOUSING

1. What are the Challenges and Prospects of Staff Housing?.....
.....

Thank you for your responses to the questions.

NAME OF STUDENT: RICHARD DARKO (CEMBA 2, PG3056309) SIGN:.....

APPENDIX B

QUESTIONNAIRE ADMINISTRATION FOR FINANCE OFFICER OF KNUST

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

KNUST

COMMONWEALTH EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION

PROJECT TOPIC

FINANCING AFFORDABLE HOUSING FOR UNIVERSITY WORKERS-THE CASE
OF KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI-GHANA

UNDERTAKING

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ADDITIONAL INFORMATION

Please, use the Tick (✓) Sign where appropriate. Kindly give reasons for your answers in the spaces provided in the questionnaire.

QUESTIONNAIRE FOR FINANCE OFFICER OF KNUST

A. RENT PAYMENT AND HOUSING INCENTIVES ON STAFF

ACCOMMODATION

1. What is the average rent payable for Senior Member University accommodation?
2. What is the average rent payable for Senior Staff University accommodation?
3. What is the average rent payable for Junior Staff University accommodation?
4. How many Senior Members and Senior Staff enjoy Rent Subsidy and Owner-Occupier as Staff Housing Incentive?.....
5. What is the average Rent Subsidy and Owner-Occupier payable to qualified Senior Members and Senior Staff?
6. What is the source of Rent Subsidy and Owner-Occupier payable to qualified Senior Members and Senior Staff?.....

B. AFFORDABLE HOUSING INVESTMENT INITIATIVES

1. What type of affordable housing investment option would you recommend for implementation?
 - a. Public Private Sector Partnership through share floatation ()
 - b. Investment of Institutional Funds/Income ()
 - c. Build Operate and Transfer Initiative through payment of economic rent ()

- d. Build Operate and Transfer Initiative through payment of negotiable rent based on ability to pay and other concessions to housing providers (Tax Holidays, Payback Periods, etc) ()
- e. Mortgage Financing ()
- f. Adoption of the above options ()
- g. Adoptions of other alternatives. Please, specify.....

.....

E. CHALLENGES AND PROSPECTS OF AFFORDABLE HOUSING

INVESTMENT

1. What are the challenges and prospects associated with affordable housing provision?

Thanks for your response to the questions.

NAME OF STUDENT: RICHARD DARKO (CEMBA 2, P3056309) SIGN:.....

APPENDIX C

QUESTIONNAIRE ADMINISTRATION FOR ESTATE OFFICER OF KNUST

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

COMMONWEALTH EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION

PROJECT TOPIC

FINANCING AFFORDABLE HOUSING FOR UNIVERSITY WORKERS-THE CASE
OF KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI-GHANA

UNDERTAKING

The purpose of this questionnaire is to collect data for the aforesated Project Topic. Data collection is solely for academic purpose and Respondents are assured of confidentiality of information provided.

ADDITIONAL INFORMATION

Please, use the Tick (✓) Sign where appropriate. Kindly give reasons for your answers in the spaces provided in the questionnaire.

QUESTIONNAIRE FOR ESTATE OFFICER OF KNUST

A. STAFF ACCOMMODATION

1. How many Senior Members enjoy University accommodation?.....
2. How many Senior Members are in rented premises?.....
3. How many Senior Members are in their own accommodation?.....
4. How many Senior Staff are in University accommodation?.....
5. How many Senior Staff are in rented premises?
6. How many Senior Staff are in their own residential accommodation?.....
7. How many Junior Staff enjoy University accommodation?.....
8. How many Junior Staff are in rented premises?.....
9. How many Junior Staff enjoy owner-occupier status per KNUST Housing Policy?.....

B. RENT PAYMENT

1. What is the average rent payable by Senior Members for University accommodation?.....
2. What is the average rent payable by Senior Staff for University accommodation?.....
3. What is the average rent payable by Junior Staff for University accommodation?.....

C. STAFF HOUSING INCENTIVES

1. How many Senior Members enjoy Rent Subsidy?.....
2. What is the average Rent Subsidy payable to Senior Members per month?.....
3. How many Senior Members enjoy Owner-Occupier Allowance from?.....
4. What is the average Owner-Occupier Allowance payable to Senior Members per month?.....
5. How many Senior Staff enjoy Rent Subsidy?.....

6. What is the average Rent Subsidy payable to Senior Staff per month?....
7. How many Senior Staff enjoy Owner-Occupier Allowance?.....
8. What is the average Owner-Occupier Allowance payable to Senior Staff per month?.....

