HOUSING AFFORDABILITY IN KUMASI:

"*TOWARDS IMPROVING HOUSING DELIVERY IN THE CITY*"

By

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DECLARATION

I hereby declare that this submission is my own work towards the MPhil Planning and, 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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ABSTRACT

Housing has come to be accepted on various platforms as one of the most essential elements in our lives. The need to provide adequate, decent and affordable housing has remained a top priority of every government. The problems related to housing are overwhelming and appears in all manner of complex descriptions. This problem is further heightened in the urban settings due to rapid urbanization. One critical element that cannot be overlooked is the issue of providing affordable housing to urban residents. Providing affordable housing to urban residents has become an obscure charge to many developing economies. There appears to be a misfit between what the prevailing urban housing market is offering and how much urban residents in can afford to pay for housing.

In the light of this, the study set out to interrogate the prevailing housing affordability situation of Kumasi residents; to give a housing affordability measurement that gives a true reflection of the existing situation. Kumasi was selected for this study because it has such characteristics that easily reflect the urban housing situations of most cities in Ghana. The Cross-sectional research design was adopted for the study, since it offers the opportunity for several cases to be studied. Hence, allowing for the selection of households across the different socioeconomic and distinct housing areas in Kumasi. The data for this study was obtained from 155 households, sampled from four study areas (Abrepo-Kese, Ahodwo, Chirapatre Estate and Yennyawso), chosen from each of the four housing areas in Kumasi. It employed the use of household surveys, interviews and the review of documentations and reports.

The findings from the study revealed that housing is not affordable in Kumasi due to the low levels of household incomes. The study also observed vast disparity between median monthly household incomes of the different socioeconomic groups in the city (GH₵ Abrepo – 475; GH₵ Ahodwo – 2,000). The study revealed that the extent of housing unaffordability burden is different across the various socio-economic groupings in the city; as a result various households are facing different levels of housing induced poverty. For instance, an average renter household will require an additional GH₵ 147.00 to be able to meet it monthly non-housing related needs after paying for it monthly expenditure on housing (which is GH₵ 120.00). Findings suggest that rental housing is unaffordable due to

the high cost involved in the payments of basic facilities and services, especially in low income areas. The housing affordability indices showed that, at the prevailing incomes of households, homeownership is unaffordable and unattainable for most households in Kumasi. Consequently, some households will not be able to acquire their own house in their lifetime.

In response to the major issues identified in the analyses, the study makes four recommendations tied to each of key findings to resolve the housing affordability situation and improve housing delivery in the city. First, there is the need to pursue strategies to resolve the supply deficient housing delivery system through an ardent pursuance of rental housing in Kumasi. Second, there is the need to improve the existing housing stock as an urgent response to housing deprivations in the city through effective urban upgrading and regeneration schemes. Third, there is the need for the government to encourage an all-inclusive housing market. Fourth, there is the need for the government to design housing strategies which are group specific and have socio-economic relevance. Going forward, it has become imperative for the localization of housing interventions, and essential for housing policy to be tied to the overall framework of economic.

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CHAPTER ONE
HOUSING THE URBAN AND ITS RELATED PROBLEMS

1.1 Background of the Study

Housing has come to be accepted on various platforms as one of the most essential elements in our lives; its multi-dimensional linkages with the socio-economic, cultural, political and environmental components of towns and cities, affords it a unique character (UN-Habitat, 2010a; Konadu-Agyeman, 2001; Boamah, 2013). Over the years, the relationship between housing and the intents of governments to improve the quality of life of its people, has been given due recognition. Notwithstanding, the problems related to housing is overwhelming and appears in all manner of complex descriptions. This problem is further heightened in the urban settings due to rapid urbanization (Obeng-Odoom, 2011). Thus, housing the urban has become a daunting task in futility. Globally, the world is witnessing a very rapid and dynamic urbanization process. According to the UN-Habitat (2011a:4), "the urbanization process is characterized not only by demographic shifts from rural to urban areas, or by the growth of urban populations, but also by changes in various aspects of society". In recent times the huge impacts of urbanization and galloping population growth in regions all over the world has been the most recited poetry in several development discourses.

One critical element that cannot be overlooked is the issue of providing affordable housing to urban residents. The global assessment undertaken by UN-Habitat (2003a; 2003b) shows that 924 million, or 32 percent, of the world's urban population lives in slums while 43 percent of the urban population, lives in slums in developing countries. Arimah (2010) recounts that, the most enduring manifestations of urban poverty in developing countries is the proliferation of slums and squatter settlements. This can be attributed to poorly functioning housing markets, which does not offer a range of affordable housing alternatives, especially for low-income and middle-income households (UN-Habitat, 2011b). As a result, large proportions of urban residents in developing countries are bereft of access to decent housing at affordable cost (Ibem and Amole, 2010). Following through from the above discussion, this study is more inclined towards improving the delivery of decent and adequate housing in urban areas. Here, housing is viewed as not just the physical structure but also the amenity that comes with it (GSS, 2005). Housing must not only be seen as the physical structure that provides shelter but it encompasses other supporting facilities and services (i.e sanitary facilities, water, and

accessibility) and even to a large extent the immediate environs of the house. Thus, in this study, housing is viewed as more than just a dwelling or shelter.

Housing affordability has received massive attention in literature and the discourse on affordable housing has attracted many researchers and audience. However, the precise definition of housing affordability remains elusive. Consequently, there is no generally established method to measure it; however, the measure of the ratio between what households pay for their housing and what they earn is highly favoured in literature (Ndubueze, 2007). A 'rule of thumb' standard of not more than 25 − 30 percent of household monthly income being spent as monthly housing cost is considered appropriate and affordable. Nonetheless, the UN Habitat (2011b:10) maintains that, housing affordability, "involves more than the often-used simplified conception of house purchase price to household income". *Housing affordability* is explained as involving the ability of households to consume other basic necessities of life such as food and clothing in addition to accessing adequate housing – it includes the ability of households to consume housing that permits reasonable standard of living; ability of mortgagors to effectively meet mortgage obligations, and households' access to adequate standard of housing without denying them access to other basic necessities of life (Boamah, 2010; UN-Habitat, 2011b; Working Party on Affordability Issues, 2003). This definition is largely adopted to streamline all discussions on affordability in this study.

It is worth noting that various actions on different platforms have been taken by both the private and public sector as remedy to the housing situations in developing countries; indicating that governments in developing countries are not relenting in their efforts at providing adequate and affordable housing (Ibem and Amole, 2010). Notwithstanding, it is rather unfortunate that many of such efforts have either not yielded much results or may not have seen the light of day or did not reach the original targets for the inception of such interventions (Konadu-Agyeman, 2001). Findings from the 2010 Housing and Population Census of Ghana showed that 50.9 percent lived in urban areas; this milestone feat means there has been over 30 percent proportionate increase in urban residents in Ghana over the last ten years as shown from the 2000 population census (GSS, 2012). Adarkwa (2012) remarked that Ghana is gradually urbanizing and with the increase in population and an unprecedented increase in demand for limited housing units within the urban area, most people are displaced by the housing market.

The need to provide adequate and affordable housing for urban residents has become more critical than ever; especially in our poverty reduction quest. It has been keenly observed that – "the relationship between housing and poverty reduction is that the construction of homes in itself does not guarantee poverty reduction but can address some challenges of the households such as lower rents and improved access to water, sanitation, and other services" (UN-Habitat, 2010b:19). In the light of the above, this study is focused on developing an operational understanding of the housing affordability situation of Kumasi residents; towards improving housing delivery in the city.

1.2 Problem Statement

The quest to provide affordable housing to urban residents (especially the poor) has become an obscure charge to many developing economies of the world (Boamah, 2013; Chen, Qianjin, & Turner, 2006). The term *housing affordability* has come into popular usage in recent times deepening the call for tending to the huge housing deficits in developing countries and thus, has taken up the centre of the global discourse on the provision of "adequate housing for all" (Ndubueze, 2007). This has largely been informed by the need to deal with the increasing evidence of housing crisis brought about by the evolving housing sector in many countries and its resultant market failures. In Ghana, the issue of affordable housing is a very critical topic on various discussion platforms and has receive a lot of recognition, not only because of the huge housing deficit of the country (1.6 million) or the increasing urban population in the various cities but also on account of the political recognition it has received from various regimes and has become a campaign tool for many politicians in the country (Arku, 2009; GBN, 2012).

Aside, the erstwhile more public welfare housing system with active government involvement has been overtaken by the emergence of a more vibrant private housing sector with a huge market drive (BoG, 2007; Obeng-Odoom, 2011). This situation has further deepened the woes of the urban resident; since "adequate housing" is no more affordable in the cities. As a result, poor urban households easily settle for poor housing areas with deplorable living and environmental conditions within the city – which are characterized by inadequate water supply, squalid conditions of environmental sanitation, overcrowded and dilapidated habitation, hazardous location, insecure tenure and vulnerability to serious health risks among others (Arimah, 2010; Obeng-Odoom, 2009). Findings from Ghana National Commission for UNESCO (as cited in Awuvafoge, 2013) shows that only 8 percent of

Ghanaians can afford to buy houses without a mortgage; this is indeed very discouraging and shows the need to probe further into the "urban housing affordability realities" in Ghanaian cities. High housing costs can strain a family budget; constrain availability of resources for other household needs such as utilities, education, health care, transportation and savings (BoG, 2007).

Interestingly, while there is a lot of talk on the rate of urbanization in Ghana and its resultant effects on the urban housing situation; UN-Habitat (2011c), argued that it has been growing 30 percent more slowly than Senegal, Cote d'Ivoire, Cameroon and Nigeria. This implies that, Ghana has to direct efforts towards improving the current housing delivery situation before the rate of urbanization reaches the heights of these countries. Again, it indicates that 60 percent of all urban households occupy single rooms and the majority of houses in the country are provided by the private sector (mostly by individual developers). This informal way of housing delivery constitutes about 90 percent of the houses delivered in the country and construction is done incrementally (Boamah, 2010; UN-Habitat, 2011b). Certainly, this trend of housing supply cannot match up with the level of demand in the country, especially in the urban areas.   The case of Kumasi is not different from other areas, it is rather revealing. Kumasi plays a pivotal role as a major centre of exchange, as a result of its strategic location and its expansive transportation network (Adarkwa, 2011). This opens it up to enormous impacts of in-migration which compounds the housing situations in the city caused mainly by population growth in the face of insufficient housing supply.

In response to these problems, various political regimes have launched "Low Cost Housing interventions" to serve urban residents; particularly, the middle and low-income families. However, in most instances they are not implemented due to lack of funds and political will. In other instances where these programs are implemented, they are either abandoned half-way or the housing units do not end up with the target low income groups (Konadu-Agyeman, 2001; UN-Habitat, 2011b). For example, the affordable housing project initiated by the NPP Government in Asokore Mampong and other parts of Ghana has stalled since they left office in 2008. Low cost housing does not necessarily reflect the concept of *Housing affordability*; the former is based on the state's role of providing public housing in the form of permanent construction units such as apartment blocks. This has widely been criticized as alien to the Ghanaian setting. This explains why such public housing interventions has failed in the country.

Indeed, significant studies have been conducted by various bodies under the UN, other agencies, individual research groups and researchers on housing problems of urban residents in Ghana including Kumasi. Obeng-Odoom and Amedzro (2011), indicate that two themes are evident in housing research in Ghana; the study of how to increase housing supply and on how to improve housing for slum dwellers. However, the few studies conducted on housing affordability is either not meticulous on the measurements methods or the outcomes of the affordability measurements (See works by Boamah, 2010; UN-Habitat, 2011c and Awuvafoge, 2013). For instance, while Boamah (2010) indicates that rental and owner occupied units, and housing credits are unaffordable by most households in Kumasi; UN-Habitat (2011c:54), argues that total housing expenditure is low in Kumasi – and thus "gives the lie to perceptions that urban housing is expensive in Ghana".

There appears to be a misfit between what the prevailing urban housing market is offering and how much residents in Kumasi can afford to pay for housing. This invokes the question of; "what are the housing affordability realities in Kumasi". There is the need to identify and examine the prevailing housing affordability situation of Kumasi residents; a measurement that gives a true reflection of the existing situation through the different lenses of affordability measurement (i.e. rental and homeownership housing affordability).

1.3 Research Questions

The research is principally set to interrogate the realities of housing affordability in Kumasi. As developed through conventional and historical explanations of the affordability concept, coupled with Ghanaian perceptions of what affordable housing is, and what is being offered by the urban housing market in Kumasi. This is intended to develop an operational understanding of the housing affordability situation in Kumasi, towards improving housing delivery in the city.

In the light of the foregoing, the research is driven by the following questions;

i. What is the nature of affordable housing supply to various socio-economic groups in Kumasi?
ii. What are the factors that affect housing cost and their effects on housing delivery in Kumasi?
iii. What is the nature and extent of the housing affordability situation in Kumasi?

1.4 Objectives of the Study

Housing delivery should essentially be a fit between what the available housing market can offer and what the residents can afford. This study fundamentally seeks to develop an operational definition of *"affordability"*, based on the current housing situations of urban residents in Kumasi and how this can enhance housing delivery in the city.

To help achieve this aim, specifically, the study seeks to;

  i. Identify the nature of (affordable) housing supply to various socio-economic groups in Kumasi.
 ii. Examine the factors that affect housing cost and their effects on housing delivery in Kumasi.
iii. Examine the nature and extent of the housing affordability situation in Kumasi.
 iv. Make policy contributions towards enhancing delivery and access to decent affordable housing in Kumasi.

1.5 Scope of the Study

The geographical scope of the study is Kumasi, which is the second most populous city in Ghana and thus has such characteristics that easily reflect the urban housing situations of most cities in Ghana. Adarkwa (2011) indicated that the unique centrality of Kumasi as a traversing point from all parts of the country makes it a special place for many to migrate or travel to access high order services; as such, it suffers vast effects of in-migration which compounds the housing situations in the city. Contextually, the research is set on the urban housing sector and it primarily focuses on probing the realities of housing affordability in Kumasi. Thus, it tends to study the perceptions of urban residents on what is deemed as affordable and that which the urban housing market in Kumasi can offer. The study explores the nature of housing available for various socio-economic groups in the city.

1.6 Significance of the Study

The research would provide an analytical viewpoint on the issue of housing affordability; by way of defining affordability in the direction of urban residents' perceptions. This will serve as a relevant guide that would inform the designing of appropriate interventions. Again, it is hoped that this study will contribute to the process of developing better housing affordability measures that will more readily reflect the housing realities of urban households as shaped by prevailing urban housing markets. This is intended to aid decision makers to formulate

responsive and sustainable policies and actions that seek to integrate housing for various socio-economic groups into the overall housing framework of cities.

Findings from UN-Habitat (2003a) show that a larger proportion of the urban population in developing countries live in slums. Hence, in recent times, attempts at improving the living conditions of the poor have been directed at improving slums. Though a very excellent idea, it is equally important to redirect our scope of intervention to providing affordable housing for urban residents so as to accommodate the ever growing urban population. Likewise, it would help integrate the urban poor into the formal housing sector and spatial landscape of the urban area.

In an attempt to contribute to the growing debate on defining suitable housing policy direction of cities in developing countries, the study aspires to improve our capacity to resolve the misfit that exists between what urban residents perceive to be affordable and what the urban housing market can offer. This would contribute to expanding the knowledge on current housing situations in Ghana, allowing for improved housing delivery strategies for urban residents. Thus the knowledge developed from this study can add up to the stock of knowledge existing on housing; thereby assisting in deepening the understanding of housing issues among cities in Ghana.

1.7 Organization of the Study

The study is structured into six chapters as follows: Chapter one of the study focuses on the background to the study, setting the foundation for the whole research. In essence, it contains the problem statement, research questions, the objectives and the significance of the study. Chapter two of the study contains a review of literature on related concepts relevant to the study. It provides a theoretical and conceptual underpinning for the research. Chapter three of this report presents the methodology and framework for analysis. The research approach and methodology adopted for the study is discussed in detail. Chapter four of the study looks at the existing housing situation of Kumasi. Chapter five is basically devoted to the analysis on the measurement of housing affordability in Kumasi. Chapter six of the study presents a summary of the key findings of the study. It also discusses recommended approaches towards enhancing housing delivery and access to decent affordable housing in Kumasi.

CHAPTER TWO
UNDERSTANDING AND MEASURING URBAN HOUSING AFFORDABILITY

2.1 Introduction

The foregoing discussion shows that, access to appropriate, affordable housing is seen as a fundamental human right – which has largely been viewed as essential for the wellbeing of individuals, family and the community as a whole (Johnson Jr., 2010). The affordability of housing is an important subject and has received considerable public attention; and has come into widespread usage in the last two decades (Robinson, Scobie, & Hallinan, 2006). However '*affordability*' as a concept is hard to define – a survey of literature reveals lack of consensus among academics and housing development experts on how it should be defined and measured (Ndubueze, 2007). The focus of this chapter is to examine these different approaches in order to identify the aggregate features of the measurements. This is to provide a framework within which, housing affordability will be defined and measured in this study. This chapter reviews literature on related concepts relevant to the study. The review begins with issues which include: urbanisation and housing development, housing in Ghana and the concept of affordability. A conceptual framework, which conceptualizes the variables that are associated with the study subject and their relationships, will also be presented to help put the research in context. It ends with a summary of the major findings and lessons drawn, which shall serve as the fulcrum of the empirical studies.

2.2 Urbanisation – Influencing where and how people live

To begin with, this section would discuss two relevant issues in understanding and measuring housing affordability. These two issues are infinitely related and they underpin the whole subject of housing affordability. This section critically looks at how urbanisation has informed urban housing and in its various dimensions.

2.2.1 Defining Urbanisation

The rapid upsurge in population sweeping across nations all over the globe has been the most evident phenomenon in the world today. The UN-Habitat (2011a) indicates that, the world is inexorably becoming urban – it is expected that by 2030 all developing regions, including Asia and Africa, will have more people living in urban than rural areas. It is worthy to note that, no matter the form or dimensions such growth may occur; it comes along with

unprecedented challenges and opportunities. Urbanisation has generally been viewed as the expansion in the proportion of a population living in urban areas. Urbanisation has been one concept which is difficult to define and thus has sparked a lot of controversy in literature on what criteria should be used to describe an urban area. Perhaps, the term "Urbanisation" should be viewed as a rather subjective concept which has been given different interpretations depending on the purpose and criteria used (Aluko, 2010).

2.2.2 Urbanisation – A Global Perspective

Globally, the world is witnessing a very rapid and dynamic urbanisation process. Jiboye (2011) argues that this process is one of the major social transformations occurring in the world. Notwithstanding, the most persistent manifestation of the impact of urbanisation, is its influential tendencies on the way and manner people live in the cities of today. Amoako and Cobbinah (2011) also argue that, rapid rate of urbanisation resulting from rural-urban migration is a major contributing factor to slum development in developing countries. Jiboye (2011) indicates strongly that, the challenge of housing the increasing urban population, particularly the poor is becoming more critical in the urban areas of developing countries where an explosive expansion of the urban population due to a high population growth rate and massive rural-urban drift has compounded the housing situation. Adarkwa (2012) rather puts it that, in the face of rapid urbanisation occurring in Ghana, it is a logical inference that, the face of Ghanaian towns has changed significantly.

Consequently, these complex relationships between urbanisation and the way people live in cities is borne-out of varying dimensions of social, economic, cultural, political and demographic changes. These constant changes spark shreds of segregation, inequality, deprivation and marginalization to some groups of urban residents. This has colloquially been described in literature as the "urban divide"; as though the city is split into two by invisible borders (*between the 'haves' and 'have not'*) (UN-Habitat, 2011a). UN-Habitat (2011a), again observes that in many cities of the developing world, the separation of uses and degrees of prosperity are so obvious that the rich live in well-serviced neighbourhoods, gated communities and well-built formal settlements, whereas the poor are confined to inner-city or informal settlements and slums. Adarkwa (2012) and Songsore (2010) also tend to argue that, in the case of towns in Ghana, rapid urbanisation has brought about significant infrastructure and economic development. But there are various scores of disparity in the development; where planned sectors of cities receive strict enforcement of building

regulations whereas the poorly planned areas received very little or no intervention at all (Grant and Yankson, 2002).

It can therefore be inferred that, this deplorable and disturbing trend has the potential of further aggravating the already acute housing problem in cities. This implies that urbanisation, to some extent, compounds the situation of certain groups of people in the urban area making them worse-off (poor), while other groups live in opulence. A very critical finding from the foregoing argument is how urbanisation inherently fuels an 'urban divide'; "that which has defined various degrees of residential (housing) differentiation and the segmentation of spaces for use by different groups in most urban areas" (UN-Habitat, 2011a).

2.2.3 Urbanisation – Fuelling an "Urban Divide"

In 2011, the UN-Habitat in their report on the State of World Cities (2010/2011), entitled, "*Bridging the Urban Divide"*, discussed the nature of this urban divide as taking expressions in four major faces, namely: the economic divide, the spatial divide, the opportunity divide and the social divide. The report discusses the various faces of urban divide, as that which obstructs the development of an inclusive city. An inclusive city, as defined in the report, "is one that provides all residents – regardless of race, ethnicity, gender or socio-economic status – with adequate housing and decent basic services, and facilitates equal access to social amenities … essential to the general and environmental well-being of everyone" (UN-Habitat, 2011a). Stone (2004) also argues that, housing affordability is central to the dilemmas of inequality and insecurity confronting our society. This section of the discussion will therefore focus on exploring how the first two aspects of urban divide affect the problem of housing affordability.

2.2.3.1 The Economic Divide – Urban Income Inequalities
The report discusses the economic divide, as that which stems from the externalities of urbanisation as in the form of income and consumption inequalities within the urban area. The findings from the report show varying causes and effects of income inequalities. However, in this study the focus is on how income inequality affects where people live in urban areas. The report reveals that the most unequal cities in sub-Saharan Africa – is reflected in shelter indicators such as living areas and sanitation. Similarly, findings from an earlier work by UN-Habitat (2008) revealed that, in Africa, poverty often manifests itself in

inequality in access to adequate housing. Many authors hold the view that, the problem of housing affordability stems from the fact that disposable income in urban centres are generally low and further lower among middle and low income households (UN-Habitat, 2008; UN-Habitat, 2011a; UN-Habitat, 2011b, Boamah, 2010 and BoG, 2007). This stifles the ability of many households to afford adequate and decent housing in the urban areas – particularly, low-income households. Arku (2009) found that the prices of houses produced by private firms in Ghana are very high relative to household income, making home purchases practically impossible for most urban households. This clearly points to how income inequality arising from the urban divide, has affected housing unaffordability in urban areas.

2.2.3.2 The Spatial Divide – Marginalization and its outcomes

One significant face of the urban divide is in the form of spatial inequality (divide). Grant (2010) argues that, the urban spatial divide (*which has defined poverty traps for some urban dwellers*) is evident in developing country contexts, and that this emerges as a result of rapid urbanisation. The report expresses the urban spatial divide as more than just the physical expression of income inequalities among households; it is also seen as the by-product of inefficient land and housing markets. Consequently, the poor are unable to afford land or housing in the limited areas of the city that are fully serviced, but have access only to the least desirable and most densely developed spaces. Grant (2010) also observes that, there are few housing options available to low income households in urban areas and the cost of housing is too high for them; thus they settle for congested living spaces on cheap lands that no one else wants. As a result of inefficient land and housing markets, the physical manifestation of income inequality tends to spatially segregate urban residents. It can be inferred that, this situation possibly traps certain groups of urban residents to particular housing areas; this is what Galster (2002) describes as concentration of poverty. This also shows that urbanisation has over the years influenced how and where people live in urban areas, and consequently has an impact on housing affordability in urban areas.

2.2.4 Urbanisation – An African Account

World demographic projections have put the rate of urbanisation in Africa as the fastest in the world. Interestingly, a cursory review of literature reveals that many countries have adopted an ambivalent attitude towards urbanisation (UN-Habitat 2011a). On the other hand, it rather presents a positive force for socio-economic transformations of cities worldwide

(Grant 2010). However, Obeng-Odoom (2009) and UN-Habitat (2011a) point out that many authors tend to hold the view that urbanization in Africa is *"parasitic urbanism"*, *"urbanisation of poverty"*, *"premature urbanisation"*, *"pathological"* or *"dysfunctional"*. This theorizes that, unlike the rest of the world, urbanisation in Africa has often not been accompanied by sustained economic growth or reduced poverty. The challenge here is how African countries can adopt policies that maximize the benefits of urbanisation and equally responds to the problem of urban divide in the pursuance of inclusiveness. Yeboah, Codjoe and Maingi (2013) suggest that, this situation presents sub-Saharan African countries with a challenge to provide for urban livelihoods … minimizing the exclusion of groups from urban society. The foregoing discussion reveals how urbanisation in Africa affects where and how people live in urban areas, and it also enhances our ability to understand the extant situation of housing affordability in urban areas.

2.3 The Concept of Housing

In trying to analyse the issue of housing affordability in urban areas, it is essential that one gets an in-depth understanding of the concept of housing. Housing has often been viewed as a vital tool for economic development and the general wellbeing of people (Danso-Wiredu and Loopmans, 2013; Collier and Venables, 2013). Arku (2009) indicates that, a good housing and a decent neighbourhood improve human health, enhance labour productivity, and contribute to social harmony, safety and security. Many authors have however, bemoaned the persistence of acute housing problems in many urban areas in the world today, especially in developing countries (UN-Habitat, 2010b; UN-Habitat, 2011b; Obeng-Odoom, 2009; Arku, 2009; Ndubueze, 2009). Collier and Venables (2013) argue that, perhaps the role of housing in economic development is not sufficiently recognized in Africa. Zami and Lee (2010) established that, the different definitions and understanding of housing lead to different approaches in tackling problems related to housing. This section of the study focuses on exploring the concept of housing, in trying to understand housing affordability in urban areas.

2.3.1 Defining Housing

Housing has been one of the concepts in literature, which is difficult to define (Zami and Lee, 2010); thus, house and housing means many things to different people. Its definition is also affected by the geographical setting and the purpose the definition is to serve. The GSS

(2005) defines a housing unit "as a single room or group of rooms (or other structure) arranged for human habitation and occupied or intended for occupancy as separate and independent living quarters by a person living alone or persons living together". This is further treated in censuses in Ghana, to refer to "any shelter used as living quarters at the time of the census, such as a hut or group of huts enclosed as a compound, kiosks, containers, and tents". Contrary to the above, GSS (2005) argues that, housing should be viewed as not just the physical structure but also the amenity that comes with it. Thus, housing should encompass other supporting facilities and services (i.e. sanitary facilities, water, and accessibility) and even to a large extent the immediate environments of the house. This invokes the adequate housing paradigm which is seen as the right to live somewhere in security, peace and dignity (UN-Habitat, 2009). Adequate shelter as defined in the Habitat Agenda means:

"adequate privacy; adequate space; physical accessibility; adequate security; security of tenure; structural stability and durability; adequate lighting, heating and ventilation; adequate basic infrastructure, such as water-supply, sanitation and waste-management facilities; suitable environmental quality and health related factors; and adequate and accessible location with regard to work and basic facilities: all of which should be available at an affordable cost" (in UN-Habitat, 2010a: 6).

This definition has raised a lot of debate in transnational housing discourses. Many, who argue against this taut definition of housing, tend to say that if housing is made to carry all these features, it makes it impossible for low and middle income households to acquire housing, given their limited income. This in a way limits the supply of housing since the cost involved in producing a single unit of housing qualifying all these descriptions above will be very high. This will keep demand for housing, far in excess of the available supply; even to high income households who can afford. Thus the definition of an *adequate housing* is embellished and untenable. For those who stand against such definitions, they tend to stand in line with John Turner's (1972) contention that housing is more of a verb than a noun.

Turner (1976) explains housing to include the dwelling units and the process by which the dwellings are maintained, as well as the human and social values of any housing activity. He points out that, "what is important about housing is not what it is but rather what it does". Turner's inclination is towards the functional role of housing other than the material qualifications (*standards/regulations*) of housing. Turner (1972) argues that,

"from the viewpoint of planners, designers and officials, it is a logical conclusion that; housing problems are defined by material standards and housing values are judged by the material quality of

the houses produced … but according to those for whom housing is an activity, these conclusions are absurd".

This observation is particularly appropriate in developing country context; where resources available for housing provision are extremely limited leading to huge deficits and yet people continue to live in dire housing conditions.

Turner (1972) does not advocate that every family should build its own house (*like squatters do*) but rather, "households should be free to choose their own housing, to build or direct its construction, and to use and manage it in their own ways". This tends to suggest that household should be allowed to acquire or build a house that can meet their present needs and take time to improve on their housing at their own pace. Corollary, what comes to mind is, the extent to which households should be allowed the free choice to take decisions about housing. Perhaps, it is of essence that we have standardized descriptions and restrictions/regulations to streamline understanding on housing issues. Notwithstanding, such regulations and restrictions should be in the form of minimum requirements that are responsive to the basic needs of urban residents and equally be reflective of the prevailing housing situations of cities. Again, it must be noted that, given the existence of different socio-economic groups in cities, housing standards and prescriptions are not likely to be in fit for both low and middle-income households. In this study, housing is equally viewed as more than just a dwelling but also the amenity that comes with it.

2.3.2 Components of Housing

The preceding discussion gives an in-depth expose on the definition of housing, and it equally reveals the different backgrounds and understanding about this concept. It also projects how housing can be viewed differently on the basis of the material standards and components. Thus, our understanding of the concept of housing is in part without the understanding of the various components of housing. Land, finance, building materials, labour and infrastructure are the major inputs in any housing delivery process and thus they impact the affordability of housing (UN-Habitat, 2010a; UN-Habitat, 2010b; Collier and Venables, 2013). This section focuses on explaining how these components affect the affordability of housing.

2.3.2.1 Land

This is widely seen as the most fundamental input into any housing development (UN-Habitat, 2011c). Thus, the cost of land tends to affect the delivery of housing and this will go

on to affect its affordability. Land is primarily affected by the complexities surrounding its location, its value, its accessibility and legal status (Acioly, 1994). These complexities affect the cost of land especially in urban areas. Collier and Venables (2013) argue that, urbanisation creates value and the increase in value usually accrues to urban land; this increases the cost of land for any development. In spite of this, access to land in urban areas is increasingly becoming a problem as a result of the high demand for land for competing uses (like residential, commercial and light industrial). Ghana like many African countries is troubled by problems of land administration and management (Afrane and Asamoah, 2011). This serves as a constraint to availability of land for housing development. However, "the availability of land at affordable prices is fundamental to expanding the supply of affordable housing and limiting the growth of new slums" (UN-Habitat, 2011b).

2.3.2.2 Finance

Housing Finance affects the supply of housing and the array of options that exist for various households to acquire housing. Collier and Venables (2013) suggest that, the affordability of any housing construction is obviously a prior condition to household investment in housing. This is informed by the share of financial resources a household is willing to devote to housing. However, UN-Habitat (2011b) maintains that affordability does not only connote the price of housing, but more critically it talks about the access to and the cost of housing finance. Boamah (2010b) points out that, housing finance should enable households to spread the cost of housing over a reasonably period, so as to meet the huge housing cost obligations. In order to achieve this, housing finance necessitates simultaneous relationships of housing with other parts of the economy – in the form of financial services, institutional arrangements, human resource development and financial governance systems (UN-Habitat, 2010a). The effective management of these relationships will create alternative housing opportunities for various groups of households in urban areas to acquire housing.

2.3.2.3 Labour

Labour is one very significant component of any housing delivery process. More often than not planners, engineers, architects, land economists and builders are seen as the most essential professionals in the housing construction industry. However, 90 percent of the houses built in Ghana are through the informal means where master craftsmen who have been trained through apprenticeship handle such developments (Afrane and Asamoah, 2011; Boamah, 2010b; UN-Habitat, 2011b). There have been several calls on the government to streamline the activities of these groups; manly because of the low quality of the works they

produce. Collier and Venables (2013) maintain that whereas unskilled labour in Africa is abundant and relatively cheap, skilled construction labour is currently very scarce and reflects decades of little investment in the construction industry. An obvious manifestation of this situation is the importation of foreign skilled construction workers in various major housing projects in Africa. This consequently inflates the cost of producing housing even at the national level.

2.3.3.4 Building Materials

Building materials are a significant component of housing due to its peculiar characteristics. It is dependent on the taste and preferences of households and the requirements of the existing planning and building regulations in the country (Afrane and Asamoah, 2011). Other factors such as rules and regulations; policies concerning importation and manufacturing; commercial freedom in trading and the mobility of the building materials within the country affect the demand and supply of materials and hence the cost (UN-Habitat, 2010a). This mostly informs the type of material and hence, the cost involved. Building materials are seen as a major reason why housing is unaffordable for majority of urban poor in Africa (UN-Habitat, 2011b). Various platforms have encouraged the use of locally manufactured building materials in housing construction since it tends to reduce the cost share on housing substantially. However, Afrane and Asamoah (2011) report that in Ghana this has not had the desired impact on the housing construction industry; partly because the supply is not able to meet the demand of developers. UN-Habitat (2011b) found out that, in Africa building materials can account for up to 80 percent of the total house cost. This obviously shows that, for housing to be affordable, significant strategies must be in place to respond to the cost of the components.

2.3.3.5 Infrastructure

As captured in previous discussions under this section, housing means more than just a physical structure. The house is supposed to host the various human activities of man and thus it is not complete unless the supporting facilities that allow for comfortable human living comes with it: roads, drainage, water, and sewerage etc. Most of such services are public goods and it is difficult to be provided at the household levels. However, given the cost involved and the public benefits it tends to bring, it requires that their provision has to be at best done by government, highly subsidized or enforced by compulsion (Collier and Venables, 2013). Owusu and Asamoah (2005) report that the demand for facilities and services are far in excess of the provision capacity of the utility agencies and government;

resulting in individual developers paying high cost to get connection to basic infrastructure. Collier and Venables (2013:12) maintain that "cost-effective provision of the physical infrastructure requires that, it be installed in advance of housing construction and then serviced". UN-Habitat (2010a) argues that the supply and availability of basic supporting infrastructure has a direct impact and influence positively on the supply of housing. It must be observed that the presence of supporting infrastructure reduces per unit cost of a house which is a step in making housing affordable for urban households.

2.3.3.6 Control Framework

Acioly (2012) suggest that for a housing delivery system to be effective, equilibrium must be maintained in the availability, accessibility and affordability of all the various inputs of housing. Thus the inputs for housing are guided by (*a control framework*) the regulatory, legal and institutional frameworks that exist in a particular country. However, to each of this controlling framework, the external forces of operation that shape the outcomes of the frameworks are: *policies, strategies, instruments and actions;* (including activities, programmes and transactions) (UN-Habitat, 2010a). It can be observed that, the components of housing controls the housing delivery system, while the control framework guides the availability, accessibility and affordability of these components. However, these frameworks are shaped by their policies, strategies, instruments and actions; which affect the availability, accessibility and affordability of the components. This shows a forward and backward relationship and how it impacts on the housing delivery system. Collier and Venable (2013:15) strongly argue that, "housing investment in African has been affected, directly and indirectly, by public policies that have prevented the formal sector from providing housing that meets the needs of ordinary households". They further point out that such policies have only been enforced within the limits of the formal sector, thus if informality (*which constitute 90 percent of housing delivery in Ghana*) were efficient then urban residents would have been adequately housed. Clearly, informality does not also provide the answers to housing affordability. The relationships are shown in Figure 2:1.
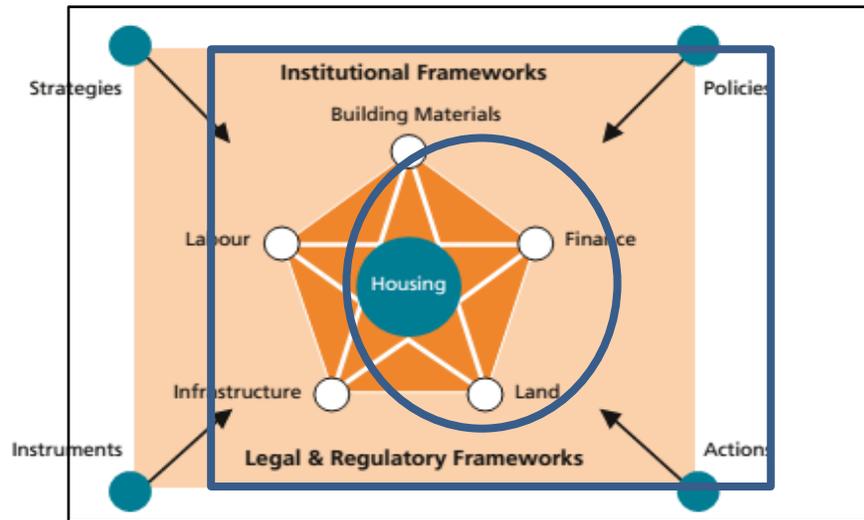
Figure 2.1: A Multi-dimensional Understanding of the Concept of Housing

Source: Adapted from Acioly, (in UN-Habitat, 2011)

The circle connects the five main components which define housing and the rectangle shows the control environment. The dots at the corners of the rectangle depict the external forces that influence the controlling framework. Fundamentally, the ultimate goal of the various relationships that go on within the housing delivery system is to achieve affordable and adequate housing (Acioly, 2008). However, it is important to point out that these inter-linkages have direct and indirect effects on the housing demand and supply relationships in a country. Thus, if the country will be able to respond to the housing deficit and affordability gaps; there is the need for effective coordination within the control framework. The outcome of this whole system of interrelationships can be positive or negative and this is what defines the housing situation of the country. In short, Housing affordability is a function of demand and supply and this function is impacted by other factors. Hence, only a conscious housing market and policy environment that ensures the effective coordination of these relationships can ensure affordability of housing as shown below in Figure 2:2.
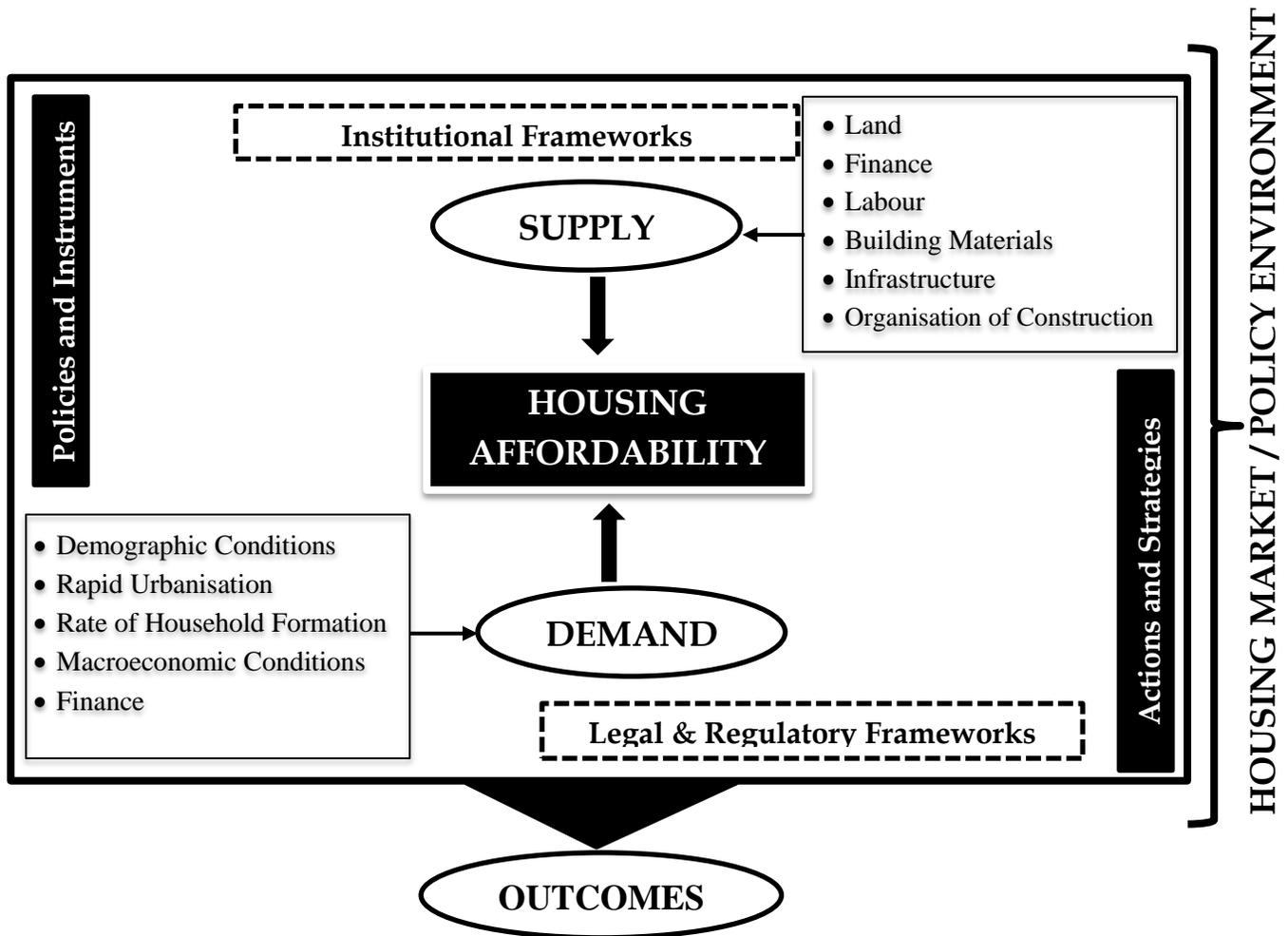
Figure 2.2: Housing Affordability in the Context of the Housing Market and Policy Environment *Source: Adapted from Acioly, (in UN-Habitat, 2011)*

2.4 The Nexus of Housing and Urban Development

Balchin, Isaac and Chen (2000:140-141) have noted that housing development has a marked effect on economic development – though its extent can differ amongst countries. They argue that, "while urban development occur in parallel with economic development in the developed world, enabling housing needs to be broadly satisfied; in the developing world, uncontrolled population in-migration – and a low level of economic development – have resulted in the proliferation of squatter settlements in cities". According to Steiner and Butler (2007), economic development can broadly be described as the of set local and regional efforts aimed at stimulating economic growth, job creation, infrastructure provision, promotion of prosperity and quality of life and the general improvement of societal wellbeing.

2.4.1 Establishing the Link

Invariably, urban development (*a continual series of growth and decline of cities*) have been associated with economic development. This necessitates the need to understand the relationship between housing and urban development. According to Pugh (in Balchin, Isaac and Chen, 2000: 141; Kotval, 2001), "housing provision is a cumulative process in development since construction adds to the GDP and employment, reinforces simultaneous improvement in health and education, assists in modernizing attitudes to work and even life – housing thus contributes to change and various economic and social benefits". Undoubtedly, the above shows an obvious effect of housing provision on economic development, which is viewed as having parallel associations with urban development.

2.4.2 The "Affordable Urban Development" – a consideration for developing countries

Literature clearly presents much research on the relationship between housing and urban development, as well as it associated challenges of various levels of inequality and marginalization. UN-Habitat in its 2013 *State of the World Cities report (Prosperity of Cities)* makes a clarion call on the crucial need to "rethink prosperity of cities". This was in response to the 2012 edition on "Bridging the Urban Divide" – where, though statistical evidences showed an increase in the wealth of nations and cities, there were distinguishing blocks of serious inequalities in the shares of the wealth of these cities. In the wake of this, there has been series of calls to build "inclusive cities" – that which will cater for the needs and welfare of all, regardless of race, ethnicity, gender or socio-economic status.

In the midst of these, adequate and affordable housing has remained central to this campaign. Steiner and Butler (2007) maintain that, the extent to which housing opportunities or alternatives are provided for diverse groups in a city, is not just a matter of creating a more balanced (inclusive) city; but it is a crucial requirement for the city's economic vitality. Balchin, Isaac and Chen (2000) have suggested that, given the enormous social benefits gained from housing it is dangerous for policy makers to focus their attention solely on the cost of housing provision since such benefits can be gravely overlooked. It can be observed from the two views that, tackling the issue of housing affordability is a gain and a necessity for the continued economic growth of cities. Thus, to sustain the wealth and prosperities of cities, there is need to recognize the reality of providing housing for all at affordable levels. For us in the developing world, this observation is more critical; "our urban development

must be affordable". If urban development, is such that it keeps widening the gaps between urban residents; it perpetuates inequality and it is unaffordable. An unaffordable urban development cannot provide low-income earners with affordable housing options to choose from – this has dire consequences on the general outlook of the city. This reflection may call for further research and policy considerations.

2.5 International Housing Discourse – State Control or Private-Sector Participation

Deeply rooted in literature are several debates on housing, and various contesting views have over the years, shaped discussions on housing. These debates have been drawn from the macro-economic policies of nations and the numerous economic and social policy paradigms that have taken place in the world over the years. For instance, Obeng-Odoom (2011) noted that, the face of housing policy changes that occurred in the mid-1980s in Ghana were greatly influenced by the "neoliberalism orthodoxy", which swept over world economies around that period. One prominent feature of the debate in housing is that of "the state's role and the market's role in housing provision". This debate becomes more critical with the mention of affordable housing. This section of the report tries to contribute to this debate and identify where affordable housing can be placed – whether in the reach of state control or market control.

2.5.1 The Need for "State Control" of Housing Provision

The argument for state control in housing provision dates back to the nineteenth century (industrial revolution). Arguments are that, rapid urbanisation and housing development under the free market conditions were increasingly accompanied by insanitary conditions; poor environmental health; unreasonable rents; overcrowding; housing shortages with it associated outbreaks of cholera and typhoid (Balchin, Isaac and Chen, 2000). This actually occasioned the shift of government into extensive housing provision and attempts to regulate and control the housing industry.

Lansley (1979) suggests that, there are some essential characteristics of housing that blight the efficiency of the price mechanism to adequately allocate resources of this nature. Turner (I972) noted that housing cannot be confined to one standardized description; it occurs in different locations, types, sizes, shapes, quality etc. By extension, housing as a product, does not connote a definite description. Thus, a reference to a housing market does not depict a homogenous market but rather a set of interconnected sub-markets offering options of

transactions (Galster, 1997). This makes it impossible to achieve perfect information which is principal to the operation of a free market system. As mentioned earlier, scores of inequalities that emanates from rapid urbanisation necessitates the need for government involvement in housing provision. The ills of inequality on poor urban households have been identified in dimensions of income and spatial inequality. Turner (1972:161) points out that, "demand is a function of expected supply". Consequently, the free market system embraces the rule of demand driven supply and thus would only direct housing provision towards those who have the purchasing power. According to Lansley (1979), given the high cost of housing as related to demand factors and income inequality; there is no way some sections of residents can afford housing without assistance. This obviously calls for government's intervention.

The ultimate goal of the government in the pursuance of national development is to improve the general welfare of the populace. Housing development has the tendency to generate employment, income and improvement in other sectors of the economy. It is an undeniable fact that, the multiplier effect of investing in housing provision, trickles down to all sectors of the economy. This gives government moral justifications for it attempts to take control of housing provision so as to limit the scores of market imperfections that is capable of derailing economic development. Similarly, the issue of social cost to the city is one pronounced justification which elicits government involvement in housing provision. Housing depicts characteristics of both public and private goods. The availability and usage of a housing product can be seen as largely the private good characteristics of housing. However, the absence of decent housing generating issues of slums and squatter settlements drives housing into the public good domain (Pugh in Ndubueze, 2009). These characteristics of housing justifies state control of housing provision and why even in a free market system, the state handles the regulatory framework guiding housing provision.

2.5.2 The Strong Case for "Market Control" of Housing Provision

To begin with, the market's control in housing provision predates the industrial revolution – where until then government took control of housing provision. However, the call for the "market take-over" of housing provision is associated with the emergence of neoliberalism and the influence of public choice theory, which gave legitimacy to privatization and deregulation in public policy (Stilwell in Obeng-Odoom, 2011). During this period everything "public" was seen as inefficient; thus housing provision was left to market control

and the role of the state was relegated to playing an "enabling role" for the market (Obeng-Odoom, 2011). The emergence of this paradigm has influenced the housing policies of nations and this idea is rooted in neo-classical economic principles.

Arguments in favour of market control suggest that, the market is more capable of ensuring effective use and efficient allocation of available resources and distribution of outputs. This takes place when resources are used in the production of goods and services that are the preferences of the society (Lansley, 1979). To this effect, the advocates of the free market argue that the market under perfect market conditions will be able to allocate resources and distribute output to the best interest of society; thereby maximising societal welfare. It can be observed that, by this relationship, the urban household (whether low or high income) can find within a perfect market, a house that fits its income and budget constraints; to maximise satisfaction. Similarly, the firm would be able to supply efficiently within the prevailing market cost of the houses demanded by the household; thereby maximising profit. It therefore appears that in a market system there is mutual satisfaction. Hence, the interest of the consumer and the producer, which also serves as the basis for increased consumption or production (Stafford in Ndubueze, 2009).

Steiner and Butler (2007) have reported that, the use of market strategies in housing development has turned out to be very essential tools for reinvestment and revitalization of urban centres. Thus, the market system has the capability to generate investment in urban centres. In line with this, advocates of the market system have maintained that the housing industry can benefit immensely from the operations of price mechanisms of the market; both by way of maximising output and ensuring efficient allocation of scarce resources (Ndubueze, 2009). This is mainly because outplay of demand and supply is capable of allocating housing based on the taste and preferences of consumers thereby creating a perfect condition of satisfaction. Lansley (1979) notes that in this situation the individual informs the patterns and levels of consumption and thus direct what producers would offer on the market. Drawing from Turner's (1972) assertion that, demand is a function of expected supply; then, if houses produced match with the preferences and demands of households it ensures equity.

Here, price mechanism strategies are used to direct the production of what is exactly needed by the populace. It is worth noting that in that sense, if households based on their income, demand sub-standard housing the market is mostly likely to offer supply for that. This

paradox explains why even in a market controlled housing sector, the government has an "oversight" role to play.

More practically, the arguments in favour of market control of housing fundamentally reside in the view that public housing is inefficient. Aside the theoretical explanations, global economic policy shifts and even the shortfalls of the free market system, many authors have ascribed public housing as a failure and unresponsive to the demands and real needs of society. For instance Obeng-Odoom (2011) reports that these sentiments were expressed by a number of authors. This and other factors in the end influenced Ghana government's shift from direct housing provision to vaguely serve as a facilitator (Arku, 2009). For the market to function adequately; there have been calls for the removal or reduction of subsidies, rent controls, direct public investment in housing etc. which have been described as distortions that limit the markets effectiveness (Ndubueze, 2009). However, if these calls are heeded, what becomes of the state's "enabling role" in housing provision defined by proponents of this neo-classical economic paradigm?

2.5.3 Resolving the Contention – "State Control" or "Market Control"

Balchin, Isaac and Chen (2000) maintain that, as the state increasingly retreated from direct housing provision, there was a marked diminishing supply of affordable housing. Critics of the market system have always maintained that, the efficiencies of the market system holds on to perfect equilibrium conditions which occurs under four basic assumptions (*See* Bassett and Short (1980). However, the "imperfections" in real markets have been blamed for the inefficiencies of the market. In more simple terms, the perfect market condition is not existent and thus, makes the market only effective in maximising profits and efficient in distributing housing to only those who have the purchasing power to back their demand. These observations are very crucial to the discourse on housing affordability. Clearly, this situation suggests that when housing provision is left to the market, low-income households will not be able to obtain housing at prevailing market prices. More importantly, the private sector may not be interested in providing housing for low-income households. In the developing world where incomes are predominantly low, housing becomes perpetually unaffordable for low-income households at prevailing market prices.

Consequently, this makes the "enabling role" position of the state, unreasonable and absurd. Similarly, the failures of the state in housing provision can equally not be side-lined in this

discussion. Particularly, in this era where rapid urbanisation is changing the face and compositions of cities and housing is increasingly becoming unaffordable and inadequate; both in quantity and quality. Superficially, what comes to mind at this moment is a "sound partnership" between the state and the market in direct investment in housing provision. In relation to housing affordability, the three issues central to this contention are: where should affordable housing be placed – *in the reach of market control or within the limits of state control*; the state and the market, who defines what affordable housing ought to be – *is it a requirement or it is left to demand*; and then again which paradigm would readily provide housing that is affordable and within the reach of the income of urban households. Obviously, these issues require an in-depth study on the concept of Housing affordability to basically understand what it entails and the measurements of affordability so as to cut out an operational definition to guide further discussions on this matter. This will be done in subsequent sections of this report.

2.6 Housing in Ghana – A Retrospective Account of the Existing Situation

The problem of housing affordability and huge housing deficit is not a recent challenge to Ghana. From the colonial days housing has been a problem in Ghana and it has seen major historical responses, directed at solving this conundrum. However, these interventions have over the years not yielded the outcomes capable of resolving the housing problem (Arku, 2009 and Konadu-Agyeman, 2001a). Ghana's housing industry has been described as being at a rudimentary stage (BoG, 2007). Thus, this section tries to trace the historical account of the existing situation and try to examine the scope of interventions that has taken place and the various policy changes prominent in the housing sector of Ghana as well as how it has shaped the affordability situation.

2.6.1 Historical Overview of Housing Development and Policy Changes in Ghana

To begin with, housing as a commodity fit into a market system where it is traded, as done in western economies, has never been a part of Ghana's housing culture (Tipple and Korboe, 1998 and Konadu-Agyeman, 2001a). Historically, housing in Ghana has been a trust of the family system; houses developed (whether individually or for extended family) were viewed as something belonging to the whole family because lands for housing were communally owned or owned as families (Konadu-Agyeman, 2001a). Thus, most Ghanaians were adequately housed in structures belonging to immediate and extended family members.

Konadu-Agyemang (2001b) reports that, as a result of this there was little or no demand for both rental and owner-occupied housing to generate a housing market. However, the upshot of "colonialization" leading to modernization and rapid urbanisation in Ghana, necessitated movement of people from their original homes (hometowns) to new places where they needed accommodation (Konadu-Agyeman, 2001b). The response to these new developments in Ghana was the beginning of somewhat of a housing market. The subsequent sections give a brief account of the historical responses to the housing challenge till date.

2.6.2 Housing in Ghana – Pre-Independence Era (Before 1957)

Konadu-Agyeman (2001a) describes the posture of government in this period as a "non-involvement stance". Housing provision by the colonial government was only targeted at the representatives of the British government and the representatives of European companies (Tipple and Korboe, 1998). According to Grant and Yankson (2002), they still maintained and enforced strict zoning and building codes for housing development in urban areas especially in Accra to depict an orderly European character and ambience. However, following a plaque outbreak in Kumasi and the 1939 earthquake in Accra, some improvements were seen in government's involvement in the housing sector (Tipple and Korboe, 1998; Konadu-Agyeman, 2001a).

Arku (2009) reports that, the government financed and created the Department of Social Welfare and Housing (DSWH) in 1945 to set-out policies and see to the implementation of housing schemes. However, many authors have criticized the activities of the DSWH as just serving an urban few (i.e. earthquake victims, war veterans, junior civil servants). The DSWH supervised the completion of seven subsidized housing estates, which were located in Accra, Kumasi and Takoradi. No housing scheme existed outside these three urban centres and majority of low-income families did not benefit from these programmes (Arku, 2009). The government increased their involvement in housing delivery through the 1951 development plan; where over £2.5m was devoted to housing development (both public and private housing). The First Ghana Building Society (FGBS) was established in 1956 to also mobilize resources for housing.

2.6.3 Housing in Ghana – Independence Era (Between 1957- 1970)

According to Adarkwa (2012), the pre-independence era set in motion a pattern of spatial segregation in Ghanaian towns which continued to independence and the acute housing

problems of Ghana spans from the neglect of certain parts of urban centres as well as the emergence of "Zongos"(migrant communities). Following independence, the government made housing the core of its social policies; adequate housing was seen as a right and a responsibility of government (Arku, 2009). Arku (2009) reports that in the "1959–64 Development Plan" the government proposed the construction of 6,700 housing units, 200 units for middle-income households, 1,500 units for low-income households, and 5,000 buildings for labourers at £2,000, £500, and £200 per unit, respectively". Obeng-Odoom (2011) and Arku (2009) observe that, the Ghana National Housing Corporation (GNHC), State Housing Corporation (SHC) and the Tema Development Corporation (TDC) were also established around this period to give a boost to public housing.

During this period, Kwame Nkrumah in 1964 launched the "Seven-Year Plan (1963/1964–1969/1970)" for national reconstruction and development. As a build up to the previous investments made by the government, the plan proposed the construction of 60,000 new dwellings throughout the country at a cost of £44.5 million; £31.3 million for commercial housing and £13.3 million for low-income housing (GoG, 1963). In line with this, additional government agencies were created to facilitate this move (Low Cost Housing Committee/Programme (LCHC/P)). The plan entreated the Ministry of Communication and Works, as a matter of foremost priority to work out modalities to make the construction of housing very affordable to low-income households. However, the plan did not achieve its desired impacts due to the 1966 coup that toppled the Nkrumah government and; also because of the little attention for self-help housing and government's concentration on public housing and slum clearance to solve the housing problem (Obeng-Odoom, 2011 and Arku, 2009).

2.6.4 Housing in Ghana – Post-Independence Era (Between 1970-1990)

According to Danso-Wiredu and Loopmans (2013), various housing interventions in the country prior to this era were not sustained owing to the economic decline of the 1970s. Tipple and Korboe (1998), observed that, policies on the international front have been leading away from direct housing provision for low income households by the 1970s. There were numerous unsuccessful attempts at introducing co-operative housing and site and services schemes, even though this was not directed at low-income households (Tipple and Korboe, 1998). The National Redemption Council (NRC) government attempted to save the situation by granting more funding to the LCHP and development of housing estates by the

SHC and SCC; as well as the establishment of the Bank for Housing and Construction (BHC) in 1973, to support housing and construction; together with the active participation of the Social Security and National Insurance Trust (SSNIT) in housing development (Adarkwa, 2012). Similarly, in 1975 the government established the Public Servants Housing Loans Scheme (PSHLS) and the Armed Forces Mortgage Loans Scheme (AFMLS) to support housing developments for these two groups (Konadu-Agyeman, 2001b).

According to Arku (2009), the chronic problem of housing worsened in the 1980s; with evidence of overcrowding, unaffordable housing, poor housing conditions and sanitation services. Obeng-Odoom (2011) observes that, due to the change in global economic policies and the dire economic situation in the country, the International Monetary Fund (IMF) and the World Bank encouraged Ghana to adopt the Structural Adjustment Programme (SAP), referred to as Economic Recovery Programme (ERP) in Ghana. This move saw the active participation of the private sector in housing delivery. The government's role in housing provision was reduced to creating an enabling environment for the private sector to provide housing (Arku, 2009). This also saw the entrance of private financial institutions like Ghana Commercial Bank (GCB), Standard Chartered Bank and Barclays Bank into the housing market to provide mortgage services. These were available to the few affluent and high-level government officials (Danso-Wiredu and Loopmans, 2013). Boamah (2010) also reports that, the liberalization of the housing sector further led to the inauguration of the Ghana Real Estate Developers Association (GREDA) in 1988. Konadu-Agyeman (2001a) suggests that, the further upturn of housing prices and the worsened case of unaffordable housing in Ghana is an out-sprung from this period.

2.6.5 Housing in Ghana – The Current Face of Housing (1990-to date)

Following the reforms in the housing industry, the Home Finance Company Ltd (HFC, now HFC Bank Ltd) was established in 1991 (Boamah 2010b). This was to reinforce the posture of the housing market in Ghana by improving access to mortgage services for housing development. The government went on to develop the national shelter strategy in 1993 to give direction to urban housing in Ghana (Tipple and Korboe, 1998). In line with government policies, all subventions and subsidies to state-owned enterprises was withdrawn and the annual budgetary allocation to the housing sector reduced from the about 12 percent in the 1950s to about 2 percent by the 1990s (Arku, 2009). This affected the various public housing projects on-going at that time and hence most of the low-cost housing programmes stopped.

This period further deepened the neglect for low-income households in numerous housing programmes initiated by successive governments. Again, it can be observed that the withdrawal of government's direct involvement in housing development exacerbated the housing unaffordability problem and partly increased our inability to resolve the housing deficit.

Interestingly, the government's deliberate withdrawal has forced it into a perpetual absence in the housing delivery system and currently prides itself as a "facilitator" in housing provision; consequently, the government has left this role to the private sector. Danso and Loopmans (2013) suggest that, there is enough evidence to show that the private sector is more interested in providing housing for the small upper class in the country, and it is not surprising that there has been an increase in gated communities. The NPP government in 2005 staged a comeback by initiating the affordable housing project, which was aimed at producing 100,000 housing units in six locations in five regions of the country (Sam-Awortwi, 2010). This was a welcoming initiative which barring all its challenges could have responded to the housing problem of Ghana. However, the project started, and after the government lost power in 2008 to date, it has not been completed. Again, successive governments have overlooked the completion of this project and made several failed attempts at initiating new affordable housing projects. Housing remains unaffordable and given the persistent neglect for low-income households and the rapid urbanisation taking place in Ghana the problem of housing will further worsen in the next decade.

2.6.6 The Face of Housing Demand and Supply in Ghana

Yeboah, Codjoe and Maingi (2013) reported on the major demographic changes that have taken place in Ghana as a result of urbanisation and its repercussions on the urban-systems in Ghana. According to Adarkwa (2012), the rapid urbanisation process coupled with major economic and infrastructure development have changed the face of Ghanaian towns substantially over the years. This major changes occurring within the country have taken place along with major increases in housing development over the years. The current face of housing demand and supply in Ghana is as a result of historical responses to housing delivery that have occurred over the years. As discussed in prior sections of this study, housing demand and supply are affected by the availability and affordability of housing components, the system of regulatory frameworks and the policies and actions of successive government and the private sector. Tables 2.1 and 2.2 show the increasing urban population growth and

the nature of housing supply in Ghana over the years as well as the extent of the housing deficit. The situation is disturbing as well as threatening and something must be done about it.

Table 2.1 National Population and its Urban Composition from 1960-2010

Year	National Population	Urban Population	% Urban
1960	6,726,815	1,552,606	23.1
1970	8,559,313	2,523,150	29.5
1984	12,296,081	4,074,753	33.1
2000	18,912,079	8,282,131	43.8
2010	24,658,823	12,545,229	50.9

Source: Yeboah, Codjoe and Maingi, 2013

Table 2.2 Housing Demand and Supply from 1970-2010

Year	Housing Demand	Housing Supply (By Dwelling Units)	Housing Deficit (By Dwelling Units)
1970	1,678,296	941,639	736,657
1984	2,410,096	1,226,360	1,184,636
2000	3,708,250	2,181,975	1,526,275
2010	7,417,607	5,817,607	1,600,000

Source: UN-Habitat, 2011c

2.6.7 An Overview of Housing Situation in Kumasi

The current housing situation in Kumasi has also been shaped by historical housing development responses till date. Historically, Kumasi benefitted in various Government built-housing projects as discussed previously. North Suntreso, South Suntreso, Buokrom, Kwadaso and Patasi estates, are good examples of the public housing units built in Kumasi. However, these areas have seen massive transformations over the years. Tipple (1987) puts Kumasi's housing into four sectors: the Indigenous, Tenement, Government-Built Estate and the High Cost Sector. It can be observed that this classification is mainly based on the socio-economic characteristics of these housing areas. Again, the housing in Kumasi has been described as depicting six distinct types: the Single-storey traditional compound house, the Multi-storey compound house, Small self-contained units, Villa type houses, Blocks of flats/apartments and Terrace housing. These characteristics give Kumasi its unique housing identity. Afrane and Asamoah (2011) report that housing in Kumasi is characterised by poor housing conditions. Many factors have been attributed to this; prominent among them is the inadequate access to basic facilities and services giving rise to the emergence of slums in the metropolis (Afrane and Asamoah, 2011).

The recent 2010 PHC report shows that Kumasi's population accounts for 46 percent of Ashanti region's total population (GSS, 2012). Demand for housing has always been for owner occupied and rental housing. Kumasi has seen one of the highest urbanisation rates in Ghana. Available statistics have clearly shown that the existing housing supply is insufficient for the increasing demand. The housing deficit of Kumasi stood at 124,159 units in 2000 and this was expected to increase to 280,509 units by 2010. This is further estimated to reach 381,000 units by the next decade (Afrane and Asamoah, 2011). The limited supply coupled with high cost of available units has displaced some households from the housing market. GSS (2005) indicates that about 6,000 households in Kumasi sleep either on the streets, markets, lorry parks, or in front of shops. This obviously calls for an urgent response to the acute housing problems in the metropolis; Ghana's second biggest city. The nature of demand and supply in Kumasi is shown in Table 2.3.

Table 2.3 Housing Demand and Supply from 1984-2020 in Kumasi

Year	Housing Demand	Housing Supply (By Dwelling Units)	Housing Deficit
1984	487,718	23,634	71,955
2000	1,170,270	67,434	124,159
2010	1,826,000	77,530	280,509
2020	2,397,000	89,091	381,000

Source: Afrane and Asamoah (2011)

2.7 The Concept of Housing Affordability

Housing affordability has taken centre stage in various discourses on housing in the last two decades; perhaps as a result of the strong call for adequate housing for all (Whitehead, 1991; Robinson, Scobie and Hallinan, 2006). According to Fallis (in Ndubueze, 2007) this strong shift has largely been influenced by the evolving housing sectors in many countries to more market-oriented forms. Similarly, the increasing evidence of housing crisis, homelessness, proliferation of slums, inadequate housing, and increasing cost of housing have all contributed to the attention given to the issues of housing affordability in recent times (Whitehead, 1991; Ndubueze ,2007; Boamah, 2013, Chen, Qianjin, and Turner, 2006; Arimah, 2010; Obeng-Odoom, 2009). This section of the study tries to trace various academic and policy discussions on the concept of housing affordability as well as examines the differential approaches to defining and measuring affordability. This is to help operationalize the measurement of housing affordability in the Kumasi metropolis.

2.7.1 Brief Historical Account of Housing Affordability

Hulchanski (1995:3) argues that, "the way in which social and economic 'science' evolved affects some fundamental assumptions upon which current housing analysis is based". He suggests that, within the context of academia, the study of the expenditure patterns of households, evolved from the search for 'scientific laws' to explain social and economic life by the founders of modern social science. Fundamentally, housing affordability has been viewed as a relationship of a household's housing expenditure-to-income; Engel and Schwabe have been credited with this as a result of their earlier attempts to formulate 'laws' to explain the relationship that exists between income and various categories of household expenditure (Hulchanski, 1995). The contemporary studies on housing affordability erupted from the background of the research done by these two scholars. According to Lane (in Hulchanski, 1995:3), Ernst Engel "proposed an 'economic law' which included the proposition that the percentage of income that households spend for lodging (housing) and fuel is invariably the same whatever the income". In contrast Herman Schwabe "suggested that, as total family income rises, the amount allocated to housing increases at a lower rate". So to Schwabe, "the poorer anyone is, the greater the amount relative to his income that he must spend for housing" (Stigler in Hulchanski, 1995:3).

These earlier attempts at understanding the relationship between income and housing expenditure became the focus of a series of debates on housing, which generated much research on this issue (Hulchanski, 1995). As a result, Zimmerman in 1936 found eight laws and theories specifically explaining the relationship between income and housing expenditure (Hulchanski, 1995:3). Kengott in the late 19th century reported that, many researchers in their study of this relationship in a number of cities have found that rents consumed "at least twenty per cent of the earnings of the husband in the family" (Hulchanski, 1995:4). Consequently, by the 20th century, the upper limit of housing affordability had been set at about 25 – 30 percent of income; this ratio of housing expenditure-to-income was increasingly referred to in the housing industry as the 'rule of thumb' about the ability of households to pay for housing (Hulchanski, 1995:4). These historical conclusions have over the years influenced people's understanding and further research into the issue of housing affordability.

2.7.2 Defining Housing Affordability

The contention on the definition of housing affordability has remained strong since the first attempt to define it in the 19th century. Thus, it has seen a plethora of definitions and yet the definition for housing affordability has remained elusive and inconclusive. Again, there is no agreed definition of the term and many experts have defined it in different ways to serve their interest or address this challenge. Based on the different definitions that have been given to Housing affordability, Quigley and Raphael (2004:191-192) noted that, the term affordability has been viewed as a mere rhetoric;

> "it jumbles together in a single term a number of disparate issues: the distribution of housing prices, the distribution of housing quality, the distribution of income, the ability of households to borrow, public policies affecting housing markets, conditions affecting the supply of new or refurbished housing, and the choices that people make about how much housing to consume relative to other goods. This mixture of issues raises difficulties in interpreting even basic facts about housing affordability".

However, according to Whitehead (1991), the central theme surrounding most definitions of housing affordability is on the relationship between household's expenditure on housing as against their income, and they all tend to define the extent to which the amount of household's income spent on housing is deemed as unaffordable. In the context of national policy, there have been attempts at defining housing affordability as a way of giving direction to the implementation of some housing programmes usually targeting the poor or low-income households. The term "affordable housing" in recent times has been used interchangeably to mean social, public or low-cost housing, all as a result of governments bid to meet the housing needs of its people through major housing investment (Gabriel et al, 2005). Bramley has maintained that, "most governments have often been reluctant to explicitly define affordability within a policy context, which could in part be attributed to inherent ambiguities with the concept and in part to political caution and expediency"; (cited in Torluccio and Dorakh, 2011:66).

Housing affordability is defined in New Zealand as the "ability of households to rent or purchase housing in an area of choice at a reasonable price, the capacity of households to meet on-going housing costs, and the degree that discretionary income is available to achieve an acceptable standard of living" (Working Party on Affordability Issues, 2003). Also, the Australian National Housing Strategy (ANHS) defines affordability as "the notion of reasonable housing costs in relation to income: that is, housing costs that leave households with sufficient income to meet other basic needs such as food, clothing, transport, medical

care and education"(in Robinson, Scobie and Hallinan, 2006:3). King (1994) noted that, the various definitions present different levels of emphases in part or all of three major issues – socially acceptable housing (quality), cost of housing and the quality of life.

Careful look at these definitions suggest that indeed, there is a common understanding and perception on the subject of housing affordability and thus the concept is not ambiguous after all. Perhaps, the ambiguity stems from how to come to a conclusion on the appropriate definition of the standard of housing that is deem adequate and the percentage of income that is seen as affordable to a household. Torluccio and Dorakh (2011:67) also point out that, "the imprecise and changing definitions of housing cost and income and with a lack of easily analytical and computable techniques that could be readily applied" present real difficulties for the use of the concept in a way that it would be generally accepted. Hulchanski (1995) tends to argue that, the contemporary explanations to affordability were based on earlier notions of household consumption, which had a history of conceptual, theoretical, empirical and methodological errors, and thus have had considerable impact on the understanding of the concept over the years.

This proves that there is the need to operationalize the definition of housing affordability in the context of the socio-economic, cultural and geographical setting the definition could be applied. Thus, limiting the ambiguity and confusion surrounding its explanation and application.

2.7.3 Misconceptions about the Concept of Housing Affordability

According to Stone (2009), the term affordable housing came into vogue with the increase in concerns about the issues of housing affordability and the need to meet the housing needs of the population. Gabriel et al (2005) suggest that the term affordable housing came into usage as a result of the intention of governments to improve people's affordability by way of granting subsidies and assistance to public housing. Stone (2009:36; 2006b) strongly argues that, "there is no such thing as "affordable" housing. Affordability is not a characteristic of housing – it is a relationship between housing and people". Thus, "affordable housing" does not imply "housing affordability". Stone, Burke and Ralston (2011) have also argued that, "affordable housing" can only be useful to housing affordability discourse if it responds to the following questions: affordable to whom; on what standard of affordability; for how long

and at what physical standards. "For some people, all housing is affordable, no matter how expensive and for others; no housing is affordable, no matter how cheap" (Stone, 2009:36).

2.7.4 Components of Housing Affordability

Fundamentally, housing affordability has been explained as a function of demand and supply; where each has peculiar factors affecting it. Trimbath and Montoya (2002) argue that, the force of demand and supply at play is what drives the housing market. UN-Habitat (2011b) indicates that, affordability of a house is affected mainly by capital variables (house purchase costs) and occupation variables (costs associated with keeping the house). Thus, primarily, whether the household is renting a house or it is an owner-occupied house, the affordability of the house is seen in two components; affordability before acquisition (capital variables) and affordability after acquisition (occupation variables). The capital variables are seen in terms of the cost of land, infrastructure, building materials and labour and the ability to finance the purchase; while the occupation variables are seen in terms of land lease and rates, services costs, and building maintenance and financial inputs such as: loan repayment period and interest rates, and household income minus non-housing expenditure (UN-Habitat, 2011b:10). Consequently, housing affordability, involves more than just the ratio of house price-to-income of a household (Hulchanski, 1995; UN Habitat, 2011b). This observation is very crucial to the measurement of housing affordability.

2.7.5 Dimensions of Housing Affordability

According to Trimbath and Montoya (2002), housing affordability is shaped and determined in three dimensions: house prices, household income and mortgage interest rates. These three are observed together as very critical in determining whether housing is or will be affordable to a household. Again, the prevailing conditions of house prices, household income and mortgage interest rates (which are obviously influenced by several factors) can also shape the general housing affordability conditions of a country. It is worth noting that, these three elements also respond to demand and supply conditions. Given the rate of urbanisation, demand for housing is growing at a faster pace than supply; thus house prices will rise, which negatively affect affordability. Again, when average household income is predominantly low, and house prices are high; it reduces the households ability to afford this increasing house prices. Interest rates payements on housing are equally crucial to the affordability of housing.

According to Boamah (2010), mortgage has become a very signifcant source of house financing around the world and offers the homebuyers the opportinity to pay for the housing over a long period; hence, reducing the burden of the house cost on other household obligations. However, Trimbath and Montoya (2002:11) suggest that, though lower interest rate can directly increase the affordability of housing, it can also indirectly reduce it, in that; "as lower interest rates attract more people into the home-buying market, the increase in demand also induces buyers to bid higher prices for the homes they choose". Thus, it is binding on government to either moderate home prices or increase household incomes or control mortgage interest rates to situate the affordability of housing in urban centres. The understanding of these dimensions of housing affordability is very relevant in any attempt at resolving housing unaffordability.

2.7.6 Measures of Housing Affordability

The foregoing discussion has revealed clearly, how the understanding of various researchers has impacted the definition of housing affordability. Likewise, various attempts have been made at measuring housing affordability; and as a result of the different views held by different researchers, different methods have been proposed for measuring housing affordability. A careful look at the various measures in literature reveals that, each approach is responsive to different households' circumstances and also various methods lay different levels of emphasis on the various components of the concept of affordability. Even though, some methods show similar concentrations, they have been given different names by different researchers. Majorie (1998) observed that the various measures that have been proposed by various researchers depict a combination of different indicators, assumptions and the use of different analytical methods. Thus, in any attempt to measure housing affordability, researchers should set indicators, assumptions and pick analytical methods that best fit the requirements of their research. There is no single method that is widely accepted for measuring affordability and perhaps no single method can appropriately satisfy every household's circumstances. DTZ New Zealand (2004) has mentioned that housing affordability measurements occur in three main strands: affordability for renters; affordability for prospective home owners; and affordability for existing homeowners. This primarily necessitates different approaches to measuring housing affordability in possibly all three perspectives.

According to Stone (2006:157-164), housing affordability can be seen in five main measures and these define the affordability or unaffordability of housing. Briefly, these measures include the following. Firstly, '*Relative measures*' which look at the changes in the relationship between summary measures of house prices or costs and household incomes (*more applicable to prospective home-buyers*). Secondly, '*Subjective approaches*' which look at whatever individual households are willing to or choose to spend on their housing. Thirdly, '*Family budget standard approaches*' which fall on monetary standards based on aggregate housing expenditure patterns of various households over the years to establish what is possibly affordable. Again, '*the Ratio approach*' which basically measures the maximum acceptable housing cost/income ratios that are deem as affordable to households. Finally, *'Residual income approach'* which sets normative standards of a minimum income required to meet non-housing needs at a basic level after paying for housing. In this subsection the major approaches and relevant measures of housing affordability would be discussed, including: Housing Cost Approach, Residual Income Approach and the Quality Based Approach. This is intended to shape the choice of indicators, assumptions and methods that would be used in subsequent stages of this research.

2.7.6.1 Housing Cost Approach/ the Ratio Approach

As earlier mentioned in prior sections of this chapter, the earliest form of housing affordability measurement took the form of the ratio approach. This approach is the most widely used measure of housing affordability and it has been accepted and applied internationally (Hulchanski, 1995; Karmel, 1998). The central theme of this approach is on the relationship between household's expenditure on housing as against their income; it defines the affordability as the measure of the ratio between a household's payments on housing and their income. It tries to establish the extent to which the amount of household's income spent on housing is deemed as unaffordable. Concurrently, a "rule of thumb" standard of not more than 25 percent or 30 percent (or even higher) of household income being spent on housing costs (whether by yearly basis or monthly basis) is deemed appropriate and affordable. Interestingly, this approach has attracted a lot of debate in literature; primarily based on the scientific and empirical justifications of the agreed benchmark set for the measurement of affordability.

Contrary to this, some scholars have mentioned that this approach saw recognition and became gladly accepted in many circles as a result of its deep roots in the traditions and

experiences in America, as well as it association with historical economic structures and (Feins and Lane, 1981). Hulchanski (1995) reported that, many scholars have challenged the contemporary relevance of this approach, especially with the set benchmark; due to the history of conceptual, theoretical, empirical and methodological errors that have been tagged to the idea of rule of thumb standard. Despite the numerous criticisms of this approach, Gabriel et al (2005) have maintained that, policy makers and analysts continue to use this approach due to the advantages it offers. Principally, it is the easiest of all the approaches because it uses few variables; data requirements are readily available; it is very easy to explain to non-experts and the basic assumptions of this approach are easily understood by non-experts. Gabriel et al (2005) mentioned that, the approach put limitations on subjective assumptions about housing and non-housing expenditure of households. Hulchanski (1995) indicated that, this approach is useful in studying the shifts in the payments various households make to housing at a particular point in time. There are two main types of ratios under this approach and they are discussed in turn.

i. House Price-to-Income Ratio

This ratio basically measures the amount of median annual household income relative to the median price of a dwelling unit available on the market. The ratio is calculated by dividing the median house price by the median household income. Thus this ratio is much related to potential homeowners. Quigley and Raphael (2004) maintain that, housing expenditure forms the largest share of most household budgets. In that sense, it is obvious that the price of a house is very crucial to homeownership affordability. Definitely, potential homeowners would be interested in measuring their income outlay to the price of the house they intend to buy. Invariably, this approach offers qualifying standards that suggest the affordability or unaffordability of the house the household intends to buy. The standard is set at 25 percent or 30 percent (or even more) in many countries. If nothing at all, this measure of affordability offers a prospective homeowner an opportunity to measure his strength (income) against his intended target (house).

This approach is readily helpful in assessing the risk involved in a potential housing investment. Ndubueze (2009:113) noted that, "most mortgage credit institutions rely mostly on this type of measures in their risk assessment of potential customers". This approach is therefore a good criterion indicator for any given expenditure on housing and can clearly show when a household has an affordability problem. Barring all the criticisms and

limitations of this approach as discussed earlier; Bogdon and Can (1997) have suggested that, the house price-to-income ratio offers a good start point to examining housing affordability when used with other affordability methods. UN-Habitat (2011b:11) argues that, the house price-to-income ratio can "generally be regarded as the single indicator that gives the greatest amount of information about housing markets".

ii.   House Rent-to-Income Ratio

The second measure under the ratio approach is the house rent-to-income ratio. It measures the ratio of the median annual rent of a house in relation to the median annual household income of renters. This ratio is calculated by dividing the median annual rent by the median annual renter household income. This ratio is widely used in measuring the rental affordability of households, especially for low income households who cannot afford to buy a house. Its usage across different countries around the world is largely recorded in literature. Similarly, this approach also assumes that the rule of thumb standard of 25 percent or 30 percent (or even more in some countries) of a household income being spent on housing is affordable. Likewise, this approach has received a lot of criticisms as a result of its association with the rule of thumb standard.

According to Feins and Lane (1981), this rule can just be viewed as a convenient way of simplifying a complex issue such as rental affordability. What is more crucial with it usage in measuring rental affordability is that, it de-associates other components of housing cost which equally affect the overall housing payments by the household from the rent which is used in the measurement. Underpinning this rule are observations and studies about housing expenditure patterns of various households by different scholars to assumptions about how much households should spend (Hulchanski, 1995). However, Hulchanski (1995) has argued that no absolute rule can be put forward to describe the relationship between household incomes and housing. Thus, the rule of thumb standard looks far too easy. Robinson, Scobie and Hallinan (2006:8) noted that, this approach "is often used and cited, due to its simplicity and ease of understanding; however, this simplicity is precisely what limits its usefulness since it fails to incorporate many factors that affect the affordability of housing".

Lessons from the Ratio Approach:

Altogether, many scholars have spoken against the ratio approach but it is continually used by many organizations, analysts and policy makers. Increasingly, the views shared on this approach show that, it is best designed as an indicator to assess households' ability to pay for

housing. Stone (2006) observed that, "even those who have rejected the notion of a single ratio standard have accepted uncritically the ratio indicator". Majorie (1998) also reported that setting separate standards for different income groups is the best way to deal with the criticisms about the usage of the ratio approach. However, it is worth to point out that, it is not the use of the standard or the separation in standards for different income groups that is in contention; but rather, the conceptual, empirical and methodological justifications that has over the years been the problem with this approach. Notwithstanding, Hulchanski (1995) indicates that, due to a lack of a more comparable alternative that can be calculated and interpreted and understood with as much ease, it continues to enjoy popular usage throughout the world. The best way to address this issue is to refine and confine the definitions of indicators to the specific context of the housing environment you are dealing with and a clear definition and justification of the variables to include in the measure.

2.7.6.2 The Residual Income Approach

The logical flaws in the ratio approach lead inexorably to the residual income concept (Stone, 2006:163). Bieri (2012) has argued that housing is the largest expense that lays claims on incomes of most households. Gabriel et al (2005) argue that, the residual income approach measures the relationship between housing costs and a household's ability to meet its non-housing needs in order to sustain an acceptable standard of living. According to Karmel (1998), underpinning this concern is that, it is expected that households should absorb both the expenditure on housing and also pay for other non-housing expenses, without compromising on their quality of life. Burke, Stone and Ralston (2011:9) noted that, the residual approach "calculates for different households how much is left over for housing after relevant expenditure as measured by some budget standard is taken into account". Stone (2006) maintained that, this situation meant any household which cannot afford it basic non-housing needs after payments for housing can be seen as having a housing affordability problem.

The initial approach relied on monetary standards based on aggregate housing expenditure patterns of various households, to study what could possibly be affordable for them to meet their housing cost and also meet their basic needs. It is worth to note that, very crucial to this approach is the need for reliable data that readily captures the household expenditure patterns of various households, which give an empirical basis for any form of generalisation. Again, to adopt this approach as an affordability measure requires that you explicitly define what

constitutes a basic non-housing need and justify what amount of household income can adequately meet that need. Stone (2006:164) in commenting on the practical task surrounding this approach cautioned that,

> "operationalizing a residual income standard involves using a conservative, socially defined minimum standard of adequacy for non-housing items; thus, while the residual income logic has broad validity, a particular residual income standard is not universal; it is socially grounded in space and time".

Hancock (1993) maintains that, from first economic principles the use of residual income approach is more consistent than the ratio approach. Ndubueze (2009) observed that, while the ratio approach is concerned with what the household actually pays, the residual approach is concerned with a household's ability to pay due to the underlying assumption of the household's ability to meet essential non-housing costs. Fundamentally, what rises from this is that, measuring housing affordability can mean what elements of life do households hold esteem. In literature, two methods have been professed for the measurement of housing affordability using the residual approach; the poverty line method or the budget standard method. This has been widely used in many countries for example in Australia the Henderson poverty line (established by the Commission of Inquiry into Poverty in 1974) and the budget standard (developed Social Policy Research Centre in 1998) are used to determine the non-housing cost components of residual measures. The poverty line identifies the level of income necessary to maintain a minimum standard of living while the budget standard determines that acceptable minimum standard of expenditure consistent with a modest budget (Gabriel et al, 2005).

Lessons from Residual Income Approach:

This approach will clearly necessitate a good inventory and data on the location in question, the type of houses available, the household sizes, disposal incomes available to households, a detailed outline of their expenditure patterns and the prevailing costs of housing in the location. Although this approach has its own limitations and has been criticized by various scholars; Burke, Stone and Ralston (2011) point out that the real challenge in adopting this measure is with how to define what an appropriate budget standard is. Gabriel et al (2005) also outline the following shortcomings of the approach:

- it depend on subjective judgments as to what counts as necessary household expenditure;
- it relies on a wider range of variables than ratio measures, which are not always readily available (e.g. data on non-housing costs);
- it is complex and time-consuming;

- and effective use of this approach requires that data are limited to specific location and thus limits generalization.

Notwithstanding, the following are the advantages of the residual approach:
- provides information that is more accurate for different household types than ratio measures;
- gives explicit meaning to the relationship between housing and non-housing expenditure;
- and useful for examining housing affordability for low income households; more appropriate for small area studies.

Given an adequate and thorough methodological process, the residual approach can give a more responsive and impeccable picture to the rather contentious understanding of the concept of housing affordability. The approach in itself limits its outcomes to varied groups of households thereby reducing the overgeneralisation that is characteristic of ratio approach (rule of thumb standard). Thus, it has the inherent tendency to generate more precise affordability measures for different types of households in varied locations. Since the emergence of this approach, many other measures that have emerged have attempted to combine traits of this approach and the ratio approach to develop alternative models for measuring housing affordability.

2.7.6.3 The Quality-Based Approach

The quality based approach has been developed around the ratio approach and the residual income approach. In contemporary times, housing affordability has been defined to include the quality of the structure and its appropriateness to the households living in it (King, 1994). This is because settling for a structure which is sub-standard but within the limits of your income still means the household has an affordability problem and has also compromised on their health and welfare. Thus, various scholars in their definition of housing affordability have laid different levels of emphasis on the quality of housing and the essential role it plays in the quality of life of households. The ratio approach, for instance, concerns itself with how much household's actually pay for housing as against their income without any considerations for the nature of housing being paid for. Similarly, the ratio approach fails to measure the peculiar cases of households who might have high ratios above the standard rule of thumb, mainly because of their peculiar preferences; the location of housing, the level of amenities, the size, numbers of bedrooms etc.

The quality based approach is designed to respond to the limitations of the ratio approach as discussed above. Here, the idea of housing quality is matched against households' income to afford a particular level of housing quality. Lerman and Reeder (1987) developed this quality

based housing affordability measure; "it was developed based on the cost of appropriate housing (decent, safe and sanitary) as available in the housing market using a hedonic market cost (rents) rather than actual rents" (Ndubueze, 2009:122). Fundamentally, this approach thrives on the fact that, some households have quality-based housing affordability problems. For example, if a household lives in a dwelling unit that is affordable (that is less than the 25 or 30 percent standard) but the quality of the housing is undesirable; this situation is viewed as quality-based housing affordability problem. This approach studies the prevailing market cost and rent of housing and matches it to appropriate housing quality and household incomes that can adequately meet such rent or house cost.

Lessons from the Quality-Based Approach

According to Kutty (2005), there are clear limitations to the application of this approach: mainly because there are pronounced imperfections in the housing market that induces frequent changes in rent and house cost; also different locations, present different sub-market situations that may greatly differ from the other thereby limiting its application in practice. Stone (2006), also observed that Lerman and Reeder (1987) and Thalmann (1999, 2003) limited their analyses to only rental housing with the use of the quality-based model because of the difficulties with measuring the cost of owner-occupied housing. It is worthy to note that, this approach offers the opportunity for policy makers to study the prevailing market prices of houses, and the incomes of various households and match them up with exactly what they can afford. This approach can therefore be more helpful when it is adapted in planning housing interventions for low and middle income households. In that, the government can readily define a minimum housing quality that can be deemed as being within the affordability reach of such households.

2.7.7 Building a Synthesis of Housing Affordability Measures

The complex nature of the subject of housing affordability cannot be overemphasized. The foregoing discussions in this chapter have shown the numerous interrelationships that exist with it, and knit together various factors that affect the affordability or unaffordability of housing. Gabriel et al (2005:37) argue that, "measuring affordability is as complex as understanding the causal factors of the housing affordability problem itself". The core of the contentions in literature on this subject has been whether housing affordability can be given a general definition and a general approach to its measurement. However, many scholars have suggested that this would only push the debate farther. Primarily, housing is first a local

product than an international product; it has only suffered significant international recognition and interpretations. In that, every country has had peculiar historical background to the development of housing. Thus in dealing with housing, that local understanding and perception is more relevant than whatever definitions have emerged from international policy discourses.

Similarly, the issue of affordability is at best made operational at the local level by building a synthesis of the various measures that have evolved over the years. According to Majorie (1998), researchers should set indicators, assumptions and use analytical methods that best fit the requirements of their research in any attempt to measure housing affordability. There is the need to adapt appropriate measures that can respond to the objectives of this study. There is no single method defined in literature that can readily respond to varying housing circumstances as well as socio-economic characteristics. Consequently, the ratio approach has been widely criticized for assuming such role – as the standardized measure of housing affordability. Likewise, all the various approaches have attracted some levels of criticisms. Gabriel et al (2005:37) in commenting about the limits with all the approaches said, "no measure or indicator of affordability or even suite of indicators can capture the nuances of how households and individuals adapt their lives to minimize or mitigate affordability problems."

A combination of these approaches can however present a more reliable outcome than relying on just a single approach. Bogdon and Can (1997) observed that, regardless of the conceptual flaws associated with the house price-to-income ratios, it offers a good start point to examining housing affordability when used with other affordability methods. Similarly, Thalmann (1999) in exploring the applicability of the quality-based measure combined it with the ratio method and later substituted it with the residual income approach in 2003. Housing affordability is indeed complex and difficult to deal with and clearly no single measure of housing affordability can possibly be accurate for all situations. Thus drawing lessons from previous attempts by various scholars, analysts and studies, this study would adopt the use of the housing cost approach and the residual income approach to operationalize the measurement of housing affordability for Kumasi metropolis.

This composite approach will be based on features of these two major approaches that have been discussed in earlier subsections. The study will attempt to apply these approaches to define the housing affordability situations in Kumasi. These two approaches respond to two

central concerns in the concept of housing affordability: the housing cost approach gives an indication of *'how much households actually pay for housing'*; and the residual income approach is concerned with *'households ability to pay for housing and still have enough money to cater for their basic needs'*. This composite approach brings together the advantages of all the approaches and tries to limit the weaknesses that are evident in using them individually. An integration of such nature would only help in providing a more reliable measure of the housing affordability situation in Kumasi; that which responds to the specific needs of various groups of households and the varying residential characteristics of different housing areas in the Kumasi metropolis.

2.8 Conceptualizing the Housing Affordability Problem

The complexity of the affordability problem resides in its numerous relationships with other variables and how it is impacted by such variables. The conceptual framework attempts to put these interrelationships into a diagrammatic form. The framework gives an understanding to the housing affordability problem and it defines a path for the subsequent sections of the study. Housing Affordability is a function of demand and supply conditions in the housing market. This function is central to all discussions on housing affordability; because it also defines the state of the housing situation in the country. These factors impact the housing affordability conditions in an urban area or a country. The demand factors include: rapid urbanisation, rate of household formation, demographic conditions of households, house-cost financing and the macroeconomic conditions in the country. The supply factors may include the availability and cost of land, labour, building materials, infrastructure and finance. The housing market has strong interrelations with the institutional, legal and regulatory frameworks in the country. The housing market is set in motion (both in the wrong and right direction) by the actions, strategies, policies and instruments applied within the elements of the control framework. These relationships are visualized in Figure 2.3. Understanding the interrelationships that impacts housing affordability is important, equally it is necessary to measure the extent to which housing is affordable or unaffordable within prevailing housing market conditions.

In line with this, a progress from the understanding of housing affordability interrelationships induces a shift to measuring the housing affordability problem. Firstly, this stage necessitates a 'tooling-up' process; that is the research approach and methodology to be used in the study (***Chapter 3***). It sets in place, the methods to be used and the indicators that will be used in the

measurement. Secondly, a measurement of the housing affordability problem, require an in-depth understanding of the current housing situation of the study area (***Chapter 4***). This informs the direction and the specific variables that can be employed in each situation. This leads to the actual stage of measuring the housing affordability problem in the study area (***Chapter 5***). Here, from the synthesis established in prior sections in this chapter, housing affordability would be measured in two strands: that is, in terms of the ratio and residual income approach. The outcomes of the measurement and the understanding of the housing affordability situation in the study area would offer useful information to conclude the study. It will guide the recommendations that will be made to give direction to policy and housing interventions in future, towards improving housing delivery in the city (***Chapter 6***).
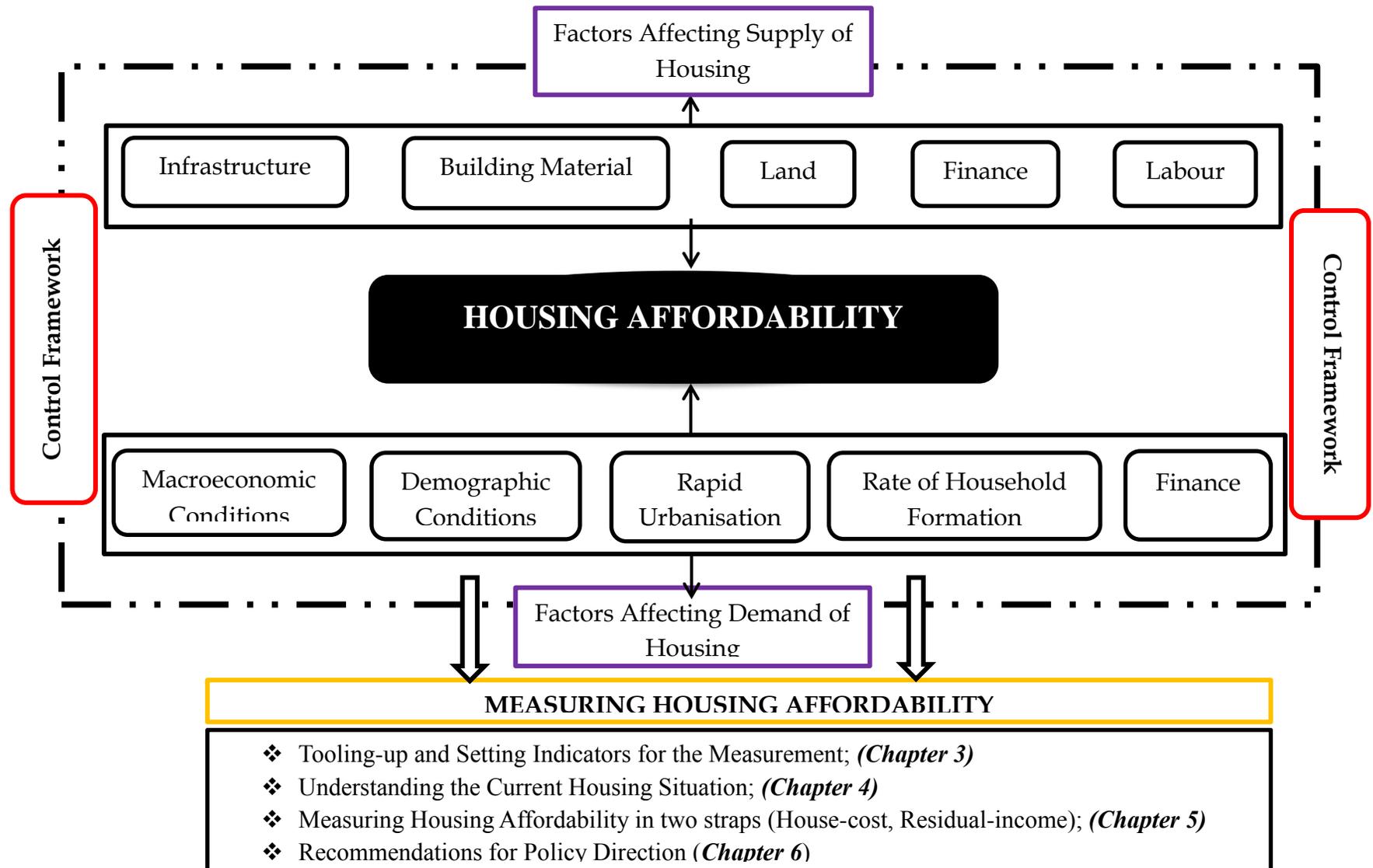
Figure 2.3 Conceptualizing Housing Affordability

Source: Author's Construct, 2013

2.9 Summary of Key Findings from Literature Review

Throughout the discussions in this chapter, every attempt has been made to conceptualize an understanding to the housing affordability phenomenon. It tries to establish all the linkages it has with other ideas, variables and how these interrelationships enhance an understanding of the phenomenon. Literature presented in this chapter, further discusses the conventional methods of measuring housing affordability. It attempts to establish the peculiarities of each of the approaches, its advantages and limitations and presents the extent of it usage.

Fundamentally, it has been established from the review of literature that, rapid urbanisation has greatly influenced where and how people live in urban areas. Altogether with its numerous effects on urban residents. Peculiar observation made from literature is the emergence of an 'urban divide' that further worsens the situation. All these have accounted for the scores of slums, problem of overcrowding, insanitary conditions, the presence of squatters within the urban areas. In addition, the complexities in urban areas have made decent housing unaffordable to a larger proportion of urban dwellers. They have been priced out of the prevailing urban housing market.

In trying to understand the urban housing market and policy environment, the review discusses the concept of housing. It discusses the different definitions that have been given to housing over the years and how they have influenced housing development. Through that, it was established that, housing affordability is a function of demand and supply of housing. Again, a review of the historical development of housing in Ghana shows a pronounced impact of how various policy regimes have influenced housing development and equally shaped the problem of housing affordability. Similarly, the review revealed how various world economic paradigms like the "market control" and "state control" debates have equally shaped the problem of housing affordability in many countries including Ghana.

The literature review succinctly presents an overview of the concept of affordability. It attempts to trace it definitions from various perspectives and discusses the methods for measuring housing affordability. It discusses the gaps and strengths in each of the approaches. The review indicates that, one critical contention on the various approaches to measuring affordability is associated with methodological inadequacies and poor empirical grounding of some affordability studies. The next chapter is therefore, devoted to discussing the research approach and methodological framework set out for this study.

CHAPTER THREE
RESEARCH APPROACH AND METHODOLOGY

3.1 Introduction

The previous chapter presented an attempt at conceptualizing an understanding to the housing affordability phenomenon. It gives a foundational underpinning to the rest of the discussions on housing affordability in Kumasi. This chapter defines the path in which the study was conducted and it outlines the rules and methods applied in the study. It defines the procedures that were followed in undertaking the study. These include: the research design; justifications for the study area selection; sampling techniques and sample size determination; data collection methods and tools; means of ensuring validity and reliability of data; as well as the data required, data variables and measurements; their sources, the framework for analysing the data and reporting of the data. In essence, this section of the study presents an overview of the rules that engage the decisions made in the research.

3.2 Research Design and Justification

The choice of a research approach should "ideally depend on the nature of the research phenomenon being studied (Bhattacherjee, 2012:41). Blaxter Hughes and Tight (2006) indicate that other factors such as the level of control the researcher has on the subject to be studied, the purpose of the study, availability of time and data requirements for the study could also inform what type of approach to take. The study is broadly set in a quantitative research approach as the framework for the conduct of this study. Quantitative research is normally theory driven and is usually applicable to phenomena that can be expressed in terms of quantity. The study makes an extensive use of quantitative research techniques to address the research questions raised in the study, particularly the issue of affordability.

However, given the nature of the study; which essentially tends to look at the current state of housing affordability in Kumasi, through an analysis of various housing situations within the context of the current housing environment, the Cross-sectional research design is adopted in this study. A cross-sectional study provides information concerning a situation at a given time. Thus, it takes a snapshot at the essentially components of the subject of interest in a study (Cohen, Manion and Morrison, 2007). Given the subject under study, the cross-sectional design offers the opportunity to have a vivid picture of the nature of the housing affordability problem in Kumasi. The cross-sectional design also gives room for several cases to be studied. Kumasi has varied housing areas with distinct

characteristics and thus this design gives room for the study of cases from these varying areas. Thus, this design best fits the purpose of the study.

3.3 Selection of the Study Area and Justification

The preliminary studies and the review of relevant literature on the topic helped broaden the researcher's knowledge on the subject matter. As noted in previous sections, the study is focused on housing affordability and how it can be defined, measured and operationalized towards improving housing delivery. Given the context of the study, Kumasi was selected purposively as the focus of this research. It is more expedient to select a city for this study, in order to obtain a representative mix of all varying types of housing areas, housing topologies, as well as different socio-economic backgrounds; thus, the selection of Kumasi as the study area for the research. Kumasi's housing environment is defined by four major housing areas and equally has six distinct housing typologies (See Tipple, 1987; Afrane and Asamoah, 2011). This unique housing characteristic of Kumasi offers a good platform for the measurement and understanding of housing affordability. That is, the different housing areas can help determine the affordability situations of households with different socio-economic backgrounds. This readily reflects the objectives of this research and makes Kumasi the most suitable location for the study.

3.3.1 Defining the Study Zones

The literature review revealed that, housing affordability situations are different between different parts of the city, different housing areas, different housing types as well as different socio-economic backgrounds; such dimensions were succinctly discussed as the "spatial and economic divides" fuelled by urbanisation in the previous chapter. Various critics of earlier studies done on housing affordability in different parts of the world have blamed the inadequacies of the outcomes of the measurements of housing affordability, on the attempts by some scholars to bundle the study area (city) as one entity, and defining affordability characteristics for the whole city. These critics profess that, to be able to adequately understand the housing affordability situation in a city like Kumasi, it is necessary to form distinct zones (groupings) based on certain homogeneous characteristics of these zones. This approach offers more representative and realistic view of the situation than bundling the whole city into one entity.

Against this backdrop, this study puts the city into four major study zones *(See Appendix 1)*. This grouping is informed by the four major housing areas of Kumasi: Indigenous Sector; Tenement Sector; Government Built Estate Sector; and High Cost Sector as

described by Tipple (1987) as shown in Figure 3.1. These areas have varying socio-economic characteristics, housing typology and housing densities. Thus, it helps to have a representation of different housing situations in the attempt to define the housing affordability of Kumasi. Moreover, to enhance locational representation in the study zone groupings, the whole of Kumasi is further divided into four. These quadrants have elements of the four major housing sectors in Kumasi, which also indicate a more spatial representation of various parts of Kumasi.
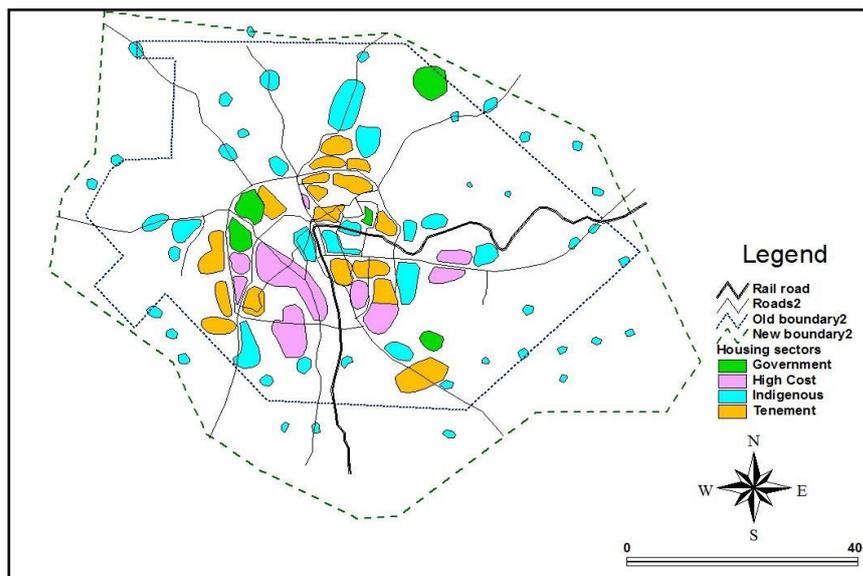
Figure 3.1 Major Housing Areas in Kumasi

Source*: Author's derivation of Tipple's (1987) Housing Sector Classification*

3.3.2 Selection of Suburbs from the Study Zones

The selection of the study areas for the research is mainly based on the four major housing areas. However, Kumasi is further sub-divided into four, which results in four distinct spatial areas for the study; the North-West and North-East Quadrant, the South-West Quadrant and the South-East Quadrant. As stated earlier, each of these spatial zones have features of the four major housing sectors of Kumasi which underpin the groupings for this research. The quadrants only give an adequate geographic representation of all parts of the city, but not a primary criterion for the study area selection. This is intended to ensure the selection of a more representative sample for the study. Based on this, one suburb was selected from each of the four housing sectors, using the random number table approach (*See Appendix 2*) making a total of four (4) suburbs in all for the study. However, in the selection, once a suburb had been selected from a housing area in a particular quadrant, any selection from the same zone is ignored and another pick was made until the selection

was completed. The locations of the selected areas for the study are shown in Figure 3.2 and Table 3.1.
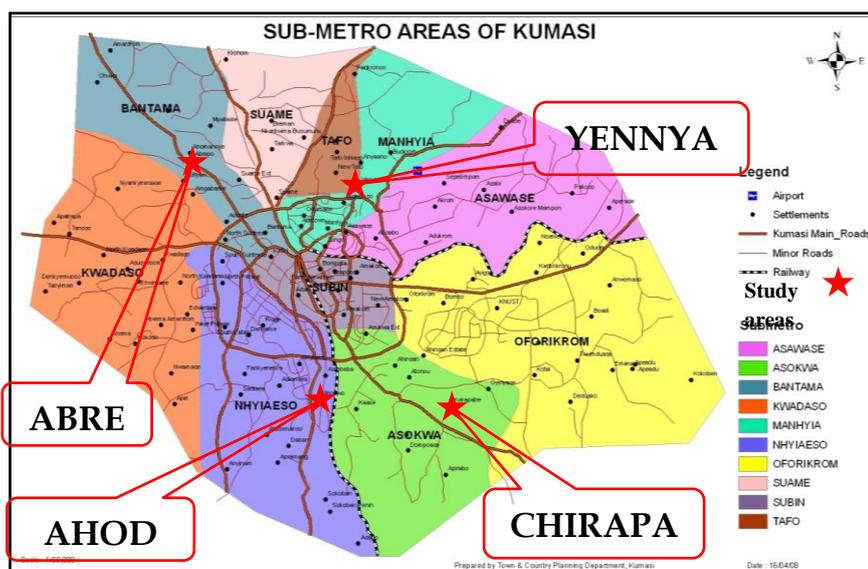
Figure 3.2 – Location of Selected Study Suburbs in Kumasi

Source: Town and Country Planning Department – Kumasi, 2006

Table 3.1 – Sampled Study Communities for Closer Analysis

Study Zones (By Housing Areas)	Study Suburbs	Quadrant
Indigenous	Abrepo	North-west
Tenement	Yennyawso (New Tafo)	North-east
High Cost	Ahodwo	South-west
Government	Chirapetre Estate	South-east

Source: Author's Construct, 2014

3.4 Units of Enquiry

The basic units of enquiry were drawn from various bodies and institutions with relevant knowledge on or association to housing provision. Based on the knowledge drawn from the Ghana Housing Profile Report, a number of key actors and players in the Ghana housing sector were selected for the study. However, for the attainment of the objectives of this research, the primary units interviewed for this study included|: households, housing related institutions, housing companies, Financial Institutions with keen interest in housing.

3.4.1 Households

The households formed the nucleus of this research and thus served as the primary unit of enquiry. Consequently, at the household level, the focus of the enquiry was the household head. Data such as basic demographic characteristics, basic housing characteristics,

household expenditure patterns, household income levels and, more importantly, incomes transfers into housing related expenditures and non-housing related expenditures, savings, ability to pay for housing etc. were collected at this level. The household head was the most reliable point of call for such information. However, in the event where the household head was unavailable at the time of the data collection, the next of kin was interviewed in place of the household head. Data required from the household level was relevant for defining the housing affordability situations in households with different socio-economic characteristics.

3.4.2 Housing Related Institutions

It has been established earlier that housing affordability is more than just the interplay of demand and supply. The legal, regulatory and institutional frameworks that exist in a particular country have an external control over the affordability of housing. As discussed in Chapter two, various regulations, policies and actions of such bodies or institutions have very impact on the housing affordability situation in the country. These institutions control the housing delivery system in the country thus; their views and ideas on the affordability of housing were very relevant to the conduct of this study. The following institutions were the main points of enquiry; Members of Ghana Real Estate and Developers Association (GREDA), Estate Agencies and Agents operating in Kumasi, State Housing Company Limited (SHC Ltd), Building and Road Research Institute (BRRI), Lands Commission, Town and Country Planning Department (TCPD), Ministry of Water Resources, Works and Housing, as well as the Ghana Valuation Board. Data required from these institutions were largely secondary in nature and it bordered on housing supply, prices, cost of construction, nature of housing demand, typology of housing, perception of affordability levels and how the housing market in Kumasi works.

3.4.3 Financial Institutions

Availability of funds for Home financing is a central issue in the supply of housing in the city. Various financial institutions in the past were very instrumental in housing delivery in Ghana and continue to play an important role, as discussed earlier in Chapter two. Currently, the Mortgage sector of the country is on the rise and contributing immensely to home financing in cities across the country. The various financial institutions with various home financing packages are major actors in the housing delivery process and are therefore very important to the study. Data required from these institutions included: nature of home financing, available financing packages, measure of one's ability to pay,

measurement of affordability etc. These institutions included: Home Financing Bank Limited (HFC Bank Ltd), and UT Bank Limited.

3.5 Sampling

The selection of respondents for the questionnaire administration and interviews was carried out through a number of approaches. This section discusses the various sampling techniques that were adopted in the study, as well as the methods employed in the sample size selection. It also explains the reasons for the choice of all the techniques and methods that were employed in this study.

3.5.1 Sample Size Determination

Based on the selected study areas, a sample was drawn from these areas for the purpose of data collection. Here, the sum of households in all the four suburbs was put together as the sample frame from which the sample was calculated. The sample size determination for the four suburbs was determined by using the mathematical formula as given by $n = \frac{N}{1+N(\propto)2}$, where 'n' is the sample size, 'N' is the sample frame, 'α' is the margin of error and 1, a constant. The calculation was done using 8 percent margin of error and 95 percent confidence level *(See Appendix 3)*.

Based on the calculation, 155 households were selected as the total sample size for household questionnaire survey. The breakdown of the total sample size, as calculated for the individual study suburbs are shown in Table 3.2. The growth rate for the various study areas was determined using previous Census population data from 1984 and 2000. This is because the current Population and Housing Census results (PHC) for various towns are not available. Using the 2000 Population and Housing Census results, the total households for the various study areas were projected to 2014 for a more realistic size. The household population was projected using the formula, $P_t = P_o(1+r)^t$.

Table 3.2 – Sample Size Determination for Study suburbs

Study Suburbs	Total Households (2000)	Inter-censal Growth Rate (%)	Estimated Households (2014*)	Minimum Sample Size	Sample Proportion (%)
Abrepo Kese	903	8.5	2829*	40	25.8
Yennyawso	1271	5.2	2584*	35	22.6
Ahodwo	950	2.8	1398*	20	12.9
Chirapatre	1458	8.4	4510*	60	38.7
Total	14430	-	11321	155	100.0

Source: GSS, 2005   *Author's Projections

3.5.2 Sampling Techniques

The study makes use of a combination of both probability and non-probability sampling methods. However, probability sampling techniques were mostly used in the study. Under non-probability sampling, the purposive sampling technique was adopted in the selection of the study area (Kumasi). As stated, Kumasi is selected purposively for this study because it has characteristics that readily reflect the objectives of the study. Again, the study adopted purposive sampling in the selection of institutions because of their unique contribution and relevance to the study. Purposive sampling provides the opportunity for the hand-picking of 'typical' or 'atypical' units on the basis of their specific characteristics and relevance to the study.

Under probability sampling, a multi-stage sampling procedure was adopted for the study. The specific methods included: stratified sampling, simple random sampling and systematic sampling. Primarily, the whole of the study area (Kumasi) was divided into four major strata, using the stratified sampling technique. These strata were defined by a criteria discussed earlier under this chapter. The study suburbs were selected from the four strata, using the random number table approach. This approach was used in the selection of the study suburbs because it gives each unit or suburb within the strata, the equal chance of being selected and hence it is unbiased, however to due to the convenience and the objectives of the researcher, some selected suburbs were dropped for others in the course of the data collection. Using this approach, four suburbs were selected for the study.

The probability sampling approach was also used at the household level. The systematic sampling technique was used in the selection of households. The household served as the primary unit of enquiry in this study, by adopting the systematic sampling method, a house within each of the study suburbs was viewed as a proxy for a household to make it easier to identify the households in each suburb. This makes it easier for the sample to be drawn out, since it will be difficult to prepare a sample frame of all the households in the various suburbs. After the sample 'n' for each suburb has been calculated, the 'Kth' term used for the selection of the sample units under the systematic sampling approach was determined.

The formula for the "K" is given by: K=N/n, where, "K" is the Kth respondent to be interviewed after the first sample unit has been selected randomly using the random number table. Here, the total number of houses in each suburb serves as the sampling frame "N"; and the sample size selected for each suburb is denoted by "n" *(See Appendix 4 for the determination of the Kth term).*

3.6 Data Collection

The study adopted a quantitative research approach and thus, it primarily makes use of quantitative data to address the research questions. In doing so, a "multi method" approach to data collection was applied to collect relevant data for the study. This approach enhances the coverage of all issues relevant to the study on various fronts; such as survey questionnaire, interviews and documentary sources.

3.6.1 Data Types and Sources

The study makes extensive use of both primary and secondary types of data. The purpose of the primary data collection was to supplement the secondary data. Primary data was gathered from household heads, key informants and heads of government institutions and private entities as mentioned in sub-section 3.4. The primary data collection from the household level was conducted to obtain data on the income and expenditure on housing for each household in the study suburbs, as well as to develop an operational understanding of the *"affordability"* problem, at least from the perceptions of residents in Kumasi. The purpose of conducting the resident questionnaire survey was to obtain the residents' views on the housing situation in the city and also to capture the scope of affordability problems in Kumasi.

As part of the primary data collection, interviews were conducted to acquire both quantitative and qualitative primary data on housing issues in Kumasi from key persons and institutions. The study is focused on giving a conceptualized view of the housing affordability situation in Kumasi towards improving housing delivery in the city. Owing to this, data on the following issues about Kumasi's housing sector is required:

- the current situation of Kumasi's housing environment;
- the major constraints hindering the efficient functioning of the housing sector;
- the housing affordability situation of the various income groups in the City;
- the possible ways to overcome the affordability problems;
- the outlook of the housing market in Kumasi;
- the nature of local housing regulatory, legal and institutional framework; and
- the nature of housing policy.

Secondary data, on the other hand, was obtained from published and unpublished sources. Secondary data include all the data that were gathered from journal articles, maps and institutional reports, from organizations associated with housing as well as both print and electronic media reports.

3.6.2 Tools and Methods of Data Collection

In this study, data was collected from the field through the use of questionnaires and interview guides and semi-structured interviews. Prior to the field data collection, a desktop research on the readily available data was gathered to enhance the understanding of the housing affordability phenomenon and the housing policy environment in Ghana as well as the prevailing housing situation in Kumasi. Structured institutional and household questionnaires were the methods employed for the collection of data from the household heads and various heads of selected institutions within the study area *(See Appendix 5 and 6)*. Thus, a representative sample was determined and used to provide reliable responses for further analysis in this study.

Semi-Structured interview was also a major method that was employed in this study. Here, key persons gave responses to major issues that were highlighted by the researcher. In some cases, the respondents were presented with a list of themes or topics to guide the discussions. Again, observation was employed in the data collection. The distinguishing feature of the observation method is that, the information needed is directly obtained rather than through reports of others. It has been mentioned in earlier sections of this study that housing affordability problems have an effect on where and how people live in the urban area (i.e. physical housing conditions). Observations were made so as to get better understanding of the occurrence of this phenomenon within the metropolis and to find out evidences of poor housing conditions that are largely influenced by housing affordability issues. Table 3.3 shows the variables examined in the study as matched against the objectives of the study.

Table 3.3 Data Variables, Sources and Methods of Collection

Study Objectives	Data Variables	Data Sources	Methods of Collection
To identify the nature of affordable housing supply to various socio-economic groups in Kumasi.	-Household characteristics: household size, employment status, incomes; Housing Supply; Housing characteristics; Housing price trends	Households; KMA; GSS; GREDA; Housing Companies; Rent Control Unit	- Questionnaire administration - Observations - Interviews
To examine the factors that affect housing cost and their effects on housing delivery in Kumasi	- Cost of housing inputs; Land values and supply; Cost of basic services; Access to finance/ mortgage services	Households; KMA; Lands Commission; Financial Institutions; BRRI; GREDA	- Questionnaire administration - Interviews
To examine the nature and extent of the housing affordability situation in Kumasi.	Expenditure on housing; Non-housing expenditure; Tenancy arrangements; Type of dwellings Rental & Homeownership affordability	- Households Financial Institutions - GREDA Rent Control Unit	- Questionnaires administration - Interviews
To make policy contributions towards enhancing delivery and access to decent affordable housing in Kumasi.	- Planning issues; Regulatory issues; Legal issues; Institutional issues; Policy Issues; Constructing an appropriate housing delivery path	KMA; TCPD; Lands Commission; Financial Institutions; GREDA; MWRWH; Rent Control Unit	- Interviews

Source: Author's Construct, 2014

3.7 Validity and Reliability of Data

The overarching aim of this study is to be able to make useful contributions towards the improvement in housing delivery in the city. Thus, generalisations were made based on the outcomes of this study. The extent to which research findings can be generalised for a larger population, require that the outcomes are valid and reliable. Therefore, in the bid to enhance the validity and reliability of the outcomes of the research, the following steps were taken:

♦ Prior to the field survey, a pilot survey involving a smaller sample was conducted, in order to determine the clarity, validity, adequacy, relevance, suitability and length of the survey instruments that was to be used in the study. This was intended to pre-test the validity of the research instrument for the study and also measure how reliable the responses will be for further analysis.

♦ Data obtained through the primary data collection was also triangulated with secondary data to check the validity or otherwise of the responses obtained from the field. Also, in an attempt to measure the quality of data collected and the extent to which the research instrument yielded sound outcome, measures of dispersion were calculated (i.e. standard deviation, variance etc.). This was done to identify the extreme values and also correct such deviations for the data analysis.

♦ Given the time constraints, the nature of the study and the interest in producing valid and reliable findings from this research; the study recruited thirty (30) Field research assistants (FRA) to assist in the data collection stage. In order to have people with skills in field data collection, students from the Department of Planning of KNUST were recruited as FRAs. The FRAs were introduced to the purpose of the research and trained for the questionnaire survey.

These helped to enhance the validity and reliability of the data collected for this study.

3.8 Data Processing, Presentation and Analysis

The primary goal of this research is to conduct an in-depth investigation of the current housing affordability situation in Kumasi so as to define a conceptualized understanding of the problem to aid in improving housing delivery in the city to various socio-economic groupings. Thus, the study analysed the housing affordability levels of the various income groupings and the factors that affect the affordability of housing. The field data was processed and organized using Statistical Package for the Social Sciences (SPSS version 20). In view of this, analysis of the data on the current housing affordability situation in Kumasi began with univariate and bivariate statistics.

The univariate data analysis was used to analyse the basic descriptive characteristics of the study population and data about current housing situation in the study areas. The data was organised and examined by way of generating frequency counts and distribution to understand the spread of the data (i.e. range, median, mean, quintiles) about the study population. This stage of the analysis looked at characteristics such as household size, type of housing, employment status, household income, non-housing household expenditure and household expenditure on housing.

The bivariate data analysis was employed in analysing data that involved two different variables whose values can change. The purpose of bivariate data analysis was to analyse and explain such relationship. However, to measure the factors affecting housing affordability, house prices and (or) house cost, the multivariate data analysis was employed to examine that.

This study adopts a composite approach for the measuring of housing affordability in the study area. Housing affordability was measured using the ratio approach and the residual income approach; and elements of the quality based approach were also explored in the study. Fundamentally, the study encompassed "homeownership affordability and rental

affordability" in Kumasi. In measuring affordability of housing, the study first examined the affordability of housing as a physical structure and simultaneously, it also examined the affordability of housing as 'a whole'; that is including basic services and facilities. This was intended to enhance the researcher's view and understanding of the housing affordability problem and offer the basis for comparison.

3.9 Summary of Chapter

This chapter proposes a methodology to address the research questions set for the study. The research design, the types of data required, data collection methods and the sampling techniques, used for the study have been discussed in this chapter. The domains of the analysis, as well as the approach adopted for the measurement of housing affordability problems faced by residents of Kumasi have also been presented. It briefly discusses the statistical operations that will be employed in the analysis of data in subsequent sections of the study. The subsequent chapter presents the analysis of the data that was collected for the study.

CHAPTER FOUR
SITUATIONAL ANALYSES OF KUMASI'S HOUSING ENVIRONMENT

4.1 Introduction

The measurement of *Housing Affordability* in any setting is only possible, with an adequate understanding of the prevailing housing situation in that setting. Literature reveals that elements such as: the household income, housing cost, the demand and supply of housing, are fundamental determinants of the affordability or un-affordability of housing in any housing market. These can broadly be seen in the overall housing environment characteristics of the city. Thus, to define and measure the housing affordability situation in Kumasi requires an understanding of the housing environment in Kumasi. Campbell described a housing environment as that "consisting of the housing unit, the neighbourhood and the community in which the residents are located" (in Ha and Weber, 1991:65). Consequently, the housing environment characteristics of the city are defined by the socio-demographic characteristics of its residents and their housing characteristics.

This chapter aims to analyse and examine the current housing situation in Kumasi as defined by the housing practices and socio-demographic characteristics of its inhabitants based on the primary and secondary data collected for the study. Again, the discussions in this chapter are tailored to resolve the first research question, namely: *"what is the nature of (affordable) housing supply to various socio-economic groups in Kumasi?"* This chapter is organized in accordance with the analytical framework and methodology, defined for answering the research questions as indicated in the previous chapter, and comprises nine sections.

Following the introduction, the background of the study areas and demographic characteristics of the various households are presented in the second and third sections respectively. The socio-economic characteristics of the households are discussed under section four. Section five gives an in-depth analysis of the housing characteristics in each of the four study areas. The availability and conditions of the housing facilities and services are discussed under section six. The structure of housing provision in Kumasi is further explored in section seven. The eighth section brings together the findings on the nature of housing problems in Kumasi. Section nine provides the summary of the Chapter, and a transition for the next Chapter.

4.2 Background of Study Areas

This section provides succinct background information about the four areas selected for the study. As indicated in the previous chapter, 155 households were sampled for the study from four areas, which were selected from the four main housing sectors in Kumasi: Indigenous (Abrepo Kese), High Cost (Ahodwo), Government Built Estate (Chirapatre) and Tenement (Yennyawoso) housing sectors of Kumasi. Although, one of the pronounced criterion used in selecting the study areas is the housing sectors; it is worthy to note that, the quality of housing in these areas define distinct differences among all the four study areas selected for the study.

4.2.1 Abrepo-kese – *Indigenous Sector*

Abrepo-kese is the older of the twin towns of Abrepo: Abrepo-kese and Abrepo-kumaa. It lies about 5 kilometres north-west from the heart of Kumasi in the Bantama sub-metro of the metropolis. It is located along the Kumasi-Barekese road. Estimates from the 2000 PHC indicate that Abrepo-kese have a current population of 16,913, and it is currently growing at a growth rate of 8.5. The survey shows that the average household size in Abrepo-kese is 4.9. Abrepo-kese falls under the indigenous housing sector of Kumasi. It is one of the early villages that have been engulfed by the instantaneous expansion of the metropolis. As shown by Figure 4.1, it can be seen from the map that core sections of the community depicts organic growth with no directed efforts at planning of the houses. However, the exterior portions of the community show some conscious attempts at planning of the community.
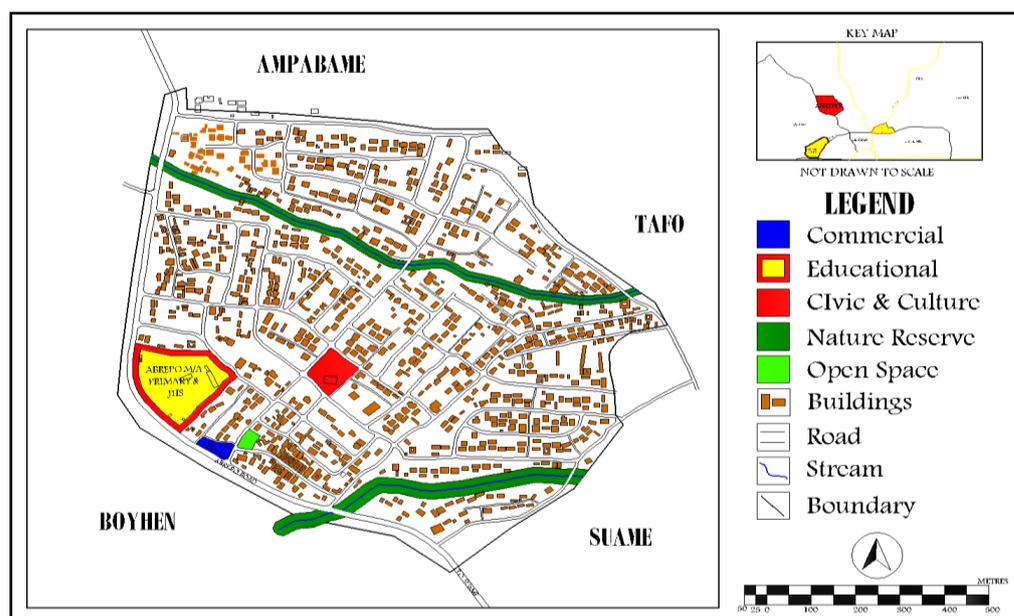
Figure 4.1: Map of Abrepo (Source: *TCPD (2012) & Author's Update*)

4.2.2 Ahodwo – *High Cost Sector*

Ahodwo is a suburb in the Nyhiaeso sub-metro of KMA, situated about 6 kilometres south-west from the central business district of the city. It falls within the prominent high cost housing sector in Kumasi. These are areas usually patronised by government for various heads of institutions as well as by private companies for the official residences of their various heads. The survey reveals an average household size of 4.0 and estimates from the 2000 PHC show that Ahodwo has a growth rate of 2.8 and a current population of about 6,312. Ahodwo has remained a high class residential area for a very long time, made up of large single family houses. Housing developments are usually guided by a well prepared layout as seen in Figure 4.2. Historically, Ahodwo is likened to a community with a serene and aesthetic ambience, just as suggested by its name '*ahodwo'.*
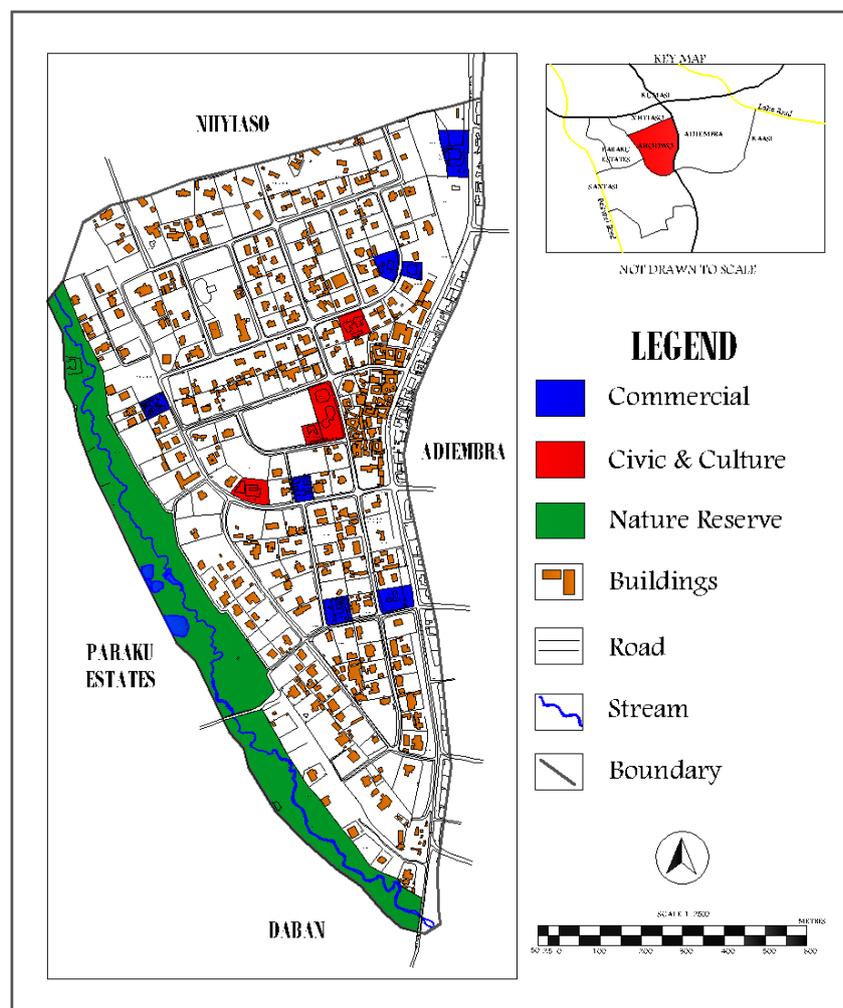
Figure 4.2: Map of Ahodwo (Source: *TCPD (2012) & Author's Update*)

4.2.3 Chirapatre – *Government Built Estate Sector*

Chirapatre Estate is one of the last experimental housing projects built by the government in Kumasi for low income households and workers. The construction took place in the 1960s and habitation begun in the early 1970s. The estate lies about 11 kilometres south-east from the city centre. Chirapatre Estate was designed as single family housing, low cost model housing and well-serviced for rent by junior civil servants and other low income workers in the metropolis. Currently, the houses have been transferred to previous renters for ownership by the government. It is worthy to note that the townscape of Chirapatre Estate has seen tremendous change since the completion of the construction due to the massive transformation process that has been on-going since government's transfer of the estate to individuals for ownership (Tipple, 2000). Estimates from the 2000 PHC indicate that Chirapatre has a current population of 24,113 and a growth rate of 8.4. The survey reveals an average household size of 5.2. As mentioned earlier, the current layout of Chirapatre shown by Figure 4.3 does not indicate a once spatially organised neighbourhood.
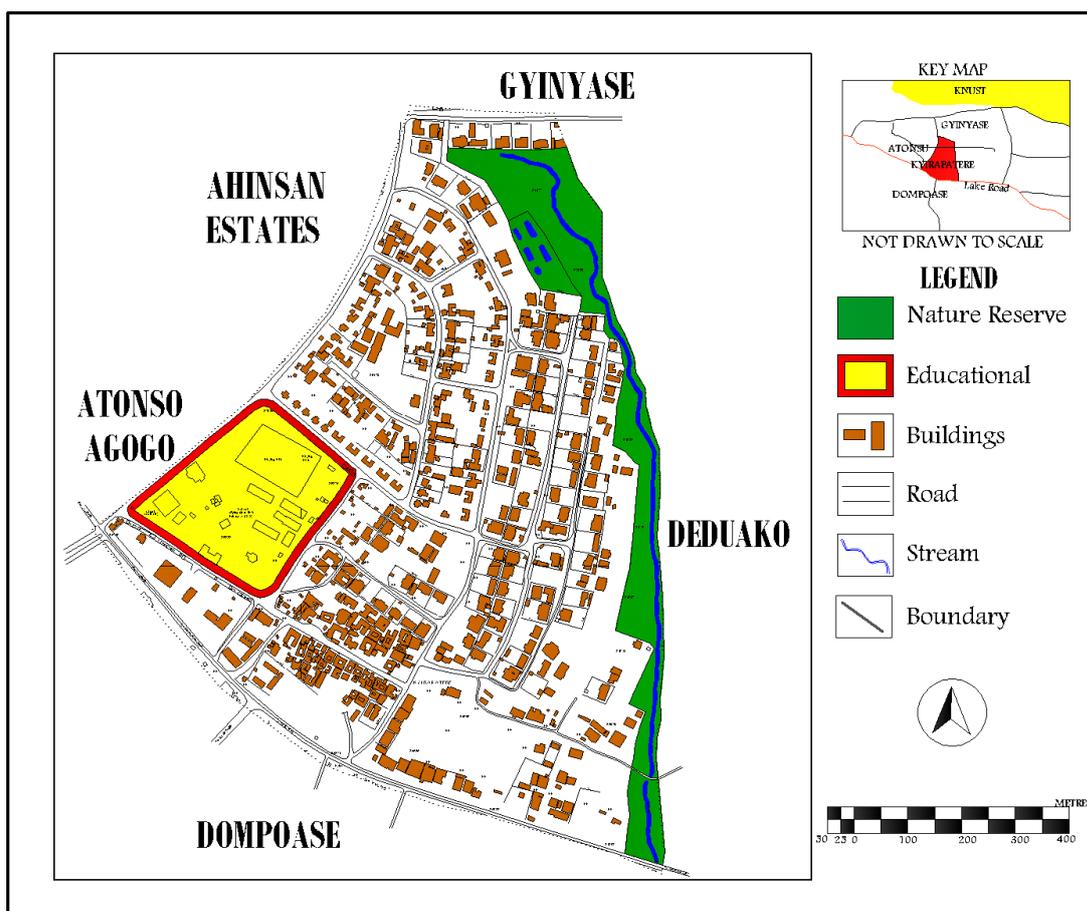
Figure 4.3: Map of Chirapatre (Source: *TCPD (2012) & Author's Update*)

4.2.4 Yennyawso – *Tenement Sector*

Yennyawso is located in the Tafo sub-metro of Kumasi. It is situated about 8 kilometres north-east from the city centre. Based on the 2000 Population and Housing Census, the community is currently estimated to have a population of 15,021 at a growth rate of 5.2 with an average household size of 4.7 from the survey. Yennyawso, emerged as a result of the continuous growth and expansion of the indigenous Tafo community. Yennyawso falls under the tenement housing sector of Kumasi. Such areas have features of varied income groupings in the city. The tenement housing sector is usually characterised by large multi-storey compound houses inhabited by multiple households. Figure 4.4 shows the map of Yennyawso.

The foregoing discussions constitute the basic background details about the four study areas selected for the study. Although the discussions above is tuned to align with the major housing sector classification proffered by Tipple (1987) in his study on Kumasi's housing sector, which is also the major criterion used in the study area selection, it must be noted that the subsequent discussions will bring out some of the newly emerging features of Kumasi's housing environment. The next section presents the demographic characteristics of the participating households from the selected study areas.
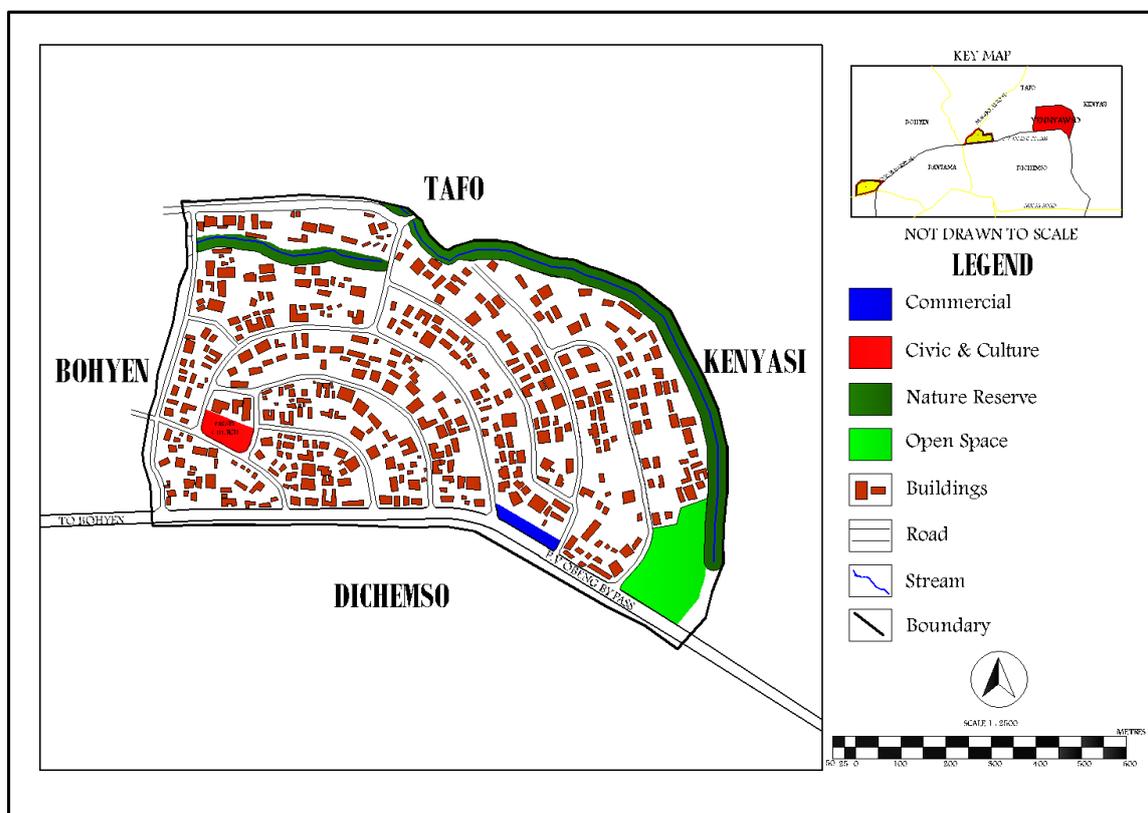
Figure 4.4: Map of Yennyawso (Source: *TCPD (2012) & Author's Update*)

4.3 Demographic Characteristics of Households

According to Moonie (2013:6), the understanding of household demographic characteristics is particularly essential because, "they impact on future social, economic and environmental development". This section therefore discusses the basic demographic characteristics of the households selected for the study. In all, a total of 155 households participated in the Household survey. This section provides data on household size, family type, the ages and gender of the heads of households from the four study areas.

Basically, demographic characteristics such as the size of a household, the family type, the composition of the household (e.g. age and gender) are variable indicators of social change and key elements in the understanding of the present and future demand for housing in Kumasi. Consequently, these characteristics are relevant for policy formulation and planning purposes, because features of the households in the different study areas can translate a vivid picture of the existing situation citywide (See Moonie, 2013 and Ayad et al, 1994).

4.3.1 Household Size and Family Type

Two social elements that are at the very core of every society are the household and family. Thus, features such as the size of a household and the type of the family are crucial for understanding the housing practices and housing characteristics of any city. According to Riche (2003), households are a better predictor of changes in housing demand than the entire population. The average household size in the study was estimated to be 4.94 (see Table 4.1).

Table 4.1 Average Household Size of Study Areas

| Study Areas | Growth Rate | Household Size | | | | | Average Hsehld Size |
		1-3 (%)	4-6 (%)	7-9 (%)	10-12 (%)	Total (%)	
Abrepo	8.5	40.0	37.5	15.0	7.5	100.0	*4.95*
Ahodwo	2.8	25.0	60.0	15.0	–	100.0	*4.00*
Chirapatre	8.4	26.6	46.7	23.3%	3.4	100.0	*5.22*
Yenyawso	5.2	34.2	42.8	17.1	5.9	100.0	*4.66*
Total		**31.2**	**45.6**	**18.7**	**4.5**	**100.0**	**4.94**

Source: Author's Field Survey, 2014

Table 4.1 shows that, Ahodwo recorded the least household size and its average household size is same as that of the city's 4.0. The high cost areas have always been characterised by low housing densities, and mostly inhabited by businessmen, senior civil servants and high ranking company employees, who usually live in houses built on large size plots for single

households. Interestingly, Chirapatre also recorded the highest average household size of 5.22, which is higher than the City's average of 4.0 and the national average of 4.1 (GSS, 2013a and GSS, 2013b). This is a government built estate, originally built as single households' dwellings for junior civil servants in the city to rent. However, in recent years when the houses were transferred to individual ownership, most of these structures have received enormous transformations in terms of additional rooms (see Tipple, 2000). Thus, the high average household size recorded in Chirapatre can be attributed to this situation.

Again, Abrepo and Yenyawso recorded household sizes of 4.95 and 4.66 respectively; but these averages are not too different from the national average. Often, these (indigenous and tenement) areas have been described as high density areas in Kumasi due to the dominant traditional compound housing characteristics and the usually high populations of such areas. Table 4.1 reveals a drop from the average household size figure of 5.7 for both areas in 2000 PHC. This on one hand could mean that, the often defined description of some of these areas as very high density areas in Kumasi could be changing. On the other hand it could also mean that, the decline in average household size implies that there is increased household formation, and relatively more housing units are required to meet the housing needs of these areas. These assertions can be confirmed by Table 4.2.

Table 4.2 Type of Family of Households

| Study Suburbs | Family Type | | | | | | Total | |
| | Single Persons | | Nuclear Families | | Extended Families | | | |
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Abrepo kese	5	12.5	28	70.0	7	17.5	40	100.0
Ahodwo	1	5.0	18	90.0	1	5.0	20	100.0
Chirapatre	3	5.0	50	83.3	7	11.7	60	100.0
Yennyawso	4	11.4	18	51.4	13	37.2	35	100.0
Total	**13**	**8.2**	**114**	**73.7**	**28**	**18.1**	**155**	100.0

Source: Author's Field Survey, 2014

As can be seen in Table 4.2, the nuclear type of family is the dominant family type for most households in the study. Increasingly, more households are breaking away from the extended family system into nuclear households. For example the indigenous area (Abrepo kese) has 70 percent of it households in nuclear families.

4.3.2 Age and Gender Distribution

The average age of the households in the study was recorded as 46.4 years. Generally, the trend in age distribution of the heads of households in the sample population is consistent with the regional trend. The study showed that, household heads who are less than 40 years constitute 37.5 percent and this is consistent with the regional figure of 47.6 percent

(GSS, 2013a). Again, the heads of households who are within the active age cohort (15-60) are 78.3 percent as compared to the regional figure of 83.5 percent. Table 4.3 shows the details of the age distribution of household heads in all the study areas.

Table 4.3 Ages of Household Heads

Study Areas	Ages								Gender					
	20-39		40-59		60+		Total		Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Abrepo	12	30.8	21	51.2	7	18.0	**40**	**100.0**	18	45.0	22	55.0	**40**	**100.0**
Ahodwo	8	40.0	11	55.0	1	5.0	**20**	**100.0**	16	80.0	4	20.0	**20**	**100.0**
Chirapatre	21	35.0	22	36.6	17	28.4	**60**	**100.0**	35	58.3	25	41.7	**60**	**100.0**
Yenyawso	17	48.4	10	27.3	8	24.3	**35**	**100.0**	17	48.6	18	51.4	**35**	**100.0**
Total	**58**	**37.5**	**63**	**40.8**	**34**	**21.7**	**155**	**100.0**	**86**	**55.5**	**69**	**45.5**	**155**	**100.0**

Source: Author's Field Survey, 2014

Basically, the age distribution of the heads of households shows a very active population. This has serious implications for increase in household formation and consequently, an increase in the demand for housing. Moreover, the average age of the heads of households is equally significant in housing supply. This is because the age of a household head tends to affect his or her ability to service a loan, mortgage facility or accumulate funds to build a house. Given that almost all households in Ghana have a quest to acquire their own houses.

Again, the head of household by gender as shown in Table 4.3, also revealed that a considerably higher proportion of males are household heads as compared to females. The relatively high rate of household heads among the active age cohorts is consistent with the overall youthful demographic character of the country. Moonie (2013:28) points out that the role of a household head has always been established in most surveys, bearing in mind that the head is the person with the principal financial responsibilities. However, most households hold this position as a designated right of being the oldest male in the household, "even if he may not be the principal person with financial responsibility in the household".

4.4 Socio-Economic Characteristics of Households

This section of the study discusses the socio-economic situation of the sampled households from the four study areas in Kumasi. Various issues under education, employment, household income and expenditure are discussed in this section. Socio-economic factors such as employment and income have been described as essential factors that impact households' ability to demand housing and at what quality, quantity or size and even location (Ha and Webber, 1991). Again, knowledge about households' expenditure

patterns will reveal what proportion of household expenditure is devoted to housing related spending and vice versa. These variables are therefore very pivotal to the discussion on housing affordability in Kumasi.

4.4.1 Educational Background

From the study, only 6.4 percent of the household heads have never been to school. The study also revealed that 32.2 percent of the household heads have had some form of basic education, while 61.3 percent of the households have had post-basic level education. The educational backgrounds of household heads have significant implications for the type and quality of housing the household can afford. Often, the level of education of a person is linked to how much the person can earn. Jejeeboy suggests that education offers "improved productivity, income and economic development as well as a better quality of life" (cited in GSS, 2013c). Thus, a growing interest in higher education will necessitate an increasing demand for some level of quality and type of housing.

Table 4.4 Highest Level of Education Attained by Household Heads

Study Areas	Highest Level of Education														Total	
	None		Primary		JHS/ Middle		SHS/ O'Level		Voc. / Tech		HND/ DIP.		Degree		Total	
	No	(%)	No	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	**No.**	**(%)**
Abrepo	2	5.0	2	5.0	18	45.0	12	30.0	2	5.0	1	2.5	3	7.5	**40**	**100.0**
Ahodwo	-	-	-	-	1	5.0	6	30.0	-	-	1	5.0	12	60.0	**20**	**100.0**
Chirapatre	2	3.3	3	5.0	15	25.0	18	30.0	4	6.7	10	16.7	8	13.6	**60**	**100.0**
Yenyawso	3	9.4	2	6.3	10	28.1	6	15.6	3	9.4	1	3.1	10	28.1	**35**	**100.0**
Total	**7**	**4.5**	**7**	**4.5**	**44**	**28.4**	**46**	**29.7**	**9**	**5.8**	**13**	**8.4**	**32**	**20.6**	**155**	**100.0**

Source: Author's Field Survey, 2014

From Table 4.4, the highest proportion of household heads with higher level of education is in Ahodwo and Chirapatre. The table shows that 60 percent of household heads in the High Cost Area (Ahodwo) have had tertiary education. This clearly confirms the differences in the housing characteristics of this suburb as compared to the indigenous and tenement areas. This indicates that socio-economic characteristics such as education greatly influence the type and quality of housing that would be demanded by certain groups in the society.

4.4.2 Employment Characteristics

Employment status of the active population (age 15 – 60) among all participating households in the study was obtained. However, this section only discusses the employment status of the heads of households in the four study areas. Table 4.5 depicts the distribution of unemployed and employed heads of households by their employment

sectors across the four study areas. The study revealed that 87.8 percent of heads of households are employed as compared to the 58.7 percent employment rate among heads of households in urban Ghana (GSS, 2013c).

Table 4.5 Employment Status of Household Heads

Study Area	Employment by Sectors								Unemployed		Total	
	Commerce		Service		Industry		Agriculture					
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Abrepo	16	40.0	13	32.5	1	2.5	3	7.5	7	17.5	40	100.0
Ahodwo	8	40.0	9	45.0	2	10.0	1	5.0	-	-	20	100.0
Chirapatre	27	45.3	22	36.3	2	3.8	1	1.9	8	13.2	60	100.0
Yennyawso	14	41.3	13	35.8	3	8.8	1	2.9	4	11.7	35	100.0
Total	**65**	**42.2**	**56**	**36**	**9**	**5.5**	**6**	**4.1**	**19**	**12.2**	**155**	**100.0**

Source: Author's Field Survey, 2014

Employment among household heads is a very significant feature when it comes to understanding the housing situation of residents in a city, because, it enables them to earn an income that can be used to acquire and maintain a dwelling unit within the reach of the income earned and to meet other non-housing expenditure necessary for the maintenance of the household. The study revealed that Ahodwo (High Cost Area) recorded the highest proportion (i.e. 100 percent) of employed household heads, with 75 percent of them belonging to the formal sector. By extension, a higher rate of employment among households are expected to culminate into incomes needed to acquire housing which is within the reach of the household's income.

4.4.3 Household Income

Data on incomes of the households in the study areas were collected as part of the study. Here, the monthly income of all working members of a household who contribute to the household's expenditure (home upkeep) was gathered as monthly household income. Again, in this analysis, sources of the household income comprise salaries (or pensions) from employment and remittances (or gifts). The study revealed that, the median monthly household income of the participating households from the four areas is GH₵ 600.00, as shown in Table 4.6. This figure is about twice the reported mean household monthly income of GH₵ 228.75 for urban Ghana by UN Habitat (2011c:60) *(Note: The UN-Habitat figures were not presented in medians which gives a better static of the variable, so the study had to settle for the calculated means and compare with the calculated medians from this study).* Although the median monthly income from the survey is more than twice that of the average for urban areas in Ghana in 2010; the disposable incomes of households are generally low and further lower in low income areas.

Table 4.6 Distribution of Monthly Incomes of Households

Study Suburbs	Median Income (GH₵)	Household Incomes (GH₵)													
		<400		400-799		800-1199		1200-1599		1600-1999		2000+		Total	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	%
Abrepo	475.00	7	17.5	18	45.0	2	5.0	7	17.5	2	5.0	4	10.0	40	100
Ahodwo	2000.00	-	-	1	5.3	-	-	4	21.0	1	5.3	13	68.4	19	100
Chirapatre	525.00	8	15.1	26	49.1	8	15.1	7	13.2	3	5.6	1	1.9	53	100
Yennyawso	1000.00	3	8.6	6	17.0	8	22.9	7	20.0	1	2.9	10	28.6	35	100
Total	600.00	18	12.2	51	34.7	18	12.2	25	17.0	7	4.9	28	19.0	147	100

Source: Author's Field Survey, 2014

The results of the field survey as shown in Table 4.6, broadly shows the distinct character of each of the four study areas in terms of income. As expected, the High Cost Zone (Ahodwo), recorded the highest median monthly household income of GH₵ 2000, with 68.4 percent of the households earning GH₵ 2000 or more in a month, while the indigenous zone (Abrepo kese) recorded the lowest median income. Housing affordability has been broadly viewed as a function of demand and supply and central to this equation is one's ability to pay – either to demand or to supply. One's ability to pay for housing stems from his/her income or source of finance. This makes income an essential variable in this study. The survey reveals that 25.9 percent of households from the survey earn less than the median monthly household income of GH₵ 600.00. The results from the survey further indicate that 45 percent and 25 percent of households in Abrepo kese and Chirapatre respectively, earn less than the median monthly household income of GH₵ 600.00. The income distribution depicted by Table 4.6 clearly shows the incomes available for different levels of households in Kumasi. This implies that, there are different levels of housing available for the different income groups of households in Kumasi. UN-Habitat (2011a, 2008) postulate that, it is such unequal manner of income distribution that manifests itself in inequality in the access to adequate housing. Thus, if income is viewed as central to households' ability to pay for housing, then housing affordability should rightly be looked at from the lenses of different income groups.

4.4.4 Household Expenditure

Household expenditure patterns have often played a crucial role in the search for scientific and empirical explanations to the socio-economic behaviour of various households. Increasingly, the amount of money spent on housing (housing related expenditure) by a household has over the years become a critical point of divergence underpinning all theories that have been propounded for the explanation of *housing affordability*. This section of the study presents the data collected on the expenditure patterns of households from the study areas. It presents the median monthly household expenditure for the various

households. It further categorizes the household expenditure into: housing related and non-housing related expenditure, as shown in Table 4.7.

Table 4.7 Median Monthly Expenditure of Households

Study Areas	Median Income (GH₵)	Median Expenditure (GH₵)	Diff. between Income & Expenditure (GH₵)	Housing Related Expenditure (%)	Non-Housing Related Expenditure (%)
Abrepo	475.00	499.90	-24.00	28.8	71.2
Ahodwo	2000.00	1995.00	5.00	31.1	68.9
Chirapatre	525.00	726.00	-201.00	26.3	73.7
Yenyawso	1000.00	1082.75	-82.75	28.9	71.1
Total	600.00	746.50	-146.5	31.0	69.0

*Source: Author's Field Survey, 2014 (**See Appendices 9&10 for full Expenditure details**)*

From the study, the median monthly expenditure of households is GH₵ 746.50. As shown in Table 4.7, the figures for the median expenditure are about slightly higher than the reported median incomes for the various study areas. It is worthy to point out that, though this situation is often seen in most Ghanaian surveys, the two sets of data can better give a clearly description of the wealth available to households in the study areas and how it is expended. However, the differences between the household median income and median expenditure as shown in Table 4.7, further give credence to the poor capital accumulation for housing development situation that is characteristic of Ghana's housing industry. Boamah (2010:6) indicates that, "the housing sector has been constrained of funding". Households are not assured of a consistent savings plan towards housing development.

In this study, housing has been explained to mean "the physical structure, the basic infrastructural facilities as well as its surrounding environment." Thus, it becomes necessary to define what constitutes housing related expenditure in the analysis of the household expenditure patterns. In this study, it is simply explained to be the amount of money from a household expenditure (budget) which is expended on Shelter (Rent), Water, Energy and Waste disposal. The study reveals that on the average, a household spends between 26 to 31 percent of its household budget on housing related expenditure. This situation leads to a lot of financial stress on the households. Given that what remains becomes the available household budget to be expended on other essential non-housing related payments after the somewhat "mandatory housing related costs" have been met by the household.

Kutty (2005) explains housing-induced poverty problem as the situation where a household is unable to afford its non-housing goods after paying for its housing. In the light of the deficit situation that is depicted in Table 4.7 between households' income and expenditure, coupled with the average housing related payments made by households in

the study, it gives rise to a situation referred to by the researcher as the "three-fold households' housing induced poverty". Firstly, the household can give in to meeting it housing related payments which then constrains it ability to meet other necessary non-housing payments. Secondly, the household can cut short its housing related expenditure (and maybe settle for sub-standard housing) in order to meet its non-housing related expenditure. Thirdly, given that the available disposal income to be expended is short of the total expenditure, a household can cut back on both housing related and non-housing related expenditure in order to meet each one of them midway. In essence, each of these three scenarios creates an impression of a deficiency which can be described at best, as "households' housing induced poverty".

Similarly, Galster (2002) in making a case for the nexus of housing to poverty reduction and social inclusion, argues that poverty has spatial manifestations and as such occurs in various facets of residential or neighbourhood contexts. He argues that concentrated poverty is a residential feature which has direct linkages to the housing markets and housing opportunities in that residential context and has the tendency to restrict economic opportunity and perpetuate poverty. It is worth noting that poverty in the residential context could be an outcome of housing deprivation. This reveals another dimension of the housing induced poverty situation in Kumasi. Here, poverty is not merely seen as a feature of the household but also a situation that pertains in the residential or neighbourhood context. This description begins to give an initial understanding to the nature of the housing affordability situation in Kumasi.

4.5 Housing Characteristics

While the previous section discussed the socio-economic characteristics of the sampled households in the various study areas, this section is focused on analysing the data obtained on the housing characteristics in the study areas. Specifically, this section discusses housing typology, housing tenancy and ownership, occupancy rate and the physical housing conditions in the various study areas. By extension, the section also explores how the socio-economic characteristics of the households discussed in the previous section impacts the nature of housing characteristics in each of the study areas.

4.5.1 Housing Typology

In the midst of the heated debate on what housing affordability is, it has become necessary for the discussions on housing affordability to be done in the context of a particular type or level of housing. Torluccio and Dorakh (2011) have observed that, housing affordability is

not just housing, but what kind of housing and the ability of the households to pay for it. Thus, the types of housing in the various study areas are very significant in this study.

The study revealed that detached houses and compound houses are the predominant house types, representing 32.9 percent and 26.4 percent respectively as shown in Table 4.8. However, the 2010 PHC report on Ashanti region shows that the predominant house type in the Kumasi metropolis is compound house (55 percent). Even though the sample proportion in this survey may not be enough to conclude that detached houses are currently the dominant house type in Kumasi, this finding is still useful for planning and policy purposes.

Table 4.8 Housing Typology in the Study Areas

Study Suburbs	Type of House										Total	
	Compound		Detached		Semi-detached		Shared Flat		Bungalow Flat			
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Abrepo	19	47.5	14	35.0	4	10.0	3	7.5	-	-	40	100.0
Ahodwo	4	20.0	5	25.0	8	40.0	3	15.0	-	-	20	100.0
Chirapatre	12	20.0	18	30.0	17	28.3	-	-	13	21.7	60	100.0
Yenyawso	11	31.6	13	37.1	5	14.2	4	11.3	2	5.8		100.0
Total	41	26.4	51	32.9	35	22.6	11	7.1	17	10.9	155	100.0

Source: Author's Field Survey, 2014

It can be seen from Table 4.2 that, the nuclear type of family (73.7 percent) is the dominant family type of most households in the study areas. Increasingly, more households are breaking away from the extended family system into nuclear households. This paradigm indicates a changing preference for single family houses such as detached and semi-detached houses. Again, analysis of the housing typology and the year of construction of the houses sampled for the study showed that, in the last two decades (i.e. 1994-2014); compound houses, detached houses and semi-detached houses account for 3.1 percent, 34.4 percent and 40.6 percent respectively of the houses built within this period. This clearly shows a shift away from compound housing. On the other hand, it is worthy to mention that Abrepo Kese largely maintains it indigenous characteristics with the highest share of compound houses in the study. Also, the tenement housing characteristics in Yenyawso account for it having the second largest share of compound houses in the study – where there are multi-storey compound housing mostly for extended families.

4.5.2 House Tenancy and Ownership

Data on house tenancy and ownership, obtained from the field survey shows that majority of the households live in owner occupied houses. As shown in Table 4.9, Ahodwo and

Chirapatre have the highest share of such households. As stated earlier, Ahodwo is characterised by single family house types, whereas Chirapatre's share of owner-occupied houses can be attributed to government's transfer of the estate housing to individuals for ownership. Generally, this shows a high penchant for homeownership among households in Kumasi. Table 4.9 shows that 36.8 percent of households from the study are renters. This gives a clear indication of an inclination to rental housing in Kumasi (see Table 4.9). Thus, it is fair to conclude that, more than a third of households in Kumasi are renters.

Table 4.9 House Tenancy and Ownership

Study Suburbs	Type of House Tenancy Arrangement								Total	
	Owner Occupier		Renter		Free-occupant		Family Owned			
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Abrepo	11	27.5	17	42.5	9	22.5	3	7.5	40	100.0
Ahodwo	8	40.0	7	35.0	1	5.0	4	20.0	20	100.0
Chirapatre	28	46.6	24	40.0	4	6.7	4	6.7	60	100.0
Yenyawso	12	34.3	9	25.7	9	25.7	5	14.3	35	100.0
Total	60	38.7	57	36.8	23	14.8	15	9.7	155	100.0

Source: Author's Field Survey, 2014

The median monthly rent of the households from the study is GH₵ 120.00 – which is about 16 percent of the median monthly expenditure of households. This is further low in Abepo and Chirapatre who have the largest proportion of renter households. Given the level of household incomes as against expenditures, rental housing can play a crucial role in the affordable housing supply in Kumasi since it will be impossible for most households to acquire their own houses on their current incomes. Hitherto the UN-Habitat (2011c) indicated that government built housing sector forms a small proportion of houses offered for renting, but it can be seen from Table 4.9 that, Chirapatre has the second highest share of households who are renters from the study. It has been observed in earlier sections of this chapter that, many of the houses in Chirapatre have seen extensive transformations with additions of one or more rooms for renting. Again, it could be that, some of the original owners have given their houses for renting. This explains the high proportion of renters in Chirapatre.

4.5.3 Occupancy Rate

Data on room and house occupancy rates across the study areas gives a fair picture about the housing supply situation in the city. It also depicts how many rooms households can afford to pay for on their current incomes. The study revealed that more than half (50.3 percent) of the households occupy only one or two rooms. This is by far an even picture across all the study areas, except that the high cost area had no household occupying just a single room. It can be inferred from Table 4.10 that, majority of the households in Kumasi

are living in overcrowded housing conditions. Given that households are occupying fewer rooms as a result of constraints on their incomes, then by extension, there is limited supply of affordable housing to various socioeconomic groups in Kumasi.

Table 4.10 Number of Rooms Occupied by Households

Study Suburbs	Mean	Number of Rooms Occupied											
		1		2		3		4		5		5+	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Abrepo	3.13	13	32.5	7	17.5	5	12.5	4	10.0	3	7.5	8	20.0
Ahodwo	3.95	-	-	5	25.0	2	10.0	7	35.0	4	20.0	2	10.0
Chirapatre	2.58	22	36.7	16	26.7	6	10.0	4	6.7	8	13.3	4	6.6
Yenyawso	3.14	9	25.7	6	17.1	5	14.3	8	22.9	3	8.6	4	11.4
Total	3.03	44	28.4	34	21.9	18	11.6	23	14.9	18	11.6	18	11.6

Source: Author's Field Survey, 2014

On the other hand, 65 percent of households in Ahodwo occupy four or more rooms. This creates a very contrasting picture from the total impression created by the earlier findings. However, the high cost area is predominantly occupied by nuclear family households in detached and semi-detached houses and thus may have additional rooms. Again, the findings from Table 4.10 is contrary to the findings reported by UN-Habitat (2011c:51) that, "in Kumasi, the government-built sector, now extensively transformed with extensions, has the highest number of rooms per household". This is because the houses can be transformed to just an extent and even so, the generation of additional rooms does not necessarily imply increased number of rooms per households.
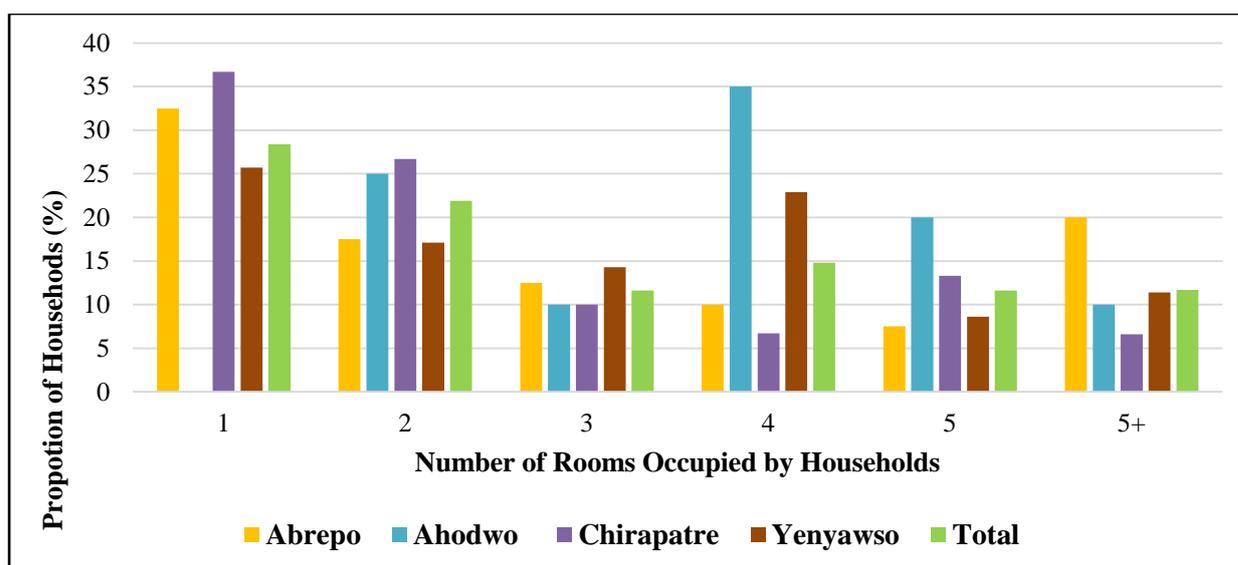
Figure 4.5 Nature of Household Room Occupancy in Study Areas
Source: Author's Field Survey, 2014

For instance, after an extensive transformation of a single-roomed accommodation in Asawasi (a government-built estate area in Kumasi); Tipple (2000:260) indicated that, "the

number of habitable rooms available to the main households has increased to three or four
…" This shows that on the average, a transformed house in the government-built estate is
most likely to add just between 2-4 more rooms to the existing number of rooms. This
could account for Chirapatre's least share (6.6 percent) of the proportion of households
occupying more than five rooms as shown in Figure 4.1. Again, this can be as a result of
most home-owners sub-letting their additional rooms to new households. Tipple (2000)
reported that, additional space has been generated through transformation which is now
occupied by other households. However, it is no surprise that, Abrepo with it indigenous
setting, has the highest (20 percent) share of the proportion of households occupying more
than five rooms, due to the dominant house type in the area.

Table 4.11 Room and Housing Occupancy Indicators of Households

Housing Indicators	Study Areas				
	Abrepo	Ahodwo	Chirapatre	Yennyawso	Total
Average Household Size	4.95	4.00	5.22	4.66	4.94
Average no. of Rooms per Household	3.13	3.95	2.58	3.14	3.03
Occupancy Rate	1.6	1.0	2.0	1.5	1.6
Percentage of Households Sharing a Dwelling Unit	55%	25%	42%	60%	47%

Source: Author's Field Survey, 2014

The study revealed that the prevailing occupancy rate in the study areas ranges between
1.0 – 2.0 persons per room as shown in Table 4.11. This shows a more desirable situation
as compared to the urban Ghana rate of 2.3 persons per room (GSS, 2008:67). These
figures create an impression that, there are largely no over-crowding conditions in all the
study areas. Consequently, it is at variance with the popular perception that, housing in
Kumasi is characterised by over-crowding conditions. However, findings from Table 4.10
revealed that, 50.3 percent of households occupy only one or two rooms. As indicated in
Table 4.11, the average household size is 4.94 and the average rooms per household is
3.03, but this statistics as reflected in the occupancy rates, buries the distribution of the
rooms across various households as shown by Figure 4.1; which rather shows the height of
overcrowding situations in the study areas.

The significance of the low occupancy rates shown in Table 4.11 cannot be undermined,
and only goes on to reinforce the position stated by the researcher that, there is limited
supply of affordable housing to various socioeconomic groupings in Kumasi. Thus, the
aggregate statistics do not conceal the situation but rather fuel an interrogation of the
nature of supply and distribution of housing to various socioeconomic groups in Kumasi.
This picture of the nature of household room occupancy in study areas is vividly captured

in Figure 4.1. It shows the marked difference in the supply of rooms between the different study areas. For instance, Ahodwo with the least household size, has the largest share of households occupying four or more rooms (65 percent), yet Chirapatre with the highest household size, has the least share of households occupying four rooms or more (26 percent).

4.5.4 Physical Housing Conditions

The physical housing condition of a house is a strong attribute in defining the quality of housing in a country. Turner (1972) indicated that, housing problems are defined by the material standards and housing values are judged by the material quality of the houses produced. Thus, physical housing condition is defined by the construction materials used for the house and environmental features around the structure. This study collected data on the type of materials used in the construction of houses and the conditions of the house in terms of walling, roofing, foundation etc. These characteristics may not be able to give an absolute definition of the housing quality in the study areas or even give a clear indication of the housing values. However, it provides a good basis in an attempt to understand the housing quality in the study areas in terms of materials and how they affect the housing affordability situation in these areas. This is because any attempt at measuring housing affordability must   take into consideration the quality of the housing involved.

Table 4.12 Materials used for Housing Construction in the Study Areas

Materials Used for Construction		Study Areas								
		Abrepo		Ahodwo		Chirapatre		Yenyawso		Total	
Type of Materials		No.	%	No.	%	No.	%	No.	%	No.	%
Materials used for Outer Walls of Buildings	Sandcrete	28	70.0	20	100.0	31	51.7	31	88.6	110	71.0
	Landcrete	9	22.5	-	-	26	43.3	1	2.9	36	23.2
	Burnt Bricks	-	-	-	-	3	5.0	2	5.6	5	3.2
	Mud / Earth	3	7.5	-	-	-	-	1	2.9	4	2.6
Total		40	100	20	100	60	100	35	100	155	100
Type of Materials used for Roofing	Alu./Iron Sheet	35	87.5	11	55.0	54	90.0	27	77.1	127	81.9
	Glandeson	2	5.0	7	35.0	1	1.7	3	8.6	13	8.5
	Concrete	3	7.5	2	10.0	2	3.3	5	14.3	12	7.7
	Asbestos/Slate	-	-	-	-	3	5	-	-	3	1.9
Total		40	100	20	100	60	100	35	100	155	100

Source: Author's Field Survey, 2014

It can be seen from Table 4.12 that, sandcrete blocks enjoy dominant usage across all the study areas. GSS (2013a) reported that 82 percent of the houses in Kumasi Metropolis are built with sandcrete blocks. Thus, the findings from the study are consistent with the general situation in the metropolis. This shows a high quality of materials used in housing construction, which consequently affects the cost of housing development. On the

contrary, 3.2 percent of the houses in the study were constructed with burnt bricks. Interactions with experts from the Building and Road Research Institute revealed that, if all supply barriers and associated problems are resolved in the production of bricks, it can reduce the overall material cost of housing construction by 20 – 40 percent (source). However, the general impression gathered from Table 4.12, clearly shows that the campaign for a switch to the use of local materials has not made much impact. It is fair to conclude that expensive housing construction will definitely lead to unaffordable housing situations.

In terms of materials for roofing, there is also an extensive preference for the use of metal sheets in all the study areas. This has become a popular roofing material for housing construction in Kumasi. On the other hand, concrete roofing forms just 7.7 percent of the housing in the study. The limitation to this type of roofing is as result of the high cost and structural problems such as leakage involved, thus most homeowners shy away from this type of roofing unless the intentions are to build a storey building. Interestingly, the 7.7 houses roofed with concrete are equal to the 7.7 percentage share of houses that are storey buildings in the study (See Table 4.13). Although asbestos was originally used to construct most of the estate houses in the Government built sector, it has been replaced over the years and its usage only constitute 5 percent of the houses. This can be attributed to the known health hazards including toxicity and cancer risk etc. associated with the uses of asbestos (ASTDR, 2001).

Generally, the physical conditions of the structures in the various study areas are in good condition. In terms of the condition of roofing: 15.5 percent have leaking roofs and in terms of the conditions of the walling, 28.4 percent of the houses have cracked walls and 78.1 percent of the houses are painted whereas in terms of the condition of the foundations of houses 21.3 percent of the houses have exposed foundations (*See Appendix 7*). As stated earlier, even though the outlined descriptions do not give an absolute description of the physical condition of houses in the study area in terms of material quality and housing values, it still provides a basic understanding of the quality of housing in Kumasi. Consequently, it can be concluded that, houses in the various areas have good structural quality which likewise affects their affordability due to the cost of the houses.

Table 4.13 Number of Storeys Per Sampled Houses in the Study Areas

Height of Buildings	Study Suburbs									
	Abrepo		Ahodwo		Chirapatre		Yenyawso		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Single Storey	37	92.5	18	85.0	59	98.3	28	80.0	141	91.0
Two Storey	3	7.5	2	15.0	1	1.7	2	5.7	9	5.8
Three Storey	-	-	--	-	-	-	4	11.4	4	2.6
Four Storey	-	-	-	-	-	-	1	2.9	1	0.6
Total	40	100	20	100	60	100	35	100	155	100

Source: Author's Field Survey, 2014

The height of houses in Kumasi has not been thoroughly discussed in most literature on housing in Kumasi. Afrane and Asamoah (2011) indicated that multi-storey housing is common in tenement housing areas in Kumasi and they are in the form of multi-compound housing typologies. A significant feature about multi-storey housing is that, it can take similar space as single-storey housing but can offer enough space for habitation as compared to single-storey housing. Table 4.13 shows the height of the houses sampled for the study. On the whole, 91.0 percent of the houses are single-storey houses. Certainly, this does not offer an extensive supply of housing for various income groups in the city. It is worthy to mention that, this table may not provide enough information to make a conclusive stand on the nature of housing supply in the city, but it gives an indication of the nature and extent of housing development over the years and how it adequately responds to the dire housing supply problem.

4.6 Housing Services and Facilities

As earlier indicated, a house is more than just the structure but it also encompasses all the accompanying basic infrastructure and services necessary for comfortable living. Thus, a discussion on housing is incomplete without a fair idea about the available basic services and facilities. Again, the housing services and facilities form part of the variables counted in the definition of the housing quality of an area. Housing services and facilities also take a significant share of the housing related expenditure component of household expenditures in this study. This section of the study discusses the basic facilities and services available to the various households sampled for this study, as well as households' access to basic facilities and services including: water, bathroom, toilet, kitchen, waste disposal and electricity.

4.6.1 Availability of Housing Facilities and Services

The study revealed that households in Kumasi have adequate supply of water. As indicated in Table 4.14, 91.6 percent of the households in the study, have Pipe-borne water as their

many source of water for domestic use. This indicates the quality of water available to households in Kumasi. Again, the study revealed that there is electricity power supply in all the study areas and all the sampled households were connected to the power grid. The associated problems faced in connection to these services are discussed in later sections of this study. On the availability of basic services and facilities to households; the different level of services is shown clearly across the different study areas especially with regards to sanitation. For instance, while the presence of Public KVIP and Pit Latrines are rare in Ahodwo and Chirapatre, these constitute 52.5 and 8.6 percent of the type of toilet facilities available to households in Abrepo and Yenyawso respectively. Also, 75.0 percent of households in the indigenous (Abrepo) housing area still rely on public dump sites for refuse disposal. The continuous dependence on public toilet facilities and dump sites is unacceptable in housing areas due to the health implications associated with it.

Table 4.14 Type of Housing Facilities and Services Available to Households

Types of Basic Facilities and Services		Study Areas									
		Abrepo		Ahodwo		Chirapatre		Yenyawso		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Main Source of Water	Pipe-borne	36	90.0	16	80.0	57	95.0	33	94.3	142	91.6
	Borehole	2	5.0	4	20.0	1	1.7	1	2.9	8	5.2
	Well	2	5.0	-	-	2	3.3	1	2.9	5	3.2
Total		40	100	20	100	60	100	35	100	155	100
Type of Toilet Facility	Water Closet	19	47.5	19	95.0	60	100	32	91.4	130	83.9
	Public/ KVIP	18	45.0	1	5.0	-	-	2	5.7	21	13.5
	Pit Latrine	3	7.5	-	-	-	-	1	2.9	4	2.6
Total		40	100	20	100	60	100	35	100	155	100
Type of Refuse Disposal	House-to-House	7	17.5	18	90.0	23	38.3	33	94.3	81	52.3
	Public Dump Site	30	75.0	1	5.0	20	33.4	2	5.7	53	34.2
	Burning	3	7.5	1	5.0	17	28.3	-	-	21	13.5
Total		40	100	20	100	60	100	35	100	155	100

Source: Author's Field Survey, 2014

4.6.2 Nature of Access to Basic Housing Facilities

It can be argued that the benefits of basic housing facilities and services on the wellbeing of residents are not only based on the availability of these facilities but the accessibility they offer, their reliability and affordability. The data collected indicates that there exists an accessibility gap in relation to certain basic facilities depending on the area in focus. For instance whereas the high cost area enjoys high accessibility to basic facilities like: source of water, toilet, bathroom and kitchen, the indigenous area is characterised with poor accessibility to such facilities (*See Table 4.15*). For instance, whereas 80 percent of the sampled households in Ahodwo enjoy exclusive access to basic housing facilities and services, about 60 percent of households in Abrepo live in houses with shared facilities.

Table 4.15 Location of Basic Housing Facilities

Location of Housing Facility		Study Areas									
		Abrepo		Ahodwo		Chirapatre		Yenyawso		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Location of Water	Inside House	26	65.0	18	90.0	56	93.3	34	97.1	134	86.5
	Outside House	14	35.0	2	10.0	4	6.7	1	2.9	21	13.5
Location of Toilet	Inside House	24	60.0	20	100	58	96.7	33	94.3	135	87.1
	Outside House	16	40.0	-	-	2	3.3	2	5.7	20	12.9
Location of Bathroom	Inside House	25	62.5	20	100	55	91.7	33	94.3	133	85.8
	Outside Hse.	15	37.5	-	-	5	8.3	2	5.7	22	14.2
Location of Kitchen	Inside House	22	55.0	16	80.0	53	88.3	34	97.1	125	80.6
	Outside Hse.	9	22.5	1	5.0	4	6.7	1	2.9	15	9.7

Source: Author's Field Survey, 2014

This situation depicts the call by the UN-Habitat in 2011 about the eminent urban divide situations in cities fuelled by the ills of urbanization. Here, as a result of urban inequalities, within one city (Kumasi); one suburb (Ahodwo) have high access to basic housing services and facilities while another suburb (Abrepo) has poor access to such facilities and services. Stone (2004) indicated that, house affordability is central to the dilemmas of inequality and insecurity confronting cities today. More often, the plausible explanation given in literature to explain the above situation is that; it is mainly about income differences between various socio-economic groups (incomes are generally low and further lower among middle and low income households (UN-Habitat, 2008; UN-Habitat, 2011a; UN-Habitat, 2011b, Boamah, 2010a and BoG, 2007).

4.6.3 Understanding the Housing Quality Disparity

Contrary to the popular view that, income inequality is the mainstay of the evident differences in housing quality in various parts of the city; Afrane (1993:101) put forward an argument that the situation could be an issue of "unequal access to public opportunities" other than the disparities in income. For instance, as indicated in Table 4.6, there is a marginal difference between the median incomes of households in Abrepo and Chirapatre, however Table 4.15 shows a marked difference in the access to basic housing facilities in these two areas.

This is because Government-Built Housing Estates come along with better housing facilities and services unlike private unconventional housing developments in the Indigenous Housing Sectors. For example, background information on Chirapatre indicates that, all housing units had toilet, bathroom and Kitchen facilities on their completion. However, interactions from the field survey shows that, over the years 9.7

percent of the houses through transformations have converted their bathrooms and Kitchens into additional bedrooms.

Although, this argument gives a reasonable explanation to the disparity in housing quality in cities, the relevance of income inequality in this equation cannot be undermined. Again, regardless of the disposal income of the household and the nature of its house cost-to-income ratios (HC:Y), the quality of the housing is important. However, it is clear from the preceding discussions that; in the context of housing affordability, income disparities and housing quality disparities are both relevant variables in defining the housing affordability situation in any housing environment.

4.7 Structure of Housing Provision in Kumasi

The literature review revealed that, several debates on housing and different views on housing issues have influenced housing policy and housing delivery mechanisms of many countries over the years. One prominent feature of the several debates in housing is that of "the state's role and the market's role in housing delivery". Chowdhury (2013) indicated that interventions from different stakeholders in any housing delivery system have significant effects on the housing affordability situation within that particular housing environment. Consequently, this section of the study is focused on exploring the structure of housing provision in Kumasi as a prelude to measuring the housing affordability situation in the city.

4.7.1 Structure of Housing Delivery

Housing delivery in Kumasi assumes peculiar characteristics from other cities. These characteristics of Kumasi's housing delivery system is defined by features such as: the land ownership regime in the city, the source of supply of housing, massive demand for land and imperfections in the land market. The study revealed that housing delivery in Kumasi comes from two main sources: the Government sector (State) and the Private sector (Private Individuals and Private Estate Developers). Findings from the survey reveal that apart from the sample from Chirapatre (a government built estate), all the houses from the survey are from the private sector. This can be attributed to the change in direction of Government policy from active participation and direct provision of housing to a mere role as a facilitator.

Although the Private sector holds a 62 percent share of the sampled houses in the study, only 3 percent of those houses are produced by Private Estate developers. This shows that 97 percent of the houses produced in the Private sector are by the efforts of individual

home owners who largely constitute the informal housing sector. This clearly depicts a mal-functioning and an undeveloped urban housing market. Estate companies are rather operating as agents connecting prospective homeowners and renters to individuals with available rooms to rent, other than engaging in the housing production (Afrane and Asamoah, 2011).

4.7.2 Major Factors Inhibiting Housing Delivery

As mentioned earlier, Kumasi's housing environment has peculiar characteristics, and these features control housing delivery in the metropolis. The study attempts to establish the major factors inhibiting housing delivery in Kumasi on both the demand and supply side in the context of affordability. Earlier sections of this chapter demonstrated how demand factors such as demographic characteristics of households, household incomes and cost (rent) of housing units inhibit the overall demand for housing or augment the drive for housing provision in the various study areas. However, on the supply side, chiefly among the factors gathered from the survey are issues related to land and access to finance for housing supply.

The study revealed that three major land ownership systems operate in Kumasi: Stool lands (which constitute almost the entirety of the metropolis), Pure State lands (e.g. Ridge, Danyame and the Government estate areas) and Vested lands (e.g. Adum, Bantama, Asokwa are Residential and Industrial areas which have been vested in the State due to its strategic location and relevance in the metropolis) (Hammond, 2001). Also, responses from homeowners in the study showed that the source of land for housing development in the city is from Stool lands (Chiefs). This uniform and organised supply of land as a result of the land ownership regime, should ideally encourage access to land for housing development. However, the current situation is far from that and Afrane and Asamoah (2011:86) noted that "the problem of land for housing development in the City is not due to lack of land, but rather to the acquisition processes and procedures, as well as title registration and pricing."

The massive demand for land for various developments in the fast growing city keeps driving the price of land coupled with the imperfect conditions and procedural problems in the urban land market. As a result, Otumfuo's Land Registration Project was introduced to bring sanity into land registration procedural problems common in Kumasi. Findings from the survey shows that there is a changing trend of land cost in last three decades from selected households in the study areas (NB: excluding Chirapatre Estate where the land

was acquired by government). Interactions with the Land Rent Section at the Ashanti Regional Lands Commission revealed the following land values per acre for the following study communities: Abrepo kese; GH₵ 10,000 – GH₵ 20,000, Yenyawso; GH₵ 10,000 – GH₵ 30,000 and Ahodwo; GH₵ 10,000 – GH₵ 60,000 or in some cases GH₵ 100,000 per acre. This clearly implies that, year-on-year, cost of land keeps increasing. Other factors such as: the location of the land, the size of the land, and the related imperfections in the land market can further explain the increasing cost of land in the city. Given, the fixity of land and the high demand for urban land for various forms of development, the land cost component of housing development will increasingly be an impediment to housing delivery and consequently the affordability of housing in the city.

In the area of finance, the principal problems are with access to readily available funds to undertake a housing development. That is, access to a consistent available funds to start a housing development and finish in a short period of time, so as to obtain value for me. Given that cost of housing keeps increasing, the longer it takes to construct a house, the higher the cost. For instance, findings from the study revealed that the average number of years used by home owners in the different study areas for their housing construction ranges between 5 – 13 years, with households using as high as over 25 years to complete the construction of their houses. This is mainly attributed to the low capital accumulation of prospective owners, as a result of low household incomes and poor savings culture.

Again, the study reveals that 72.7 percent, 18.2 percent, 5.5 percent and 3.6 percent of homeowners in the study areas obtain their sources of finance from personal savings, family and friends, bank loans and mortgage packages respectively. An earlier sub-section in this study has demonstrated how households are unable to make savings out of their meagre households' incomes due to their enormous household expenditures. By extension, it can be inferred that, 'a household in Kumasi in its quest to construct a house can save for the next 25 years to be able to complete the construction of the house'. Thus, this serves as a major impediment to housing delivery in the city since majority of households depend on personal savings for such developments. Clearly, the low penchant for mortgage financing options in the urban housing market in Kumasi confirms that it remains in its traditional state (Owusu, 2001).

4.7.3 Factors Influencing Quest for Home-ownership versus Rental Accommodation

Following the discussions from the previous section, it is easy to suggest that most households should rather opt for rental accommodation, to building their own houses. Interestingly, there is still a massive push for homeownership in all the study areas.

Findings from the study shows that, 78.4 percent of households have intentions of building their own house. Various socio-cultural and economic factors have been given as the plausible reasons for such keen interest in homeownership as compared to rental housing. Konadu-Agyeman (2001a) indicated that, housing in Ghana has been a trust of the family, and such whether developed by an individual or the whole extended family; it viewed as a belonging of the whole family. This sums up the strong attachments that households have for homeownership.

Notwithstanding, housing experts, planners, politicians and policy makers must of necessity, proffer a key direction to resolve this patent disregard for rental housing, given the enormous nature of the problems confronting housing delivery in Ghana. Admittedly, given the clear demonstrations in various sections of this chapter, "not every household can afford to construct a house in its lifetime". Thus, rental housing could be an alternative and effective response to housing provision for all income groups. All the same, findings from the survey reveals that the following are the core of the reasons that incite interest for individual homeownership:

i. Changes in household size and insufficient space for domestic and economic activities *(22%)*;
ii. Issues of convenience, privacy and independence *(26%)*;
iii. Personal ownership for social prestige *(37%)*; and
iv. High rent demands by landlords on advance basis *(15%)*.

4.7.4 Outlook of Kumasi's Housing Market

The urban housing market of every city is defined by the interplay of the forces of demand and supply in its housing environment, and how such forces drive the mechanisms for the provision and distribution of housing in the city. The foregoing discussion on Kumasi's housing environment clear points to the fact that, there is an existing housing market in Kumasi, but the state of Kumasi's housing market remains on a more traditional or rudimentary stage. Thus, has an outward look different from the more active housing market in Accra. This could be seen in the proportion of estate developers who are actively involved in housing delivery in the two cities.

The housing market in Kumasi is largely fuelled by individual developers. Household income is central to the nature of housing market in Kumasi; the housing supply is responsive to the various income groupings in the city. From, the study it can be seen that the housing market in Kumasi operates in three major thresholds; the high income sector (Ahodwo), the middle income sector (Yenyawso) and the low income sector (Abrepo).

However, it must be noted that it is not a defined continuum, and thus there is no specific start point and end point for the high income sector or the low income sector. For instance, while findings from the study suggest that the average cost of a housing unit is GH₵ 51,000 in Abrepo, GH₵ 617,000 in Yenyawso and it rises to as high as GH₵ 1,027,000 in Ahodwo. This evidently depicts the "three threshold" description defined for Kumasi's housing market.

Rental housing remains a dominant share of the total housing supply in the study areas and thus offer numerous households, especially those in the low income and middle income sector who cannot afford to put up their own houses, an alternative source of accommodation. The downsides about this housing sector as noted in the study is the high rent demands by landlords on advance basis (usually 6months − 2years). This serves as a major deterrent to such households who are unable to cough-up such lump sum rents in the quest to obtain housing in the city. The implications of this are several and essential among them is the emergence of slums and squatters within the metropolis. Obviously, this also reveals that given the income levels of some households in the study, it will be impossible for some households to afford even rental housing.

The structure of the housing delivery in Kumasi is illustrated by Figure 4.2. A highly significant proportion of housing in Kumasi is from the private sector and the remaining produced by government. Thus, housing development in Kumasi is largely informal in nature. Housing provision from the government sector usually ends up in the hands of government workers or with the middle income groups in the city. It can be seen from the Figure 4.2 that, government hardly provides housing for the High income groups and low income groups apart from workers. However, the low income groups may only get to actually benefit from public housing supply in situations like resettlement or slum improvements (which may not involve actually housing development).

On the other hand, it can be deduced from above that, housing supply from the private sector is targeted at all income groups. As indicated earlier, the housing supply from the private sector is largely informal (97 percent). Basically, from individual developers who do not go through the formal (permit acquisition) process of housing development, as well as communities developing organically without planning schemes or all other informal settlements (such as slums and squatters). The formal sector of the private sector include real estate developers, individual developers and institutions who go into various forms of housing development, usually through formal processes. The private sector supply housing to all the various income groups. It can be inferred from prior discussions that; the

government sector is a better provider of housing (in terms of the right processes and quality), while the private sector is a better distributor of housing (in terms of the numbers supplied and the scope of supply).
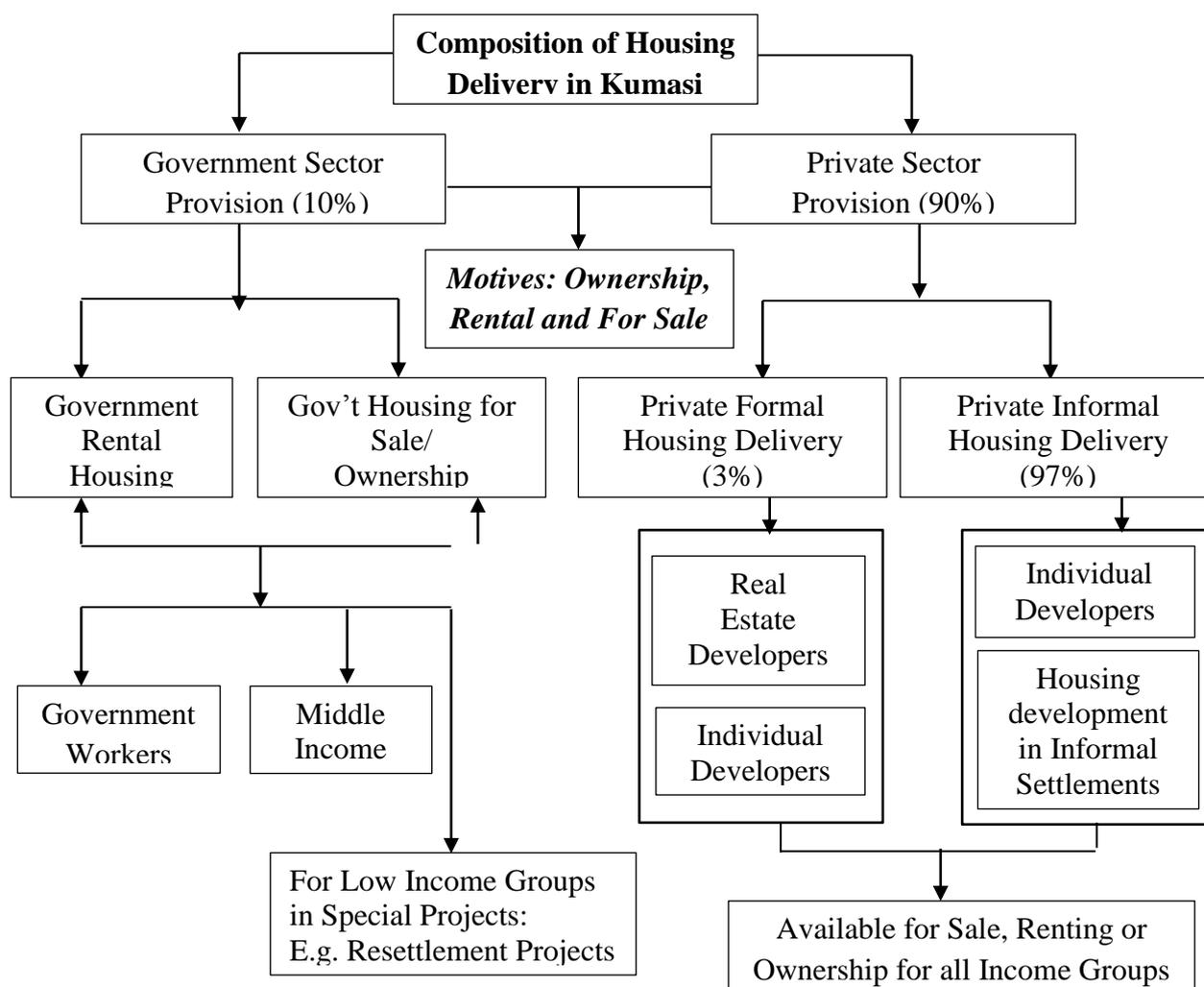
Figure 4.6: The Structure of Kumasi's Housing Delivery
Source: Adapted from Chowdhury (2013); Afrane and Asamoah (2011); and Author's Compiled Field Survey and interviews (2014)

4.8 Predominant Housing Problems in Kumasi

The study gathered data on the major problems of current housing units inhabited by all the sampled households for this study. From the survey, there are numerous housing problems confronting different households in different areas in the city but they can be summarised and grouped under the following:

  i. Poor physical, sanitary and environmental conditions in houses;

 ii. Absence of basic facilities and services in houses;

iii. Overcrowding, congestion and inadequate spaces in houses;

iv. Poor accessibility, unreliable water and power supply; and

 v. Unbearable rental charges and payment schedule.

The above problems are the prominent features which characterize the current housing environment of Kumasi. This signals a poor housing quality in the study areas. This situation requires a conscious effort from various stakeholders in the housing industry to resolve the numerous problems.

4.9 Summary of Chapter

This chapter have given the situational analyses of Kumasi's housing environment. The chapter gives a reflection of the nature of housing supply to various socio-economic groups in Kumasi. This is seen in three dimensions of the discussions so far: firstly, by the distinct housing characteristics of the different study areas; secondly, by the demographic characteristics of the households; and thirdly, by their socio-economic characteristics. The study reveals that demographic characteristics such as the size of a household, the family type and the composition of the household are key elements that influence the demand and supply of housing to various households in Kumasi.

Again, the chapter shows that household income and expenditure are the major variables in any housing production or consumption equations. The survey revealed that, incomes are generally low in the metropolis and thus affect households' ability to secure adequate and quality housing in the city. This affects the quality and quantity of housing available to different income groups in the metropolis. Again, low incomes connote low savings and thus, households lack the requisite capacity to store up wealth for adequate housing development. On the other hand, household expenditures from survey are generally high, creating a lot of financial stress on various households. The median household expenditure recorded in the study exceeds the median household income. This situation gives rise to a 'three-fold housing induced poverty'. This readily offers plausible hints of an irking housing affordability problem in Kumasi. Consequently, the next chapter is devoted to measuring the nature and extent of housing affordability in Kumasi.

CHAPTER FIVE
MEASURING HOUSING AFFORDABILITY IN KUMASI

5.1 Introduction

Literature on housing affordability reveals the lack of consensus and common understanding of the concept and its measurement. Invariably, different indicators and methods have been used in different settings in attempts to measuring *'housing affordability'*. Marjorie (1998) noted that, in any attempt to measure housing affordability, researchers should set indicators, assumptions and pick analytical methods that best fit the requirements of their research. The previous chapter presented a detailed situational analysis of Kumasi's housing environment. It offered a foundation for the understanding of the nature of housing affordability as well as the various indicators and variables relevant in the measurement of housing affordability in the city. This chapter is aimed that assessing the *'affordability'* of housing in Kumasi, based on residents' perceptions and real housing situations in the metropolis. The study attempts to bundle together, the perceptions of urban residents about the prevailing urban housing market conditions, their real housing practices and their socio-demographic characteristics in order to provide an assessment of the housing affordability situation in the city.

In essence, the discussions are in response to the second and third research questions of the study; *"what are the factors that affect housing cost and their effects on housing delivery in Kumasi"* and *"what is the nature and extent of the housing affordability situation in Kumasi?"* The chapter is discussed in six sections; it begins with an introduction, followed by a discussion on housing cost-price. It discusses the assessment of housing affordability and the perceptions on housing affordability in Kumasi. The 'control framework' required for affordable housing delivery in Kumasi and it associated challenges are also discussed. The chapter ends with the summary of key findings.

5.2 The Housing Cost-Price Challenge

Fundamentally, housing affordability is defined as a relationship between house cost and household incomes. The later have been discussed in the previous chapter and it forms the basis for several other discussions in this chapter. It is worth noting that, the concept of housing affordability is first founded on 'house cost'. Consequently, there are varied concerns about housing cost and how it impacts the housing affordability equation and as a result the outcomes of affordability measurements. This section discusses how housing cost is a challenge in the context of housing affordability measurement.

5.2.1 Defining Housing Cost-Price in Kumasi

UN-Habitat (2011b) postulates that housing costs are evidently grouped into two: capital variable cost and the occupational variable cost. The capital variable costs include: cost of land, infrastructure, building materials and labour; while the occupation variable cost include: land lease and rates, cost of utility and services, and building maintenance and other financial inputs. However, observations from the survey in Kumasi are that, housing cost is separated from land acquisition cost. Findings from the survey suggest that, land cost is mostly mentioned as separate from the total housing cost of most owner-occupied houses. Aside the government built sector where lands were acquired and developed by the public sector, all the other areas showed some sort of divergence in the land acquisition process and housing development process. The plausible explanations to this phenomenon are that:

   i. land is not viewed as a commodity that can be bought and paid for by individuals;
  ii. the processes of land acquisition and housing development are distinctively controlled and administered;
 iii. the informal nature of housing development and traditional culture emphasize on homeownership;
  iv. lack of adequate capital accumulation for consistent investments into housing; and
   v. the number of years spent on housing development.

However, for the purpose of this study housing cost for owner-occupied units is defined to include cost for land, and the cost of the whole housing development process. Also, housing cost for rental accommodation captures the amount paid as rent and the cost of basic housing utilities. This attempts to make the housing cost indicators comparable between different study areas.

5.2.2 Significance of Housing Components on Housing Cost-Price

This section discusses the significance of each of the housing cost components on the overall housing cost-price. Ideally, the overall housing cost for any housing unit is impacted by each of the housing cost components in varied degrees. The study employs a five point rating scale to measure the significance of each housing cost component to the overall cost of housing in Kumasi, based on the perceptions and experiences of households. This measure was intended to provide insight into the housing component cost which affects the overall cost of houses in Kumasi. The parameters set for this measurement are presented in Table 5.1.

Table 5.1 Parameters Set for the Likert Scale Measurement

Ordinal Scale	Rank (Ri)	Weight (Wi)	Housing Components (HCi)
Highly Significant	1	5	Land
Very Significant	2	4	Finance
Significant	3	3	Building Materials
Somewhat Significant	4	2	Labour
Less Significant	5	1	Infrastructure

Source: Author's Construct, 2014

Based on the above parameters the household ratings obtained from the survey were transformed by formula:

$$HC_i = R_i W_i$$

Where R_i means; Household rank of each housing component (1 to 5); and W_i means the numeric weight of each rank (5 to 1). This aggregate rating then simplifies the comparison between the ratings for the various housing components. Table 5.2 shows the Likert scale measurement on the significance of each housing component cost.

Table 5.2 Showing Likert Scale Measurement on Housing Cost Components

Housing Components Rank (HCi)	Household Ratings					Overall Weighted Ratings	
	Rank 1 Weight 5	Rank 2 Weight 4	Rank 3 Weight 3	Rank 4 Weight 2	Rank 5 Weight 1		
Land	47={235}	50={200}	27={81}	19={38}	12={12}	566	1st
Finance	49={245}	26={104}	31={93}	31={62}	18={18}	522	3rd
Building Mat.	37={185}	37={148}	50={150}	18={36}	13={13}	532	2nd
Labour	14={70}	17={68}	22={66}	52={104}	50={50}	358	5th
Infrastructure	19={95}	26={104}	16={48}	32={64}	62={62}	373	4th

Source: Author's Construct, 2014

The Likert scale measurement in Table 5.2 shows that, the most significant cost component in housing is Land; Building materials; and Finance respectively. The picture created by this information relays two major concerns for policy directions on the housing affordability discourse. The above information shows the components of housing considered by households as significant as presented in that order; and also shows the components of housing that take up the chunk of households' budget for housing. These two scenarios can in part be held as the underlying causes of the housing affordability problems in Kumasi. Given, that households spend the least of their housing budget on infrastructure and labour, this will culminate into poor housing quality in the metropolis. This was strongly reported by Afrane and Asamoah (2011). When they argued that, the poor housing quality situation in Kumasi is as a result of the poor and cheap labour employed by most housing developers, especially due to the informality in housing development in the city.

On the other hand, households spend most of their housing budget on land, building materials and finance in that order. The previous chapter discussed at length the increasing cost of land for housing development in Kumasi. However, further interactions with experts in land administration and management at the Ashanti Regional Lands commission revealed that there is 'wastage in the use of land' in the city both by government and private individuals. This claim is revealed in the housing densities in the selected study areas. Houses are built at very low densities despite the high cost of land. Certainly, much has not been done to control the use of land for housing purposes, leading to a massive sprawl development in Kumasi. In terms of building materials, the huge cost emanates from the over reliance on imported building materials. This problem is largely influenced by the backgrounds, perceptions and changes in taste of most Ghanaian households.

5.2.3 Increasing Housing Cost-Price

In the foregoing discussions, the critical role of housing cost in the measurement of housing affordability in Kumasi has been projected clearly. Prior discussions have made attempts at defining house cost in Kumasi and its components. Housing cost has been increasing rapidly over the years and this has overly been attributed to the heightened demand and supply for housing in the metropolis. In most cases, it is easily attributed to the social, traditional and cultural influences on households in the Ghanaian setting, which makes the preference for owner-occupied housing the most desirable; leads the escalating prices of housing in part. On the other hand, this section attempts to give a brief expose on the impact of factors such as the inflation rate, the exchange rate and the consumer price index (CPI) as recorded in Ghana during the survey period for this study and their effects on the increasing cost of housing in Ghana. These issues are the isolated factors that contribute to the increasing housing cost in Kumasi and Ghana as a whole (Boamah, 2010b). Quigley and Raphael (2004:194) have noted that, "as inflation increases, nominal interest rates and house prices increase, which more than counterbalances any increases in nominal wages, so that inflation makes housing less affordable".

By the closing of August, 2014, the inflation rate which had risen to 15.9; a record high in the last four years. This showed that the inflation in Ghana has been accelerating consecutively for the tenth month running. Further analysis presented by the GSS showed that the recorded increases in the inflation rate in the review period is because, year-on-year cost of housing and utilities jumped to 61.7 percent in August, 2014 (GSS, 2014). This clearly shows the rate of increase in housing cost due to inflation in housing and utilities; which happen to be the most important components in measuring households'

housing expenditure. Again, the BoG (2014:1) reports that, "the Ghana cedi has depreciated by 26.7 percent against the US dollar during the first half of 2014". Given that there is a strong-liking for foreign building materials, it will make material imports more expensive. This further pushes up housing cost and makes housing too expensive for both renters and prospective home owners. For instance the CPI reported by the GSS as 121.2 in January 2014, rose to a record high by the end of July to 131.0 (GSS, 2014; Taborda, 2014). This clearly underscores the increasing prices of goods and services in the country, including housing.

Consequently, with such domestic economic posture discussed above, it is obvious how such posturing impacts on housing cost and housing delivery in the country. Since housing and utility remains the leading drivers of inflation in the country, with Ashanti region recording the highest inflation rate in the period under review (Jan, 2014 – Aug, 2014); it is expected that housing cost will keep rising in Kumasi. It is important to note that, this is not an attempt to put away all other factors discussed earlier on the increasing cost of housing, but these domestic economic indicators are equally relevant variables that drive the cost of housing in Kumasi.

5.3 Assessing Housing Affordability in Kumasi

The foregoing discussions give a foundational understanding of the issues of housing affordability in Kumasi. This section of the study presents an assessment of the housing affordability situation in Kumasi. The study attempts by this assessment to define the housing affordability problems of households in the city. The study has adopted the ratio and residual-income approaches as the primary measures of housing affordability in Kumasi. Here the measurement of affordability will be done in two main strands: rental affordability and homeownership affordability.

5.3.1 Using the Ratio Approach

The earliest form of housing affordability measurement took the form of the ratio approach. The underlying theme of this approach is on the relationship between households' expenditure on housing as against their incomes. Concurrently, as revealed in the discussions under chapter two of this study; a "rule of thumb" standard of not more than 30 percent of household income being spent on housing cost is deemed appropriate and affordable. This section explores the ratio approach in two dimensions: House Rent-to-Income Ratio and the House Price-to-Income Ratio. These two ratios are calculated

using the data on household incomes and expenditure on housing derived from the field survey and by the formula:

$$HAi_n = \left[\frac{HC_n}{HY_n}\right] \times 100 \quad \textbf{OR} \quad HAr_n = \left[\frac{HC_n}{HY_n}\right] \text{------------------ (1\&2)}$$

Where HAi and HAr connote 'Housing Affordability index and Housing Affordability ratio
HC_n represents the Housing Cost of Household n
HY_n represents the Household Income of Household n

However, for the calculation of the aggregate housing affordability index for all households in each of the study areas, the median housing expenditure and the median household income of households in that particular suburb are used in the calculations.

5.3.1.1 House Rent-to-income Ratio in Kumasi

The house rent-to-income ratio is the basic indicator used in measuring rental affordability when using the ratio approach. Under this section, the study measures affordability of rental housing in two phases: firstly, the relationship between households' monthly income and their monthly rent payments are measured; secondly, other monthly housing related expenditures like water, energy, etc. are calculated in addition to the rent payments in a month for all rental households, to define the rental housing affordability for Kumasi. Using the ratio method indicated above, the rental housing affordability for all households in the study areas who were recorded as renters was calculated using their monthly rent payments and income. Table 5.3 shows the nature of housing affordability in all the four study areas. The mean aggregate housing affordability (22.5%) of all the study areas as shown in Table 5.3, gives the perception that housing is affordable in all the study areas; at least per the monthly rent payments to income of households. For instance, all the study areas recorded a mean housing affordability index of less than the '30 percent rule of thumb standard', adopted for the study.

Table 5.3 Rental Housing Affordability of Households (*Rent Only*)

Study Zones	Study Areas	Affordability Index: % of Income spent on Rent Only									
		1-15%		16-30%		31-60%		61+ %		Total Freq.	Mean Hai (%)
		No.	%	No.	%	No.	%	No.	%		
Indigenous	Abrepo	9	53	8	47	-	-	-	-	17	17.5
High cost	Ahodwo	-	-	6	86	1	14	-	-	7	26.5
Gov't Estate	Chirapatre	9	38	6	25	6	25	3	12	24	25.5
Tenement	Yenyawso	4	44	3	34	2	22	-	-	9	21.5
Total		22	39	23	40	9	16	3	5	57	22.5

Source: Author's Field Survey, 2014

However, a more critical view of the zone-specific details presented in Table 5.3, contrast the impression offered by the mean values for all the study areas. The mean housing affordability recorded in the various study areas can be attributed to the nature and quality of housing in the areas. For example, even though prior discussions revealed that Abrepo recorded the least median household income in the study, it still has the lowest mean housing affordability index among the four areas, while Ahodwo regardless of the huge median incomes, and has the highest rent-to-income ratio. The very plausible explanation to this phenomenon is that, households with higher incomes tend to demand more quality housing. Thus, high income households tend to make higher monthly rent payments as compared to low income households. It can be inferred from the affordability analysis that; even at the level of 'rent payments to income', 21 percent of renter households fall within the unaffordability group. With the exception of renters in Abrepo, all the other study areas have households' within the rental housing unaffordability group even at this level. The study revealed that 7 percent, 37 percent and 22 percent of renters are within the housing unaffordability groups in Ahodwo, Chirapatre and Yennyawso respectively.

The second aspect of the analysis of rental housing affordability, measures the total housing expenditure to income of all households who are renters. In the second phase of the affordability measurement, the median housing-related expenditure to income of households is calculated for all study areas. In the context of this study, this measure is seen as the real reflection of the housing affordability situations of households in Kumasi. Here, just as adopted for the study, housing is viewed as not just the structure but together with the complementary utility services. Table 5.4 shows the housing affordability of 'renter' households in the study areas.

Table 5.4 Rental Housing Affordability of Households in Kumasi

Study Zones	Study Areas	Affordability Index: % of Income spent on Housing related Expenditure									
		1-15%		16- 30%		31-60%		61+ %		Total Freq.	Mean Hai (%)
		No.	%	No.	%	No.	%	No.	%		
Indigenous	Abrepo	-	-	9	53	6	35	2	12	17	34.3
High cost	Ahodwo	-	-	3	43	4	57	-	-	7	32.7
Gov't Estate	Chirapatre	6	25	6	25	9	38	3	12	24	37.9
Tenement	Yenyawso	-	-	5	56	4	44	-	-	9	31.0
Total		6	11	23	40	23	40	5	9	57	30.5

Source: Author's Field Survey, 2014

The housing affordability analysis on the proportion of monthly income households spend on housing-related expenditure revealed that housing is largely 'unaffordable' in Kumasi. Given that, the mean housing affordability index from the study is 30.5 percent; clearly, the problem of housing affordability is deepened at the level of payments for utility and

other basic services. Table 5.4 reveals that, housing becomes more unaffordable in Abrepo and Chirapatre than in Ahodwo regardless of the marked differences in the level of basic facilities and services in these two areas. Households who fall within the 'unaffordability' group have increased for all the four areas, as indicated in Figure 5.1.
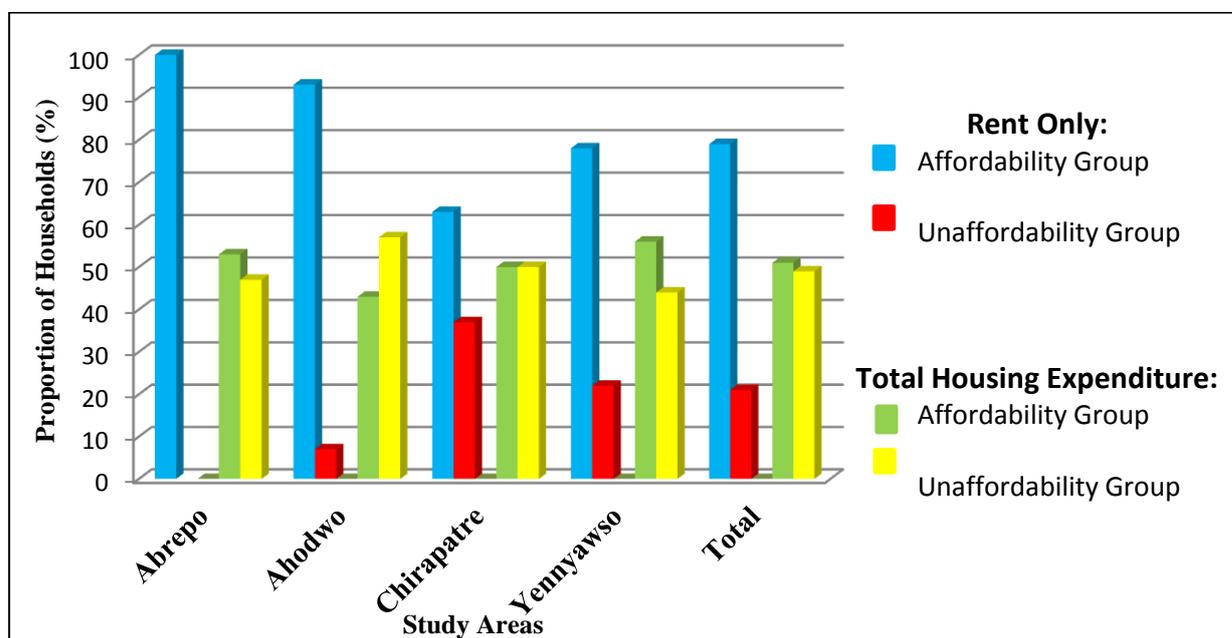
Figure 5.1 Proportions of Renter Households within the Affordability and Unaffordability Range in the Study Areas
Source: Author's Field Survey, 2014

Again, the results gathered from the second phase of the measurement of rental affordability in the study areas show that, households in low income areas in Kumasi turn to pay more for basic services and utilities than households in high income areas. By subtracting the median rents recorded from the various study areas from their median total housing expenditure, one can derive the additional payments made on housing after rents have been paid. It is worth noting that, in the first phase of measurement all renter households in Abrepo spent less than 30 percent of their income on rent. However, after the second phase of measurement 47 percent of renter households in Abrepo are now out of the affordability range. It can be argued that, the outcome of the rental affordability measurement for households in Kumasi is influenced by the escalating prices of housing in the metropolis and the constant increases in the prices of gas, electricity and water in the country, coupled with the generally low income levels of households. However, as suggested by Stone (2009), for some households, any form of housing will be affordable no matter how expensive, whereas for other households, no housing can be affordable, no matter the price it is being offered for. This is better demonstrated by the analysis of the housing burden on households based on income quintiles, shown in Table 5.5.

Table 5.5 Housing Affordability of Renter Households in Kumasi based on Income Quintile and Housing Expenditure Burdens

Category	1st Quintile	2nd Quintile	3rd Quintile	4th Quintile	5th Quintile
Median Monthly Household Income (GH₡)	₡ 186.36	₡ 340.00	₡ 527.27	₡ 830.00	₡ 2091.00
Median Monthly House Rent of Households (GH₡)	₡ 38.64	₡ 75.45	₡ 84.09	₡ 172.50	₡ 516.67
% of Household Monthly Income Spent on Rent only	21 %	22 %	16 %	21 %	25 %
Median Monthly Housing-Related Expenditure of Households (GH₡)	₡ 78.32	₡ 163.36	₡ 151.18	₡ 226.58	₡ 586.67
% of Monthly Income Spent on Housing-Related Expenditure	42 %	48 %	29 %	27 %	28 %

Source: Author's Field Survey, 2014

Table 5.5 depicts the rental housing affordability of households based on income quintile groups. This is to further explore the housing affordability burdens of renters within the different income groups in the Kumasi metropolis. Based on 'rent only' affordability measurement, the median household incomes and median rent payments by households indicate that all income groups fall within the housing affordability range (less than 30 percent). However, the second level of measurements shows that only the top three income quintile groups are within the affordability group. The bottom two groups fall within the housing unaffordability group.

Increasingly, the marked differences in the median income of the top three quintile groups and the bottom two income groups coupled with their different expenditures on housing, suggest that there is a marked inequality in housing affordability burdens in Kumasi. Again, the table gives one major revelation; the proportion of income devoted to additional housing expenditure makes the bottom two quintile groups worse off. This is more crucial, given that the households within these income groupings have poor infrastructure and services than the upper groups, as shown in section 4.6. Interestingly, the basic data from the survey allows for the inference that; comparatively, low income households in Kumasi pay more for poor infrastructure and services than what high income households' pay for better services.

5.3.1.2 House Price-to-income Ratio in Kumasi

The second measure under the ratio approach is the House Price-to-income Ratio. This basically measures the amount of median annual household income relative to the median price of a houses in Kumasi. The survey showed that homeowners in Kumasi acquired their houses in varied years and in varied circumstances. Thus, the data obtained from the survey at the household level, was adjusted using consumer price index and inflated to current year value (*See Appendix 8*). This was to make the figures comparable between the

four study areas. Based on this the housing affordability of current homeowners in Kumasi was calculated. Again, the homeownership affordability was calculated for potential homeowners (e.g. renters and free-occupants) in Kumasi.

In measuring homeownership affordability, the price of houses is very critical. In consequence, the study compiled a list of prices for fifty (50) houses in locations that reflect the four main housing sector areas which serve as the basis for the selection of study areas for this study. The list was obtained through the household surveys and interviews with some estate agents and agencies as well as two popular sales websites in Ghana (www.olx.com and www.tonaton.com). Based on this, the median prices of houses for the four distinct areas were derived for the affordability measurement. It is worthy to note that, with this approach, barring all it limitations and criticism, if nothing at all, it offers a prospective homeowner an opportunity to measure his or her strength (purchasing power or income) against his/her intended target (house). Here the ratio is calculated by dividing the median house price by the median household income.

Using the data compiled for the prices of housing in Kumasi, the median price of housing was computed for all the four study areas. This is shown in Table 5.6, where the affordability ratios of are calculated. Here the 'annual median incomes' (AMINC) for all the study areas are compared to the prevailing 'median prices of housing' (MPH). The outcome of the affordability measurement is further explained by the rating scheme in Table 5.7. The 10th Annual Demographia International Housing Affordability Survey uses a ratio point scale to rate the level of affordability and unaffordability of housing to current and prospective homeowners. Based on this rating scale, any housing affordability measure of 3.0 or below is considered to be within the affordable range, and anything above that, is considered unaffordable, as shown in Table 5.7.

Table 5.6 Home-ownership Affordability Using Annual Median Incomes of Households at Different Median Prices of Housing on Kumasi's Urban Housing Market

Study Areas	Abrepo	Ahodwo	Chirapatre	Yennyawso	Total
Annual Median Incomes in GH₵)	5,700.00	24,000.00	6,300.00	12,000.00	7,200.00
Median Price of Houses in GH₵	51,000	1,027,000	182,000	617,000	469,250
HC:Y Ratio (MPH/AMINC)	8.9	42.8	28.9	51.4	65.2
HC:Y Ratio (MPH/AMINC)					
At GH₵ 51,000 Median Price of Houses (MPH)	8.9	2.1	8.1	4.3	7.1
At GH₵ 182,000 Median Price of Houses (MPH)	31.9	7.6	28.9	15.2	25.3

Source: Author's Field Survey, 2014

Table 5.7 Housing Affordability Rating Scheme

Demographia International Housing Affordability Survey Housing Affordability Rating Categories	
Rating	Median Multiple
Severely Unaffordable	5.1 & Over
Seriously Unaffordable	4.1 to 5.0
Moderately Unaffordable	3.1 to 4.0
Affordable	3.0 & Under

Source: Cox and Pavletich, 2013

The House Price-to-income ratios calculated for various households in Kumasi clearly show the heights of homeownership unaffordability in the city. This further shows that, at prevailing incomes, housing is not even affordable for current homeowners in the four study areas in Kumasi. From Table 5.6, the Median Price of Houses on the Kumasi housing market, housing becomes unaffordable for all households in Kumasi. Given that the annual median household income of households is GH₵ 7200, it will take 65.2 years savings of all the annual household income of an average household in Kumasi to acquire a median priced housing unit at GH₵ 469,250. This becomes far worse when the '30 percent rule of thumb standard' of the annual income is used in the computation of the housing affordability index.

It is fair to infer that given the level of household incomes of the households in Kumasi, Homeownership is fast becoming unaffordable and unattainable for most households in the city. Equally, it can be argued that any affordable housing scheme which is within GH₵ 51,000 per unit cost is likely to be affordable to the various income groups in the city, since at that cost the affordability ratios of all study areas remains below 10 years (*See Table 5.6*). Findings from the study revealed that households in Kumasi averagely takes 5-13 years to start and complete a house. However, estimates on the prices of housing on the urban housing market in Kumasi revealed that the least median priced housing (MPH) on the market is GH₵ 121,600 (*See Appendix 8*). This is unaffordable for most households in Kumasi. These revelations deepen the relevance of boosting the rental housing sector in the city. Undoubtedly, some households will not be able to acquire their own housing in their lifetime.

5.3.1.3 Affordability of Mortgage Financing

In literature, many housing experts have advanced a keen argument that homeownership affordability becomes more plausible when mortgage facilities are available for urban households. According to Boamah (2010b), housing finance offer households the option of spreading the cost of housing over a reasonably period, so as to meet the huge housing cost obligations. The study attempts to measure the affordability of housing to various

households, by computing monthly mortgage payments of households based on their current income levels and the prevailing prices of houses in Kumasi. This is calculated using the data on median prices of houses from household survey and mortgage rate (interest rate = 23%) used by HFC Bank on its mortgage facilities as derived from the field survey. This is defined by the formula:
$$MPA_n = MPH \times 0.8 \times \left[\frac{\left(\frac{IR}{12}\right)}{\left(1 - \left(\frac{1}{\left(1 + \frac{IR}{12}\right)^{360}}\right)\right)} \right]$$ ----------

------------- (3)

Where MPA$_n$ connotes Monthly Payment Amount of House price n;
        MPH connotes the Median Price of Housing;
        IR connotes the Interest Rate or Mortgage Rate

According to Torluccio and Dorakh (2011), the monthly payment amount is assumed to cover the principal and interest payments for the mortgage. The Monthly Payment amount is measured on the median price of a house on the urban housing market and not the households' median income. The MPA is calculated to give potential homeowners an idea on how their income compares to the prevailing prices of housing. Table 5.8 shows the amount of money that is payable on a mortgage facility for the cost of houses in the various study areas. However, various households will still struggle to remain in the affordability range at such monthly mortgage payments given their current monthly median incomes.

Table 5.8 Monthly Payment Amount (MPA) at various Median Prices of Houses

Study Areas	Abrepo	Ahodwo	Chirapatre	Yenyawso	Total
Median Prices of Houses (GH₵)	51,000	1,027,000	182,000	617,000	469,000
Median Monthly Income (GH₵)	475.00	2000.00	525.00	1000.00	600.00
Monthly Payment Amount (GH₵)	782.80	15,764.30	2,793.70	9470.90	7202.90

Source: Author's Field Survey, 2014

As shown in Table 5.8, when you compare the Monthly Payment Amounts for the various median priced houses to the Median Monthly Income of households in the study, it reveals that at the monthly payments, the MPA becomes higher than the current median incomes of households in Kumasi. This shows that, at the current monthly incomes of households, mortgage facilities are still not affordable. But as argued earlier, housing finance through mortgages should be able to spread out the expenditure to housing in such a way that households will be able to pay for their housing over a period of time. Thus, the study attempted to determine at which annual income households will be able to meet the median prices of houses on the urban housing market.

Consequently, based on the MPA's calculated, the Qualifying Annual Income (QAINC) households must earn to be able to meet their monthly mortgage payments were computed by the formula:

$$QAINC = MPA \times 4 \times 12 \text{ ---------------- (4)}$$

Where QAINC means Qualifying Annual Income;
   MPA means Monthly Payment Amount;
   4 is a constant applied to achieve Monthly payments of 25% of Household Income

Table 5.9 Qualifying Annual Income to meet Monthly Payment Amount based on Median Prices of Houses

Median Annual Income of Households (GH₵)	Median Prices of Houses (MPH) (GH₵)	Monthly Payment Amount (MPA) (GH₵)	Qualifying Annual Income to Meet MPA (GH₵)
Abrepo: 5,700.00	51,000	782.80	37,574.40
Ahodwo: 24,000.00	1,027,000	15764.30	756,686.40
Chirapatre: 6,300.00	182,000	2793.70	134,097.60
Yenyawso: 12,000.00	617,000	9470.90	454,603.20
Total: 7,200.00	469,250	7202.90	345,739.20

Source: Author's Field Survey, 2014

The findings from the calculated QAINC reveal that the annual payments on mortgages at the calculated MPA will be 25 percent of the qualifying annual income. In reference to this, it is obvious that housing finance through mortgages is capable of making housing affordable at monthly payments one-fourth of households' income. Notwithstanding, as indicated in Table 5.9, the current annual household incomes are far from the qualifying annual incomes required to meet mortgage facilities at 23 percent interest rate. As a result, the study attempted to determine the housing affordability index at which household incomes can amount to the qualifying income, where households' monthly mortgage payment will be considered affordable (i.e. within 30 percent of monthly income of households). This is given by the formula:

$$HAI = \left[\frac{QAINC}{MAINC}\right] \text{ ----------------- (5)}$$

Where HAI connotes Housing Affordability Index (in ratio years);
      QAINC connotes Qualifying Annual Income;
      MAINC connotes Median Annual Income

Table 5.10 Homeownership Housing Affordability Index Using Annual Median Incomes of Households at Different Qualifying Annual Income to meet MPA

Study Areas	Abrepo	Ahodwo	Chirapatre	Yenyawso	Total
MAINC (GH₵)	5,700.00	24,000.00	6,300.00	12,000.00	7,200.00
QAINC (GH₵)	37,574.40	756,686.40	134,097.60	454,603.20	345,739.20
Housing Affordability Index: (in ratio years)	6.6	31.5	21.3	37.9	48.0

Source: Author's Field Survey, 2014

Table 5.10 shows the housing affordability ratios in years on the extent of households' mortgage payments needed to meet the median prices of housing available on Kumasi's urban housing market. Comparatively, while it will take an average household 65.2 years savings of its annual median income of GH₵ 7200 to pay for a median priced house at GH₵ 469,250 (*Refer to Table 5.6*). Findings from Table 5.10 suggest that, at that same annual income and cost of the house, the household will be able to pay GH₵ 345,739.20 out of GH₵ 469,250 in 48 years based on its monthly payment amount (*which is even at 25 percent of monthly income*) through mortgage financing. Based on the above findings, it is fair to conclude that; mortgage financing is a more adequate means of financing housing cost, especially for homeownership. Notwithstanding all the misgivings associated with the ratio approach to housing affordability measurement, it is essential to note that this approach easily tells how median household incomes measure up to the median prices of housing on the urban housing market.

5.3.2 Using the Residual Approach

Previous discussions in this study have revealed that the residual income concept came about as a result of the logical flaws in the ratio approach (Stone, 2006). The residual income approach measures the relationship between housing costs and a households' ability to meet its non-housing needs in order to sustain an acceptable standard of living (Gabriel et al., 2005). The poverty line method and the budget standard method have been preferred for the measurement of housing affordability using the residual approach. The poverty line identifies the level of income necessary to maintain a minimum standard of living while the budget standard determines that acceptable minimum standard of expenditure consistent with a modest budget (Gabriel et al, 2005).

The study measures housing affordability under the residual income approach by establishing a median amount that should be able to cover an average households' non-housing expenditure. Due to constraints on data from the national level about budget standards and established poverty lines, both at the national level and the city level; the study attempts to develop a budget standard to measure housing affordability in Kumasi by adjusting the non-housing expenditure data from the GLSS 5 survey to the current year using the prevailing consumer price index (CPI) at the time of the survey. However, the study first applies the residual income method using the median housing related expenditure and non-housing expenditure figures derived from the survey (*See Appendix 9 and 10*). The formula for computing the residual income is given by:

$$HINCAHEXP = \text{MEDHINC} - \text{MEDHHEXP} \text{----------------} (6)$$
$$RINCHAI = \text{HINCAHEXP} - \text{MEDHNONHEXP} \text{----------------} (7)$$

Where HINCAHEXP means Household Income after Housing Expenditure;

MEDHINC means Median Household Income;

MEDHHEXP means Median Household Housing Expenditure;

MEDHNONHEXP means Median Household Non-Housing Expenditure;

RINCHAI means Residual Income Housing Affordability Index.

5.3.2.1 Residual Income Approach - Using Survey Household Expenditure Data

As indicated earlier, the residual income approach attempts to determine the amount of income left for the household to meet its non-housing expenditure after housing related expenditure have been met. Under this section the measurement of affordability is computed using the data from the field survey conducted in Kumasi. Based on the median household monthly income, housing related expenditure and the non-housing related expenditure were held as the budget standard for the areas in the housing affordability measurement.

Table 5.11 indicates the residual income affordability index of households in the four study areas. Residual income index of zero (0) shows neutrality; that is the households' income is able to meet all of their expenditures. However, an index of above zero (positive) shows that housing is affordable, while an index below zero (negative) shows that housing is unaffordable. The extent of housing unaffordability is shown by how much more residual income households will require in order to meet their non-housing related expenditure.

Table 5.11 Residual Income Affordability Index – Using Survey Household Budget

Study Area	Median Household Income (GH₵)	Median Household Housing Exp. (GH₵)	Household Income After Housing Exp. (GH₵)	Median Household Non-Housing Exp. (GH₵)	Residual Income HAI (GH₵)
Abrepo	475.00	144.00	331.00	356.00	-25.00
Ahodwo	2000.00	620.00	1380.00	1357.00	23.00
Chirapatre	525.00	191.00	334.00	535.00	-201.00
Yennyawso	1000.00	313.00	687.00	770.00	-83.00
Total	600.00	232.00	368.00	515.00	-147.00

Source: Author's Field Survey, 2014

The findings from Table 5.11 indicate that apart from Ahodwo, all the suburbs are faced with housing unaffordability. The extent of shelter poverty in Chirapatre is extreme; given that after payments to housing, renter households will require an additional GH₵ 201.00 to be able to meet their monthly non-housing related expenditure. More importantly, Table 5.11 shows that an average renter household in Kumasi will require an additional GH₵ 147.00 to be able to meet it non-housing related monthly budget. These further confirm

how critical the problem of shelter induced poverty is in Kumasi. As indicated earlier in the previous chapter, the level of household incomes across different socio-economic groups is the major cause of the housing unaffordability in the city. Previous analysis in this study has revealed that, it is rather the unavailability of affordable housing supply for various socio-economic groups that has led up to these heights of housing unaffordability in Kumasi. The foregoing residual income measurements show two major things which have been re-echoed in the course of this study. Firstly, given the comparison between indices from different areas in the city, lower income households are paying more for housing than they get in return (i.e. in terms of housing quality). Secondly, given the high cost of housing in the city coupled with low income levels, households are faced with three major options; namely:

i. give-in on their non-housing expenditure (e.g. food, health, education, transportation etc.) to secure quality housing at very high cost;
ii. give-in on their housing related expenditure to live in sub-standard housing and meet their non-housing expenditure;
iii. decide on meeting both needs (i.e. housing related and non-housing related expenditure) half-way, only to end up meeting none of them.

Fundamentally, the scores of housing problems and housing induced poverty issues witnessed in the city are as a result of one of the decisions or the other. It is only a minute group who have the luxury of meeting their housing needs and non-housing related needs in the city.

5.3.2.2 Residual Income Approach – Using the Adjusted National Expenditure Data

The second measurement of residual income indices of households in Kumasi is based on the adjusted expenditure figures from the GLSS 5 report (Table 9.7). Using the Consumer Price Index at August closing (CPI = 130.7), the expenditure data from the nationwide survey conducted in 2008 is adjusted to establish a common household budget standard for all urban households. Based on this, the residual income indices are measured for income quintile groups in Kumasi. Using the selected consumer price index, the adjusted average monthly budget required by urban households to meet their non-housing related needs was determined to be GH₵ 358.88.

As shown in Table 5.12, the bottom two quintile income groups are faced with extreme shelter poverty. There is a vast difference in residual incomes of the bottom two, who are faced with shelter poverty and the top three quintile income groups who are within the affordability range. Even though the second quintile group has a lower median household income, it pays more for housing than the third quintile group. This observation affirms

the assertion that, comparatively, lower income households tend to pay more for poor housing than high income households pay for better housing in Kumasi. This is not only about lower levels of incomes of households, but also about the availability of decent housing.

Table 5.12 Residual Income Index – Using Adjusted Urban Household Budget

Category	Median Household Income (GH₵)	Median Household Housing Exp. (GH₵)	Household Income After Housing Exp. (GH₵)	Median Household Non-Housing Exp. (GH₵)	Residual Income HAI (GH₵)
1st Quintile	186.36	78.32	108.04	358.88	-250.84
2nd Quintile	340.00	163.36	176.64	358.88	-182.24
3rd Quintile	527.27	151.18	376.09	358.88	17.21
4th Quintile	830.00	226.58	603.42	358.88	244.54
5th Quintile	2091.00	586.67	1504.33	358.88	1145.45

Source: Author's Field Survey, 2014

The findings from Table 5.12 reveal that, about 40 percent of renter households in Kumasi will not be able to raise GH₵ 358.88 or even half of it, required to maintain an average non-housing budget in urban Ghana. These revelations tend to affirm the earlier claim that, given the nature of the prevailing urban housing market system, housing will be perpetually unaffordable to a recognisable portion of households in the city. In the light of this, one major observation emanating from this study is that; housing is unaffordable in Kumasi. However, the extent of housing affordability burdens on households is different across the selected study areas. Thus, the 30 percent rule of thumb does not offer an absolute measure of housing affordability of households in Kumasi, because at even 20-25 percent of household income, housing becomes unaffordable for most low income households while at even 35 percent of household income, housing remains affordable for high income households in Kumasi. Consequently, this offers two different measurement benchmarks for affordability measurement. Increasingly, given the tempo of urbanization in Ghana, this deepens the calls for alternative and innovative ideas about 'housing the urban population' in Ghana in the coming years.

5.4 Household Perceptions on Causes of Housing Unaffordability in Kumasi

As part of measuring the real housing affordability situation in the metropolis, the study attempted to explore the understanding of households about housing affordability. This was intended to draw-out field reactions on the issue of affordability from the perspective of the residents. The survey revealed that, 'affordable housing' is a common word among households in Kumasi. This is as result of the presence of the "Asokore-Mampong Affordable Housing Project" started under the NPP administration. Thus, household heads' awareness of this project gave them an understanding of the research subject under

study. Basically, the study sought to find out the major causes of housing unaffordability in Kumasi as revealed in the foregoing discussions; in terms of owner-occupier housing and rental housing.

5.4.1 Unaffordability of Owner-occupied Housing in Kumasi

In the area of owner-occupied housing, even at the time of the field work, households consistently maintained that, housing is not affordable. As indicated in Table 5.13, 81.9 percent of households attributed this situation to three primary causes: excessive prices of land in the city, excessive prices of building materials and the lack of initiative from government in ensuring housing affordability. These are reaffirmed in the revelations made by other discussions under this section. Indeed, households consistently argued that overall, government has not done much over the years to ensure housing affordability and this lack of initiative from government culminates in excessive price of land for housing development, increasing cost of building materials by day. Perhaps, whatever intervention from government in terms of housing delivery does not impact the individual private developer in any way. The housing affordability analyses suggest that provision of owner-occupied housing in Kumasi is largely unaffordable.

Table 5.13 Causes of Unaffordability of Owner-occupied Housing in Kumasi

Causes	No.	%	Rank
Excessive price of land	56	42.1	1
Excessive price of Building materials	35	26.3	2
Lack of initiative from government in ensuring affordable housing	18	13.5	3
Unavailability of affordable housing loan schemes	7	5.3	5
Absence of skilled labour	17	12.8	4
Total	133	100.0	-

Source: Author's Field Survey, 2014

5.4.2 Unaffordability of Rental Housing in Kumasi

Similarly, households viewed rental housing in Kumasi as not affordable. Again, in this instance as well, earlier discussions have revealed the extent of rental housing unaffordability in Kumasi. However, households in Kumasi attributed the problem of high rent levels to the following reasons: the demand for housing is way above supply, excessive prices and poor access to land by developers and poor implementation of rent control regulations. Households view these as the major causes of high rent levels in the rental housing sector in Kumasi, as seen in Table 5.14. The perennial problem of housing deficit remains a big issue in the urban housing discourses in Ghana. Thus, it is no surprise that demand for housing far outstrips the available supply, making those who have access to land and housing exploit the situation.

Table 5.14 Causes of High Rent Levels in Kumasi

Causes of	No.	%	Rank
The demand for housing is way above supply	38	33.5	1
Poor implementation of rent control regulations	21	17.0	3
The quality of the housing (in terms of facilities)	16	14.0	5
The nature of building materials used in construction	18	16.0	4
Excessive prices and poor access to land by developers	23	19.5	2
Total	116	100.0	

Source: Author's Field Survey, 2014

Also the claim about poor implementation of rent control regulations stems from the problem of exploitation by some landlords. This is revealed in the demands for payment of rent from renters across Kumasi by landlords or homeowners, as shown in Table 15.5. Payments and demands for 'advance' have naturally part of the urban housing market in Kumasi. According to the Rent Control Act 220 1963, it is stipulated that landlords cannot demand more than six (6) months rents from tenants. However, Table 5.15 indicates that this has been widely breached by various landlords in the city.

Table 5.15 Demand for Rent Payments by Landlords (home-owners) in Kumasi

Duration for Payment of Rent	No.	%
Monthly Payments	22	38.6
Advanced Payments of up to 6months	12	21.1
Advanced Payments of more than 6months to less than 1year	5	8.7
Advanced Payments of 1year to 5 years	15	26.3
Advance Payments of more than 5 years	3	5.3
Total	57	100.0

Source: Author's Field Survey, 2014

It can be seen from Table 5.15 that, 40.3 percent of renter households in Kumasi are being exploited. It has been established that rental housing is not affordable in the city (comparing monthly income to monthly housing expenditure). Hence, if even at this level housing is unaffordable, then it can be concluded that, advance payments in rental home financing, further exacerbate the whole problem of affordability. This situation further makes housing unaffordable for households. Surprisingly, about 5.3 percent of households in the study pay as much as more than 5years advance rent. Most households succumb to these exploitative tendencies from home-owners simply because there are limited alternatives for renter households to choose from. These points to the poor implementation of rent control regulations in Kumasi. Increasingly, since government adopted a new role as the 'facilitator' in housing delivery, there is virtually a neglect of the very structures that can enhance housing delivery. More importantly, the presence of government at the local level in housing delivery is hardly seen or heard. This is very crucial to housing delivery in Kumasi as well.

5.5 Exploring the 'Control Framework' for Affordable Housing Delivery

In the discussions in Chapter Two, it was established that, the housing delivery systems in every country is driven by a set of regulatory, legal and institutional frameworks; which are altogether labelled in this study as the 'Control Framework' for housing delivery. Collier and Venables (2013) strongly argue that, housing interventions and investments across Africa has been directly and indirectly affected by public policies over the years. Likewise, the outcomes of these regulatory, legal and institutional frameworks in Ghana have enormous impact in the delivery of affordable housing. In the light of this, the study under this section attempts to explore the 'control framework' that exists for affordable housing delivery in Kumasi.

5.5.1 Existing Control Framework for Housing Delivery in Ghana

The institutional surveys conducted under this study rather reveal exceptional strides in this direction at the national level. In Ghana, there are several institutions and legal frameworks that are essential requirements for any housing delivery system (see MWRWH, 2014; UN-Habitat, 2011c). However, it can be inferred from the interactions in the institutional surveys that, the effectiveness of these institutions in housing delivery remains at the national level. Interestingly, there exist over twenty-five (25) legal and regulatory instruments related to housing delivery in Ghana. These instruments are set along the lines of: "Land Ownership, Land Management, Land Use Planning, Development Control, Capital Gains, Property Rights/ Inheritance, Promotion of Residential/ Real Estate Development, and Construction" (see UN-Habitat, 2011c; MWRWH, 2014). Aside these legal and regulatory instruments it is worth noting that, there are several in their draft stages.

The Draft National Housing Policy (MWRWH, 2014:21) reveals that, "in spite of these multiple laws regulating the housing sector, their implementation has not yielded the requisite responses and results in improving housing conditions in the country". This confirms the poor implementation of regulations alluded as one of the primary causes of rental housing unaffordability. Again, this goes to refute the claim that there is lack of initiative from government in the area of housing delivery. Rather, the initiative from government can be tagged as unresponsive to the needs and requirements of the housing industry. In the area of policy, the National Housing Policy is at its final drafting stage and virtually the roadmap for housing delivery in Ghana. The Housing Policy Goals and Objectives present an all-inclusive approach to solving the housing delivery problems of

the country. The crucial role of government in the National Policy is to serve as a 'Facilitator' in housing delivery. "The Government of Ghana envisions a country in which everyone is able to access safe, secure, decent and affordable housing either owned or rented" (MWRWH, 2014:11). In the context of Housing Affordability, the national policy defines it as:

> "The ability of a household to spend up to thirty percent of its gross annual income on the rent or purchase price of housing where the rent or purchase price includes applicable taxes and insurances and utilities. When the annual carrying costs of a home exceed 30–35% of household income, then it is considered unaffordable for that household" (MWRWH, 2014:VI).

As mentioned earlier, the new policy comes to play in the midst of the existing control frameworks which have failed to yield the needed outcomes for the housing sector. For instance, given that about 90 percent of housing delivery comes under the informal housing sector, how does the informal sector fit within the array of formal institutional, legal and regulatory arrangements which are non-existent in the informal housing sector. These are fundamental issues that demands careful probe.

5.5.2 The 'Control Framework' Operational in Kumasi (at the local government level)

Essentially, it is expected that the national level legal, regulatory and institutional framework should naturally connect with the local government level, and be more functional at this level. Thus, this section attempted to explain in part, how some of these institutions operate in Kumasi. The Local Government Act, 1993 (Act 462), which establishes the Local Governments in Ghana, assigns it the responsibility of planning and implementation of all development projects within its jurisdiction. The Act makes the MMDAs the primary unit of development in Ghana. Notwithstanding, this responsibility of ensuring 'development' seems not to include 'housing'. The institutional survey conducted at the KMA revealed that there is no Housing Unit or department in the metropolis, and even basic data on the current housing situation in Kumasi is virtually non-existent. The current state of housing delivery in Ghana, where plans and interventions hangs at the national level, leaves much to be desired. It is crippling the possible outcomes expected from the existing control framework.

For instance, the Rent Act 220, 1963, which establishes the Rent Control department, gives it the responsibility to monitor and ensure sanity in the rental housing sector. However, findings from the field survey indicate that households are paying up to 5 years advance rent or even more. In an interview with a Rent Officer (Rent Control Department - Kumasi) on the outfit's position on rental housing affordability in the city, he noted that: "we make sure that correct rents are paid by tenants, by issuing certificate of rent paid to

regulate the advance to be paid, especially educating the public to desist from taking more than six months' rent in advance. There is usually no problem with monthly rates but the rent paid in advance that affects the affordability, is the problem". The Rent Officer noted that: "many landlords ignore the rent office and Rent Act by pricing their own rent. The monthly rate should be reasonable and the advance should not be more than necessary, as stipulated in Section 25 (5) of the Rent Act, 1963". That portion of the Rent Act, leaves the explanation of what is deemed reasonable and necessary to the discretion of the landlord. Rental housing is crucial to solving the massive housing deficit situation in the city. It is more problematic for the government to leave it in the hands of the private developer, if it intends to promote rental housing affordability.

5.5.3 Challenges with the 'Control Framework' for Affordable Housing Delivery

Fundamentally, the biggest challenge for the operationalization of the legal, regulatory and institutional framework for ensuring housing affordability is the poor implementation of the set frameworks. The forgoing discussions have clearly shown that regardless of the numerous legislative instruments and institutions established to guide housing development, there remains serious problems. Perhaps, due to the absence of a central housing department at the local government level to coordinate and leverage the efforts of the national level interventions and policies, and the local institutions who are stakeholders in the housing delivery process. The largely informal nature of housing development in Ghana contributes to the poor implementation of the existing frameworks. There is a huge gap in bringing what exists and operates in the informal sector under formal control and institutions. How do we expect an informal housing development to respond to formal rent control laws. Collier and Venables (2013) point out that, if informality were efficient then urban residents would have been adequately housed. Clearly, informality does not also provide the answers to housing affordability.

5.6 Summary of Chapter

This chapter focused on measuring housing affordability in Kumasi using the ratio and residual income methods. The chapter discussed the significance of each of the housing components (i.e. Land, Building Materials, Finance, Infrastructure and Labour) on the overall cost of housing. The Likert scale analysis revealed that cost of Land, Building materials and Finance account for the largest share of the overall housing cost in that order. These can in part be held as the underlying causes of the housing affordability problems in Kumasi. The assessment of the housing affordability in Kumasi revealed

scores of 'housing unaffordability' in Kumasi, which has led to severe shelter poverty. The rental housing affordability measurements revealed that about 49 percent of renter households in Kumasi are within the 'unaffordability group', using the '30 percent rule of thumb standard'. Again, the residual income index revealed that an average renter household in Kumasi will require an additional GH₵ 147.00 to be able to meet its monthly non-housing related expenditure.

These further confirm the problem of shelter induced poverty in Kumasi. Comparing the median annual incomes of households in Kumasi to the prevailing cost of a median-priced house on the urban housing market shows worse unaffordability situations. The study revealed that, given the annual median household income of GH₵ 7,200, it will take 21 years savings of all the annual household income of an average household in Kumasi to acquire a median priced housing at GH₵ 150,000 in Kumasi. In addition, the study showed that there is a widespread households' perception that, housing is not affordable in Kumasi. The housing affordability measurements show serious concerns requiring enormous attention from all sections of the housing sector. The next chapter is devoted to making recommendations on how to improve affordable housing delivery in Kumasi. It discusses strategies that tentatively respond to each of the problems raised in the preceding sections of this study.

CHAPTER SIX
SUMMARY OF KEY FINDINGS, RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

This chapter presents a summary of the key findings as gathered from the field survey and based on the analyses of the 'Housing Affordability' situation in Kumasi; presented in the last two chapters. The overarching argument in this study has remained that; housing delivery should essentially be a fit between what the available housing market can offer and what the residents can afford. Thus, particular attention was on the current housing situation in Kumasi, with a keen interest in assessing the '*affordability*' of housing offered by the existing housing market. This chapter provides a summary of the key findings made from the study. Based on these findings, recommendations that are aimed at informing urban housing polices and strategies, and toward resolving the problems identified from the study have been made. It discusses recommended approaches that can be adopted to integrate housing needs of the various socio-economic groupings into the housing delivery framework of cities and in planning for housing delivery in Ghanaian towns and cities. The chapter also presents suggestions for further studies and a conclusion on the entire study.

6.2 Summary of Key Findings

In the light of the preceding analysis, the objectives of the study that formed the foundation for this research are revisited. The major findings are therefore summarized under the objectives set for the study. Primarily, this study sought to develop an operational definition of *"affordability"*, based on the current housing situations of urban residents in Kumasi and how this can enhance housing delivery in the city. Thus, the major findings are therefore summarized under the following objectives:

  i. To identify the nature of (affordable) housing supply to various socio-economic groups in Kumasi.
 ii. To examine the factors that affect housing cost and their effects on housing delivery in Kumasi.
iii. To examine the nature and extent of the housing affordability situation in Kumasi.

   The ensuing sections show how the objectives of the study were achieved.

6.2.1 The Nature of Housing Supply to various Socio-economic Groups in Kumasi

 i. Available Housing in Kumasi –

The study revealed that detached houses and compound houses are the most predominant house types with proportions of 32.9 percent and 26.4 percent respectively. The study also revealed that, more households are breaking away from the extended family system into nuclear households (73.7 percent). As a result, there is a shift away from compound houses. The study showed that, in the last two decades (i.e. 1994-2014); compound houses, detached houses and semi-detached houses account for 3.1 percent, 34.4 percent and 40.6 percent respectively of the houses built within this period. The study also showed that there is an inclination to rental housing in Kumasi, and that more than a third of households in Kumasi are renters (36.8 percent). The study revealed that more than half (50.3 percent) of the households occupy only one or two rooms. Given that the average household size recorded was 5.0, majority of the households in Kumasi are living in overcrowded housing conditions. This shows that there is limited supply of affordable housing to various socioeconomic groups in Kumasi.

ii. Housing Facilities and Services in Kumasi –
The study revealed that most households in the study have Pipe-borne water as their many source of water for domestic use. Again, the study revealed that there is electricity power supply in all the study suburbs and all the sampled households were connected to the power grid. However, on the availability and accessibility of basic services and facilities to households; the different level of services is shown clearly across the different study areas especially with regards to sanitation. Also, findings from the study indicates that there is a marked accessibility gap in relation to certain basic facilities depending on the area in focus (e.g. level of facilities between Ahodwo and Abrepo areas).

iii. The Structure of Housing Provision in Kumasi –
Findings from the survey reveal that apart from the sample from Chirapatre (a government built estate), all the houses from the survey are from the private sector. Although the Private sector holds a majority share of the sampled houses in the study; 97 percent of the houses produced in the Private sector are by the efforts of individual home owners who largely constitute the informal housing sector. The study also revealed that issues related to "access" to land and finance are among the factors that inhibits housing supply in Kumasi. This situation has severe implications for housing supply in the city. Again the study reveal that the average number of years used by home owners in the different study areas for their housing construction ranges between 5 – 13 years with some households using as high as over 25 years to complete the construction of their houses. This is mainly

attributed to the low capital accumulation of prospective homeowners, as a result of low household incomes.

The study showed that 72.7 percent of homeowners in the study areas obtain their sources of finance for housing development from personal savings. Even though mortgage financing has been touted as an appropriate housing financing tool, as a result of its ability to spread the cost of housing over a number of years; the study revealed that only 3.6 percent of homeowners in the study obtain their sources of finance from bank loans and mortgage packages. The state of Kumasi's housing market remains on a more rudimentary stage. There is a strong housing market in Kumasi that is largely fuelled by individual developers. Household income is central to the nature of housing market in Kumasi. The study reveals that the housing market in Kumasi operates in three major thresholds; the high income sector (Ahodwo), the middle income sector (Yenyawso) and the low income sector (Abrepo).

6.2.2 Factors that Affect Housing Cost and their Effects on Housing Delivery in Kumasi
i. Significance of Housing Components on Housing Cost –
The study employed a five point rating scale to measure the significance of each housing cost component to the overall cost of housing in Kumasi. The Likert scale measurement showed that, the most significant cost component in housing is *Land; Building materials; and Finance* respectively. This presents two major concerns on the housing affordability discourse. Firstly, the perennial supply of poor housing quality due to households or individual developers investing the least in the other housing components such as: infrastructure and labour. Particularly, this also signals an over-dependence on expensive foreign building materials, as well as wastage in the use of land. Given that, 91 percent of households in the study lived in single-storey houses. This does not ensure sustainable and economic use of space. These can in part be held as the underlying causes of the housing affordability problems in Kumasi.

ii. Additional Factors Influencing Housing Cost –
Additionally, the study revealed the substantial impacts of factors such as the Inflation Rate, the Exchange Rate and the Consumer Price Index on the increasing cost of housing. By the closing of August, 2014, the inflation rate which had risen to 15.9; a record high in the last four years. Interestingly, GSS (2014) indicated that, the increases in the inflation rate in the review period was because, year-on-year cost of housing and utilities jumped to 61.7% in August, 2014. Housing and utility remained the leading drivers of inflation in the country throughout the survey period (Jan, 2014 – Aug, 2014). It can be seen that, these

domestic economic indicators are equally relevant variables that drive the cost of housing in Kumasi.

6.2.3 The Nature and Extent of the Housing Affordability Situation in Kumasi

i. Rental Housing Affordability Situation in Kumasi –

Using the ratio method, the rental housing affordability for all renter households in the study areas was calculated; first, by using amount paid as rent only and secondly, using the total housing related payments. At 'rent only', the aggregate rental housing affordability for Kumasi was 22.5 percent; this is less than the 30 percent 'rule of thumb standard' adopted for the study. The analysis revealed that, at the level of 'rent payments-to-income', only 21 percent of renter households in Kumasi fall within the unaffordability range. Further analysis showed that, 7 percent, 22 percent and 37 percent of renter households in Ahodwo, Yennyawso and Chirapatre fall within the unaffordability group.

However, at the second phase of the measurement which combines all housing related payments of the households, the aggregate rental housing affordability index comes up to 30.5 percent. The problem of housing affordability is deepened at the level of payments for utility and other basic services. The proportions of households who fall within the 'unaffordability' group increased for all the four study areas at this level. For instance, in Abrepo-Kese, no renter household fell within the housing unaffordability range at the level of 'rent only'; however, at the second stage, housing becomes unaffordable for 47 percent of the renter households in Abrepo-kese.

Additionally, the outcomes of the residual income approach measurement of rental housing affordability showed extreme levels of housing unaffordability in Kumasi. This approach measures the amount of household income that is left to be expended on non-housing related expenditure items of renter households after housing related payments has been deducted. The findings indicate that apart from Ahodwo, all the suburbs are faced with housing unaffordability. In that, the residual income left to be spent on other necessary non-housing related items, is very low leading to deficits. For instance, an average renter household in Kumasi will require an additional GH₵ 147.00 to be able to meet it non-housing related monthly budget after paying for it monthly housing expenditure. This points to the extent of shelter induced poverty in Kumasi.

ii. Homeownership Housing Affordability Situation in Kumasi –

The House Price-to-income ratios calculated for various households in Kumasi clearly show that homeownership is not unaffordable in the city. The study revealed that at the

prevailing incomes of households, homeownership is unaffordable at the current median prices of housing. The study revealed that a household with an annual median income of GH₵ 7200, will have to save 65.2 years of all its annual household income to be able to acquire a median priced housing unit at GH₵ 469,250. This shows that, homeownership is fast becoming unaffordable and unattainable for most households in the city. Further analysis revealed that any affordable housing scheme which is within GH₵ 51,000 per unit cost is likely to be affordable to the various income groups in the city, since at that cost the affordability ratios of all study areas remains below 10 years. Thus, households through incremental payments can pay for a house priced at GH₵ 51,000 in less than 10 years. However, estimates on the prices of houses on the current housing market in Kumasi revealed that the least median priced housing (MPH) on the market is GH₵ 121,600.

Consequently, the study also explored the potential of mortgage financing to make homeownership affordable to residents of Kumasi. The study revealed that the computed month payment amounts required to meet the cost of the prevailing median prices of houses in the various study areas is even higher than the median incomes of households in Kumasi. Clearly, household incomes are extreme low in Kumasi. Notwithstanding, the study revealed that through mortgaging financing, household can pay for housing within a shorter period and still remain in the affordability range. For instance, an average household with annual median income of GH₵ 7200 will take 65.2 years savings of its household income to pay for a median priced house at GH₵ 469,250. However, through mortgage financing the household will be able to pay GH₵ 345,739.20 out of GH₵ 469,250 in 48 years based on its monthly payment amount (*which is even at 25 percent of monthly income*).

6.3 Recommendations

The situational analysis of Kumasi's housing environment and the measurement of the housing affordability of Households in Kumasi as depicted in the analysis in Chapter 4 and 5, give clear indication of the housing affordability and unaffordability situations in Kumasi. Based on the findings emanating from the study, a number of recommendations have been made as a response to the housing affordability problems of the city. Also, the recommendations proposed by the study, essentially looks at tackling the housing affordability crisis by way of improving housing delivery in the city. Thus, these strategies are recommended bearing in mind the need to create a fit between what the urban housing market can offer and what the households can afford at their current incomes. Probably in

the long term, we may be able to reduce the huge mismatch between housing need and supply, and affordability substantially.

6.3.1 Re-enacting an effective response to the supply deficient housing market

i. Employing effective subsidy strategies with more priority on supply-side subsidies

There have been several attempts at resolving the huge housing deficit conundrum of the country, especially in urban centres, yet to no avail. There is an increasing evidence of unavailability of affordable housing supply for various socio-economic groups in Kumasi. This necessitate the need to employ effective subsidy strategies with more priority on supply-side subsidies towards improving housing delivery in the city. Thus, such incentives should possess the capacity to stimulate housing supply for low-to-moderate income groups who usually fall off the affordability range. Tax reliefs, subsidies and incentives should be given by the government to housing associations and companies willing to provide housing for low and middle income households, this can operate very well under an organized housing delivery system with effective checks and structures. Given the focus of GREDA (*commercial orientation and inclination to high-cost housing*), it will be difficult to make this operational under their umbrella.

ii. Effective Public-Private Partnership arrangements

Over the last two decades, government has advanced an entrenched position as being a "facilitator" in housing delivery. However, over two decades of this 'facilitating role' has not yielded much for the country. In order to stimulate private sector provision of housing for low income groups, the government should initiate some proactive supportive mechanisms for the private sector. Again, such support for the private sector should centre on aiding them to provide housing for the low and middle income households. This can be in the form of land supply support systems, participatory site and services support packages. Land is the top-ranked housing component that takes the highest share of the overall housing cost. Thus, through PPP arrangements the government can offer the pockets of state lands available in the city to the private sector for the construction of housing for the middle income, while negotiating on the payments and letting of the units. Government can also encourage the formation of housing cooperatives and offer a participatory site and services arrangements to support housing delivery in the city.

iii. The need for a more radical pursuance of affordable rental housing delivery alternatives

Most households cannot afford to build their own houses in their lifetime. Consequently, rental housing is an effective option for housing majority of urban households. Evidences

have shown that the formal market is interested in providing housing for the high-income groups, however through some of the incentive arrangements discussed already, the government can make it mandatory that; for every quantity *'X'* of houses constructed by these firms, a certain *'Y'* proportion should be solely for middle income rental. These alternative modules should be revisited to increase affordable rental housing delivery. In the short term, there is the need to restructure the Rent Control Department and bring on board all homeowners in the metropolis to discuss effective and responsive operational arrangements for rental housing. However, in the long term there should be a conscious design of a 'Rental Housing Scheme' which brings on board, some of the supportive mechanisms discussed earlier – to attract private sector investment in rental housing for low and middle income household.

6.3.2 Improving housing quality in response to housing deprivations

i.   *Prioritizing urban upgrading and regeneration for housing sector improvements*
The situational analysis of Kumasi's housing environment indicates extensive housing deprivations in the city, giving rise to housing poverty concentrations. There is the need to prioritize urban upgrading and regeneration as a major housing intervention in the City. This should be participatory and limited to basic facilities and services improvement, environmental sanitation and recovery of waste land for future low income housing development. Again, through this there is the need to give special support packages (renovation and providing basic facilities) towards retaining and enhancing multi-family housing in the indigenous areas of the city. There is a shift away from multi-family housing to single-household housing; this does not ensure effective utilization of land. Through urban regeneration, abandoned and rundown structures can be demolished and redeveloped into multi-storey multi-family housing units by local assemblies.

ii.   *Appropriate use and implementation of zoning, building regulations, permitting e.t.c*
Development control should offer an efficient way of managing and monitoring residential development in the City. There is the need to device strategies by which planning and development control mechanisms could be used to secure and make land available for affordable housing. It is essential to make the planning system efficient, because it impacts on both the supply and demand sides of the urban housing market. Through height zoning, different density zones can be implemented to retain land for housing development in the city. Again, there is the need to revise the national building codes and regulations which places massive restrictions and burdens on developers. Evidences show that, aside the cumbersome processes of permitting, households cannot meet-up with all the requirements

for permit acquisition. The adoption of such standards and codes that are entirely foreign, also accounts for the high preference for foreign building materials. The outcomes are that housing becomes expensive and unaffordable, yet deficient of demand.

iii. *Appropriate legal/regulatory/institutional framework responsive to urban housing needs*

The current nature of housing problems in Kumasi require appropriate legal and institutional frameworks that can readily respond to the housing needs of urban residents in Kumasi. Some renter households pay up to 5 years advance rent while the current law indicates maximum 6 months advance rent. The Rent Control Department is mandated to register all homeowners offering their houses for renting and agree on reasonable price levels that can be charged prospective renters, yet all these are not operational in Kumasi. Thus, various landlords charge exorbitant rents and demand for advance rent, usually 2 years or more. The government has lost absolute control of it adopted role of 'creating the enabling environment' for housing delivery. The housing environment in Kumasi is not favourable to the low and middle income households. For instance the parent institution at the city level (KMA) has no recognized role in housing delivery in the city. Findings from study revealed there over 30 legal and regulatory instruments available for housing development, these need to be effectively implemented or revised.

6.3.3 Encouraging an urban housing market that is all inclusive

i. *Government as a partner and a participator*

As stated earlier, government's role in housing delivery has been limited to a facilitator. Indeed the private sector has been encouraged to take centre stage in housing provision in Ghana. Over the years this liberalist policy shift has seen the formation of Estate Companies whose interest is to provide housing for the very high income few who can pay for their products. The typical evidence is the emergence of gated communities in Ghanaian cities. Much impact has not been seen in the direction of low income housing supply. Since this policy shift the government has cut off any active participation in direct housing to playing the role of a facilitator, and the problems of housing affordability have heightened. In corollary, government must assume a role as a partner and a participator in housing delivery. Now is the time to recognize that *'the market does not work for all'* and increasing the market fails to offer a range of affordable housing options for low income households. Again, the current face of housing, which is be riddled with huge deficit problems require active participation from all fronts in order to resolve the situation.

ii. Revisiting alternative financing modules that are tailored to need specific

Households are unable to accumulate wealth from their low incomes to be able to start and finish a housing project in a short period, thus take long years to complete a house. Aside encouraging this incremental housing development, mortgage modules can be designed to offer households the opportunity of spreading the cost of housing over a number of years. The government must encourage the various commercial banks to revisit the mortgage financing modules that existed for housing. It must be noted that mortgage packages cannot be for all groups of households, the focused should be on middle-to-high income households who are employed under formal sector and ensured of a consistent source of income, which is perquisites for mortgage financing schemes. On the other, we can adapt traditional micro-finance schemes to finance housing for the majority of low and middle income households who cannot access formal housing finance modules. This can be made operational through the informal cooperative associations.

iii.   Reconsidering social housing interventions for the "worst affordability burden groups

The housing affordability analysis revealed extreme shelter induced poverty on the bottom quintile income groups in Kumasi. Some households cannot afford to own a house in their lifetime; likewise some households cannot afford to pay for the minimum adequate housing available on the urban housing market in Kumasi without support. Increasingly, this has generated calls for welfare housing schemes to absorb such groups. There is the need to reconsider social housing alternatives for the worst affordability burden groups in the city. Various land remediation strategies have been outlined in the foregoing discussions, and these can make available cheap public lands for such welfare housing schemes. Again, the structures should target substantial dependence on local building materials, and mobilize local skills and labour for the construction. The focus is to provide temporary non-profit welfare support system for the most vulnerable in society.

6.3.4 The need for group-specific housing strategies with socio-economic relevance

i.   Localization of housing programmes and strategies

The housing affordability analysis showed different instances of shelter poverty problems in four study areas. Fundamentally, housing is first a local problem before it becomes a regional problem. The aggregate housing affordability problems across the suburbs in Kumasi culminate into the housing affordability situation in Kumasi. The current housing interventions assumes a national level approach which does not offer efficient outcomes for improving housing delivery. For instance the KMA has no direct role in housing delivery in Kumasi aside issuing development permits. This limits the prospects for

housing delivery to impact the socio-economic development of towns and cities in Ghana. Housing programmes and strategies should at best be localized at least at the level of MMDAs. Consequently, Department of Housing should be established in all MMDAs to coordinate housing programmes and take lead role in coordinating all the existing legal, regulatory and institutional frameworks that exist for housing development.

ii. Linking housing policy to other related policies

The multi-dimensional traits of housing cannot be overemphasized, and increasing it inter-linkages with several related aspects of our lives is revealed extensively in literature. Consequently, this necessitate linking housing policy to other related policies such as: population policies (youth, aged, gender); macroeconomic (fiscal) policies; urban development policies; employment and labour policies (wage); and growth and poverty reduction policies. There is the need to understand the relationship between wage policies and housing affordability, how population growth and poverty reduction strategies can impact the set of housing interventions proposed to resolve housing affordability and deficit problems.

iii. Integrating formal processes and informal practices for improved housing delivery

The study identifies with the massive divergence between formal processes and informal practices in housing delivery in Kumasi. One major conclusion drawn from this structure is that, the state through formal processes is able to offer high quality housing, whereas the private sector through it informal practices is able of offer housing in higher quantities. Given that the private sector currently offers 90 percent of the housing stock in the city, there is the need to integrate the formal process and informal practices to make it responsive to the current urban housing needs of the city. In doing this, we must choose to meet necessity rather than luxury and standards (which are entirely foreign). The arguments are that the formal sector involves several processes, requirements, standards and regulations that are restrictive and difficult to meet, while the informal sector is open to and offer enough options for various socio-economic groups. Going forward, there is the need to establish the minimum standards that offers the least adequate housing, and readily reflects the realities in urban housing markets and responsive to housing affordability and deficit challenges.

6.4 Suggestions for Further Studies

As mentioned earlier, housing have several multi-dimensional linkages with various aspects of our lives. Consequently, it associations with several other elements gives it a complex character and thus requires a thorough understanding of all it aspects. Likewise,

housing affordability assumes such complex characteristics which makes it precise definition remain elusive. The study on Kumasi presents an extensive understanding of this phenomenon in the context of Ghanaian cities. Following this, the study suggest the following relevant areas for further studies in order to enhance our ability to deal with housing delivery challenges in the City and Ghanaian cities at large.

i.   There is the need to research into the local potentials that exist for effective housing supply in Ghana. This will help identify the prospects and challenges of the existing housing delivery system and enable us to resolve the supply deficient system in Ghana.

ii. There is also the need to evaluate the existing 'control framework' for housing delivery in Ghana. This involves the evaluation of how the existing legal, regulatory and institutional frameworks (which operates through policies, strategies, instruments and actions) for housing is responsive to our current housing development needs.

iii. Again, there is the need to explore the feasibility of high rise residential developments as an appropriate solution to urban housing supply. Perhaps, utilizing the vertical space through high rise residential development may be an appropriate cost-cutting tool and equally respond to housing supply.

6.4 Conclusion

Increasingly, various economies especially in the developing world are unable to meet their shelter requirements, creating huge deficit problems. Central to this housing deficit conundrum in cities, is the inability of cities to create housing delivery systems that allows for housing supply to meet the massive housing demand, in the wake of rapid urbanization. Essentially, a type of housing supply that offers desirable options to the incessant socio-economic mix features in urban areas – current housing delivery systems do not offer this. Undoubtedly, housing has become unaffordable in most urban areas. Kumasi is similarly faced with all the major challenges mentioned above; with the current spate of urbanization in the city, adequate housing is increasing becoming unaffordable and perhaps unattainable for majority of households in the city. This necessitated calls on the urgent need to arrest the housing affordability situation in the city. Tackling housing affordability is a gain and a necessity for continued economic growth of cities. In the light of this, the study set out to interrogate the nature and extent of housing affordability in Kumasi.

The findings from the study revealed that housing is not affordable in Kumasi, partly as a result of the generally low incomes of households in the city. However, further analysis reveal that the extent of housing unaffordability is different across the various socio-economic groupings in the city. The study showed that various households are facing different levels of housing induced poverty as a result of the housing affordability burdens on them. Findings suggest that rental housing is unaffordable as a result of the high cost involved in the payments of basic facilities and services, especially in low income areas. However, further analysis revealed that comparatively, the proportion of expenditure on basic facilities and services in low income areas is higher than high income areas regardless of the vast difference in the quality of services in the two areas. This suggest that households are in low income areas are paying high for inefficiencies. The study revealed that, given the prevailing household incomes, homeownership is unaffordable and unattainable for most households in Kumasi. Consequently, some households will not be able to acquire their own house in their lifetime.

Basically, the on-going housing developments in the city and its potential to propel development in the metropolis is undermined and remains unplanned for at the local level (city level). The current posture of housing delivery in Ghana, where plans and interventions hangs at the national level, leaves much to be desired. Evidently, providing solutions to housing affordability and housing delivery challenges is a daunting task which requires adequate planning, effective policies and fundamentally, active local (city) participation. Likewise, to enhance housing affordability and a housing delivery system that is 'all inclusive' does not require an exclusive approach, but a multi-dimensional approach that harnesses the potentials of various alternatives to provide an integrated solution which is responsive to all aspects of the housing problem.

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APPENDICES

Appendix 1: List of Suburbs by the distinct Housing Areas in Kumasi

Indigenous Areas	Tenement Areas	High Cost Areas	Government Built Areas
Breman	Bantama	Bomso	North Suntreso
Moshie zongo	Dichemso	Ridge Residential Area	South Suntreso
Anloga	Ashanti New Town	Ahodwo	Buokrom Estate
Ayeduase	Asafo	Danyame	Asawasi Estate
Ayigya	Amakom	Airport Residential area	Kwadaso Estate
Ayigya zongo	Adum	Nhyiaeso	Ahinsan Estate
Asuoyeboah	New Tafo	West Ayigya (Ext.)	North Patasi Estate
Old Tafo	Yennyawso	New Amakom (Ext.)	South Patasi Estate
Akrom	Fante New Town	Asokwa (Ext.)	Chirapatre Estate
Pankrono	Santasi	Dadie Soaba	Pankrono Estate
Kotei	Fankyenebra	Atasomanso	
Ahinsan	Adiembra	Paraku Estate	
Chirapatre	Manhyia		
Kaase			
Abrepo kese			
Abrepo kumaa			
Bohyen			
Ampabame			
Kentenkrono			
Oforikrom			
Atonsu			
Agogo			
Sipe Timpom			
Gyenyasi			

Source: Author's Construct, 2014.

Appendix 2: The Random Number Table Applied in Sample Selection

Random number table

11 74	26 93	81 44	33 93	08 72	32 79	73 31	18 22	64 70	68 50
43 36	12 88	59 11	01 64	56 23	93 00	90 04	99 43	64 07	40 36
93 80	62 04	78 38	26 80	44 91	55 75	11 89	32 58	47 55	25 71
49 54	01 31	81 08	42 98	41 87	69 53	82 96	61 77	73 80	95 27
36 76	87 26	33 37	94 82	15 69	41 95	96 86	70 45	27 48	38 80
07 09	25 23	92 24	62 71	26 07	06 55	84 53	44 67	33 84	53 20
43 31	00 10	81 44	86 38	03 07	52 55	51 61	48 89	74 29	46 47
61 57	00 63	60 06	17 36	37 75	63 14	89 51	23 35	01 74	69 93
31 35	28 37	99 10	77 91	89 41	31 57	97 64	48 62	58 48	69 19
57 04	88 65	26 27	79 59	36 82	90 52	95 65	46 35	06 53	22 54
09 24	34 42	00 68	72 10	71 37	30 72	97 57	56 09	29 82	76 50
97 95	53 50	18 40	89 48	83 29	52 23	08 25	21 22	53 26	15 87
93 73	25 95	70 43	78 19	88 85	56 67	16 68	26 95	99 64	45 69
72 62	11 12	25 00	92 26	82 64	35 66	65 94	34 71	68 75	18 67
61 02	07 44	18 45	37 12	07 94	95 91	73 78	66 99	53 61	93 78
97 83	98 54	74 33	05 59	17 18	45 47	35 41	44 22	03 42	30 00
89 16	09 71	92 22	23 29	06 37	35 05	54 54	89 88	43 81	63 61
25 96	68 82	20 62	87 17	92 65	02 82	35 28	62 84	91 95	48 83
81 44	33 17	19 05	04 95	48 06	74 69	00 75	67 65	01 71	65 45
11 32	25 49	31 42	36 23	43 86	08 62	49 76	67 42	24 52	32 45

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University College, London

Source: Department of Statistics, University College, London

Appendix 3: Sample Size Determination

Sample size formula:

$$n=\frac{N}{1+N(\propto)x^2}$$

Where; n is the sample size

N is the sample frame

α is the margin of error defined at 95 percent confidence level (α =0.08).

The sample size was defined from the total number of the four study areas.

$$n=\frac{11321}{1+11321(0.08)^2}$$

$$n=\frac{11321}{1+11321(0.0064)}$$

$$n=\frac{11321}{1+72.4544}$$

$$n=\frac{11321}{73.4544}$$

n = 154

Based on this, the minimum sample selected for the study was 155 households.

Appendix 4: Determination of the Kth Term for Systematic Sampling

In selecting households for the study, the systematic sampling technique (a probability sampling technique) was adopted. This involved the calculations of a sampling interval (Kth value) at which space the households were selected. This is giving by the formula: K=N/n, where, - K is the Kth respondent to be interviewed after the first sample unit has selected randomly; - N, the sample frame; and n is the sample size. This is presented as follows:

Study Suburbs	Sampling Frame (N)	Sample Size (n)	Kth Value
Abrepo Kese	417	40	10th
Yennyawso	257	35	7th
Ahodwo	270	20	14th
Chirapatre Estate	721	60	12th
Total	11321	155	

Source: Author's Construct, 2014.

Appendix 5: Household Questionnaires

<div align="center">

Questionnaire ID: ……………………………

</div>

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<div align="center">

HOUSEHOLD SURVEY QUESTIONNAIRE

</div>

Name of Enumerator: _____Name of Study Zone: _____
Study Suburb: _____ House No: _____
Date of Interview: _____ Start Time: _____ End Time: _____
Name of Respondent: _____ Contact No.: _____

Section A: Demographic Information

D1. Gender: Male [1]   Female [2]   D2. Age of Respondent: _____
D3. Ethnicity: _____
D4. Level of Education: Primary [1]   Middle/JSS [2]   SSS (SHS) [3]
Technical/Vocational [4] Degree Acquired [5]   HND [6]   Diploma/ Nursing T. [7]
Others (*Specify*) [8] _____
D5. Marital Status: Married [1]   Single [2]   Widow (er) [3]   Divorced [4]
Others (*Specify*) [5] _____
D6. Employment Status: Employed [1]   Unemployed [2]
D7. Type of Occupation: Sales [1]   Clerical [2]   Service [3]   Educationist [4]
Artisan [5] Admin. & Managerial [6]   Health Worker [7]   Banking/Commerce [8]
Agric. related [9]   Others (*Specify*) [10] _____

Section B: Household Information

HH1. Type of family: Single person [1]   Nuclear [2]   Extended [3]
HH2. What is the size of your household? _____
HH3. Details of other household members: (*Fill the table below*)

ID	Name	Gender	Age	Level of education	Employment Status
1					
2					
3					
4					

KEY: Gender: Male [1] Female [1]   **Level of Education:** Primary [1]
Middle/JSS [2]   SSS (SHS) [3]   Techn/Voca [4] Degree Acquire [5]   HND [6]
Diploma/Nursing T. [7]   Others (*Specify*) [8]   **Employment Status:** Employed
[1] Unemployed [2]

Section C: Housing Information

H1. Type of dwelling: Compound [1]   Detached [2]   Semi-detached [3]   Shared Flat [4]   Bungalow Flat [5]   Others (*Specify*) [6] _____

H2. How many rooms does your household occupy? _____

H3. How long has your household been living in this dwelling? _____ Years

H4. Do other households share this dwelling with you? Yes [1]   No [2]

H5. What is your current occupancy status? Owner Occupier [1]   Renter [2]   Free-occupant [3]

Section D: Income and Housing Expenditure Information

IE1. Please specify the amount of your monthly income. GHC _____

Note: If you are a renter move to questions IE3

IE2. If you own the house you live in; (i) when did you buy/build it? _____

(ii) How much did it cost you to buy/build it? GHC _____(Tick and write)

(iii) From whom did you acquire this house? Private developers [1]   Inherited [2] Public housing project [3]   Self-built [4]   Others (*Specify*) [5] _____

(iv). If it is self-built then how and from whom did you get/buy the land? _____

(v). How much did the land cost? GHC _____Year _____

(vi). Can you estimate the total amount you spent on the house? GHC _____

(vii) How long did it take you to complete your house? _____ Years

(vii) What is/are the source(s) of finance for the house? Personal Savings [1] Family/Friends [2]   Bank loan [3]   Mortgage package [4]   Others (*Specify*) [5] ___

(ix) If it is a loan or mortgage, how much is/was paid monthly? GHC _____

(x) Please specify the bank or source of your loan or mortgage _____

(xi) How many years will/did it take to pay-off the loan or mortgage? _____

IE3. If it is a rented house you live in; (i) when did you move in? _____Year

(ii) How much do you pay as rent monthly/yearly? GHC _____

(iii) From whom did you rent this house? Individual [1]   Public housing companies/projects [2]   Real Estate Companies [3]   Others (*Specify*) [4] _____

(iv). Is there any formal agreement between you and the owner? Yes [1]   No [2] (v) Please specify the nature of the agreement _____

(vi). What is the arrangement for house rent payment? _____

(vii) Do you have any intention of building your own house?   Yes [1]   No [2] Currently on it [3]

(viii) If yes, why? _____

(ix) If no, why?_____

(x) If you are currently building your house, how much do you spend on that housing GHC _____ (monthly/yearly)

(xi) What are the major problems associated with your current accommodation?

_____

_____

IE5. Fill in the table below about your monthly income and expenditure

Source of Household Income	Amount in GH₵
Salary	
Remittances	
Gifts	

Item	Amount in GH₵	Item	Amount in GH₵
Food		Clothing	
Shelter/Rent		Transportation	
Education		Funeral	
Health		Communication	
Water		Remittances	
Energy		Other (specify)	

Section E: Utilities and Amenities of Households

UA1. Fill in the table below about the utilities and amenities available and used by your household

Utility	Type	Location (In/Outside)	Amount in GH₵	Duration
Water				
Toilet				
Bathroom	*			*
Kitchen	*		*	*
Refuse Disposal		*		
Energy (Lighting)		*		*
Energy (Cooking)		*		*

Key: * = Not Applicable Water = Pipe-borne [1], Borehole [2], Well [3], Others (*Specify*)
Toilet = Water closet [1], Public KVIP [2], Pit latrines [3], Others (*Specify*) [4] _____
Refuse Disposal = House-House [1], Public Dump Site [2], Burning [3], Others (*Specify*)
Energy (Lighting) = Electricity [1], Lantern [2], Candles [3], Others (*Specify*) [4] _____
Energy (Cooking) = LPG [1], Charcoal [2], Firewood [3], Others (*Specify*) [4] _____

Section F: Respondent's View on Housing Affordability

R1. Which of the following components in your view affect the cost of a house most in Kumasi? (Rate from 1-5)

Component of Housing	Rate (From 1 to 5)
Land	
Finance	
Building Materials	
Labour	
Infrastructure	

R2. What major causes are making housing even more unaffordable in Kumasi?

Causes of Unaffordability of Housing	te (From 1 to 5)
[1] Excessive price of land	
[2] Excessive price of Building materials	
[3] Lack of initiative from government in ensuring affordable housing	
[4] Unavailability of affordable housing loan schemes	
[5] Absence of skilled labour	
[6] Others (please specify)	

R3. What are the causes for high rent levels in Kumasi? (Rate in a scale of 1-5)

Causes of high rent levels	Rate (From 1 to 5)
[1] The demand for housing is way above supply	
[2] Poor implementation of rent control regulations	
[3] The quality of the housing (in terms of facilities)	
[4] The nature of building materials used in construction	
[5] Excessive prices and poor access to land by developers	

R4. What is the best way for government to improve housing delivery? Rental Housing [1]
Private home-ownership [2]   Government-built estates [3]   Others (*Specify*) [4]
R5. Are you aware of any government policy regarding housing?   Yes [1]   No [1]
R6. If yes, name them? _____
R7. In your view, how critical is the need for affordable housing provision by government?_____
R8. How would you want the issue of affordable housing to be addressed by government? _____

Section G: Physical Housing Condition

PC1. Complete the tables below by ticking. (Observe)

BUILDING MATERIALS					ROOFING MATERIALS						
					TYPES					CONDITION	
Sandcrete	Landcrete	Bricks	Atapkame	Wattle and Daub	Glandeson	Aluminum / Iron Sheet	Concrete slab	Asbestos	Thatch	Leaking	Not Leaking

HOUSING CONDITION									HEIGHT OF BUILDING			
WALL						FOUNDATION						
Cracked	Not Cracked	Rendered	Not Rendered	Painted	Not Painted	Exposed	Slightly exposed	Not Exposed	Single Storey	Two Storey	Three Storey	Four Storey

Appendix 6: Interview Guide for Institutional Surveys

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INTERVIEW GUIDE: RENT CONTROL DEPARTMENT

Name of Respondent: _____ Designation: _____
Date of Interview: _____ Start Time: _____ End Time: _____

1. What is the nature of rental housing supply in Kumasi?
2. What is the nature of demand for rental housing in Kumasi?
3. What is the type of rental housing products offered in Kumasi? (Typology and Price range)
4. Please in your operations; do you have any considerations for the affordability of the housing being offered to various households in Kumasi?
5. What is your outfit's position on housing affordability? (Any operational definition)
6. Do you consider rental housing in Kumasi as affordable? And Why?
7. How do you determine the affordability of the housing product to the renter?
8. What major factors affect the affordability of rental housing in Kumasi?
9. What are the major problems with rental housing?
10. What major regulatory framework exists for the operations in rental housing market in Ghana?
11. What are the opportunities that exist for improving housing delivery through rental housing?
12. Please, should rental housing be encouraged? What can the government do to help?

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INTERVIEW GUIDE: LANDS COMMISSION

Name of Respondent: _____ Designation: _____

Date of Interview: _____ Start Time: _____ End Time: _____

---

1. What is the nature of land ownership in Kumasi?

2. Where are the various pockets of ownership located in the metropolis? *(For Mapping purposes)*

3. What is the nature of supply of land for housing development in Kumasi?

4. How does the supply of land impact the supply of housing in Kumasi?

5. What are the land values for various areas in Kumasi (for residential purposes)?

6. How do these different land value areas impact housing delivery in Kumasi?

7. What opportunities exist for private companies and individuals who are interested in affordable housing provision for the urban poor to get easy access to land?

8. How can the land cost component of housing be reduced in Kumasi?

9. What policies can be put in place to ensure that, there is access to land for housing for all income groups in the country?

10. How can government make housing affordable in Ghana? (*in terms of the land component*)

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INTERVIEW GUIDE: KMA – DEVELOPMENT PLANNING UNIT/ TCPD

Name of Respondent: _____Designation: _____

Date of Interview: _____ Start Time: _____ End Time: _____

1. Do you consider the Assembly as a relevant institution when it comes to housing development?

2. What is the role of the Assembly in ensuring access to affordable housing?

3. Is there a local housing policy for the metropolis? What are the content and its objectives?

4. To what extent have these policies been enforced, what are the successes and failures?

5. What type of housing programmes is the Assembly currently implementing?

6. What is the Assembly's position on housing affordability? *(Any operational definition)*

7. Do you consider housing in Kumasi as affordable? And why?

8. What plans and regulatory framework exist for affordable housing provision in Kumasi?

9. What opportunities exist for the introduction of housing schemes for affordable housing provision?

10. What is the nature of the housing deficit problem in Kumasi? *(Provide Data)*

11. What is the best way for government to improve housing delivery? And how can government make housing affordable in Kumasi?

12. Does the Assembly have any defined categorization for housing in Kumasi? What are the criteria used and why? How does this categorization affect affordable housing provision?

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INTERVIEW GUIDE: BRRI – STRUCTURES, DESIGN AND PLANNING DIVISION

Name of Respondent: _____   Designation: _____
Date of Interview: _____ Start Time: _____ End Time: _____

1. What is the current nature of housing supply in Kumasi?

2. What are the major constraints to housing supply in the metropolis?

3. Why does building materials used in housing development, constitute a major cost?

4. What policies must be put in place to reduce the cost of housing? *(In terms of building materials)*

5. What is your outfit's position on affordable housing? *(any operational definition)*

6. What policy and regulatory framework exist for affordable housing provision in Ghana?

7. Are there any housing programmes targeted at providing affordable housing for especially the low/medium income households in urban areas?

8. Does your outfit have sample models or designs of decent but affordable housing? *(Please provide data on the above and the cost components)*

9. What is the extent of usage of the research findings of this outfit in the area of housing?

10. Does the outfit have any plans of full commercialization of its activities and how would this be done?

11. Are there any opportunities in the BRRI for private companies and individuals who are interested in affordable housing provision for the urban poor?

12. What opportunities exist in support for individual-household housing development in Kumasi?

13. What is the best way for government to improve housing delivery?

14. How can government make housing affordable in Ghana?

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INTERVIEW GUIDE: MINISTRY OF WATER RESOURCES, WORKS AND HOUSING

Name of Respondent: _____ Designation: _____
Date of Interview: _____ Start Time: _____ End Time: _____

1. What is the current housing policy direction of the government?

2. What type of housing programmes is your ministry currently implementing?

3. What is your ministry's interpretation of housing affordability? *(Any operational definition)*

4. What policy and regulatory framework exist for affordable housing provision in Ghana?

5. Are there any housing programmes targeted at providing affordable housing for especially the low/moderate income households in urban areas?

6. Which government or quasi-government institution is currently involved in housing development or home financing?

7. What opportunities exist for private companies and individuals who are interested in affordable housing provision for the urban poor?

8. What housing finance mechanisms or packages exist in support for household-driven housing development?

9. What opportunities exist for the introduction of housing finance schemes for affordable housing provision?

10. What is the role of your ministry in ensuring that there is access to affordable housing provision?

11. What is the state of the housing deficit problem?

12. What is the best way for government to improve housing delivery? And how can government make housing affordable in Ghana?

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INTERVIEW GUIDE: FINANCIAL INSTITUTIONS: …………………………..

Name of Respondent: _____ Designation: _____

Date of Interview: _____ Start Time: _____ End Time: _____

1. Does this bank give out loans/mortgages in support of housing development? ………..
2. What is the type of financing packages available in your outfit for housing development?
3. Please explain the process of acquiring a loan/mortgage from your outfit?
4. Do you have any special target groups for these packages? And why?
5. Do you have any considerations for the client's ability to pay back the loan/mortgage? And why?
6. How do you measure the affordability of the package to the client?
7. What opportunities/plans exist for the introduction of housing finance schemes for affordable housing provision?
8. What is the best way for government to improve housing delivery? *(In terms of financing)*
9. How can government make housing affordable in Ghana?
10. Please can you provide an inventory on the loans/mortgages given out by your outfit in the last 5 years for housing development?

Year	Type of Package	Number
2009		
2010		
2011		
2012		
2013		

11. What are the challenges the outfit encounters in its dealings with clients who take loans/mortgages for housing development?

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COLLEGE OF ARCHITECTURE AND PLANNING
DEPARTMENT OF PLANNING

The Researcher is an MPhil. Planning Student at the Department of Planning, KNUST who is carrying out a research on the topic - "HOUSING AFFORDABILITY IN KUMASI: TOWARDS IMPROVING HOUSING DELIVERY IN THE CITY". The information required for this research is essentially for academic purposes and you are assured of the confidentiality of information provided.

INTERVIEW GUIDE: HOUSING COMPANIES & AGENTS:

Name of Respondent: _____ Designation: _____
Date of Interview: _____ Start Time: _____ End Time: _____

1. What is the current nature of housing supply by your outfit in Kumasi?
2. What is the nature of demand for housing in Kumasi, especially from your outfit?
3. What is the type of housing products offered by your outfit?
4. Do you have any special target groups for these housing units being offered? And why?
5. Do you have any consideration for the affordability of the housing being offered? And why?
6. What is your outfit's position on housing affordability? *Any operational definition?*
7. Do you consider the housing products being offered by your outfit affordable? And why?
8. How do you determine the affordability of the housing product to the client?
9. Please provide data for the housing cost and price trends of your outfit in the last 5 years?
10. How does the cost of housing development constrain housing delivery in Kumasi?
11. Does your outfit have sample models or designs of decent but affordable housing units? *(Please provide data on the above and the cost components)*
12. What opportunities exist for the introduction of housing schemes for affordable housing provision to various income groups?
13. How do you get access to land for your activities? (Discuss the prospects and challenges)
14. How do you obtain funding for housing development? (Discuss the prospects and challenges)
15. What types of building materials do you use and what are their sources?
16. How does the building materials affect the cost and pricing of the housing unit?
17. Please comment on the nature of the labour used by your outfit?
18. How do you get access to basic facilities to the houses developed by your outfit?
19. What are the major challenges associated with this stage *(qxn.18)* of housing development in Kumasi?
20. Please in your operations, which of the components of housing do you consider as very critical and impacts negatively on housing affordability?
21. What is the procedure for acquiring a housing unit from your outfit?
22. What kind of arrangements exists between you and your clients, in terms of sales?
23. Do you think government is doing enough to increase housing delivery?
24. In your view, how critical is the need for affordable housing provision by government?
25. How would you want the issue of affordable housing to be addressed by government?
26. How would you want the government to assist you in providing decent and affordable housing for various income groups in Kumasi?

Appendix 7: Physical Conditions of Houses in Study Areas

Physical Conditions of Buildings		Study Suburbs									
		Abrepo		Ahodwo		Chirapatre		Yenyawso		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Condition of Roofing	Leaking	7	17.5	3	15.0	7	11.7	7	20.0	24	15.5
	Not Leaking	33	82.5	17	85.0	53	88.3	28	80.0	131	84.5
Conditions of Walls	Cracked	17	42.5	7	35.0	12	20.0	8	77.1	44	28.4
	Not cracked	23	57.5	13	65.0	48	80.0	27	22.9	111	71.6
	Painted	29	72.5	14	70.0	51	85.0	27	80.0	121	78.1
	Not Painted	11	27.5	6	20.0	9	15.0	8	20.0	34	21.9
Condition of Foundation	Exposed	10	25.0	6	20.0	10	16.7	7	20.0	33	21.3
	Not Exposed	30	75.0	14	70.0	50	83.3	28	80.0	122	78.7

Source: Author's Field Survey, 2014

Appendix 8: Median Prices of Houses in Kumasi

Study Areas	Median Prices of Houses in the Study Areas (in GH₵)	Housing Areas in Kumasi	Median Prices of Houses in the Housing Areas (in GH₵)
Abrepo-Kese	51,000	Indigenous Areas	121,600
Ahodwo	1,027,000	High Cost Areas	1,200,000
Chirapatre Estate	182,000	Government Built	248,000
Yennyawso	617,000	Tenement Areas	520,000
Total	469,950	Total	522,400

Source: Author's Field Survey, 2014.

Appendix 9: Housing Related Expenditure of Households in Kumasi

Study Area	Monthly Median Amount Spent on Housing Related Items (GH₵)						% of Total Expenditure
	Rent	Water	Energy	Toilet	Refuse	Housing Related Exp.	
Abrepo	70.00	20.00	50.00	1.50	2.50	144.00	28.81
Ahodwo	400.00	50.00	140.00	-	30.00	620.00	31.08
Chirapatre	80.00	25.00	72.00	-	14.00	191.00	26.31
Yenyawso	200.00	25.00	80.00	3.25	4.50	312.75	28.88
Total	120.00	25.00	80.00	2.50	4.00	231.50	31.01

Source: Author's Field Survey, 2014.

Appendix 10: Non-Housing Related Expenditure of Households in Kumasi

Study Area	Median Amount Spent on Non-Housing Related Items (GH₵)									% of Total Exp.
	Food	Education	Health	Clothing	Transport	Funeral	Commu-nication	Remit-tances	Non-Housing Exp.	
Abrepo	200.00	67.50	11.40	2.00	30.00	20.00	10.00	15.00	355.90	71.19
Ahodwo	500.00	300.00	50.00	100.00	100.00	100.00	50.00	175.00	1375.00	68.92
Chirapatre	200.00	100.00	20.00	20.00	50.00	20.00	25.00	100.00	535.00	73.69
Yenyawso	400.00	100.00	20.00	20.00	60.00	30.00	40.00	100.00	770.00	71.12
Total	280.00	100.00	10.00	15.00	50.00	20.00	20.00	20.00	515.00	68.99

Source: Author's Field Survey, 2014.