D. AFFORDABLE HOUSING INVESTMENT INITIATIVES

1. What type of affordable housing investment option would you recommend for implementation?

- a. Public Private Sector Partnership through share floatation ()
- b. Investment of Institutional Funds/Income ()
- c. Build Operate and Transfer Initiative through payment of economic rent ()
- d. Build Operate and Transfer Initiative through payment of negotiable rent based on ability to pay and other concessions to housing providers (Tax Holidays, Payback Periods, etc) ()
- e. Mortgage Financing ()
- f. Adoption of the above options ()
- g. Adoption of other alternatives. Specify.....

E. CHALLENGES AND PROSPECTS OF AFFORDABLE HOUSING

INVESTMENT

1. What are the prospects and challenges associated with affordable housing?

.....

F. UNIVERSITY HOUSING POLICY-PREVIOUS AND EXISTING

1. What was the housing policy of the University immediately after Staff employment?
2. What is the existing or current University housing policy immediately after Staff employment?

Thank you for your responses to the questions.

NAME OF STUDENT: RICHARD DARKO (CEMBA 2, PG3056309) SIGN:



APPENDIX D

QUESTIONNAIRE ADMINISTRATION FOR HEAD OF QUALITY ASSURANCE
AND PLANNING UNIT OF KNUST

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

KNUST

COMMONWEALTH EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION

PROJECT TOPIC

FINANCING AFFORDABLE HOUSING FOR UNIVERSITY WORKERS-THE CASE
OF KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI-GHANA

UNDERTAKING

The purpose of this questionnaire is to collect data for the aforesaid Project Topic. Data collection is solely for academic purpose and Respondents are assured of confidentiality of information provided.

ADDITIONAL INFORMATION

Please, use the Tick (✓) Sign where appropriate. Kindly give reasons for your answers in the spaces provided in the questionnaire.

QUESTIONNAIRE FOR HEAD OF QUALITY ASSURANCE AND PLANNING
UNIT OF KNUST

A. STAFF POPULATION AND STATUS

1. What is the Staff population?.....
2. Could you furnish me with Staff List according to rank or employment status?

B. AFFORDABLE HOUSING INVESTMENT INITIATIVES

1. What type of affordable housing investment option would you recommend for implementation?
 - a. Public Private Sector Partnership through share floatation ()
 - b. Investment of Institutional Funds/Income ()
 - c. Build Operate and Transfer Initiative through payment of economic rent ()
 - d. Build Operate and Transfer Initiative through payment of negotiable rent based on ability to pay and other concessions to housing providers (Tax Holidays, Payback Periods, etc) ()
 - e. Mortgage Financing ()
 - f. Adoption of the above options ()
 - g. Adoption of other alternatives. Specify.....

C.PROSPECTS AND CHALLENGES ASSOCIATED WITH AFFORDABLE
HOUSING

1. What are the prospects and challenges associated with affordable housing?

Thank you for your responses to the questions.

NAME OF STUDENT: RICHARD DARKO (CEMBA 2, PG3056309) SIGN:

KNUST



APPENDIX E

INTERVIEW GUIDE FOR KNUST STAFF ON AFFORDABLE HOUSING

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

COMMONWEALTH EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION

KNUST

PROJECT TOPIC

FINANCING AFFORDABLE HOUSING FOR UNIVERSITY WORKERS-THE CASE

OF KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI-GHANA

UNDERTAKING

The purpose of this questionnaire is to collect data for the aforesaid Project Topic. Data collection is solely for academic purpose and Respondents are assured of confidentiality of information provided.

INTERVIEW GUIDE FOR KNUST STAFF ON AFFORDABLE HOUSING FINANCE

1. What is your employment status at KNUST?
2. Which type of Staff housing are you entitled to?
3. Are you entitled to Staff Housing Incentive (Owner-Occupier or Rent Subsidy)?
4. How do you assess your current accommodation in terms of Location, Cost and Convenience?
5. How do you manage to finance your current accommodation?

6. Do you prefer University accommodation after employment?
7. Are you of the view that the University should provide alternative arrangements to provide Affordable Housing for its Staff?
8. Are you of the view that the University should invest in Affordable Housing?
9. Which method of Affordable Housing investment do you suggest?
10. What are the prospects and challenges associated with Affordable Housing investment?

Thank you for your responses to the questions.

NAME OF STUDENT: RICHARD DARKO (CEMBA 2, PG3056309) SIGN:

