CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

Housing is an integral part of human settlement that fulfils basic need and has a profound impact on the quality of life, health, welfare as well as productivity of man. It plays a crucial role in integrated physical and economic development, environmental sustainability, natural disaster mitigation and employment generation as well as wealth creation (Erguden, 2001; Boehm and Schlottmann, 2001; UN-HABITAT, 2006a). The desire for adequate and affordable housing also has strong links to the need for security, safety and proper socio-economic status of individuals and communities. In spite of this widely acknowledged importance of housing and various efforts in making adequate and affordable housing available to majority of people, a large proportion of urban residents in less developed countries do not have access to decent housing at affordable cost (Tipple,2004; 2006; UN-HABITAT, 2006a; Greene and Rojas, 2008). As a result, most urban residents in Developing Countries live in housing conditions that constitute an affront to human dignity and which comes with appalling social, economic, spatial and health implications (Rondinelli, 1990; Cotton and Tayler, 1994; Opara, 2003; UN-HABITAT, 2006d; Coker et al., 2007; UNFPA, 2007). Hence, inadequate housing condition has become an intractable challenge that has continued to receive attention from governments and individuals in many developing countries.

In line with human tradition which seeks to investigate, describe, understand and proffer solutions to ameliorate defects in human conditions, and enhance individual and collective well-being; both public and private sectors have continued to take concerted efforts at addressing the social and economic challenges posed by inadequacies in housing provision in many countries of the world. These efforts have informed legislations, policies, strategies and reforms, which most often have culminated in various housing programmes (Onibokun, 1985; Rondinelli, 1990; Ajanlekoko, 2002; Sengupta, 2005; Sengupta and Sharma, 2008). A review of literature shows that between 1950 and 2000, governments in many developing countries have engaged in different housing programmes and delivery strategies. For example, previous studies have shown that successive administrations in Nigeria had launched a minimum of seven public housing programmes in the last few decades in a bid to address increasing housing challenges in the country (Onibokun, 1985; Awotona, 1990; Ogu, 1999; Ogu and Ogbuozobe, 2001; Ajanlekoko, 2002; UN-HABITAT, 2006a; Akinmoladun and Oluwoye, 2007; Ademiluyi and Raji, 2008).

However, substantial literature on public housing in developing countries has revealed three main streams of criticism (Mukhija, 2004). First, it is argued that most public housing schemes are inefficient and ill conceived, and thus failed to meet the needs of target population (Rondinelli, 1990; Mba, 1992). Second, direct government involvement in housing provision is viewed as being negligible compared to the volume of housing provided by informal private sector (UN-HABITAT, 2006a; 2006c). Finally, government intervention in the housing market to check rising cost of housing is seen as counter-productive and an impediment to smooth operation of housing market and efficient housing delivery system (Sengupta and Ganesan, 2004; Mukhija, 2004).Consequently, many scholars and stakeholders have argued that government has no business in providing housing for people, but rather government should act as a partner, enabler and facilitator of housing process by making available appropriate incentives, policy and good regulatory environment necessary for effective private sector participation in housing provision (World Bank, 1993; UNCHS, 2000). In view of this, there is an emerging consensus that current approaches to public housing be based on market-friendly policies and strategies that encourage reduction in government's direct involvement in public housing provision. Ong and Lenard (2002) and UN-HABITAT (2006a) were however of the opinion that this does not necessarily mean reduction in government's social responsibility in providing housing for the citizens, but rather it implies the production of housing through collaborative approach in an integrated manner.

In the light of foregoing criticisms coupled with the need for sustainable solution to burgeoning housing challenges; most governments in developing countries are engaging in new housing policies, programmes and strategies that seek to meet demands of market-driven economies in addressing housing needs of their people (Sengupta and Ganesan, 2004; Sengupta, 2005; Sengupta and Sharma, 2008). In Nigeria for instance, current approaches to public housing provision are based on private sector-driven strategies (National Economic Empowerment and Development Strategy, 2004; Aribigbola, 2008; African Ministerial Conference on Housing and Urban Development, 2008). Similar approaches are known to have been engaged in countries such as India, Malaysia, Peru and many other developing countries (see Arimah, 1999; Ong and Lenard, 2002; Sengupta and Tipple, 2007; Fernandez-Maldonado and Bredenoord, 2010). Surprisingly to date, the outcomes of those strategies, reforms and programmes are yet to be empirically evaluated in many of these countries, including Nigeria.

Prior to this time, several studies (Kaitilla ,1993; Rysin, 1996; Ukoha and Beamish ,1997; Magutu, 1997; Djebarni and Al-Abed, 2000 ; Lall, 2002; Gilderbloom et al, 2005 ; Ilesanmi,

2005; Yeun et al., 2006 ; Erdogan et al. 2007; Obeng-Odoom, 2009; Mohit et al., 2010) had evaluated various aspects of public housing in countries such as Guinea, Nigeria, India, Malaysia, Kenya, Ghana and many other developing countries. These studies focus on the product of public housing by examining residents' satisfaction and accessibility to urban services as well as the underlying production and management frameworks. None of these previous studies neither assessed the validity of underlying theories in the respective public housing programmes nor examined residents' perception of the level of adequacy of housing provided. These identified gaps are certainly vital in providing solid evidence upon which factual judgement on the underlying theories in public housing can be based.

This study therefore undertook an in-depth evaluation of public housing between May 2003 and December 2010 in Ogun State of Nigeria. It principally examined the outcomes of four housing delivery strategies used, particularly with respect to residents' perception of the level of adequacy of and satisfaction with housing provided as well as the quality of life of residents in public housing in study area. This is with a view to assessing the validity of the underlying theory in public housing in the study area, and thus bridging the gap in literature on the subject matter.

1.1 Statement of the Problem

Despite burgeoning criticism on failure of public housing to provide quality, affordable and adequate housing units to target population in Nigeria; several studies have shown that governments in Nigeria have continuously engaged in different housing delivery strategies to address the problem of providing adequate, affordable and sustainable housing to the citizens (Kabir, 2004; Akinmoladun and Oluwoye, 2007; Ademiluyi and Raji, 2008). For instance, Ogun State government in Nigeria recently planned to provide about 12,230 housing units between 2003 and 2011 through its public housing programme. The Government's commitment to public housing provision, proclaimed by its political leaders, is reflected in the objectives of the State's Housing Policy. Specifically, the objectives of public housing provision in this State are to (i) enhance the evolution of appropriate institutional framework for public housing delivery (ii) encourage home ownership with secured tenure among all socio-economic groups (iii) promote private sector participation in public housing (iv) provide self-sufficient public housing estates that meet the daily challenges of all residents and (v) provide all socio-economic groups access to adequate housing at affordable cost . It is expected that public housing in Ogun State will

result in the provision of adequate housing and improvement of aesthetics of the urban landscape, and ultimately lead to improved quality of life of residents in public housing estates.

Public housing as a social intervention programme is designed according to peoples' perceptions of what seems to work based on practitioners' assumptions and logical reasoning (Birckmayer and Weiss, 2000). According to Weiss (1997), such a programme is born out of experience and professional lore. It is usually implemented based on defined strategies to achieve set goals. Preliminary investigations revealed that current efforts in public housing in Ogun State of Nigeria has so far relied on four main housing delivery strategies-including the Core housing, Turnkey, Public-Private Partnership (PPP) and Shell stage strategies in providing the planned number of housing units. However, till date, very little is known on the performance of these strategies. Moreover, several studies (Idemudia, 1980; Muritala, 1980; Bana, 1991; Ali, 1996; Ukoha and Beamish, 1997; Ilesanmi, 2005; Olatubara and Fatoye, 2007; Fatoye and Odusami, 2009; Jiboye, 2009; 2010) have evaluated public housing schemes in different parts of Nigeria. Each of these studies attempted at identifying areas of deficiencies in public housing provision from residents' satisfaction point of view. But it has been observed that certain inadequacies which bear upon the focus and usefulness of the findings for factual judgement on the performance of, and validity of underlying theories in public housing exist.

First, data used in the studies cited above were collected from selected public housing estates built by different administrations in different housing programmes and periods rather than on housing estates developed through an integrated public housing programme by a particular administration. Second, those studies placed little or no emphasis on assessing the plausibility and/or validity of the underlying theories in public housing programmes in which the housing estates were developed. Third, residents' perception of the level of adequacy of housing provided and its influence on their quality of life were not assessed. Lastly, none of those studies focused on Ogun State or any public housing estate within its territory.

Generally speaking, the problem with public housing in Nigeria today has been succinctly articulated in the 1991 Nigerian National Housing Policy. This document asserts that lack of adequate monitoring and evaluation of housing policy implementation has contributed to the failure of public housing provision in this country (Federal Republic of Nigeria, 1991).This submission was corroborated by Obashoro (2002) who noted that proper programme evaluation was rarely done in Nigeria, and as a result, it was very difficult to assess the real outcome of programmes in terms of their achievement level in the country. Moreover, Sanusi (2003) and Adedeji (2005) observed that a large quantum of literature on housing in Nigeria is derived from

postulations, opinions, and intellectual brainstorming rather than on proper investigation of the real situation. This goes to suggest that adequate attention has not been given to proper evaluation of public housing in Nigeria, vis-a-vis their objectives and outcomes. This has partly accounted for dearth of empirical data on the outcome of public housing in Nigeria in general and Ogun State in particular in recent times. Hence, there is gap in knowledge on the performance of different housing delivery strategies used in public housing provisions, the characteristics of housing provided, personalities and attributes of residents of housing units as well as the extent to which housing provided has influenced the quality of life of occupants of public housing in Ogun State. Most importantly, there is also a gap in our understanding of the extent to which public housing providers' perceptions and beliefs of public housing provisions are working as social intervention programme. It is this gap in literature that this study attempted to fill.

From the foregoing it is obvious that there is limited research on this subject matter. This has obscured our understanding of the outcomes of most recent efforts in public housing in the study area. This study therefore argues that for adequate understanding of the performance of public housing as well as validity of underlying theories, in-depth evaluation needs to be carried out to assess the extent to which public housing has achieved or failed to achieve the intended outcomes. It is for this reason that this research sought to evaluate public housing provision in Ogun State under the administration of Otunba Gbenga Daniel. The study assessed the plausibility or validity of the underpinning theory in public housing in the State by examining the extent to which four delivery strategies have provided adequate housing and impacted on the quality of life of residents of public housing in this State. These are considered relevant in comparing and contrasting outcomes of the different housing delivery strategies on one hand and examining empirically residents' perception of the adequacy of housing provided through these strategies on the other hand.

In order to achieve the goal and objectives of this study, the following research questions were formulated:

(i) What are the organizational capacities of public housing agencies, housing delivery strategies and characteristics of housing provided through the different housing delivery strategies in public housing in Ogun State?

(ii) What are the socio-economic characteristics of residents in selected housing estates developed through the various housing delivery strategies in public housing in Ogun State?

(iii) To what extent does public housing achieved the objective of providing adequate housing to residents of public housing estates in Ogun State?

(iv) What factors contribute to the level of adequacy of housing provided through the different strategies as expressed by the residents?

(v) To what extent are the residents satisfied with the residential environment provided in public housing estates and what factors influence this in the study area?

(vi) What is the overall impact of the public housing on the quality of life of residents as measured by residents' satisfaction with life in selected public housing estates in Ogun State and what factors account for this?

1.2 Aim of Study

The overall aim of this study is to evaluate the public housing in Ogun State, with a view to examining the extent to the different housing delivery strategies have provided adequate and satisfactory housing and influenced the quality of life of residents of public housing in this State.

1.3 Objectives of Study

The specific objectives of this research are to:

(i) assess the organizational capacity of public housing agencies and compare the housing delivery strategies used in public housing in Ogun State.

(ii) examine the characteristics of housing provided in public housing in the study area

(iii) analyze the socio-economic characteristics of residents in selected housing estates developed through the different strategies in public housing in the study area.

(iv) examine residents' perception of the adequacy of housing provided through the different housing delivery strategies and factors that influenced it.

(v) examine residents' satisfaction with housing and with life in selected public housing estates and the factors that influenced these in Ogun State.

1.4 Justification

An evaluation research on the public housing in Ogun State is no doubt an important one. This is going by the notion that the outcomes of current strategies engaged by government in solving the

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problem of providing adequate, affordable and sustainable housing in this State in recent time are not known. Therefore, this study is important for several reasons.

First, Bana (1991) and Emerole (2002) indicated that inadequate capacity of public housing agencies to deliver housing was one of the key challenges of public housing in Nigeria. This suggests that understanding the organizational capacity and constraints of public housing agencies to provide housing is necessary in judging their performance. It can also help improve on their capacity and thus enhancing the productivity of the public housing sub-sector. This study is thus justified on the basis that it attempts to provide basic information that will enhance our knowledge of the organizational capacity of selected key public housing agencies in study area. This is also considered necessary in assessing the outcomes of public housing provisions and making useful recommendations.

Second, Mukhija (2004) noted that there is little consensus on the strategies and approaches governments should follow in addressing the housing need of their citizens. This suggests that research works are yet to focus attention on comparing outcomes of the various housing delivery strategies used in public housing provisions to identify which strategies work best and under what conditions. This situation accounts for continuous engagement of inefficient and dysfunctional housing delivery strategies, which Emerole (2002), Oladapo (2002) and African Ministerial Council in Urban Development (2008) noted was responsible for increasing housing supply deficit in Nigeria. By investigating the outcomes of four housing delivery strategies used in public housing provisions in Ogun State, this study is also justified on the ground that it attempts to identify strategy(ies) with greater potentials for sustainable solution to housing challenges in the study area in particular and Nigeria in general.

Third, in view of mounting criticism on elitist orientation and the provision of poor quality housing in previous housing schemes in Nigeria (Mba, 1992; UN-HABITAT, 2006a), this study is important in the sense that it examined the personalities and attributes of beneficiaries of public housing, the physical characteristics of housing provided as well its level of adequacy to the users. Moreover, in the light of rapidly changing societal values, aspirations and preferences, this study is particularly important to architects and other allied professionals involved in public housing provision; as it attempts to provide empirical data that can form vital input for the design and planning of user responsive housing units and residential environment in future public housing schemes.

Fourth, this study is also justified on the ground that unlike previous research works (Ukoha and Beamish, 1997; Olatubara and Fatoye, 2007; Jiboye, 2009; 2010) which evaluated public

housing in Nigeria without recourse to the underlying programme theories, it provides an opportunity to assess validity of the underlying programme theories by examining the extent to which the goal and objectives of public housing have been met. This is very important for factual judgement on the performance of public housing and in validating underlying assumptions in public housing provisions in the study area.

Finally, apart from contributing to housing policy formulation and methods of evaluating public housing schemes, this study is also important in bridging gaps in existing literature on the concept of housing adequacy. In all this study is justified due to the need for formal evaluation of the different housing delivery strategies used in public housing in Ogun State.

1.5 Scope of Study

This study is limited to the public housing schemes initiated by the government of Ogun State under the administration of Otunba Gbenga Daniel between 2003 and 2011. A total of 709 occupied housing units representing 50.25% of 1,411 completed housing units between 2003 and 2009 through four key strategies, namely: Core Housing, Shell stage, Turnkey and Public-Private Partnership were sampled. This is because evaluation of the outcomes of social intervention programmes such as housing is usually based on impacts on beneficiaries, which in turn depends on the strategies adopted in implementing the programme. Also data collection in this study was limited to four key public housing agencies, namely: the Ogun State Ministry of Housing (MOH), Ogun State Housing Corporation (OSHC), Ogun State Property and Investment Company (OPIC) and Gateway City Development Company Limited (GCDCL) which at the time of the survey were the key public housing providers in the study area. Similarly, the survey covered only public housing estates in Abeokuta, Ibafo, Ota, Agbara and Ijebu-Ode where most of the housing units developed by the Ogun State Government are located. These areas also represent the four main geopolitical zones in the State.

1.6 Summary

The aim of this Chapter was to introduce and discuss the essence and scope of the study. Attempt was made at addressing these issues in this Chapter. The commitment of Ogun State Government in providing adequate and affordable housing through its public housing programme in spite of increasing criticism over the poor performance of past public housing

schemes was identified. However, the problem of the study was defined against the background of paucity of empirical information on the outcomes of the different housing delivery strategies used in public housing provision in the State. The aim of the study is therefore to evaluate public housing in Ogun State with a view to assessing the outcomes of the different housing delivery strategies and validity of the underlying theory in public housing in Ogun State. Similarly, the importance of the study was hinged on the need for formal evaluation of public housing in Ogun State. This study was also justified on the basis of the need to make contribution to public housing policy, academic literature on housing adequacy, and evaluation of public housing. In line with the aim and objectives of the current study, the scope of this research was identified to be limited to occupied housing units constructed by four key public housing agencies: the Ogun State Ministry of Housing (MOH), Ogun State Housing Corporation (OSHC), Ogun State Property and Investment Company (OPIC) and Gateway City Development Company Limited (GCDCL) through four housing delivery strategies- including Core Housing, Shell stage, Turnkey and Public-Private Partnerships in public housing estates in Abeokuta, Ibafo, Ota, Agbara and Ijebu-Ode.

CHAPTER TWO

THE CONTEXT OF STUDY

2.0 Introduction

This Chapter is aimed at providing additional background information on the study and the study area. It is basically the description of Ogun State with particular reference to the trends in public housing and current efforts in the public housing provision. The bulk of the information provided in this Chapter was obtained as secondary data from multiple sources, such as records from the selected public housing agencies in Ogun State as well as publications of Ogun State Government.

2.1.0 Basic Information on the study area

Research work such as this is usually carried out within the context of a study area; therefore this study is on Ogun State in South-west Nigeria. This section of the thesis provides relevant information on the geo-climatic, political, socio-economic and demographic context of Ogun State. It highlights basic issues related to public housing provision in the study area. Most importantly, the Chapter examines the Ogun State Housing Policy, the aim, objectives of the public housing and the different strategies used. It also identifies and describes key public housing agencies involved in the design, planning and implementation of public housing in the study area.

2.1.1 Location and Size of Ogun State

Ogun State is situated in the south-west region of Nigeria (Appendix 1). It lies approximately between longitudes $2^0 45^1$ E and $4^0 45^1$ E; and latitudes $6^0 15^1$N and $7^0 60^1$ N. With the land area of about 16,762 square kilometres, representing around 1.8 percent of Nigeria's total land mass of 924,000 square kilometres, Ogun State is ranked 24th largest of the 36 States in terms of land mass in Nigeria. It is bounded to the west by the Republic of Benin, to the south by Lagos State and a 20 kilometre stretch of the Atlantic Ocean, to the east by Ondo and Osun States, and to the north by Oyo State (see Figure 2.1). It is accessible to other States in Nigeria and the outside

world through the International Airport and sea ports in Lagos State as well as international road network within the West African sub-region. Geographically, the State is divided into four regions; Yewa to the west, the Egba and Remo in the central core, and the Ijebu to the east.
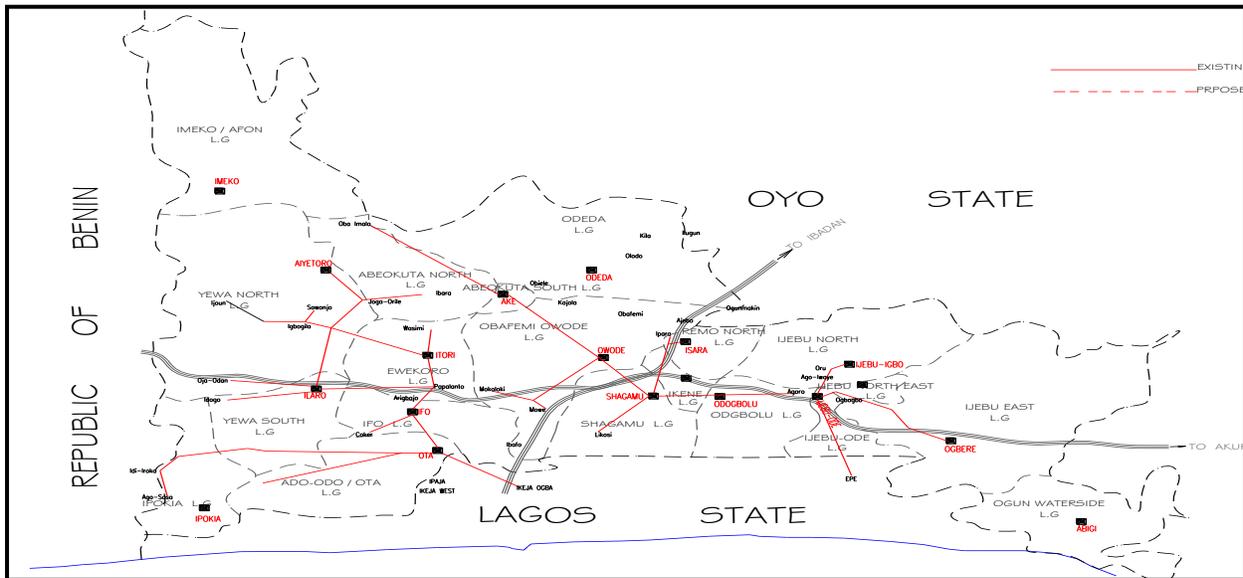

Figure 2.1: The Map of Ogun State Showing the Local Government Areas and its Neighbours
Source: Ogun State Regional Plan (2003)

The climate of Ogun State follows a tropical pattern with raining season starting in March and ending in November, this is followed by dry season between November and March. The mean annual rainfall varies from 128cm in the southern parts of the State to 105cm in the northern areas whilst the average monthly temperature ranges between 23°C in July and 35°C in February. Topographically, Ogun State is characterised by high lands to the north which slopes downwards to the south. The highest region is in the north-west which rises over 300 metres above sea level while the lowest level is the southern part which terminates in a long chain of lagoons (Ogun State Regional Plan (OSRP), 2003).

Ogun State was carved out of the old Western State by the military administration of General Murtala Muhammed and General Olusegun Obasanjo in April 1976. At creation, the State comprised mainly the former Abeokuta and Ijebu provinces of the defunct Western State, which were parts of the defunct Western Region until 1967. The indigenes of the State belong to the Yoruba ethnic group that occupies the South West geo-political zone of Nigeria and parts of the neighbouring Benin Republic. Since its creation, the people of this State have been subjected to

different political formations; a situation that has contributed in the development of the Egba, Yewa, Awori, Egun, Ijebu and Remo political blocks (OSRP, 2003).

2.1.2 Administrative Setting

The administrative structure of Ogun State has been changing in line with the trend in Nigeria's political history. The political independence from Britain in 1960 marked the end of an era of colonial administration that ushered in the Western Regional Government which administered Ogun State. However, since the creation of Ogun State in 1976 not less than five military governors/administrators and four elected civilian governors have administered the State. For instance, in the second republic of 1979, the State was administered by an elected civilian government that derived its powers from a written constitution. Presently, the State has 20 Local Government Areas (LGAs) (see Figure 2.1). Each LGA is headed by a Chairman and assisted by a Vice Chairman and elected Councillors as enshrined in the 1999 Constitution of the Federal Republic of Nigeria.

Ogun State is currently administered by the executive arm of government led by an elected Governor. The governor is the Chief Executive of the State and works with a cabinet of Civil Servants, Commissioners, Special Advisers, Consultants and Permanent Secretaries in the daily running of the Ministries, Bureaus, Commissions, Parasatals, Departments and Agencies. In collaboration with the Deputy Governor and Secretary to the State Government, they supervise and co-ordinate the implementation of Government policies and programmes. The State House of Assembly is the legislative arm of government consisting of elected members from various constituencies. They are constitutionally empowered to make laws, authorise, monitor and control the expenditure of State funds by the executive arm of government.

2.1.3 Demographic and Socio-economic Characteristics of Ogun State

Ogun State is an agricultural, industrial and educational centre in south-west geopolitical zone of Nigeria. According to the 1991 National Population census figure, the population of Ogun State was 2,333,726 (National Population Commission, 1998). Analysis of the census figures indicated a density of about 192 persons per square kilometres and a total of 578,835 households distributed unevenly across the LGAs in the State. The census figures also revealed that about 45

percent of the population in Ogun State lived in urban settlements while the remaining 55 percent lived in rural settlements of over 2,500 persons. With the population growth rate of 2.83 per cent per annum, the estimated population of Ogun State was put at about 3,297,408 and 3,486,683 in 2003 and 2005 respectively. The 2003 projections suggested that the population comprised 1.591 million males (49 percent) and 1.655 million females (51 percent). Of the 3.458 million population figure projected for 2005, 45 percent or 1.556 million people were estimated to be living in the urban areas, while 1.902 million or 55 percent were estimated to be in the rural areas. The urban population is spatially distributed over 19 settlements in 11 of the 20 local government council areas. By 2025 however, the number of settlements with population in excess of 20,000 is estimated to rise to 48, which is a three-fold increase over the 2005 figures Ogun State Regional Planning Report (OSRP, 2003).

The 2006 National Population census figures however indicate that Ogun State had a population figure of about 3,728,098. This consisted of 49.55 percent female and 50.45 percent male (see Table 2.1). This distribution suggests a population density of about 222 persons per square kilometre; with Abeokuta being the densest settlement of about 7,476 persons per square kilometre. The other fairly dense local governments are Ota, Ifo, Ijebu-Ode, Ikenne and Sagamu with population densities ranging between 300 and 900 persons per km^2. Going by current trends in population growth, experts are of the opinion that by 2025 the population of the State will be about 9.3 million. The total projected urban population by that year is also expected to be about 6.5 million, which is a significant increase from 46 percent estimated for 2005. This projected population growth is expected to be as a result of a number of factors-including increases in population due to fertility, rural-urban migration, impact of metropolitan Lagos as well as inclusion of four Local Government Areas of Ado- Odo/Ota, Ifo, Obafemi Owode and Sagamu in Ogun State as part of the Lagos Megacity Region (OSRP, 2003). These among other factors no doubt have implications for the demand for housing and infrastructure and perhaps constitute principal factors in determining the nature and trend in housing development in Ogun State.

Table 2.1: The population distribution across Local Government Areas in Ogun State

S/N	Local Government Areas	Male	Female	Total
1	Abeokuta North	96,872	104,457	201,329
3	Abeokuta South	118,346	131,932	250,278
3	Imeko /Afon	40,681	41,536	82,217
4	Egbado North	87,523	94,303	181,826
5	Egbado South	82,001	82,849	168,850
6	Obafemi-Owode	115,369	113,482	228,851
7	Ewekoro	28,154	27,002	55,156
8	Odeda	54,263	55,186	109,449
9	Ipokia	71,917	78,509	150,426
10	Ado-Odo/Ota	260,021	266,544	526,565
11	Ifo	267,587	257,250	524,837
12	Sagamu	123,801	129,611	253,412
13	Remo North	29,100	30,811	59,911
14	Ijebu North	138,419	145,917	284,336
15	Ijebu North-East	33,908	33,726	67,634
16	Ijebu East	57,233	52,873	110,196
17	Odogbolu	62,247	64,876	127,123
18	Ijebu Ode	74,754	79,278	154,032
19	Ikenne	68,729	50,006	118,735
20	Ogun Waterside	36,228	36,707	172,935
	Total	**1,847,243**	**1,847,243**	**3,728,098**

Data Source: Federal Republic of Nigeria (FRN, 2007)

2.2.0 Public Housing in Ogun State

2.2.1 Public Housing in Ogun State: Historical Perspective

The nature and magnitude of housing challenge in Ogun State, most especially in the urban areas, is not particularly different from what is obtained in other parts of Nigeria and many less Developed Countries in general. As Adedipe and Lasisi (2006) observed, the housing challenges in Ogun State are both in quantity and quality, and are more critical among low-income households in the urban centres. Moreover, the Ogun State Regional Plan (2005 - 2025) noted that the quality of housing and environment in the State is a reflection of a state of under-development of the housing sector. This document suggests that the fundamental issue militating

against adequate provision of decent and affordable housing in Ogun State in particular is the high cost of housing delivery.

Available statistics from the Ogun State Ministry of Housing indicate that as at 2007 the housing need in the State was about 240,000 units. This was estimated to increase by 7,500 housing units annually. In addressing this backlog of housing supply, Lasisi and Adedipe (2006) observed that successive governments at both Federal and State levels have evolved different administrative structures, policies and strategies aimed at improving the state of housing delivery in Ogun State. Historical facts show that the defunct Western Region Government under the Colonial administration pioneered public housing provision in what is today known as Ogun State. In the first instance, it is on record that it was through the Western Nigerian Housing Corporation established in 1956 (Omole, 2001) that the Ibara and Igbeba Housing Estates, which are the oldest public housing estates in Abeokuta and Ijebu-Ode respectively were constructed even before the creation of the State. The creation of Ogun State coincided with the period of the Third National Development Plan (1975-1980) and according to UN-HABITAT (2006c), this period witnessed government active involvement in public housing provision through different approaches. Consequently, Ogun State was among the then newly created States in Nigeria that benefited from the first ever government assisted self-help housing programme which took off in the late 1970s in the States of Bauchi, Benue, Gongola, Imo, Niger, and Ondo as well as Lagos. This scheme provided serviced plots, soft loans at fovourable terms and technical assistance as well as supervision to low-income people in constructing personal houses (UN-HABITAT, 2006a). Also, under the Federal Government of Nigeria's Housing Programme (1976-1980), twenty States of the federation including Ogun State was mandated to build 4,000 housing units each (Nwaka, 2005). Also the State participated in the implementation of the National Low-Cost Housing Scheme of the Fourth National Development Plan (1980-85). This scheme which was in pursuant to the National Housing Policy objective of providing affordable housing to the low-income earners through direct construction of housing was initiated by the Federal Government of Nigeria. However, evidence in literature shows that this scheme did not record any remarkable achievement across the country, including Ogun State (Onibokun, 1985; Awotona, 1990; Mustapha, 2002; Bello and Bello, 2006).

During the period of military administrations (1985-1999), no tangible evidence of the adoption of any new housing delivery strategies by the military administrations in the State was found in literature. Rather the housing policy of the first civilian government was continued with little or

no modifications by successive military regimes. The common practice then was the provision of budgetary allocation to the housing sector. One of the notable housing programmes implemented in Ogun State during the military era was the National Site-and-Services Programme launched in 1986 by the then Federal Military Government in Nigeria. This scheme attempted at providing serviced plots for low, medium and high density housing as well as for commercial and industrial developments (UN-HABITAT, 2006a). It is on record that about 20,000 serviced plots were provided across 20 States of the federation, including Ogun State (Ajanlekoko, 2001).

From the foregoing, it is evident that there is not much published works in public housing provision in Ogun State in the last few decades. Therefore, more research work is required to address this situation and improve our knowledge on public housing provision in this State.

2.2.2 The 2003 Ogun State Housing Policy

The administration of Otunba Gbenga Daniel (May 2003-May 2011) in recognition of the fact that housing is one of the basic human needs which has profound impact on people's welfare, social growth and economic development on assumption of office in 2003 formulated the State Housing Policy. The goal of this policy is to "*ensure that all interested people in Ogun State own or have access to decent, safe and healthy housing accommodation at affordable cost*" (Ogun State Ministry Of Housing, 2008). According to the housing policy, current approaches to solving the housing problem in the State were based on the need to develop housing schemes that would ultimately create employment opportunities, generate wealth and provide shelter for the people, as well as improve on the urban landscape of the State. This policy document was borne out of the need to improve socio-economic development and environmental sustainability in the State. Therefore, within the framework of this policy the government intended to:

  (i)   develop and sustain the political will for the provision of housing for the people in the State

 (ii)   provide adequate incentives and enabling environment for greater private sector (formal and informal) participation in the provision of Housing.

(iii)   strengthen all existing public institutions involved in Housing Delivery at the State level.

(iv)   encourage and promote active participation of other tiers of Government in Housing Delivery.

(v)   Create necessary and appropriate institutional framework for Housing Delivery.

(vi)   Promote measures that will mobilize long term and affordable funding for the Housing Sector.

(vii)   Strengthen the institutional framework to facilitate the effective Housing Delivery.

(viii)   Promote the use of locally produced building materials as a means of reducing the cost of housing by government agencies setting the example.

(ix)   Promote the use of Nigeria professional input in appropriate design and technology in housing delivery.

(x)   Improve the quality of rural housing, rural infrastructure and environment.

(xi)   Make easily available accessible and affordable land for housing development.

(xii)   Promote the development of a State housing market

(xiii)   Provide adequate fire services in the State

(xiv)   Empower the State Ministry of Housing and other agencies of government.

(xv)   Encourage Public/ Private sector partnerships e.g. in the Gateway City.

(xvi)   Provide enabling environment for other participants e.g. Sparklight, Wemabod (Ogun State Ministry of Housing, 2008)

The above objectives of the State's housing policy suggest the following. First, the housing policy of Ogun State focuses on employment and wealth creation through public housing schemes. Second, there are provisions for housing all categories of income earners in the State. Third, the housing policy provides a framework for the initiation and implementation of public housing schemes that encourage social cohesion in the society. Finally, the housing policy is expected to promote private sector participation in public housing and infrastructure provision through public-private partnerships in the study area.

2.2.3 Objectives of Public Housing Provisions in Ogun State

Public housing as used in this study represents all organized methods which Ogun State Government adopted in providing housing and related services to target population. It is basically derived from the State's housing policy, and demonstrates the commitment of the State Government and her agencies to addressing housing problems in the State. In this study, the public housing provisions include the operational public housing programme, the housing delivery strategies used, housing programme theory and the different agencies involved in the actual provision of housing units and related services. In pursuant of the objectives of the State's housing policy discussed in section 2.3.2, Ogun State government in 2003 initiated an integrated public housing programme known as the OGD Housing Programme. This public housing programme was designed to, among other benefits, enhance the:

(i)   evolution of appropriate institutional framework for housing delivery

(ii)   promotion of greater private sector participation in the provision of housing

(iii)   creation of employment opportunities and wealth as well as and improve on the
         quality of   urban landscape in the State.

(iv)   security of land tenure and home ownership among all socio-economic groups

(v)   greater use of locally produced building materials as a means of reducing the cost of
        housing in the State

(vi)   peaceful co-existence and social cohesion among all socio-economic groups in the society.

(vii)   development of self-sufficient housing estates, secured, peaceful and serene environment
        that meets the daily challenges of all residents, and

(viii) provision of adequate housing for all interested persons in the State.

These intended or expected outcomes outlined above are the key objectives of public housing in Ogun State as they encapsulate what public housing is out to achieve and the expected impact on beneficiaries. However, the focus of this study is the validity of the underlying assumptions of public housing in the study area.

2.2.4 Housing Delivery Strategies in the Public Housing Programme

Globally, the implementation of every social programme follows defined strategies. Consequently, the outcome of such programmes depends on the strategies used in their

implementation. It is for this reason that this section examines the different housing delivery strategies used in the implementation of the public housing in this State. Housing delivery strategies in this study refers to the activities, events, processes or functions employed in the transformation of housing policies, programme objectives, human and material resources into housing units and related services. They include the different approaches used in realizing the objectives of public housing in the State.

Preliminary investigations revealed that five housing delivery strategies, namely: government-assisted core housing, shell stage, turnkey (build and sell), Public-Private Partnership, and site-and services were used in public housing in Ogun State. However, the focus of this study was on completed and occupied housing units developed through the core housing, shell stage, turnkey (build and sell) and public-private partnership strategies. The subsequent sections of the thesis examine the general underlying principles in these housing delivery strategies as practiced in Ogun State.

(i) Government Aided Core Housing Strategy

The first among housing delivery strategies used in public housing provision in Ogun is the government aided self-help core housing strategy. This strategy which is otherwise known as incremental housing (Greene and Rojas, 2008) became popular in the 1960s and early 1970s when many governments in newly industrializing and Developing Countries embarked on large scale public housing schemes or enlarged existing ones. According to the Swedish International Development Cooperation Agency (1997), such schemes were supported by aid from International aid agencies such as the United States Agency for International Aid (USAID), Swedish International Development Cooperation Agency (SIDA) and the World Bank. Balchin et al (2000) noted that the World Bank for instance provided over 50 newly –industrializing and Developing Countries with loans that facilitated the development of aided self-help housing, and that this finance institution was involved in 116 projects between 1972 and 1990. Specifically, in Nigeria the first government aided self-help housing scheme was a tripartite arrangement between the World Bank and governments in Nigeria in the mid 1970s (UN-HABITAT, 2006a). Generally speaking, the core housing strategy is found within the concept of enabling approach to housing with the aim of allowing government provide the necessary environment that facilitates the contribution of households in providing for themselves access to decent housing. This suggests that the key advantage of core housing strategy is that it tailors housing

construction process to saving, convenient and flexibility of households which may have implications for housing affordability and satisfaction.

Within the context of Ogun State, the core housing delivery strategy was initiated by the government of Gbenga Daniel to assist low and middle-income civil servants gain access to basic habitable core housing. Available data from both the Ministry of Housing and Ogun State Housing Corporation (Table 2.5) shows that these two public agencies adopted this strategy in their respective public housing schemes. However, in recent times, the former has employed this strategy in developing 270 units in the OGD Workers Estate at Laderin–Abeokuta with the goal of providing housing for low and middle-income civil servants on mortgage basis. The original concept of this strategy was the provision of 1-bedroom core housing to beneficiaries (Appendix 2). Three basic steps in the core housing strategy as implemented by the Ogun State Ministry of Housing can be identified. These steps included provision of land, construction of a basic 1-bedroom habitable core and provision of basic amenities as well as allocation of the completed units to qualified and interested civil servants.

The OGD Workers' Core housing scheme was funded through the Ministry's financial allocation from the State government. The project was executed in phases and had the original mandate of providing about 1,000 housing units for low and medium-income earners. At the time of this survey the second phase of about 270 units had been completed and allocated. The allocation process of the completed housing units was based on mortgage arrangement. The first group of beneficiaries paid the sum of ₦97, 500(10%) of initial cost per housing unit through the Ogun State owned Primary Mortgage Institution- Gateway Savings and Loans Limited. The balance of ₦975, 000 is expected to be paid back within the period of between 10 and 20 years, and beneficiaries are free to add extra two bedrooms to their residence as their economic status improve.

The Ministry's involvement in direct housing production through the core housing strategy is viewed as one of the most viable ways to stimulate the supply of low-cost housing to meet the housing needs of low and middle income civil servants in Ogun State. The main advantages of core housing is that, first, it promotes home ownership, tenure security and save the beneficiaries from the problems associated with rental housing and indigenous land owners. Second it adjusts the housing building process to the savings capacity of households. Lastly, it encourages the

participation of housing users in the development of their homes. This approach has implications for housing adequacy and residential satisfaction.

Plat 1: View of the Core Housing Estate

(ii) Turnkey Housing Delivery Strategy

Another housing delivery strategy used in the study area is the Turnkey housing strategy. This strategy is also referred to as 'build and sell' in many countries (Yusof et.al, 2010). Sengupta and Ganesan (2004) noted that this housing delivery approach was a major policy initiative towards diversification of housing market through the sale of completed public housing units to the public at cost below market prices. In Ogun State, the turnkey housing delivery strategy is a common strategy among the four public housing agencies investigated. The turnkey housing delivery strategy involves land acquisition, housing construction, provision of infrastructure and social services as well as marketing of completed housing units to interested members of the public. The turnkey housing delivery strategy as practiced in Ogun State entailed project design and land acquisition. At the construction stage, direct labour and contract approaches were often used. In the former approach, tradesmen were engaged in the different sections of the work; whilst in the latter, independent building contractors were engaged. However in both cases, the organizations engaged their in-house staff in overseeing and supervising the construction work. Turnkey housing projects in Ogun State were usually funded through internally generated revenue and external loans. The expenditure on such projects was regarded as investments which the organizations recouped from the proceeds of public acquisition of completed housing units. This is an indication that this housing delivery strategy depended less on allocation from the

State government, which is different from the direct construction of housing by public agencies in the 1970s and 80s when governments were directly involved in sponsoring the construction of housing units for allocation to public servants and politicians.

Three modes of acquisition of turnkey housing units were identified in public housing in Ogun State. The first mode required prospective buyers to make an initial deposit of certain percentage of the total cost of housing unit while the balance was paid at the completion of the house. The second mode was full payment of the cost of the house before or after construction was completed, that is outright purchasing. Almost all the housing units constructed through this approach by the four organizations were acquired through these two modes of payment. The last mode of acquisition was the mortgage arrangement. This was used by the Ogun State Housing Corporation's Presidential Mandate Housing Scheme in Kemta Extension Housing Estate Olokota-Abeokuta. Under this arrangement 2-bedroom and 3-bedroom flats en-suit (See Appendix 3) were acquired at the cost of ₦4 million and ₦4.5million respectively.

The adoption of this housing delivery approach according to the Head of Engineering Services in OPIC was to *"addressed the problems of multiple payments for land and titling documents as well as protect buyers from the Omo-onile factor"*. He further explained that the approach relieved buyers of completed houses of the burden associated with the process of housing construction, as well as ensured that the process of acquisition was transparent, secured and devoid of third party encumbrances . In the Ministry of Housing, the turnkey delivery strategy was mostly targeted at persons in the Diaspora wishing to have a house back at home. Under this arrangement, the Ministry collected money from interested persons and constructed houses for them under the "Abosimi" housing scheme. Generally, the turnkey strategy was specifically targeted at the middle and high income people as the houses were provided and sold at commercial rates.

Plate 2: View of the Media Village, Abeokuta at Commissioning (source: Ministry of Housing)

Plate 3: Typical semi-detached 2-bed room Bungalow in the Media Village, Abeokuta

Source: Field Survey (2009)

Plate 4: Three Bed room Bungalow in the Presidential Mandate Housing Scheme constructed with burnt bricks

(iii) Public Private Partnership (PPP) Housing Delivery Strategy

Public Private Partnership (PPP) housing delivery strategy is one of the most recent housing delivery strategies in Ogun State. This strategy is borne out of the need for government to collaborate with private sectors in housing and service provisions. PPP as the strategy is commonly referred to, represents collaboration between the public, private commercial and not-for-profit private sectors in decision making, resources commitment, sharing of responsibilities, risks and benefits, based on division of labour and comparative advantage as well as interdependence in housing and services provision. The adoption of this approach in housing provision stemmed from the recognition that neither the public nor private sector can independently address increasing housing challenges in countries with critical housing needs (World Bank, 1993; Mukhija, 2004). Therefore, Ong and Lenard (2002) and Ikekpeazu (2004) have argued that PPP has the potentials of addressing   housing and service delivery challenges in many countries.

In Ogun State, the Director of Estate in the Gateway City Development Company Limited (GCDCL) observed that the adoption of this housing delivery strategy in the State was based on (i) the desire to relieve government agencies of some level of financial, managerial and

operational burden they experience in other conventional public housing delivery strategies (ii) the trust and confidence government has on the expertise and competence of the private sector in addressing challenges (e.g. finance, bureaucracy, mismanagement of resource, inefficiency etc) that usually characterised public housing provision and (iii) the need to provide an enabling environment necessary to enhance private sector participation in housing provision as advocated in the enablement strategy to housing and infrastructure provision. Of the four public housing agencies investigated, only Gateway City Development Company Limited (GCDCL) had successfully undertaken PPP housing schemes in Ogun State. Specifically, two private commercial housing developers: Grant Properties Limited and Sparklight Properties Development Company Limited were in partnership with GCDCL in PPP housing provision strategy. These organizations were involved in the development of Havilah Villas Estate in Isheri and OGD-Sparklight Estate, Ibafo respectively. The two housing estates involved land acquisition, housing construction, provision of infrastructure and social services as well as marketing of completed housing units. The schemes were implemented based on the Memorandum of Understanding (MOU) and Development Lease Agreements (DLAs) signed separately between GCDCL and the two private sector partners. Whereas the MOU identified the partners, their roles, type of PPP, equity holdings and benefits of each partners as well as the conditions and type of houses provided; the DLAs indicated the commitments of GCDCL to providing land and other assistances to the two private developers in realising the housing projects.

In the OGD-Sparklight Housing Estate, Ibafo, the GCDCL provided land at subsidized price and constructed the access road linking the estate to the Lagos-Ibadan Express way. The Sparklight Property Development Company Limited on the other hand designed the project and financed the construction of housing units and infrastructure in the housing estate. However, both the GCDCL and the private sector organization jointly marketed the completed housing units, which signify the end of the partnership. A typical 2-bedroom terraced bungalow in this estate was sold at the cost of N3.45million, detached 2-bedroom (₦4.38million),semi-detached 3-bedroom(₦5.52million) and detached 3-bedrom bungalow (Appendix 4 and Plat 5) sold for (₦6.5million). The estate is currently maintained by the Sparklight Property Development Company Limited and this attracts an annual service charge of thirty thousand Naira (₦30, 000) per housing unit.

Plate 5: Typical Detached 3-bed room bungalow in the OGD-Sparklight Estate, Ibafo

Plate 6: View of unoccupied housing units in the OGD-Sparklight Estate, Ibafo

(iv)Shell Stage Housing Delivery Strategy

The last but not the least of the housing delivery strategies used in public housing provision in the study area is the Shell stage housing delivery strategy. Although not a very common strategy compared to the core housing and turnkey strategies, preliminary investigation by the researcher revealed that Ogun State Housing Corporation (OSHC) adopted this strategy based on the assumption that it can assist in addressing the complaints of poor quality finishes by buyers of houses provided in turnkey housing projects. According to the Head of Department of Estate

in Ogun State Housing Corporation, *"..the idea of shell housing was muted due to frequent complaints by housing users of poor quality finishes in turnkey housing schemes"*. Therefore, the Shell housing strategy unlike turnkey strategy allows the intended user(s) to make inputs in the finishes and fittings of their houses.

Shell housing strategy, as practiced by the OSHC, involved land acquisition and construction of the "skeletal structure" of the building without the finishes and supporting services for all income groups. It is believed to lessen the burden on housing providers of some logistic and cost implications involved in the turnkey approach as this strategy basically involves both the developers and the householders in the development of the housing units and related services. Whereas the developer provided land, designed and constructed the physical structure (walls and roofing) of the buildings as well as provided roads and electricity in the estate, house buyers installed windows, doors, sanitary facilities and choice finishes according to individual taste. It is based on the practice that housing providers constructed only the physical structure (shell) of the houses without finishes before selling them to the public that this strategy is referred to as shell stage strategy. However, it is observed that shell housing strategy can result to uneven development of housing estates. This is because individuals who acquire such houses do finish up and occupy the housing units at different times. In the shell housing schemes of the Ogun State Housing Corporation at Abeokuta and Ota, 4-bedroom and 3-bedroom detached bungalows (Plate 7 and 8) were sold at the cost of about ₦4.5million and ₦3.5million respectively.

Plate 7: View of Unoccupied Shell Housing Units in OSHC Housing Estate, Ota

Plate 8: Occupied Housing Units in the OSHC Estate, Ota

From the foregoing discussion on the different housing delivery strategies and how they are practised in Ogun State, it can be inferred that the distinguishing feature of the four different strategies is basically the level of involvement of public housing agencies and householders in the development of the housing units. Whereas, householders participate in the structural development of the housing units in the core housing strategy, they are involved in the finishing work of housing units in the shell stage strategy. On the contrary, householders are not involved in the development of housing units in the turnkey and PPP housing delivery strategies. Although the PPP delivered completed housing units as in the turnkey strategy, the former entailed greater involvement of private sector organisations than in the latter strategy. It is therefore on the basis of level of involvement of home buyers and public housing agencies that these four housing delivery strategies were classified and assessed in this study.

2.3.0 Public Housing Agencies in Ogun State

There is a general consensus that institutional framework plays a key role in housing policy formulation and implementation (Federal Republic of Nigeria, 1991). In recognition of this, Ogun State Government established a number of organisations to support its housing programme. For instance, a separate Ministry of Housing was carved out of the old Ministry of

Works and Housing in 2003, and a year later the Gateway City Development Company Limited (GCDCL) and Gateway Savings and Loans were established. These are in addition to existing agencies. This study identified a total of ten government agencies involved at different levels of public housing provision in Otunba Gbenga Daniel's administration in Ogun State. These are the Ministry of Housing; Ministry of Special Duties; Bureau of Lands and Survey; Bureau of Urban and Physical Planning; Ogun State Urban and Regional Planning Board and Ogun State Property and Investment Corporation. Others are the Ogun State Housing Corporation; Gateway City Development Company; Housing Project and Gateway Savings and Loans Limited. However, this study considered it necessary to distinguish between public organizations involved in actual production of housing from those that facilitate the process of housing production. Based on this distinction, Ogun State Ministry of Housing (MOH), Ogun State Housing Corporation (OSHC), Ogun State Property and Investment Corporation (OPIC) and Gateway City Development Company Limited (GCDCL) with evidence of completed and occupied housing units were selected for further investigation in the current study.

A brief review of the history, goal and objectives as well as achievements of the four agencies in the last few years were examined in subsequent sections of this thesis. This is considered important for our understanding of the antecedents of these agencies as well as their current efforts in public housing provisions, particularly as they are the key public housing providers in the study area.

2.3.1 Ogun State Housing Corporation

Ogun State Housing Corporation (OSHC) is the oldest State Government owned public housing agency in the study area. This agency took over the task of public housing provision in Ogun State from the Western Nigerian Housing Corporation at the creation of Ogun State in 1976. The OSHC came into existence through the enactment of Ogun State Edict No. 11 published in Ogun State of Nigeria Gazette No. 12 Vol.2 of 16th June 1977. The mission of the organization stemmed from the need to increase the availability of dwelling houses as well as provide commercial and industrial buildings in a decent, safe and neat environment at affordable cost to members of the public in the State (OGSHC, 2008a). Therefore the major activities of the organization have tended to focus on the following areas:

   (i) Security of land tenure for residential, commercial and industrial purposes

(ii) Utilization of local building materials to conserve foreign exchange

(iii) Cost- effective use of conventional building materials

(iv) Consultancy/Professional services from project planning to turnkey completion

(v) Earth-moving equipment and plant hire, and

(vi) Mortgaged facilitation (OGSHC, 2008b)

The Corporation was originally charged with the responsibilities of managing and maintaining residential, industrial and commercial estates in all the geo-political zones in the State. Although the first major assignment of OSHC was the implementation of the National Low-Cost Housing Scheme of the Fourth National Development Plan (1980-85), so far the operations of the Corporation had centred on five basic activities of property development, site-and services, consultancy services, equipment hiring, and estate management. In carrying out the above activities, OSHC has operational units/departments such as administration, works, estate and finance. Each of these units is headed by a Director who is responsible to the General Manager. The contributions of OSHC in the real estate sub-sector is seen in a number of residential, commercial and industrial estates it maintains across the State. These include 12 in Abeokuta area, 7 in Ota area, 8 in Ijebu area and 1 in Ifo (OSHC, 2008b). Table 2.2 shows the locations and sizes of projected and completed housing units by OSHC between 2003 and 2009.

Table 2.2: Completed and Planned Housing Units by the OSHC Estates

Housing Estates	Quantity	Delivery Strategy	Income Class
OSHC Estate, Ota*	60	Shell Housing	Low, Medium
Kemta Housing Extension, Olokota-Abeokuta*	88	Turnkey	Medium, High
Ajebo Road Estate, Abeokuta*	100	Shell Housing	Low, Medium
OGD Housing Estate, Ago-Iwoye	100	Core Housing	Low, Medium
Ibara Renewal Scheme Estate, Abeokuta	300	PPP	High
Housing Estate, Ayetoro	100	Turnkey	Low, Medium
Total	**748**		

Data Source: Ogun State Housing Corporation (2008); Ministry of Housing (2008)

*Completed

2.3.2 Ogun State Property and Investment Corporation (OPIC)

Next to OSHC in age is Ogun State Property and Investment Corporation (OPIC) which was established by Edict No.10 of 1985 which took effect from September 1st 1984. OPIC was established basically to open up landed properties of the State and carry out the business of

property development in any part of Nigeria. It is the third public housing agency established after the Ministry of Works and Housing and Ogun State Housing Corporation. OPIC's mandate is to fully explore the potentials and opportunities in landed properties in Ogun State in particular and in all parts of Nigeria through the establishment of residential and industrial estates that offer affordable accommodation and infrastructure to prospective clients in all its estates. According to OPIC (2008), the mission of the organization is to provide for their clients, at all times, affordable accommodation in a world class secured, peaceful and serene environment, with a conscious and determined effort to make the estates absolutely self-sufficient in meeting the daily challenges of all residents. In this regard, OPIC has been vigorously pursuing the following core objectives:

(i)   Generating employment for skilled and unskilled labour and for professionals in the property industry

(ii) Participating in global effort to minimize environmental degradation

(iii) Maintaining the status of a revenue-generating and self-sustaining government agency

(iv) Maintaining and promoting a culture of transparency, openness, accountability, integrity and excellent service delivery in its operations. (OPIC, 2008).

However, the core activities of this organization revolve around the following areas:-

(i)   The establishment of industrial and residential estates.

(ii) Performance of the duty of planning authority within the confinement of the organization's estates.

(iii) Preparation of layouts of its landed properties into industrial and residential estates for allocation to members of the public and organizations.

(iv) Development of parts of its landed properties and letting them out on commercial basis.

(v)   Development, construction and management of housing and industrial estates vested in it within and outside Ogun State.

(vi) Undertaking the business of builders, architects, consultants, surveyors, bricks, blocks and tile makers as well as house and estate agents.

(vii) Selling, leasing, letting, mortgaging and disposing off landed property, land, house or building on its estate (OPIC,2009).

In pursuant of the above listed objectives, OPIC has established two subsidiaries, namely, OPAIC Company Limited and OPIC Consult. The former is a commercial outfit that deals with bulk buying of construction materials for OPIC's construction works, and its clients. It also engages in the production of concrete blocks and survey beacons for use in the Corporation's

estates. The latter offers consultancy services in the areas of architecture, quantity surveying, civil, structural, and electrical engineering to the public. It is also involved in turnkey construction projects. These make, OPIC a profit –orientated organization established by Ogun State government to engage in real estate business.

OPIC's involvement in real estate development since its inception can be seen in the number of residential and industrial estates developed and managed by it in Agbara, Abeokuta and Mowe. It also has landed properties in Agbara and Abeokuta as well as OPIC Teak Plantation at the outskirt of Abeokuta (OPIC, 2008). Table 2.3 shows the number of projected and completed housing units by OPIC in Abeokuta and Agbara between 2003   and 2009.

Table 2.3: Planned and Completed Housing Units by the OPIC.

S/N	Housing Estate	Quantity	Delivery Strategy	Class
1	OPIC Housing Estate , Agbara*	60	Turnkey	Low , Medium
2	Obasanjo Hilltop (GRA) Estate, Abeokuta*	32	Turnkey	High
3	High Income Luxury Scheme, Abeokuta	200	Turnkey	High
4	Medium Housing Scheme , Abeokuta	500	Turnkey	Medium
	Total	**792**		

Data Source: OPIC Publications (2009) Ministry of Housing (2008)

* Completed

2.3.3 Gateway City Development Company Limited (GCDCL)

The Gateway City Development Company Limited, established in 2004 by the Executive Governor of Ogun State, Otunba Gbenga Daniel, is one of the youngest public housing agencies in Ogun State. Being a commercial real estate organization arm of Ogun State Government in the Lagos Mega City Area, GCDCL is charged with the responsibility of overseeing the development of the Gateway City Estates and other developments along Isheri-Sagamu axis of the State. The goal of this organisation is therefore to concentrate on the development of the Gateway City by ensuring orderly and robust development of this part of the State. For this reason, GCDCL is vested with the authority of scrutinising all physical developments along the Lagos-Sagamu expressway axis inter-phase between Lagos and Ogun States. This Company also ensures strict compliance with urban and physical development legislations in the area under its jurisdiction. Generally, the objectives of this organization are to:

(i)   engage in the business of real estate development;

(ii) build, create and ensure well-planned and orderly developments within the Gateway City;

(iii) be an active player and facilitator in the proposed Lagos Mega City Project;

(iv) provide business and friendly environment for local and foreign investors and

(v) become a prime developer, lender and owner-operator of commercial, residential and recreational property. However, its core business areas are:

(i) management of real estate portfolio,

(ii) rendering assistance to clients in selling and lease backing property on long –term basis,

(iii)joint venture project (Public-Private Partnership) in the development of housing schemes for the low, middle and high income earners,

(iv)the provision of site–and services scheme for residential, commercial and industrial purposes.

The list of planned and executed housing schemes by the GCDCL in partnerships with some private sector organizations between 2003 and 2009 is displayed in Table 2.4

Table 2.4: Planned and Completed Housing Units by the GCDCL

S/N	Housing Estates	Quantity	Delivery Strategies	Income Class
1	Havilah Villas, Isheri*	160	PPP	Medium, High
2	OGD-Sparklight Housing Estate, Ibafo*	340	PPP	Low, Medium, High
3	Paradise City, Magboro	300	PPP	Low, Medium, High
	Total	**800**		

Data Source : Gateway City Development Company Limited (2008) Ministry of Housing (2008) * Completed

2.3.4   The Ogun State Ministry of Housing (MOH)

The last of the public housing agencies investigated is the Ogun Sate Ministry of Housing which was carved out of the old Ministry of Works and Housing in 2003. It is the supervising Ministry responsible for co-ordinating the activities of all the parasatals involved in public housing provision in the State. This Ministry is charged with the responsibility of initiating and coordinating public policies in housing, urban development and the environment. Specifically, the Ministry is involved in the evolution of the Ogun State Housing and Urban Development

Policies, development of the State's Regional Plan, design, planning and co-ordinating the State's public housing programme and provision of prototype housing units in the State

Table 2.5 is the list of planned, ongoing and completed housing projects by the Ogun State Ministry of Housing between 2003 and 2011

Table 2.5: Planned and Completed Housing Schemes by the MOH

S/N	Housing Estates	Quantity	Delivery Strategies	Income Class
1	Workers Estate, Abeokuta*	270	Core Housing	Low, Medium
2	Media Village Abeokuta*	104	Turnkey	Low, Medium
3	OGD Housing Estate, Asero – Abeokuta*	212	Turnkey	Low, Medium, High
4	OGD Housing Estate, Itanrin, Ijebu-Ode*	30	Turnkey	Medium, High
5	OGD H. Estate Iperu	250	PPP	Medium, High
6	OGD H. Estate, Igbesa	350	PPP	Medium , High
7	OGD H.Estate. Ifo	350	PPP	Medium, High
8	OGD H Estate, Sagamu	50	Core Housing	Low, Medium
9	OGD, H. Estate, Ikenne Town	100	Core Housing	Low. Medium
10	OGD H.Estate, Oru, Ijebu	100	Turnkey	Low, Medium
11	OGD H. Estate, Ijebu-Igbo	100	Turnkey	Low, Medium
12	OGD H. Estate	100	Turnkey	Low, Medium
13	Abosimi H. Estate, Idiroko	100	Turnkey	Low, Medium
14	OGD Vertical Estate, Isoroti-Ota	50	PPP	Medium
15	Housing Estate, Olokonla	3000	PPP	Low, Medium, High
16	Abosimi Estate, Ogbere East	100	Turnkey	Low, Medium
17	H. Estate, Erunwun Isonyin (NE)	100	Turnkey	Low, Medium
18	High Rise Apartment, Laderin	30	Turnkey	Low, Medium
19	OGD Abosimi Estate., Omu-Ijebu	50	Core Housing	Low, Medium
20	OGD Estate, Oguo	300	PPP	Low, Medium
21	OGD Estate, Itele-Ota	300	PPP	Low, Medium
22	OGD Abosimi Estate, Kobape	500	PPP	Medium , High
23	Abosimi Housing Estate, Imeko	50	Turnkey	Low, Medium
24	Abosimi Housing Estate, Isara,	50	Turnkey	Low, Medium
25	Housing Estate, Odeda	100	Turnkey	Low, Medium
26	Housing Estate, Ota	300	Turnkey	Medium , High
27	Housing Estate, Ilaro	100	Turnkey	Low, Medium
28	Teachers' Village, Abeokuta	300	Core Housing	Low, medium
29	Health Workers' Estate, Abeokuta	300	PPP	Low, Medium
	Total	**11,166**		

Source: Ogun State Ministry of Housing (2008)

* Completed

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The Ogun State Ministry of Housing like most government ministries and agencies in Nigeria carries out its programmes and activities in seven different Departments of Housing, Architectural Services, Planning, Research and Statistics as well as Public Buildings. Others are Administration and Supply, Electrical Services and Accounts. In each of these Departments are core civil servants consisting of professionals, seasoned administrators, technicians, secretarial staff and tradesmen

2.4 Summary

In this Chapter, attempt was made at providing additional information that could not be contained in Chapter One, particularly, in relation to the context of this study. It presented a description of Ogun State (the study area) with regards to its geographical and demographic characteristics as well as socio-economic, political and administrative settings. In addition, the Chapter discussed the goal and objectives of Ogun State Housing Policy and OGD Housing Programme. Specifically, the Chapter identified the underlying objectives of the public housing and the public housing agencies involved in the study area. Moreover, the Chapter discussed briefly the key underlying principles and practice of the four different housing delivery strategies used in the public housing provision in the study area. It was noted that the basis for classifying the strategies was on the level of involvement of the housing providers and consumers in the development of the housing units. Apart from the planned and completed number of housing units and strategies used by the different public housing agencies, not much was found to have been documented on public housing provision. This suggests that the current efforts in public housing in Ogun State have not been evaluated and thus there is a gap in literature which this study has attempted to fill.

In summary, this Chapter can be considered to have provided relevant background information required for insights into the contextual situation of this research, particularly on issues related to the housing policy, public housing provision, the underpinning objectives as well as the strategies used by the different public housing agencies in the study area.

CHAPTER THREE

REVIEW OF RELATED LITERATURE

3.0 Introduction

The aim of this Chapter is to present and discuss current state of knowledge on the subject of this study. It seeks to review related literature on studies on public housing, evaluation research and the evaluation of public housing as a social intervention programme. This Chapter is particularly important as it helps in identifying existing gap in literature, which this study attempts to fill. It is also necessary in positioning this study within the context of existing body of knowledge. The Chapter begins with a review of literature on evaluation research; this is followed by a review of the different aspect of studies in public housing, with the identification of the aspects this study is interested in. Next is the review of literature on evaluation of public housing with emphasis on conceptual approaches to evaluation of public housing with focus on post occupation evaluations (POEs), evaluation studies, and evaluation of housing quality and adequacy. Methods used in the evaluation of public housing schemes are also discussed, and based on the literature review; factors influencing evaluation of public housing are identified and discussed. Also, literature on the relationship between housing and quality of life is reviewed as the Chapter ends with a summary of key issues discussed and findings from the review of literature.

3.1.0 Evaluation Research

The study reported in this thesis is an evaluation of public housing. Generally, the rational for public housing is to address the social problem associated with inadequacies of housing provision. Public housing is considered a social programme and by extension, the study is evaluation of social housing programme. It is on this premise that this section of the thesis reviews literature on evaluation of social programme. This review is considered necessary, first in identifying issues in evaluation of social programmes in general and public housing in particular and second, in putting the current study in context.

Generally speaking, evaluation has been defined and viewed from different perspectives. This is because according to Rossi et al (2004), evaluation is a multi-disciplinary endeavour, and as such each discipline defines evaluation based on its disciplinary perspective. This notwithstanding,

there is a consensus among authors that evaluation is a study involving collecting, analyzing, interpreting and reporting information on a thing, place, process or event (Stufflebeam, 1999; Purdon et al., 2001; Bennett, 2003; Rossi, et al, 2004; Rowe and Frewer, 2004; Bamberger et al, 2006). This means that evaluation is used in diversified fields in answering a wide range of questions about human activities, habits, policy interventions, programmes and projects (Hatry, 1980). The above view on evaluation, particularly with respect to addressing questions on social programmes and projects is adopted in this study.

Social programmes in this context are rational actions taken to address serious multifaceted social problems such as, crime, housing, health, education and physical infrastructure (Stake, 1986; Sampson, 2007). According to Rossi et al (2004), social programmes relate to organised, planned, and/or ongoing (e.g. housing, health, education) programme designed to ameliorate a social problem or improve social condition. One of the key unique features of social programme is that it is usually based on programme theory, which describes how the programme will lead to intended outcomes (Weiss, 1995; Patton, 2002; Stame, 2004; Rossi et al, 2004; Bamberger et al, 2006). Thus evaluation of social programme such as public housing involves systematic assessment of the operational strategies and outcomes of public housing, with a view to contributing to the improvement of people's well being in society. As Rossi et al. (2004:29) rightly pointed out *"the evaluation of social programmes involves the use of social research methods to systematically investigate the effectiveness of social intervention programmes in addressing challenges of social concern in the community"*. This suggests that the evaluation of social programme is related to the evaluation of public housing, as the essence of public housing is to address social challenges resulting from housing provision inadequacies in the community (Rossi, et al., 2004; Sampson, 2007).

Evidence in literature shows that the evaluation of social programmes usually take two main forms: formative and summative evaluations. The formative evaluation is otherwise called process or progress evaluation, and seeks to gather information during the process of implementation of the programme. This is with a view to informing development of the programme (Patton, 2002; Bennett, 2003). It addresses questions of programme implementation and how this relates to the achieved objectives on one hand (Bingham and Fellbinger, 1989; Stewart et al., 2001; Purdon et al., 2001) and programme activities and clients' satisfaction with the services provided on the other hand. This form of evaluation provides answer to questions on

how, why, and under what conditions programmes or projects work or fail to work (Stewart et al., 2001; Purdon et al., 2001; Davies, 2003; Bennett, 2003). Most of satisfaction studies in public housing fall under this category. In contrast, summative evaluation seeks to gather information on the effectiveness of a programme after it has been implemented (Bennett, 2003). This is also known as outcome or impact evaluation. It seeks to answer the question of the relationship between the goals of a programme and its outcomes, as well as measures how a programme works, that is its effectiveness and ways of improving them (Patton, 2002). Studies (Awotona, 1987; Bana, 1991; Mustapha, 2002; Obeng-Odom, 2009) which examined the outcomes of public housing are examples of summative evaluation studies in public housing.

From the above discussion, one can infer that evaluation of public housing schemes or programmes as social programme can be conducted during or after the implementation of the programme or the project is in progress or completed. In both cases, key issues of primary concern are whether a programme is a success or a failure in meeting a set goal and objectives, what factors account for whichever outcome and how best to improve on the process and outcomes. In this context, the two basic forms of evaluation of social programme serve as feedback mechanism for policy, programme design and implementation. Although, the public housing schemes under investigation are currently being implemented, yet this study relied on completed housing units to evaluate the outcomes in relation to the goal of public housing. For this reason, this study can be considered more or less as a summative evaluation.

With regards to evaluation models in social programme evaluation, Patton (2002) identified five distinct evaluation models. These are goal-based evaluation, goal-free, transaction, connoisseurship, and utilization-focused evaluation models. These models, Patton further noted can be adopted in different types of evaluation research. The goals-based evaluation model measures the extent to which a programme has attained specific objectives. It is the traditional evaluation thinking and practice that focuses on the intended services and outcomes of social programme. Rossi et al (2004) and Weiss (1995) stressed the importance of goals in evaluation studies. They reiterated the need to clearly specify measurable programme goals before the programme can be evaluated. This implies that an evaluator needs to be aware of goals of the programme before the evaluation research is undertaken. Studies (Taher, 2001; Obeng-Odom (2009) are examples of goal-based evaluation of public housing in Egypt and Ghana respectively, as they evaluated public housing projects based on set goals.

Scriven (2001) on the other hand proposed a goal-free evaluation as an alternative model to goal-based evaluation. The goal-free evaluation model is a clear departure from the classical goal-based model. According to Patton (2002), goal-free evaluation entails gathering data on a wide range of actual effects or outcomes of programme, before comparing the observed outcomes with actual needs of beneficiaries. Goal-free evaluation among other things prevents pitfalls inherent in narrowly studying stated programme objectives and thus leaving out crucial unanticipated outcomes. It also eliminates the negative connotations associated with discovery of unanticipated effects; removes the biases introduced into evaluation by prior knowledge of programme goals; and ensures independency of the evaluator on goals and programme staff that can limit the evaluator's freedom of enquiry (Patton, 2002). The above submission suggests that in a goal-free evaluation the evaluator has no prior knowledge of the programme goals, only a programme's observable outcomes and documentable effects are studied with respect to programme participants' needs. This implies that this evaluation model is based on inductive research strategy. The goal-free evaluation model is not very common in public housing because evaluators of public housing most often have prior knowledge of the goals of public housing schemes.

In transaction evaluation model, emphasis is on the importance of developing understanding of people and programmes in context of naturally occurring phenomenon devoid of external controls or manipulations. This model of evaluation is based on the assumption that evaluation becomes more meaningful if data are collected through direct interactions and transactions with a programme and its target population (Patton, 2002). It places programme's stakeholders at the centre of the evaluation. This is in contrast to the connoisseurship evaluation model which places the researcher's perceptions and expertise at the centre of the evaluation process. This implies that the evaluator studies the programme based on the perspective developed by his own perception and judgement of what constitutes success or failure of the programme. Notably, in the connoisseurship evaluation model evaluator is seen as qualitative researcher and artistic critic of the programme being evaluated. Therefore, the evaluator's act of making critical appraisal of programmes is considered to be similar to the classical tradition of literary and artistic criticism (Patton, 2002). Whereas the transaction model is common in public housing because most evaluation of public housing place stakeholders at the centre stage of the evaluation and data collected from the target population; the connoisseurship model is not common in public housing

because evaluation of public housing is not based on personal opinion, but rather on facts and figures from stakeholders.

Finally, the utilization-focused evaluation model requires the evaluator to first of all identify the intended users of the information from evaluation before designing the evaluation study. Put succinctly, the evaluator plans for intended users before data are collected (Patton, 2002). This implies that the focus of the intended use of information produced in evaluation guides and shapes every design decision in the evaluation research. The key strength of this model of evaluation lies in the fact that the information required and context of the intended users of evaluation findings are known before the design and data collection stages of the evaluation process are undertaken by the evaluator. Most satisfaction studies on public housing as reviewed in section 3.2.2 are utilization-focused evaluation.

From the foregoing and evidence in literature, it is obvious that the adoption of any of the above models of evaluation of social programmes is based on what the evaluator is out to achieve. Hence, the current study adopted the goal-based model of evaluation of public housing, because the study examined the extent to which public housing has achieved set goals and objectives. In this context, the goals and objectives of public housing provision are known and have been presented and discussed in Chapter Two of this thesis.

3.1.1 Programme Theory in Evaluation of Social Programmes

As indicated in the preceding section, one of the key features of social programmes is that they are most often based on programme theory. According to Green and McAllister (2002), programme theory consists of a set of assumptions about the relationships between the objectives of a programme and social benefits it is expected to produce. In a more explicit term a programme theory provides logical and reasonable description of why programme activities should lead to the intended outcomes and impacts that is how and why a programme is supposed to work (Weiss, 1997; Rossi et al, 2004; Bamberger et al, 2006). Theory in this context relates to the stories people tell about how problems arise and how they can be solved (Weiss, 1995). In line with this view, Argyris (1982) cited in Patton (2002) proposed the idea of espoused theory and theory-in-use. The espoused theory is what people claim they do, that is the official version

of how a programme or organization operates as against the theory-in-use, which is what really happens (Patton, 2002). The former represents a situation where a programme theory is well spelt out in programme documents as well as understood by stakeholders. While the latter describes the situation where the underlying assumptions about how programme activities are presumed to accomplish their purposes have not been fully articulated and recorded. In the former case, the evaluator is expected to extract and describe the intended programme objectives as expected by the programme designers before it can be analysed and assessed. This suggests that these two types of theories can be compared in evaluation studies. This is referred to as theory-based evaluation of a social programme (Weiss, 1997; Davies, 2003). By addressing the theoretical assumptions embedded in a programme, programme theory indicates which underlying assumptions in a programme are best supported by the evidence (Rossi et al, 2004; Bamberger et al, 2006). Rossi et al (2004) identified two sub components in programme theory evaluation: implementation (action) theory and the impact (change model) theory. The former explains how human and other resources are used to deliver programme benefits to target population (Rossi et al, 2004), while the latter describes a cause-and-effect sequence in a programme and the effect it eventually produces to beneficiaries (Weiss, 1995; 1997; Rossi et al, 2004). Bamberger et al (2006) however noted that when the descriptive assumptions in programme theory are translated to programme impact theory model, it provides insight into the relationship between programme inputs, strategies, and intended outputs, outcomes and impacts (Figure 3.1). Examination of Figure 3.1 shows that impact model can also assess how the performance of the programme is affected by mediator factors (factors outside the control of programme managers) and by contextual factors (e.g. economic, political, organizational, environmental factors), that is, factors that are beyond the control of programme operators
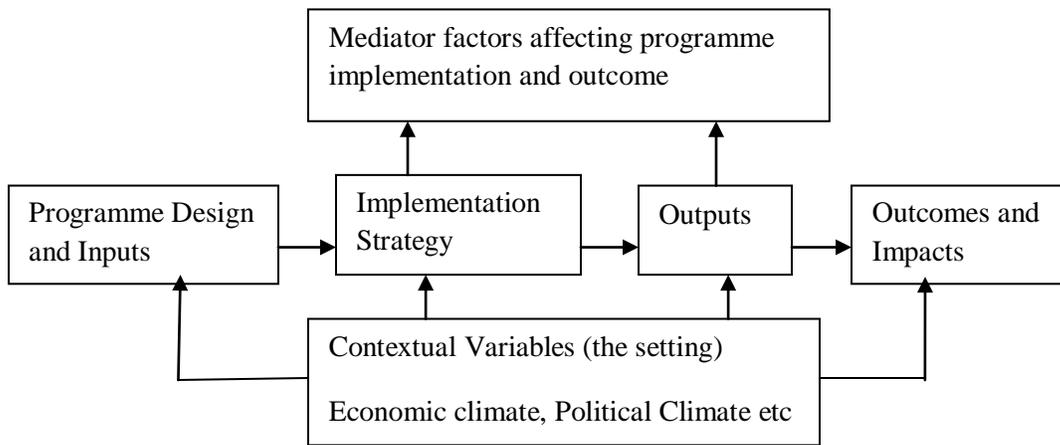
Figure 3.1:Components of a Typical Programme Impact Theory

Source: Bamberger et al (2006)

In programme theory evaluation, it is common practice among evaluators of social programmes to develop a framework for evaluation work. This framework has been variously referred to as logic model, theoretical/ logical framework or programme theory model (Patton, 2002; Rossi et al., 2004; Bamberger et al., 2006). Basically, a logic model is a graphic illustration of the relationship between programme's activities, intended outputs and outcomes. Logic models take different forms depending on the discretion and experience of the evaluator. However, both the pictorial and tabular formats are very common (Kellogg, 1998). A typical Logic Model in any social programme identifies the following basic components: (i) goals and objectives (ii)inputs and resources (iii) programme activities (iv) outputs (v)target group definition (vi) outcomes (immediate/ intermediate/ long-term or impact) (Figure 3.2). In evaluation of the impact of public housing in Ghana, Obeng-Odom (2009) adopted the logic model in comparing the objectives and outcomes of the housing schemes in two communities
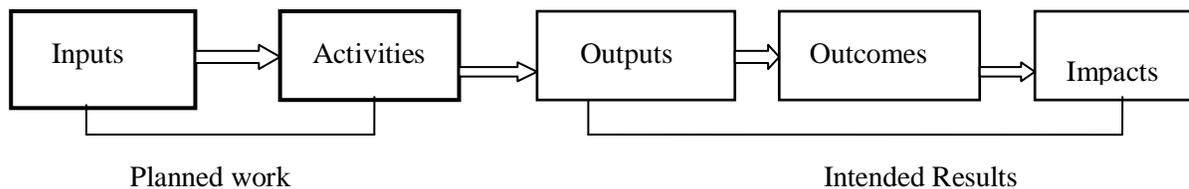
Figure 3.2: Basic Logic Model

Source: Kellogg (1998)

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Following from the foregoing review, it can be stated that the current study is a goal-based evaluation focusing on the extent to which public housing met the set objectives of addressing key social challenges posed by inadequate provision in the study area.

3.2.0 Studies in Public Housing

Public housing is a form of housing provision that relies on the use of public funds in providing housing to citizens. Due to the intricate nature and multiplicity of stakeholders involved in public housing provision, a considerable quantum of research efforts has been directed on various aspects of public housing. These include public housing policy, institutional framework for provision and management of public housing, public housing finance as well as public housing schemes and their outcomes. This section of the thesis examines the different perspectives public housing has been studied with a view to identifying specific aspect the current study is focusing on and situating it within the context of existing body of knowledge on the subject matter.

One of the major issues currently engaging the attention of administrators, scholars and practitioners in public housing in across the globe is the different housing policy frameworks or systems and their outcomes in public housing provisions. Public housing policy, in this context relates to comprehensive statements of intentions, ideas, strategies, guiding principles and philosophies put forward by government and international organizations to address housing challenges (Omole, 2001). According to UN-HABITAT (2006c), housing policy is a set of minimum standards and core policy guidelines in housing delivery which ensure that key bottlenecks are addressed, and basic needs are met. The above definitions suggest that public housing policy basically consists of decisions and action plans for implementing public housing programmes to achieve set goals in the community. Balchin et al (2000) identified three basic housing policy systems within the global context. These are liberal, corporatist and social democratic policy systems. In liberal regimes, such as the United Kingdom and Ireland, housing provision is controlled by the market with government providing subsidies to stimulate demand rather than supply while in the corporatist system (e.g. Germany, Austria, Switzerland) government acts as an enabler rather than a provider, but may act as a provider where the capacity of households to address housing challenges is inadequate (Balchin et al., 2000). This is opposed to the social–democratic system such as in Sweden, where State intervention in housing is to promote equity.

Based on these different public housing policy systems identified above, several studies (Onibokun 1985; Awotona, 1987; Erguden, 2001; UNHABITAT, 2006a; 2006c) examined what constitutes appropriate public housing policy and trends in the evolution of public housing policy. Findings of these studies show that there is no panacea for housing policy formulation, nor any globally accepted housing policy that best addresses local and national needs and conditions. UN-HABITAT (2006c) particularly suggested that appropriate housing policy should simultaneously address supply constraints (by getting more land, cheap credit and materials into the markets), increase effective demand (by granting secure claims, and boosting employment and income generating activities), and ensures that interaction of supply and demand is not disadvantageous to any groups or lead to undue cost of housing. Moreover, the general consensus is that appropriate housing policy should provide effective framework for continuous decision making, and platform for maximizing options available to all socio-economic groups in meeting their housing needs without discrimination.

On trends in the evolution of public housing policy, Erguden (2001) noted that top-down strategies have given way to market and people centered solutions, processes and approaches with emphasis on institutional capacity building. UNHABITAT (2006a) identified three major phases in the evolution of global housing policy since the 1960s to include Phase 1: Large scale public sector investment in mass housing production (e.g. direct construction of houses for the poor). Phase 2: Aided self-help housing e.g. upgrading, site –and-services and core housing and Phase 3: The enabling approach, which is the current global housing policy thrust, with emphasis on the contributions of all stakeholders in collaborative manner in housing provision.

Another perspective public housing has been studied is the assessment of institutional framework for public housing provision and management. In the context of this study, institutional framework consists of system of interacting and interdependent organizations designed by people for the purpose of productive collaboration within established norms, rules and constitutions (Akinola, 2007). In formulating relevant policies, efficiently implementing and monitoring them, institutional framework has been identified as one of the vital components in public housing provision (Federal Republic of Nigeria FRN, 1991; UN-HABITAT, 2006b). Arimah (2000) noted that in three of the five different perspectives performance of public housing sector can be examined is by looking at housing producers, housing finance institutions and governments who constitute key institutions in housing process. It is for this reason that the

formation, structure, sustenance of formal and informal institutions, their role as actors and intermediaries in public housing as well as the consequences their interactions generate in diverse settings have continued to engage the attention of scholars in housing studies. Consequently, a number of studies (Rondinelli, 1990, Chukwujekwu, 2005; Ademiluyi and Raji, 2008; Boyode, 2008; Hsieh, 2008) had examined the institutional framework in public housing production and management in Developing Countries. These studies found that increasing housing challenges in many Developing Countries has strong link to inappropriate institutional framework. These studies suggested the evolution and restructuring of the institutional framework for public housing delivery and management in line with current realistic approach to effective public housing delivery. Elsewhere, Hsieh (2008) in a study of institutional framework for the management of condominium in Taiwan noted that appropriate institutional framework was the key to successful management of this class of residential buildings in that country. All these observations in earlier studies underscore the importance of institutional framework in public housing provisions.

Another aspect of public housing which has consumed research efforts among scholars and researchers is public housing finance system. This assumed a topical issue in public housing from the 1980s when the great recession swept across the world and governments in Developing and Developed Countries were in search of ways of reducing expenditure on social provisioning (Bovaird, 2004). In view of declining investment in public housing, current research in public housing finance system is focusing on alternative sources of finance for public housing. Recent studies (Mitlin, 2007; 2008) highlighted the key role of not-for-profit private sector organizations and donor agencies in public housing finance in Africa, Asia and Latin America. In the UK, public housing for poor and low-income group (social housing), is provided by social landlords with financial support from the State (Keats et al, 2008). In Nigeria, previous studies (Nubi, 2000; 2001; Ajanlekoko, 2001) examined public housing finance system in this country. Findings of those studies show that poor funding was the bane of public housing delivery in Nigeria. Hence the studies suggested re-engineering of public housing finance system for better results in the country.

Public housing has also been studied from the perspective of the processes and outcomes of public housing schemes. Literature search on process and outcomes of public housing schemes in Nigeria revealed that a wide range of studies examined physical conditions (Idemudia, 1980;

Muritala, 1980), volume of housing units provided (Bana, 1991; Ali, 1996; Gana, 2002; Mustapha; 2002), quality (Onibokun, 1985; UN-HABITAT, 2006d), affordability and accessibility of housing units provided to low-income people (Mba, 1992; Mbamali and Okoli, 2002; Oruwari, 2006), residents' satisfaction with public housing (Ukoha and Beamish, 1997; Olatubara and Fatoye, 2007, Fatoye and Odusami, 2009; Jiboye, 2009; 2010) as well as social equity in public housing provisions (Ilesanmi, 2005). Other studies (Awotona, 1990; Ajanlekoko, 2002; Nwaka, 2005; Akinmoladun and Oluwoye, 2007) examined the outcomes of the different public housing delivery strategies. The consensus in these studies is that process and outcomes of the different strategies in public housing in Nigeria have not yielded expected result, most particularly in the provision of adequate number and quality of affordable housing units that meet the socio-economic, cultural and physiological needs of residents.

From the above discussion, the aspects of public housing this current study is interested in is evaluation of the overall outcome of public housing provision with emphasis on qualitative adequacy of public housing as well as level of satisfaction and quality of life of residents in housing . This is in view of the fact that there are limited empirical studies on the subject matter, particularly from Nigerian perspective

3.3.0 Evaluation of Public Housing

Literature search reveals that most studies on public housing are in the form of evaluation research. Specifically, current trends in housing research show that there is increasing interest in the study of perception of housing occupants on their housing environment and how it affects their well being and way of life. As a result, evaluation of public housing has become an important aspect of public housing provision in Developed Countries such as the UK and USA (Mohit et al., 2010). However, the Federal Government of Nigeria (1991) observed that the evaluation of public housing programmes is the bane of public housing delivery in Nigeria. This tends to suggest that either there is inadequate research on public housing or proper evaluation of public housing using appropriate evaluation tools or methods are rarely done in Nigeria. This section examines the different aspects of evaluation of public housing- including dimensions and levels, conceptual approaches, and factors influencing evaluation of public housing as well as

housing and quality of life. These are considered essential in the current study, particularly in identifying the aspects relevant to this study.

3.3.1 Dimensions of Evaluation of Public Housing

Globally, the evaluation of public housing is normally based on a number of different dimensions in line with the philosophical orientation and background of researchers as well as the purpose of the evaluation. Moreover, in view of the fact that housing is a multi-component commodity, it is obvious that housing can be studied from diverse perspectives in a wide range of disciplines. This has given rise to multiple dimensions of evaluation of public housing. Onibokun (1976) indicated that public housing has been evaluated with reference to physical and spatial qualities, architectural desirability, locational suitability and efficiency of management and administration frameworks. Hanson et al (2004) identified architectural (design, material performance, quality), sociological (residential satisfaction, impact on neighbourhood) and economic (cost effectiveness) as dimensions of evaluation of public housing. Drawing from the above, Ilesanmi (2005) concluded that evaluation of housing environment can be grouped into three dimensions, namely, physical, social and socio-physical dimensions. These dimensions of evaluation of public housing involve a number of activities. First is the evaluation of physical and spatial quality of housing. This involves the design of spaces, architectural attributes, spatial lay out and interrelationship of spaces as well as performance of space in meeting basic social, physiological and psychological needs of occupants (Fatoye and Odusanmi, 2009).

Second aspect concerns the social dimension of housing evaluation which basically examines social relationship, ties and social attachment existing among residents. This dimension of evaluation is principally based on the notion that housing can be used to build up social interaction (Hasim, 2004). Also it is based on the notion that residential areas serve as a place for social interaction, an agent of socialization and component of social status (Menahem and Spiro, 1989). Social ties in this context can be in the form of friendship, communal activities, and participation in local organisation for personal, social and economic interests. The social dimension of housing evaluation therefore focuses on the examination of the different socio-economic groups residing within a defined residential setting in order to understand and predict their behavoural attitudes and responses to situations within surrounding environment. For instance, Hashim (2004) in a study of residential satisfaction and social integration in public low

-cost housing in Malaysia found that default in physical structure of houses and poor social and physical environments do affect social interaction among residents of public housing and surrounding neighbourhoods.

Third, the socio-physical dimension of housing evaluation examines issues of housing and residential satisfaction. This has been the focus of many studies as indicated earlier on. This group of studies (e.g. Kaitilla, 1993; Ogu, 2002; Potter and Cantarero, 2006) focused on the perception and satisfaction level of users of housing units and surrounding neighbourhood with emphasis on some conceptual and measurement issues related to the study of housing and residential satisfaction. The importance of this dimension of evaluation studies has been dealt with in Section 3.2.2 of this thesis.

Finally, economic dimension of evaluation of public housing has taken different forms. These included cost effectiveness analysis, cost-utility analysis and cost-benefit analysis. Generally speaking, most of the economic evaluation followed the hedonic estimation approach. Such studies had evaluated public housing by measuring the relative importance of various attributes of housing and associating them with market price of housing units. Hanson et al. (2004); Groenhart (2007) and Marcano and Ruprah (2008) evaluated cost-effectiveness and cost-benefit analysis of public housing. These studies compared the costs of different initial project options with the same or similar outputs. They identified the costs and benefits arising from public housing projects and provided an overall assessment of their impacts on beneficiaries and surrounding neighbourhoods.

From the foregoing, it is evident that public housing has been evaluated with respect to a number of dimensions. These included the physical, spatial, social, socio-spatial and economic dimensions. It can be concluded that the different dimensions of evaluation of public housing involved human perceptions on the product of public housing and its impact on the users. These dimensions (except economic dimensions) of public housing are considered relevant and are used in the current study.

3.3.2 Levels of Evaluation of Public Housing

In addition to the different dimensions to evaluation of public housing, there are also different levels of evaluation of public housing. Bonnefoy (2007) identified four levels of residential environment, which suggests that housing can be evaluated at four different but related levels of individual buildings (dwelling units), immediate environment, neighbourhood, and community

levels. At the housing unit level, housing is perceived as a safe and intimate provider of major psychological need and also represents a refuge from the outside world (Bonnefoy, 2007). Based on this understanding, housing units can be evaluated with reference to its suitability to enable the development of sense of identity and attachment by occupants. This level of evaluation deals with the assessment of individual buildings with respect to performance of building spaces and fabrics. It is often based on quality attributes as identified by housing occupants and established material performance indicators (Liu, 2003; Ornstein, 2005, Fatoye and Odusami, 2009). For this reason, this level of evaluation is often referred to as technical requirement evaluation. It principally provides inputs for the development of quality standard for spatial and material performance, and the whole building in use for future design, planning and development of building materials. Other areas of focus are structural soundness, quality and the design of the housing units as well as air and lighting quality in dwelling units.

At the level of immediate environment, evaluation has dwelt on the immediate external environment of the housing units. Issues such as potential safety threats, social functionality, non-housing factors, crowding and exposure to noise, design and layout of external environment can be investigated (Bonnefoy, 2007). Also availability of amenities such as open spaces, parking areas, external lighting etc are other vital aspects of this level of evaluation (Olatubara and Fatoye, 2007; Ha, 2008). Closely related to this is the neighbourhood dimension of evaluation. A number of issues are examined at this level of evaluation. These include locational appropriateness of public housing schemes in relation to accessibility to neighbourhood facilities and public infrastructural services (Apparicio and Seguin, 2006), socio-economic characteristics or ethnic compositions of residents within a neighbourhood, social cohesion and interactions as well as environmental quality of the neighbourhood (Bonnefey, 2007).

The community level of evaluation of public housing is saturated with research studies focusing on attitudes and public perceptions of public housing. Several authors (De Salvo, 1974; Margulis, 1975; Massey and Kanaiaupuni, 1993; McNulty and Holloway, 2000; Quallian, 2005) in the United States particularly investigated public housing as one of the root causes of geographically and racially patterned disadvantages such as crime, poverty, racial segregation, impact on neighbourhood property value and other negative externalities. Findings of those studies indicated that public housing contributed to increasing concentration of poverty, high crime rates and decline in property value in minority neighbourhoods.

Elsewhere, other studies (Magutu, 1997; Lall, 2002; Apparicio and Seguin, 2006; Obeng-Odoom, 2009) evaluated various aspects of public housing in relation to impacts on land ownership, poverty alleviation, accessibility to services and facilities in addressing the problem of inadequate housing and creation of economic opportunities for residents. Those studies demonstrated the extent to which public housing schemes have provided low-income group access to land for housing, impacted on level of poverty among beneficiaries, and addressed the challenge of inadequate. Furthermore, studies (Wu, 1996; Valenca, 2007; Sengupta and Sharma, 2008, Hsieh, 2008) assessed the institutional framework for the provision and management of public housing. These studies specifically investigated the interactions among various participants in the provision and management of public housing, with specific reference to how the system works and the inherent problems and successes. Moreover, Osasona, (1991) indicated that another dimension in which public housing can be evaluated at the community level is on the policy dimension. At this level, Arimah (2000) and Sengupta and Tipple (2007) noted that parameters for assessing the performance of public housing delivery system are developed. This implies that the evaluation of public housing on policy dimension can been used as criterion for assessing the performance of public housing policies at all levels.

Inferences that can be drawn from the above discussion are that public housing can be and has been evaluated at the levels of housing unit, immediate environment, neighbourhood and community levels. Key issues examined included performance of housing units in meeting users' needs, reaction of housing users to their housing environment, locational appropriateness of public housing schemes, community perception on public housing projects, performance of housing agencies, institutional framework for public housing provision and management as well as performance of public housing policy. In view of the foregoing, this study is focused on evaluation of public housing at housing unit, immediate environment and neighbourhood as well as some aspects at the community levels.

3.4.0 Approaches to Evaluation of Public Housing

Another key aspect of evaluation of public housing that deserves attention in this study is the different approaches used by evaluators in evaluating public housing schemes across the globe. In view of the fact that the main reason for public housing is to ameliorate or improve on existing

poor housing conditions of individuals or groups of persons, and thus enhance their quality of life, housing authorities, policy makers and scholars have in the past few decades invested enormous interest in exploring methods for measuring success and failure of completed housing projects, and applying findings in developing new public housing schemes (Kantrowitz and Nordhaus, 1980; Lux, 2005). There has also been increasing effort in developing more systematic approaches to documenting problems associated with public housing. Consequently, a number of conceptual and theoretical approaches have been evolved in the evaluation of public housing. For instance, Arimah (2000) and Sengupta and Tipple (2007) evaluated public housing based on conceptual approach with poor housing condition, house price appreciation, home ownership, housing finance, homelessness, housing quantity, housing quality, and housing affordability as key conceptual issues, while Obeng-Odoom (2009) used a theory-based evaluation approach to compare the objectives and outcomes of public housing. He described this approach as the (i) before and after evaluation (ii) with and without evaluation and (iii) plan versus outcome evaluation approaches.

In line with the goal of this study, the conceptual approaches to evaluation of public housing reviewed in this thesis are post occupancy evaluations (POEs), satisfaction studies, evaluation of quality and adequacy of housing approaches.These approaches are based on the notion that buildings and built environment are socially constructed solutions to human needs for shelter and no one objective method of evaluation can be a complete test of building quality and satisfaction of users. Thus, conceptual approaches to evaluation of public housing comprise basically subjective opinions from different interest groups in public housing provision and consumption. Brief examination of these different conceptual approaches in evaluation of public housing is presented in the following sections.

3.4.1 Post Occupancy Evaluations (POEs)

One of the common approaches used by built environment professional in the evaluation of buildings and built environment is the Post Occupancy Evaluation (POE). This is also known as building evaluation or building–in-use. It has its origin in the 1960s and 1970s. POE is a multi-disciplinary activity that has been defined in various ways. According to Zimring et al (1988), POE is a systematic evaluation of completed design. Preiser (2002) defined POE as a systematic

process which gauges the satisfaction with and importance of designed and built environment, while Carson et al. (1980) and Stevenson (2008) viewed POE as a systematic collection and evaluation of information about the performance of a building in use. However, a more comprehensive definition was offered by Ornstein (2005) who defined POE as consisting of a set of methods and techniques applied during use of built environment to evaluate building and environment performance from the perspectives of specialists and that of the environment users. From the above definitions, one can conclude that POE is a well organized methodological process of collecting information on the feelings or perception of users of buildings as well as observation and documentation on buildings and their surrounding environment. This implies that POEs examine the building as an independent structure, the facilities in it, the surrounding environment as well as perceptions of users of the building and its immediate surroundings.

POE has gained prominence due to the curiosity of evaluators on how users' behave and react to buildings and their immediate environment. In addition to this, is the desire to make the design process self-improving through a systematic feedback mechanism about the effectiveness of buildings and designs, and thus, contributing to making subsequent building environment better. On the other hand, Zimring et al (1988) noted that many early studies had focused on how to give the vulnerable groups (e.g. poor) voice in the design process that is participatory design process. However, Ornstein (1999) indicated that at the global level, POEs tended to focus on buildings and their interiors, and contributed to the formulation of performance criteria based on issues of user satisfaction. Again, vast literature exist on the evaluation of the performance of buildings with respect to energy consumption, temperature and lighting levels, acoustic performance and maintenance; survey data (e.g. designer's intentions, occupants' comfort and satisfaction, management) and identifying ways of improving building design, performance and fitness for use (Zimring et al, 1988).

From the foregoing, it could be inferred that POEs serve the purpose of improving design and quality of the built environment through a feedback mechanism, encouraging popular participation and social equity in the design of the built environment, formulation of building performance criteria and assessment of building performance with respect to energy consumption and maintenance requirements. POE also assesses the satisfaction level of users of the building and its surroundings. Generally speaking, most POE studies have tended to address issues of how a building works, whether the building is serving the purpose it was intended to

and how it can be improved. Research efforts had also focused on examining the building occupants' needs, their level of satisfaction and the performance of the building environment during use. This has contributed to developing recommendations and guidelines for building planning, design, development, operation and evaluation (Nordhaus and Kantrowitz, 1980; Ornstein, 1997; 1999).

In public housing, Kaitilla (1993:528) asserted that *"POE offers the most reliable and effective method in measuring design criteria and ensuring that household satisfaction is achieved, and if not, measures are taken to address the situation in subsequent designs"*. Ornstein (2005) also noted that POE desires to provide understand on users' needs, expectations and response to building and its environment, and thus attempt to close the gap between users' needs and professional activities of designers of the built environment. Whereas several prior studies (Onibokun, 1976; Nordhaus and Kantrowitz, 1980; Kaitilla, 1993; Ukoha and Beamish, 1997; Ornstein, 1997; 1999; Ilesanmi, 2005 Jaafar et al. 2006) had relied on POEs in predicting housing satisfaction; Shaw (1994) and Yiping (2006) employed POE in measuring residential mobility of public housing residents. Again, Ornstein (1997), Ralid (1999), Liu (2003) and Simion (2007) used POE in assessing the performance of building products based on the quality attributes identified by building occupants. Liu (2003) particularly introduced a new dimension to POE by exploring the behaviour and workmanship of contractors in public housing schemes in Hong Kong that led to the level of satisfaction and performance of building as expressed by the residents. Other studies (Margulis, 1975; Onibokun, 1976; Morris et al, 1976; Kantrowitz and Nordhaus ,1980; Muoghalu, 1991; Kaitilla, 1993; Ukoha and Beamish, 1997; Djebarni and Al-Abed, 2000; McNulty and Holloway, 2000; Lu,2002; Quallian, 2005; Ilesanmi , 2005; Gilderbloom et at., 2005; Potter and Cantarero , 2006; Yeun et al. , 2006; Jaafar et al., 2006; Erdogan , 2007) also used POE in predicting behavoural pattern of residents of public housing by measuring the level of housing satisfaction. Yet other researchers (Edgar and Barton, 1983; Bratt, 1986; Magutu, 1997; Lall, 2002; Liu, 2003) adopted POE in examining the impact of public housing on the consumption pattern, property ownership, provision of decent and affordable housing as well as poverty reduction among residents of public housing schemes.

Furthermore several POEs in public housing (Onibokun, 1976; Nordhaus and Kantrowitz, 1980; Kaitilla, 1993; Ukoha and Beamish, 1997; Lall, 2002; Hanson et al., 2004; Gilderbloom et al., 2005; Ilesanmi, 2005; Jaafar et al. 2006) adopted a number of parameters in examining the

attributes of public housing schemes. Those included are parameters related to the user (e.g. family type, socio-economic status, profession, previous environment (appropriateness of dwelling to housing stereotype), sex, education, income and period of residency. Second, are parameters related to the environment (e.g. physical comforts, overall appearance and physical condition of the environment, accessibility and services, development scale, organization (planning), property value and level of security). Third, are building process characteristics (building maintenance and management framework, location, value and physical concept). Next to this are parameters associated with the dwelling and spaces in the building (e.g. quality of spaces, physical comfort, spatial organization, design quality and functional relations between spaces and location of spaces in respect to each other, size of house, location of house and dwelling aesthetics and proportion. Finally, there are also parameters related to human needs (e.g. convenience, safety, need for social contact, freedom, activity, work, beauty, meaning and social approval.

On study population in POEs, Kaitilla (1993) suggested that evaluation of housing schemes can only be done by interviewing people who use the housing services, and are affected by it. However, Ornstein (1997; 1999; 2005) noted that in technical performance evaluation and understanding of human behaviours, needs, expectations, and satisfaction of building users, POE can produce better results when both designers and users of the built environment form part of the study population. This implies that PEOs may involve the designers, providers as well as end users of the buildings, facilities and the built environment.

From the above submissions are clear indications that POEs had previously been used in assessing residential and housing satisfaction, the performance of building elements as well as factors responsible for the observed outcome of building projects that is the Behaviour-Performance- Outcome. Such evaluation studies based on users' judgement and assessment of the various components of environmental quality of settlements and examination of the success of housing programme or project by experts constitute an essential aspect of the entire process of design of the built environment. This means that POE is necessary in fine tuning existing housing accommodation, improving the quality of building briefs, the quality of design decisions, increasing knowledge on cost and maintenance of building and promoting understanding among stakeholders in housing design and construction. In this regard, POEs help in drawing up a systematic diagnosis of the positive and negative functional aspects as well as

construction system, environmental comfort, cost/benefit relationships in terms of maintenance, as well as relationships between the built environment and human behaviour.

3.4.2. Satisfaction Studies

Satisfaction study is one of the very common approaches researchers interested in the built environment used in the evaluation of public housing schemes. Consequently, many different definitions and theoretical models of user and/or customer satisfaction exist in literature. Generally, there is consensus among authors that satisfaction is the result of an evaluation process in which customers compare the performance of a product or service with their expectations (Parker and Mathews, 2001; Jaafar et al., 2006). Mowen (1995) indicated that three main elements are common to most definitions of satisfaction. These are (i) a psychological state (ii) an emotional response after a consumption experience and (iii) the previous experience of the customer. Evidence in literature reveals that over the years, a number of authors used the discrepancy and contrast theories as well as comparison approach to model satisfaction studies. However, most satisfaction studies draw on the expectancy–disconfirmation paradigm, which states that if performance exceeds expectation, customers will be satisfied while if performance fails to meet expectations, customers will be dissatisfied (Oliver, 1981). This implies that satisfaction is basically a consumer oriented measure of quality and performance of products or services.

In evaluation of public housing, the most common satisfaction studies are housing or residential satisfaction. Although the two are closely related, Kaitilla (1993) noted that theoretically, residential satisfaction deals with household satisfaction with both the house as a distinct physical object on the one hand, and the neighbourhood on the other hand. Similarly, Onibokun (1974) and Hashim (2003) indicated that residential satisfaction encompasses both housing satisfaction and neighbourhood satisfaction. From these submissions, one can distinguish between these two concepts. Whereas housing satisfaction deals with satisfaction of housing occupants with a housing unit as a distinct physical commodity, residential satisfaction includes satisfaction with a housing unit as well as satisfaction with the surrounding neighbourhood. This implies that the former is concerned with satisfaction at a micro level of housing unit while the later deals with satisfaction at the macro neighbourhood level. Residential satisfaction therefore encompasses satisfaction with physical, spatial and social aspects of the residential environment. This variation in definition notwithstanding, Ogu (2002) used the two concepts interchangeably.

This suggests that practically, both connote the same thing, and thus one can be used as a surrogate for the other. For this reason and in order to achieve the aim of this study, the current study examines aspects of residential satisfaction as defined above.

Galster (1987:93) defined residential satisfaction, as *"the perceived gap between a respondent's need and aspirations and reality of the current residential context".* Mohit et al (2010) on the other hand viewed residential satisfaction as a feeling of contentment when one has or achieves what one needs or desires in a house. Salleh (2008) noted that recently, residential satisfaction has become a major and popular research topic in housing provisioning because it is recognised as important component of individual's quality of life and household's evaluation of residential environment which form the basis for policy and practice feedback for planners, architects, developers and policy makers. In addition, Mohit et al (2010) indicated that residential satisfaction is used as an indicator of incipient residential mobility and hence can change housing demands. It is also used as an ad hoc evaluative measure for judging the success of developments constructed by private and public sectors (Onibokun, 1974) and as an assessment tool of residents' perceptions of inadequacies in their present housing situation in order to improve on it (Djebarni and Abed, 2000). These submissions are indicative that residential satisfaction can be used to assess the quality of life of residents, their tendency to move, evaluation of the success or failure of housing projects as well as feedback mechanism for housing developers and policy makers. It can also be inferred that residential satisfaction measurement plays a key role in housing provision in a variety of ways, such as: (a) to determine residents' expectations and preferences (b) to measure housing providers' performance in satisfying users' expectations, (c) to benchmark housing provider's and manager's performance relative to the competition, (d) to explain residents' satisfaction based on the providers perceived performance in key areas of users' interaction, and (e) to establish priorities in terms of performance areas for quality improvement and additional resource allocation.

Generally speaking, theories of residential satisfaction are based on the idea that residential satisfaction measures the difference between households' actual and desired housing and neighbourhood situations (Galster, 1987). This implies that judgment on residential satisfaction by households is based on their needs and aspirations. Such judgment on housing conditions indicates the absence of any complaints and a high degree of agreement between actual and desired situations. On the other hand, disagreement between housing needs and aspirations may lead to dissatisfaction (Oliver, 1981). Residential satisfaction is a complex attitude which

changes as housing needs and aspirations change as individuals or households progress though life cycle stages (Lu, 2002). It is on this basis that Morris and Winter (1978) in their conception of residential satisfaction introduced the idea of ''housing deficit''. They were of the opinion that housing or residential satisfaction is a dynamic process in which households judge their housing conditions according to personal or cultural norms. The personal and cultural norms according to them may not coincide. Therefore, a disagreement between the actual housing satisfaction and housing norms results in a housing deficit, which in turn result in residential dissatisfaction, and thus, leading to some form of housing adjustments. Housing adjustment in this context may be in the form of revision of housing needs and aspirations in order to reconcile the disparity, or improvement of housing conditions through housing transformation, or else there could be movement to another place that brings housing into conformity with users' aspirations or needs (Mohit et al., 2010). This means that households can react to residential dissatisfaction in three ways, namely: housing adaptation, housing transformation or mobility behaviour.

Also the system approach has been employed in studying residential satisfaction. Onibokun (1974) in using the system thinking to study residential satisfaction within urban areas in Canada conceived residential satisfaction as a system consisting of four interacting components. These are of the residents', dwelling unit, environment and management which produce a housing situation that the resident's component judges as satisfactory according to housing needs and aspirations. According to Onibokun (1974), the residents' component is at the heart of the model and acts as the recipient of all the feedback from the other components. The dwelling component is the housing unit which forms part of an environment where the unit is located. The environment component includes housing services and infrastructure as well as neighbourhood facilities. There is also the management component of the satisfaction model comprising the institutional arrangement under which public housing is administered, managed and maintained. Drawing from the above conception, Jiboye (2010) noted that interaction of the different components of the residential satisfaction model acts as a stimulus to an individual who forms a cognitive image of oneself and each of the components in the residential system. Such a cognitive image formed by a resident through the perception process becomes the basis of one's attitude and feelings towards each of the components and the totality of feelings forms the basis of one's satisfaction with his/her residential environment.

Empirical studies on residential satisfaction have been found to take one of two approaches: first as a predictor of behaviour such as moving house or home improvement, and second as a criterion of residential quality (Adriaanse, 2007). Moreover, Salleh (2008) observed that building

features, such as number of bedrooms, size and location of kitchen, quality of housing units were strongly related to residential satisfaction. Also satisfaction with neighbourhood facilities such as schools, health care, shopping and community social centre has been noted to be an important factor of residential satisfaction. For instance, Ukoha and Beamish (1997) in their study on public housing in Abuja, Nigeria, reported that while the residents were satisfied with neighbourhood facilities, they were dissatisfied with building types, building features, housing conditions and management. Djebarni and Al-Abed (2000) on the other hand found that residents in public low income housing in Sana'a, Yemen, attached much importance to the level of satisfaction with their neighbourhoods, particularly, with privacy in line with the cultural background of Yemeni society. Oh (2000) in her study on housing satisfaction of middle income households in Bandar Baru Bangi, Malaysia, revealed that while the residents were satisfied with the space and cost of house owned, they were however not satisfied with the size of kitchen, plumbing, and public facilities such as recreational areas, playground, taxi and bus services in the housing area.

Furthermore, in a survey by Ha (2008), residents of social housing estates in South Korea were found to be satisfied with neighbourhood amenities (health clinics, stores, banks, post office, etc.) but were highly dissatisfied with parking facilities and landscaping. A similar study (Olatubara and Fatoye (2007) in Abesan low-cost housing estate in Lagos, Nigeria, reported that residents were most satisfied with housing criteria under building design, and were least satisfied with the criteria under the instruments of estate layout and site location, as well as with access to local facilities and city-wide services. Jiboye (2010) also reported that while the dwelling and environmental components of housing were satisfactory to residents in public housing in Lagos, the management component appeared quite unsatisfactory to the residents.

On factors affecting residential satisfaction, Lu (1999) indicated that public renters are more likely to be satisfied with their housing than private renters. This is because, there tends to be a basic level of amenity, service and maintenance provided for public housing tenants in their dwelling; and the satisfaction with the dwelling is influenced by the large housing estates where dwellings are of similar design, appearance and standard. Lu (1999) therefore concluded that public renters are more likely to have very low levels of neighbourhood satisfaction, because of the location and density of the public housing stock. This tends to suggest that residential satisfaction varies between public and private housing. Baker (2002) observed that locational characteristics are important considerations for understanding the formation of residential satisfaction among public housing tenants. Whereas housing is likely to be a source of

satisfaction, elements of the neighbourhood such as the level of crime (Mullins, et al., 2001) or lack of amenity (Fried, 1982) or industrial development or work place location are likely to be sources of dissatisfaction.

Ogu (2002) studied urban residential satisfaction of inhabitants of core, intermediate, suburban, and planned areas of Benin City, Nigeria, and found that while most housing component variables generally contributed positively to residential satisfaction, environmental variables made negative contributions to residential satisfaction. Also by analyzing English housing data, Atkinson et al (2002) concluded that although socio-demographic factors were much less important than residential perceptions in helping to predict dissatisfaction, the type of neighbourhood remained a significant independent predictor of dissatisfaction even when residents' views were taken into account. Salleh (2008) in his study on residential satisfaction in two States of Pulau Pinang and Terengganu found that the neighbourhood factors as dominant factors affecting the levels of housing satisfaction in private low cost housing in Malaysia. These findings are indications of the key role of neighbourhood environment plays in determining levels of residential satisfaction.

Homeownership or tenure status is another principal indicator and determinant of residential satisfaction. A number of studies have revealed that residential satisfaction is much higher among homeowners than renters (Lu, 1999). Moreover, Kaitilla (1993) observed that even with similar quality of housing units, owner-occupiers were more satisfied than renters. He suggested that this was probably because homeownership gives a sense of 'self gratification' to owner-occupiers and makes them psychologically proud and satisfied with their dwelling units. This finding was corroborated by Elsinga and Hockstra (2005) who reported that homeowners in seven out of eight European countries were more satisfied with their housing situation than tenants and only in one country did homeowners and tenants display similar level of satisfaction. Fatoye, (2009) in a study of three public housing estates reported that a corresponding increase in the housing quality from the low-income to the high-income housing estates and absence of some infrastructural facilities as well as the state of disrepair of the existing ones accounted for variation in the occupiers' satisfaction. This implies that residential satisfaction varies with housing quality and level of income of residents. In a similar study, Jiboye (2010) observed that the variables of the dwelling, environment, and management components of public housing actually affected tenants' satisfaction with their housing in public housing in Lagos, Nigeria.

From the foregoing review, it can be seen that a host of previous studies have examined various aspects of residential satisfaction using different variables representing socio-demographic,

environmental, and spatial variables. However, Mohit et al (2010) noted that the effects of these variables as determinants of residential satisfaction or dissatisfaction tend to vary by housing types, tenure, countries and cultures. This suggests that more studies are required in developing a universal theory of residential satisfaction. Meanwhile, a cursory examination of summary of criteria identified above reveals that residents' satisfaction could be measured by housing attributes such as function and physical adequacy of the dwelling, quality and adequacy of social and community facilities, the nature and effectiveness of official policies and personnel attitudes, convenience for living, condition and maintenance of the home environment, maintenance of the dwelling facilities, privacy, territoriality and neighborhood security among many others key influencing factors. Some of these variables are considered in this current study. Above all, Ilesanmi (2005) noted that for housing to be satisfactory, it should be equitable, and the adoption of institutional framework and housing delivery process that engender equity was more likely to result in residents' satisfaction with public housing.

3.4. 3 Evaluation of Housing Quality

Assessment of housing quality is another conceptual approach used in the evaluation of public housing. Quality generally connotes standard and mark of acceptability. According to Coker et al (2007), housing quality is closely related to housing standards and the quality of a residential area mirrors urban development, planning and allocation mechanisms between socio-economic groups, but also shows the quality of life of the residents. This implies that housing quality has social, economic and environmental dimensions. Unlike housing satisfaction, Formoso and Jobim (2006) noted that perceived quality refers only to users' most current reactions which can be inferred with or without use or experience, but does not include price. This is an indication that housing quality is a perception that has to do with personal attitude and attributes.

Onibokun (1985) noted that housing quality encompasses the structure and internal adequacies of dwelling units, availability of amenities, occupancy rate, neighbourhood conditions, and the habitability of housing. This implies that housing quality can be considered as highly valued attributes which housing possesses that enables it to meet users' needs. Features such as durability of construction materials, structural soundness, spatial adequacy, and availability of basic services such as water, sewerage and electricity, location in an area with good connections with other parts of the city and infrastructure and secured tenure are considered to be indicators

of good quality housing in line with the definition of adequate housing (UN-HABITAT, 2006). Therefore, housing quality can be considered to comprise attributes of housing that enables it perform the vital functions of promoting healthy housing, better living conditions, and contributing to physical and psychological wellbeing and at the same time supporting the development and social integration of individuals and the community.

The evaluation of housing quality is based on a number of ideas and conceptions. Rapoport (1977) posited that people evaluated their environment against an image of what they would like it to be. This evaluative pattern is influenced by peoples' previous experience, adaptation level, cultural values (Kantrowitz and Nordhaus, 1980), gender, age, ethnicity, religion and social role (Filfil, 1999). Amerigo and Aragones (1990) noted that a person's evaluation of a place is a complex, multidimensional, global appraisal system that combines cognitive, affective, and behavioural facets, as well as multiplicity of both subjective and objective variables. In other words people's perceptions of reality influence their perception of a particular house and its surroundings (Domanski et al, 2006). Canter (1983) and Kaitilla (1993) identified the subjective approach to evaluation of housing environment as one that recognizes the assessment of quality of housing and residential environment with respect to subjective environment as well as physical characteristics of housing structure and its conditions. Thus, subjective evaluation approach relates to occupants' perception of the quality and level of satisfaction with housing environment. This view was corroborated by Mohit et al (2010) who asserted that subjective evaluation approaches include measurement of perception, satisfaction, aspiration and disappointment, and is closely related to the psychological attributes of an individual. This implies that one's assessment of a place depends on how the place is perceived as well as the socio-economic characteristics of the individual. For this reason, a house or environment may be perceived by some people as being of high quality, while for others it may be of lower or no quality.

There is also the objective approach to evaluation of housing environment. Kaitilla (1993) and Mohit et al. (2010) noted that the objective approach evaluates the physical characteristics, facilities, services and environment based on some predetermined criteria and standard of comparison against which the place is judged. This suggests that local, national or global parameters can be engaged in assessing housing quality. According to Mohit et al (2010), the objective aspect of evaluation of residential environment measures the physical characteristics of housing, services and environment, but such evaluation is usually deficient in assessing and explaining the psychological aspects of perception of quality and satisfaction; hence the need for

subjective measurement which can capture perception, aspiration, satisfaction and disappointment aspects of an individual . In line with this view, van Kamp et al (2003) suggested an integrated model for studying the quality of housing environment that addresses the multiplicity of issues related to subjective opinions and objective measurements under various socio-cultural and economic factors as well as local conditions. All these imply that the evaluation of perception on quality of residential environment should follow an interdisciplinary approach integrating physical, spatial, social, and environmental aspects within the context of various socio-cultural, economic factors and local conditions. To this end, it is argued that evaluation of residents' perception of quality of public housing should look beyond housing attributes and examine external factors that might be of significant influence on the quality of housing, services and surrounding environment.

From the foregoing, one could infer that perception on and judgment about housing quality are based on a complexity of subjective and objective parameters associated with individual's previous experience, cultural values, personal attributes, perceptions, aspirations, goals, needs as well as generally defined and acceptable standards. The objective and subjective features of housing environment and personal characteristics of an individual are viewed as key factors influencing perception and evaluation of the quality of residential environment. Therefore, the evaluation of housing environment is a function of how housing attributes are perceived by an individual and the standard reference to which such attributes are compared with. The above view was corroborated by Aliu and Adebayo (2010:403) who noted that *"housing quality is a complex abstract term that has cultural, social and economic connotations"*. In view of the above, several authors (Lawrence, 1995; Sengupta and Tipple, 2007) concluded that housing quality is expressed differently in diverse contexts and varies conceptually for different user groups.

Housing quality is one of the six housing norms, which also include space, tenure, structure expenditure and neighbourhood norms identified by Morris and Winter's housing adjustment and adaptation theory (Morris et al., 1976). According to the theory, norms are culturally derived criteria that households use to judge their housing and that of others. Kutty (1999:28) argued that the commonly used indicators of quality norms in housing are structural adequacy, neighbourhood quality, residents' perception of neighbourhood safety, level of public services provided, access to work and other amenities, room density and housing affordability. Moreover, Austin and others (2002) and Kaplan and Kaplan (2003) observed that the most important

aspects of residential quality in literature are social ties in the neighbourhood, safety from risks, environmental hygiene and presence of basic facilities.

 Although the evaluation of performance (Fatoye and Odusami, 2009), assessment of habitability (Onibokun, 1974) and evaluation of satisfaction (Ogu, 2002; Mohit et al., 2010) is synonymous with the assessment of quality, most empirical studies have adopted various housing quality indicator measures in assessing housing quality in different countries across the world (Lawrence, 1995). In the 1930s, the United State (U.S) government employed overcrowding, physical deficiencies and excessive shelter cost expenditures in measuring housing quality. Zey-Ferrell et al (1977) used housing quality index consisting set of indicators: interior and exterior housing condition, heating and cooling, indoor plumbing, and persons-per-room to assess housing quality. The study found that households living in rented housing in northern Louisiana, U.S.A had lower housing quality than households who owned their dwelling. Moreover, households with higher levels of education tended to occupy better housing than those with lower levels. Similarly Spain (1990) adopted the number of persons per room (overcrowding) as an indicator of housing quality against which he evaluated the importance of race, residential mobility, household composition, gender, and other determinants in the United States. Spain found that factors such as marital status, household composition, income and race had significant influence on housing quality. Cook and Bruin (1994) also used three housing quality indicators: crowding, affordability and satisfaction to examine the extent to which white, African-American, and Hispanic single-parent women experienced housing problems. The finding of that study indicated that the specified variables explained about 20% of the variance in crowding, housing affordability, and housing satisfaction. Still in the US, Memeken and Canabal (1994) examined the determinants of housing quality among minorities and found that age; marital status, monthly income, presence of children in housing, minority status and use of public and housing assistance programmes had influence on housing quality in that country.

Elsewhere, Daniere (1994) relied on the classical hedonic models of distance to central Business Districts (CBD) and locational access to basic amenities to measure housing quality. Daniere's study specifically revealed that low-income households in Cairo and Manila valued the closeness of their place of employment, the CBD and portable water supply more highly than other housing characteristics. Yust et al (1997) found that in addition to socio-economic status, location of village, the age of the male-head of household and tenure, significantly influenced housing quality in rural areas of the Philippines. On the other hand, Pan (2004) carried out a comparative study of housing quality of communist party members in urban China using two

nationally representative samples from 1988 to 1995. Key variables: housing type, education, primary work unit, public-financed health care, household size, occupational rank of primary employment and total family assets and disposable family income were found to have varying impacts on housing size and quality. While in Hong Kong, Chan et al (2006) examined the factors affecting the quality outcomes of public housing projects. The study revealed that the project manager's experience in running public housing projects, a proactive quality culture; the extent of using direct skilled labour; a comprehensive subcontract inspection system; the competency of site labour, and the client's emphasis on quality and safety were the key factors affecting the quality scores in public housing in Hong Kong.

Fiadzo et al (2001) constructed and used Housing Quality Index (HQI) comprising structural quality (e.g. type of wall and roofing material), physical amenities (cooking fuel, lighting fuel, source of drinking water and type of sanitation, accessibility of location and quality of life amenities (distance to nearest source of drinking water, markets, schools, health centres, public transportation) to assess housing quality in Ghana. That study found that in addition to the physical structure dimensions of housing quality, access to facilities and amenities, school, health and public transportation influenced housing quality in that country.

Kahlmeier et al (2001) identified eight dimensions of housing quality to include suitability for children, housing unit attributes, environmental quality of housing, cultural and social life. Others are leisure time, community services, infrastructure, and apartment related social components. Bonnefoy (2007) noted that residents' perceptions on urban environmental quality and their residential situation are determined by a large number of physical and social constructs as well as personal characteristics. Kutty (1999) on the other hand indicated that in assessing the quality of housing the commonly used indicators are structural adequacy, neighbourhood quality, residents' perception of nieghbourhood safety, level of public services provided, access to work and other amenities, room density and housing affordability. Evidence in literature shows the most important residential quality are social ties in the neighbourhood, safety from risks, environmental hygiene and presence of basic facilities (Austin et al., 2002; Kaplan and Kaplan, 2003). In addition, Braubach (2007) indentified personal characteristics (age, gender, and socioeconomic status) as having marginal influence on housing quality judgments, while Habib et al (2009) indicated that a number of studies have identified housing conditions, overcrowding, access to basic infrastructure and services as key factors affecting adequacy of housing. Viewed from another perspective, Domanski et al (2006) pointed out that socio-ecological characteristics of nieghbourhoods such as spatial composition, access to recreational areas, local infrastructure

and facilities, the degree of pollution and level of social problems are vital determinants of qualitative adequacy of housing.

As obtained in other countries, the quality of housing units and neighbourhood environment (Muoghalu, 1991; Coker et al., 2007); housing satisfaction (Ogu, 2002) and access to basic amenities (Adedipe and Lasisi, 2006; Olawuni eta al., 2007) etc have been employed in assessing the quality of urban housing in Nigeria. Jiboye (2004) used seventeen housing quality parameters derived from housing unit attributes, services and infrastructure to assess housing quality in Osun State, whilst, Olotuah (2006) examined residents' perception of the quality of housing in the suburbs of Akure. Olotuah's study established that age of buildings, use of toilets and frequency of collection of refuse were strong predictors of housing quality. Mallo and Anigbogu (2009) used housing typology, construction materials, density, and availability of amenities, provision of sanitation facilities, neighbourhood conditions and household status as parameters for comparing housing quality between neighbourhoods in Jos metropolis. Also Aderamo and Ayobolu (2010) assessed the spatial structure of housing quality in Ilorin. The study found that the quality of basic facilities, energy and ownership, material quality, water quality and utility as factors influencing the structural pattern of housing quality in that city. Findings of most of those studies including (Awotona,1987; Onibokun and Faniran, 1995) indentified lack of access to basic amenities (electricity, clean water, sanitation and social services), structural inadequacy of housing units, unhygienic neighbourhood environment and high occupancy rate as the key factors affecting quality of housing in Nigeria. Several studies from the Nigerian context have shown that housing quality improves from core to periphery zone of urban area (Jiboye, 2004; Coker et al., 2007; Mallo and Anigbogu, 2009). Consequently, majority of Nigerians, particularly, low-income people in urban areas are known to live in housing conditions characterised by dilapidated structures, unhygienic environment without basic amenities and social services which constitute an affront to human dignity, and come with diverse economic social, health, environmental and spatial implications.

From the foregoing review, one can infer that common approaches used in assessing housing quality have been the construction of scales or indices, and such studies are based on users' perception of what an ideal environment should be as evident in (Zey-Ferrell et al., 1977; Fiadzo et al., 2001; Pan, 2004; Meng and Hall, 2006; Amole, 2008). It can also be deduced that in spite of the different ways of measuring housing quality, there is consensus among researchers that housing quality is influenced by the socio-economic characteristics of households, neighbourhood conditions, tenure type, location, and type of structure, age, composition of

family as well as adequacy of space. Others are availability and accessibility to basic amenities and infrastructure, cost of housing, structural soundness of houses, occupancy ratio, the age of building, and energy consumption among others (see Lawrence, 1995; Braubach, 2007; Habib et al., 2009).

3.4.4 Evaluation of   Housing Adequacy

One of the key areas of focus of this study is residents' perception of the level of adequacy of public housing in the study area. Therefore, the concept of adequate housing is very important to this study. It is for this reason that this section of the thesis is devoted to the review of literature on adequate housing with a view to presenting how housing adequacy has been conceived in literature.

Literally, the word "adequacy" is a relative term generally understood to mean sufficiency in quantity or quality to meet a need for something. This implies that the concept of housing adequacy has two dimensions: qualitative and quantitative adequacies. Onibokun (1985) and Oladapo (2006) identified qualitative inadequacy as the key problem of urban housing in Nigeria, and this is probably because quantitative adequacy can be addressed by increasing significantly the housing stock, but qualitative adequacy is an intricate and complex challenge which affects the psyche of housing occupants. Bonnefoy (2007) noted that the concept of adequate housing is one that is yet to be properly investigated, however, adequate housing is known as one of the most basic biological, psychological, social and economic needs of individuals, families, communities and society at large. Thus the provision of adequate housing is a key strategy for improving quality of life, combating exclusion and discrimination as well as strengthening social cohesion. Despite the above, result of literature search revealed that most scholarly works on adequate housing are clustered around what constitutes housing inadequacy and its consequences. Similarly, there have been few attempts to investigate peoples' perception on what makes their housing environment adequate or inadequate.

The American Public Housing Association (1946) quoted in Onibokun (1985) indicated that a shelter can be called adequate housing if it is decent, safe, habitable and affordable in meeting the four fold functions of physiological and psychological needs, protection against contagions and accidents. Moreover, the International Covenant on Economic, Social and Cultural Rights on the other hand used seven criteria, including legal security of tenure, affordability, habitability, accessibility, location and availability of services and cultural identity to describe what adequate housing means (Thiele, 2002). Furthermore, at the United Nations second

HABITAT Conference in Istanbul in 1996, member States of this organization defined adequate housing to mean "*adequate privacy and space, physical accessibility, adequate security, secured tenure, structural stability and durability, adequate services and infrastructure, suitable environmental quality and health related factors"*. They further noted that housing adequacy often varies from country to country and depends on specific cultural, social, environmental and economic factors (UN-HABITAT, 2006). Based on the above, Zubairu (2002) concluded that having a shelter over one's head does not constitute access to adequate housing, rather adequate housing means housing that has the following attributes: decency, security, privacy, spacious, healthy, affordable, legally secured tenure, habitable, accessible, and appropriately located with services and infrastructure.

The key inference that can be drawn from the foregoing discussion is that adequate housing describes the totality of the attributes housing has, which enables it meet a wide range of physiological, psychological, social and economic needs of users within various social, economic, cultural , environmental and political contexts. This means that adequate housing is a multi-dimensional concept that can be viewed in many different ways according to individual perspective and circumstance. Thus, it could be concluded that what constitutes adequate housing in one context may not necessarily be considered as adequate housing in another context. But, the key components of adequate housing, is that it must comply with health, safety, affordability and habitability standards. Therefore, adequate housing provides an opportunity for promoting healthy housing, better living conditions and well being of individuals and the community. It is in recognition of this that the Ogun State's government housing policy emphasizes on the provision of decent, safe, healthy and affordable housing.

Following the foregoing submissions, the inadequate housing therefore refers to housing that lacks the fundamental attributes that enables it meet the needs of users. It shows manifestation in residents' lacking specific amenities; living in overcrowded housing with poor environmental quality. Braubach (2007) noted that there is mounting evidence in literature indicating that health status of residents is adversely affected by qualitative inadequacies of their residential conditions and the built environment. This was corroborated by Domanski et al (2006) when they asserted that inadequate housing conditions pose a threat to well-being and self-development. They further noted that inadequate housing may lead to a significant level of economic, social and political conflict. As well, Flippen (2004) suggested that diversity of housing conditions is an indication of social difference and the level of polarisation within a particular society. Therefore,

Kahlmeier et al. (2001) concluded that it was not surprising that housing adequacy and wellbeing constitute key issues on political agendas of developing and developed countries.

Most empirical studies on qualitative adequacy of housing have tended to focus on the various aspects and components of housing adequacy as identified above. Krieger and Higgins (2002) and Reilly (2008) noted that a dwelling is fit for human habitation if it meets a number of requirements, namely: structural soundness, free from repair, and dampness prejudicial to health of occupants, adequate provision for lighting, heating and ventilation. Others are provision of satisfactory facilities for the preparation, cooking and storage of food, adequate supply of wholesome water, and efficient system for draining of foul, waste and surface water. Many of these physical characteristics of housing environment identified above are known to have influence on mental health and social pathology of occupants, suggesting that deficiency of any of them can contribute to mental disorder (Parker et al., 1994; Rauh et al., 2002; Shannon, 2003). A host of other studies focused on the relationship between housing and quality of life, and findings of such studies have shown that inadequate housing conditions play decisive role in the quality of life of people (Thiele, 2002). Whereas Ferrell et al (1977) associated housing adequacy with socio-economic characteristics of occupants, several other research studies (Lall, 2002; Gilderbloom et al., 2005; Marcano and Ruprah, 2008; Obeng-Odoom, 2009) indicated that inadequate housing was associated with poverty; lack of support services and poor physical state of building fabrics as well as lack of provision of economic opportunities in India, the USA, Chile and Ghana respectively. Particularly, the study by Obeng-Odoom (2009) identified both socio-economic variables and consumer preferences as having direct association with housing adequacy. In Nigeria, qualitative adequacy of housing has been assessed based on access to basic amenities (Adedipe and Lasisi, 2006; Aribigbola, 2008), quality of housing units and neighbourhood environment (Muoghalu, 1991; Coker et al., 2007) as well as housing satisfaction (Ogu, 2002). Most studies in this country indicated that lack of access to basic amenities (electricity, clean water, sanitation and social services), structural inadequacy of housing units; unhygienic nieghbourhood environment and high occupancy rate were key features of inadequate housing environment.

In view of the foregoing discussion, in the context of this study, adequate housing is conceived as housing that is decent, safe, accessible and affordable as well as provides residents with access to services, infrastructure and basic facilities. Therefore, the following section of this thesis dwells on the review of literature on the aforementioned attributes of adequate housing as conceived in this study.

(i) Decent Housing

One of the sub concepts or ways in which adequacy is conceived in literature is decent housing. Decency means different things to different people. The dictionary meaning of decent connotes adequacy or sufficiency in quality and quantity. Bailey and Spendolini (1977) argued that although the ultimate goal of public housing is the provision of decent housing, there are no acknowledged criteria for defining and measuring decent housing. However, few attempts have been made to define and describe decent housing. For examples, Onibokun (1985) was of the view that decent housing means adequate housing whilst Reilly (2008) defined decent housing as housing that is healthy, safe, secure, energy efficient and free from serious disrepair. Viewing the concept of decent housing from another perspective, Housing Support Unit (2000) defined decent housing as a dwelling which does not require investment in the short term to prevent it from becoming non-decent. They described a decent housing as one that meets all the four criteria of (i) fitness (habitability) standard based on health and safety, (ii) a reasonable state of repair, (iii) has reasonably modern facilities and services (e.g. kitchen, bath room, WC), and (iv) provides reasonable degree of thermal comfort and noise insulation. In contrast, non-decent housing is housing that is deficient in one or more of these four criteria. This suggests that one of the distinguishing features of decent and non-decent housing is the state of disrepair of the key components such as walls, roof structure and covering, windows, doors, floors, electricity and water supply systems. A state of disrepair in this context occurs in a building if any of the key components are both old and in such a poor condition that may need to be replaced or require a major immediate repair, and thus, have potential safety implications (Housing Support Unit, 2000). Therefore, a house is considered to be in a state of disrepair if it fails to meet the decency and fitness standards as described above.

In terms of habitability, Housing Support Unit (2000), Krieger and Higgins (2002) and Reilly (2008) suggested that a dwelling is fit for human habitation (decent) if it meets the following requirements: (i) structural soundness (ii) free from repair (iii) free from dampness prejudicial to health of occupants, (iv) adequate provision for lighting, heating and ventilation, (v) satisfactory facilities for the preparation and cooking of food, including a sink for the supply of hot and cold water, (vi) suitably located water closet for the exclusive use of the occupants (vii) suitably located fixed bath or shower and wash-hand basin with each provided with satisfactory supply of hot and cold water for the exclusive use of the occupants (viii) adequate supply of wholesome

water and (ix) efficient system for draining of foul , waste and surface water. Although, decent housing appears to be a relative term, a number of attributes identified above are considered key attributes for assessing decent housing in this study.

(ii) Safe Housing

Another attribute of adequate housing that deserves attention in this study is safety. Globally, the desire for security of one's person, home and family or community is a natural and powerful one. Awotona (1982) observed that housing occupants need protection not only from rodents, and dangerous animals but also from human intruders. This view was corroborated by Zubairu (2002:39) who asserted that *"the increasing cases of robbery in Nigeria make security a very important factor to be considered in housing design"*. Moreover, evidence abounds in literature indicating that unsafe housing may contribute to social and political instability which is inimical to physical and economic development (UNCHS, 2000). Therefore, Kawash (2000) was of the view that the design of homes to protect occupants from dangers and discomfort of the ambient environment and injuries will continue to receive serious attention.

Safe housing has the basic characteristics of protecting its occupants from injuries: burns, falls and loss of live. Mitchell (1976) and Bamisile and Zubairu (1997) observed that building codes are the main guardian architects and housing designers often rely on to ensure housing designs meet health and safety standards. In his work, Safe Housing: Body, Building and the Question of Security, Kawash (2000) viewed the concept of safe housing as a combination of social formation and architectural and a melting pot form of security and architecture. He suggested that safe housing consists of internal safety and external security of the housing environment. Drawing on Oscar Newman's 1972 work on "defensible space", Mitchell (1976) contended that if spaces where crime and accidents most frequently occur in the home are eliminated, safety concerns in housing would decline. This view appears to be consistent with the underlying philosophy in crime prevention through environmental design (CPTED). CPTED is based on the notion that the built environment can be better secured if more emphasis is placed on the physical design of the environment as proactive approach to deter domestic accidents and crimes (Atlas, 1999). According to Lipnickey (2004), CPTED tended to create more of a psychological obstacle than physical one, and thus, is not intended to stop but to deter crime in housing environment. In designing for internal safety of houses, Atlas (1999) suggested that attention be given to fire safety, structural stability, adequate lighting of interior spaces, stair condition and

proportions as well as railing design. Fay (1993) quoted in Lipnickey (2004) on the other hand identified four components of CTPED, to include: (i) territorial definition using landscaping, paving, fencing and lighting (ii) surveillance by placing windows in a manner that allows residents to survey the public spaces adjacent to and surrounding their individual residences (iii) adopting building forms that establish an image of security and (iv) locating residential developments in functionally compatible urban areas adjacent to non-threatening activities or hazards prone areas. Other elements suggested in Mitchell (1976) Atlas (1999) and Zubairu, 2002) included electrical installation, location of parking spaces, egress location and design as well as barriers at openings.

It can be inferred from the above discussion that safe housing is concerned with both internal and external safety. Thus, there is a consensus among researchers that the physical aspect of housing serves the primary function of protecting and sheltering people from the potential dangers posed by unfriendly environmental conditions and wild animals. This study examined security measure and fire safety within dwelling units and housing estates. This is in respect to location of houses, use of materials, burglary proofing of doors and windows, perimeter fencing, layout of housing estates, provision of police and security posts among others.

(iii) Healthy Housing

Healthy housing is another sub-concept of adequate housing adopted in this study. Health has been defined as a state of complete physical, mental, and social well-being and not merely the absence of diseases or infirmity (Mitchell, 1976). According to the Committee on Hygiene of Housing of the American Public Health Association, a healthy housing is one that meets four categories of needs, namely, physiological needs (e.g. good indoor air quality, thermal comfort, adequate lighting, noise insulation and close and safe play lots for children and adults), psychological needs (e.g. privacy, accessibility to place of worship, schools, recreational facilities and public spaces for community life) protection against contagion (e.g. communicable diseases, diseases vectors) and protection against accidents (e.g. fall, fire hazards, structural stability). Thiele (2002) noted that the health aspect of adequate housing requires housing to be habitable by providing inhabitants with adequate space, and protecting them from cold, damp, heat, rain, wind, or other threats to health, structural hazards and disease vectors. Examination of the above principles shows that the first principle to ensure adequate housing is through safe water supply, sanitary disposal of excreta, disposal of solid wastes, drainage of surface water,

personal and domestic hygiene, safe food protection, structural safety and protection against disease transmission. The second principle addresses the use of design principles and construction materials and techniques to ensure the physical, mental and psychological wellbeing of occupants of housing.

The relationship between housing and health has been investigated in several studies (Adams, 1949; Filfil, 1999; World Health Organization, 2004; Bonnefey, 2007), and many major reviews (Wilkinson, 1999; Cohen, 2007) attempted to pull together disparate evidences, fragmented research findings in different disciplines. Kasl (1990) suggested that residential environment has limited impact on the physical and mental health of people, whereas copious evidence in literature shows increasing research findings associating housing quality with morbidity from infectious diseases, chronic illnesses, injuries, poor nutrition, and mental disorders (Wilkinson, 1999; Rauh et al., 2002). Early studies on this subject tended to focus primarily on poor sanitation, crowding, inadequate ventilation, lack of structural stability, poor lighting, as major causes of slum conditions and infectious diseases in housing (Krieger and Huggins, 2002, Jacobs et al., 2007). However, in recent times, multiple dimensions and features of unhealthy housing have been investigated (Krieger and Huggins, 2002). For example, studies (Wilkinson 1999; Cohen, 2007) focused on the relationship between housing and physical, and mental well being of housing residents. Young and Mollins (1996), Dunn (2007) investigated the relationship between housing; socio-economic status and health while others (Packer et al., 1994; Young and Mollins, 1996; Shannon et al., 2003; Hood, 2005; Jacobs et al., 2007) examined housing conditions that adversely affect the health of people. Findings from the above listed studies suggested that decent, safe and affordable housing may lead to the improvement of health of occupants by freeing family resources for good food and health care expenditures reduce stress and related adverse health conditions, increases sense of security and self esteem and limit exposure to allergen, neurotoxin and other dangers. Based on these findings, those studies concluded that people who live in decent, safe and affordable housing tend to be healthier than those who live in non-decent and unsafe housing. Hence, poor housing correlates ill- health.

Notably, specific housing conditions that adversely affect the health of occupants have been identified. Krieger and Higgins (2002) described these conditions as features of sub-standard housing and they include:

(i) Lack of safe drinking water in the building

(ii) Absence of hot water for washing

(iii)Inefficient waste disposal system

(iv)Intrusion of disease vectors such as insects, rate , cockroach

(v) Inadequate facilities for storing, preparing and storing of food

(vi)Overcrowding (associated with transmission of tuberculosis and respiratory infections)

(vii)Dampness, cold, mouldy

(viii)Structural defects and leaking pipes

(ix)PVC flooring and textile wall materials

(x)Housing in business and industrial zones

(xi)Poor indoor air quality due to inadequate ventilation

(xii)Lack of sidewalks, bike paths and recreational areas

(vii) Segregated housing based on income status

(viii) Dilapidated building fabric (e.g. peeling paints, cracks in walls and ceiling)

(ix)Inadequate power supply

(x) Inadequate maintenance of the physical structure of the building and its environment

(xi) Inappropriate design and layout of houses in housing estates

(xii) Inadequate sizes of interior dwelling spaces

(xiii) Poor relationship of interior spaces

(xiv)   Inadequate thermal and noise insulation

Findings from earlier cited studies indicated that lack of safe drinking water, ineffective waste disposal, intrusion by disease vectors (e.g., insects and rats) and inadequate food storage had contributed to the spread of infectious diseases. Many of the physical characteristics of housing and living environment also identified above have a major influence on mental disorder and social pathology through such stressful factors as noise, air, soil, or water pollution, overcrowding, inappropriate design, inadequate maintenance of the physical structure and services and poor sanitation (Parker et al., 1994; Rauh et al.,2002; Shannon, 2003). All these are indications that inadequate housing contributes to mental health problems in individuals within the housing environment. Hence, one of the key functions of adequate housing is to provide residents with a generally safer and healthier interior environment than may not exist outside. For this reason, the healthy housing aspects this study examined are spatial attributes of housing units , availability of environmental amenities (free air and adequate natural lighting), protection from dampness, protection from harmful insects and animals, thermal comfort, protection from noise pollution, adequacy of portal and safe water supply, electricity, drainage and sanitary

facilities, collection and disposal of garbage. Others are the provision of social infrastructure, creation/sporting facilities, open spaces and green area as well as level of communal activities.

(iv)Accessible Housing

Accessible housing is also viewed as another sub concept and attribute of adequate housing. The accessible attribute of housing is very crucial as social view of housing provision relates to a situation in which all citizens have access to housing without limitations as to one's socio-economic background or status in society. The relevance of this view to housing accessibility is in ensuring that housing provision is not focused on some 'chosen' segments of the society but that all members of the community have equal opportunity to choose their own accommodation according to their means or affordability (Okewole and Aribigbola, 2006). Public housing provision that ensures social equity generates good quality and affordable housing and allocates its benefit equitably across all socio-economic groups. It also empowers every member of the community to gain access to decent housing at affordable costs rather than excluding any section of the society. This means that accessible housing is one that is physically available and economically accessible by all segments of the society. Evaluating public housing from the accessibility point of view therefore implies assessing how public housing delivery system ensures social equity in providing every member of the community opportunity to choose housing options based on one's level of income as provided in the Universal Declaration of Human Rights and the charter of the International Covenant on Economic, Social and Cultural Rights (Thiele, 2002). Thus, evaluation of accessibility of public housing in this study focuses on the different socio-economic groups residing in public housing estates in Ogun State.

(v) Affordable Housing

Closely related to accessible housing is another very important attribute of adequate housing called affordable housing. The concept of affordability is one that has received notable attention in housing literature. In fact, it has been defined as the cost of buying, acquiring or maintaining a facility or product as compared with that portion of the user's monthly income set aside for expenses on the facility or product (Mbamali and Okoli, 2002). According to Oruwari (1993:26), "*affordability describes the extent to which households are able to pay for particular goods and services*". In relation to housing, Oruwari (1993) further noted that affordability came into housing literature several decades ago in Europe when housing shortage went down and public debate in many countries in Western Europe began to focus on affordability as a major housing

issue, while in developing countries it was in recognition that housing projects required heavy subsidies for accessibility to low-income people. Therefore, Olotuah (2000) concluded that one of the rationales for public housing is to ensure housing affordability for target population.

Affordable housing connotes different things to different people. Consequently, a lot of research effort has gone into evaluation of affordability of public housing in many developing countries. Daramola (2006) noted that the term affordable housing creates images of crime-infested, poorly managed housing in derelict neighbourhoods and housing for the poor. Some authors also associated affordable housing to low-cost housing (Bassey, 1988; Nelson, 1994; Pomeroy, 2001), social housing (Carter, 1997) and low-quality housing (Quigley and Raphael, 2004). Specifically, Bassey (1988:19) defined affordable housing as one "*which has a general price range at or below the average price of new housing in a particular market area*". He noted that affordable housing is more of the concern of the low and middle income than the high income earners. Similarly, Uji (1988) viewed affordable housing as the provision of housing either through direct or indirect initiative that is consistent with what each household can afford.

Evidence from literature indicates that affordable housing refers to housing that does not cost more than between 25 percent and 30 percent of the household's gross income (Freeman, 2002; Quigley and Raphael, 2004; Onyike, 2007; Aribigbola, 2008). Therefore, households who pay more than the bench mark of 30 percent of their total income on rent and utilities, or where owner occupier, more than 30 percent on mortgage repayment, insurance, taxes and utilities, are considered to be under housing stress (Onyike, 2007; Aribigbola, 2008). Such households may have difficulty in affording other basic needs of life such as food, clothing, health care and transportation. This suggests that affordable housing ensures that different standards at price or rent do not impose an unreasonable pressure on the household's income.

The above definitions suggest that affordable housing issues are often focused on costs of housing in relation to households or individual's income. Salama (2006) and Onyike (2007) had noted the multi-faceted nature of the provision of affordable housing and suggested that issues of affordable housing should be addressed within the context of process, product and socio-cultural situation of targeted population. In view of this, the concern for affordable housing has increased over the years due to three major reasons. First is the fact that housing is the single largest expenditure in the budgets of most families and individuals. Second are the increasing housing prices and rents in urban areas (Quigley and Raphael, 2004). Freeman (2002) attributed these to the fact that cost of producing decent housing is above what many low-income households can afford; consequently such households are priced out of the housing market. Third factor is

increasing evidence from previous studies on various ways the provision of affordable housing may lead to improved health condition of housing occupants (Freeman, 2002; Cohen, 2007). These concerns, Lux (2004) noted may have motivated increasing quantum of literature on the concept and methodology of housing affordability.

Jiminez and Kieve (1993) and Oruwari (1993) opined that house affordability is a behavioural concept that changes with time, while Onyike (2007) noted that housing affordability is a multi-faceted construct which should be addressed within the context of socio-cultural situation of housing occupants. This suggests that housing affordability is an individual perception on how much households are ready to pay for housing within the limit of their incomes. Housing affordability in this study is therefore viewed as individual perception on ability to gain access, pay for and live in public housing in the study area.

3.5.0 Methods of Evaluating   Public Housing Schemes

Another issue that is as important as the approaches to the evaluation of public housing are the methods used in previous studies in evaluating public housing. Result of literature search shows that several studies on public housing schemes across disciplines in different countries involved the use of different research methods such as household survey, oral interviews, observations, Geographic Information System (GIS) as well as a combination of methods in examining various aspects of public housing. Several studies including (Margulis, 1975; Onibokun, 1976; Morris et al, 1976; Kantrowitz and Nordhaus ,1980; Muoghalu, 1991; Wiesenfeld, 1992; Kaitilla, 1993; Ukoha and Beamish, 1997; Djebarni and Al-Abed, 2000; McNulty and Holloway, 2000; Quallian, 2005; Ilesanmi , 2005; Gilderbloom et at., 2005; Potter and Cantarero , 2006; Yeun et al , 2006; Jaafar et al., 2006 Erdogan, 2007; Obeng-Odoom, 2009) which focused on housing and residential satisfaction and liveability of public housing schemes are based on household survey method with questionnaires and oral interviews as key data gathering instruments . Similarly, other studies (Edgar and Barton, 1983; Bratt, 1986 ; Magutu, 1997; Lall, 2002; Liu, 2003) which examined the impact of public housing on consumption pattern, property ownership, provision of decent and affordable housing as well as poverty reduction among residents also employed household survey method with observations and oral interviews as methods of data collection.

Moreover, in studies such as (Kantrowitz and Nordhaus, 1980; Kaitilla, 1993; Hanson et al., 2004; Gilderbloom et al., 2005) where the sample frames were below 500 households, the sampling sizes were between 20 percent and 55 percent of the sampling frames, whilst in other studies (Onibokun, 1976; Ukoha and Beamish, 1997; Lall, 2002) involving sampling populations of over 500 households, the sampling sizes were between 0.6 percent and 5.5 percent of the sampling frames. Also, whereas studies (Lall, 2002; Hanson et al., 2004) adopted stratified sampling techniques others employed random sampling techniques in selecting respondents. The choice of survey method in those studies was underscored by two reasons. First, was the need to collect data from a relatively large population of occupants of housing estates (Kaitilla, 1993). Second, studies including (Arimah, 2000; Sengupta and Tipple, 2007; Ruprah and Marcano, 2007) that assessed the performance of public housing and impact of public housing on housing ownership and overcrowding relied on the review of existing official data derived from household surveys . All these suggest that as the sampling frame increases, the proportion of the sampling size reduces, and depending on the sample frame, different sampling methods can be used to arrive at suitable sample size. They also show that household survey method can result in the generation of both quantitative and qualitative data that can be subjected to different kinds of analyses.

Geographic Information System (GIS) had also been used in the evaluation of public housing schemes. This was used in studying accessibility to services and facilities by residents and locational attributes of public housing schemes. For instance, Apparicio and Seguin (2006) adopted GIS in assessing the location of public housing in relation to availability of urban services in Montreal, Canada. The study was based on secondary data derived from existing data bases obtained through household surveys and population census. On the other hand Hanson et al (2004) , Sengupta and Tipple (2007) Marcano and Ruprah (2008) employed a combination of methods, namely: interviews, household surveys, review of official statistics, quasi-experimental and hedonic prising methods in evaluating various aspects of public housing such as programme rationale; process; impacts and effects; achievement of objectives and cost- effectiveness. The use of multiple methods in those studies was to enable the examination of a wide range of issues in different housing programmes at the same time and for the triangulation of data (Hanson et al., 2004). Generally speaking, evidence from previous studies shows that the nature of questions evaluation is out to address determined to a large extent the research design and method(s) used.

It has been observed that most researchers predominantly used household survey method in evaluating public housing within the framework of different evaluation approaches.

3.6.0 Factors Influencing Evaluation of Public Housing

From the foregoing review of literature, a number of key factors can be considered to be of significant influence in the evaluation of public housing. These include multidisciplinary nature of housing, evaluator's conception of housing, the goal and nature of evaluation and the context in which public housing is operated and evaluated.

Evaluation of public housing is a multidisciplinary endeavour as researchers in disciplines such as social sciences, architecture, public health, social welfare, urban planning, public administration, geography among others are involved. Therefore disciplinary and philosophical orientation of researchers partly accounts for differences in the conception and approaches to evaluation (Rossi et. el, 2004). Bamberger et al (2006) were of the opinion that the choice of approach to evaluation determines size, nature of evaluation research. Thus the disciplinary orientation of researchers is a fundamental issue in determining the approach to evaluation, and can therefore be considered as one of the factors influencing evaluation of public housing. Closely related to the above is the conception of what housing is. Zami and Lee (2010) noted that housing implies various things to different persons. It has been observed that several authors have defined housing as a physical structure (product) only, physical structure and ancillary services and process of producing house (Omole, 2001). It is also noted that housing has been viewed as a social and economic commodity and a product of political process. Hence, it is argued that the different understanding and conceptions of housing amongst professionals and researchers influence the nature, success and failure of housing projects (Taher, 2001; Zami and Lee; 2010). This implies that housing can be evaluated based on the perception and understanding of the evaluator. To this end, one of the factors influencing the evaluation of public housing is the conception or definition of public housing as viewed by the researcher.

Another key factor influencing the evaluation of public housing is the function of housing. Generally, housing is known to serve a wide range of social and economic needs. For example, evidence in literature (Onibokun, 1985; Erguden, 2001; Bonnefoy, 2007) shows that housing serves physiological, psychological, social and economic as well as security needs. For this

reason, evaluation of public housing had tended to focus on how housing has been meeting these needs at family, neighbourhood and community levels, and thus determines the levels and dimension of evaluation. This suggests that the basic function of housing to individuals, the community and society at large influences how public housing can be evaluated.

Also the goal or purpose of evaluation is another factor that is considered to be of significant influence on evaluation of public housing. Literature including (Kantrowitz and Nordhaus, 1980; Kaitilla, 1993; Lall, 2002; Hason et al., 2004; Hsieh, 2008) has established the different reasons why evaluation of public housing is carried out. Most often, public housing is evaluated for the purpose of assessing the input, process, output and outcomes as a feedback mechanism for policy and practice improvement. Evidence in literature shows that housing programmes have been evaluated with emphasis on the physical and spatial qualities of housing units and supporting services, locational appropriateness of housing in relation to public infrastructure, surrounding socio-economic environment, management and administration system as well as impact of housing on users and surrounding neighbourhood. Therefore, it is logical to conclude that the goal or purpose of evaluation determines the focus, research design, strategies and findings of evaluation of public housing provisions.

Finally, it is known that public housing as a social programme is not operated in a vacuum, but rather within the context of a range of socio-economic, political and cultural, as well as technological factors (Rossi et al., 2004). Consequently, the design, implementation, output as well as outcome of public housing provisions are influenced partly by the external context where public housing schemes operate. This means that the key components of public housing: operators, housing provided and beneficiaries are usually the focus of evaluation studies. In view of this, it is thought that the contexts in which public housing operates and is evaluated have significant influence on the approach and outcome of evaluation of public housing.

In sum, evaluation of public housing is a complex multidisciplinary activity carried out within the context of established principles, theories, ideological orientations or concepts and rationales. Therefore, evaluation of public housing can be influenced by conceptual, objective and contextual factors as highlighted above. These factors are considered to also have influence on the current study.

3.7.0 Housing and Quality of Life (QoL)

Another key concern of this study is how the provision of adequate housing has translated to improved quality of life or standard of living of residents. It is for this reason that the following paragraphs are devoted to the review of literature on the relationship between housing and quality of life. The concept of quality of life is a complex construct developed by social scientist that measures and evaluates people's well being, satisfaction and happiness. It is more than the private living standards but encompasses all elements associated with the conditions in which people live and have their needs and requirements met (Fadda and Jiron, 1999). Generally speaking, quality of life is concerned with people's sense of well being and satisfaction with life and includes such contributory factors like housing, education, work, health and environment (Lew and Park, 1998).

Current literature and knowledge on quality of life is multidisciplinary since it cuts across all aspects of life. Lew and Park (1998) noted that the concept of quality of life (QoL) can be viewed from two dimensions. One dimension reflects on objective conditions of QoL and the other dimension is on the subjective evaluation of the various objective conditions that determine QoL. Previous studies had approached the conceptualisation and measurement of QoL from these two perspectives. Milbrath (1979) argued that if quality of life is defined and measured in terms of happiness or well-being or satisfaction with life, it is subjective in nature. In fact, at least three different approaches to the study of quality of life can be identified in literature. First is from the perspective of subjective well-being or life satisfaction. Secondly, QoL has been understood to be synonymous with standard of living, especially from government perspective. Lastly, QoL has been interpreted and linked with the concept of sustainable development.

The University Of Oklahoma, School Of Social Work, adopted the systems approach in conceptualising QoL. This system model (Figure 3.3) conceives quality of life as a system consisting of three basic components namely: input, perception and output. The first component-the input comprises of culture, demographic characteristics and socio-economic condition. The second component consists of individuals' perception and opinions on family and friends; work; neighbourhood and housing; community; health; education and spiritual matters. The combination of the input and perceptions determine the quality of life and sense of belonging as may be experienced and expressed by individuals

Feed Back
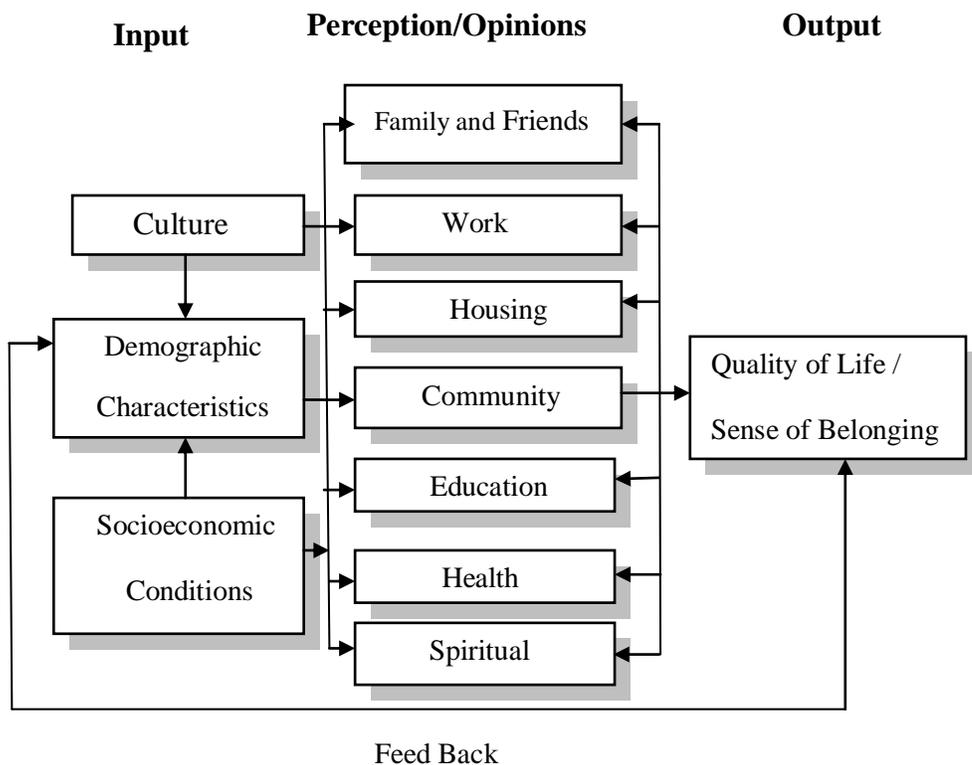
Figure 3.3: Quality of Life: A System Model

Source: Notes on Quality of Life (http://www.gdrc.org/uem/qol-define.html)

Furthermore, Bovaird and Elke (2003) indicated that quality of life indicators have been developed from a number of different stand points. These include (i) holistic quality of life of individuals, that is happiness or satisfaction with the overall quality of life (ii) partial indicators of the holistic quality of life of individuals (iii) overall indicators of the quality of life of individuals in one specific dimension of their life examples happiness in personal relationships or very satisfied with the quality of their working life or the quality of their health outcomes and (iv)partial indicators of the quality of life of individuals in one specific dimension such as housing . They further noted that it has been particularly common to develop measurement for quality of life from the stand point of health, social services and environment. At the international level QoL has been measured through the Human Development Index (HDI) of the United Nations. The criteria for ranking nations include life expectancy, educational attainment and adjusted real income. However, the Organization for Economic Cooperation and Development (OECD) was of the opinion that in estimating quality of life, social indicators, residential conditions, proximity of services and comfortability should be significant contributory factors (Park, 2006).

A survey on the quality of life conducted by Mercer Human Resource Consulting in 2005 used 39 key quality of life determinants grouped in the following categories (i) Political and Social

environment (political stability, crime, law enforcement) (ii) Economic Environment (currency exchange regulations, banking services) (iii) Socio-Cultural Environment (censorship, limitations on personal perception) (iv) medical and Health considerations (medical supplies and services, infectious diseases,   sewerage, waste management, air pollution) (v) School and Education(standard and availability of schools) (vi) Public service and transportation (electricity, water, public transport, traffic congestion) (vii) Recreation (restaurants, theatres , cinemas, sports and leisure) (viii) Housing (housing, household appliances, furniture, maintenance services) and (ix) natural environment (climate, record of natural disasters). Among the group of indicators used in that survey, Bovaird and Elke (2003) and Park (2006) observed that housing or residential environment is one of the primary indicators showing the quality of life in society. This is probably because housing is seen as a basic need that has significant impacts on people's well-being and quality of life. In the same vein, the American Society of Landscape Architects (2001) indicated that the goals of quality of life and healthy environment are dependent upon the quality of housing environment. This view was corroborated by Haramoto et al., (1991) cited in Fadda and Jiron (1999) when they asserted that the quality of residential environment constituted part of a wider concept of quality of life.

A body of research literature on the relationship between housing quality and well-being shows association between housing and mortality, measure of well-being, life satisfaction and happiness (Kahlmeier et al., 2001; Bashir, 2002). Fadda and Jiron (1999) identified key environmental elements of quality of life to include, (i) the physical environment (topography, air quality, water quality, noise levels, soils) (ii) built environment (roads, vehicles, public transport, housing (construction quality, comfort, privacy, security, spaciousness, noise insulation, location) (iii) activity environment (school, creation sites, shopping sites) and (iv) overall community environment (health services, security systems, recreation systems, green areas, communication systems, utilities (electricity, gas, water, sewage, solid waste management), friendliness, sense of identity and belonging, physical barrier, level of environmental pollution).

However, aggregate research findings suggest that environmental quality is a determinant of quality of life (Milbrath, 1978; Fadda and Jiron, 1999). Specifically, previous studies (Bernardini, 1997; Bashir, 2002) found that the type of housing which households occupy affected their physical, mental and emotional well-being. Well-being in this context means a state of comfortable and satisfied living, material well-being, happiness and peace (Park, 2006). Several other research studies (Galster and Hesser, 1981; Galster, 1987; Lew and Park, 1998)

adopted residential satisfaction as a criterion for assessing the quality of life. Findings from these studies suggest that the level of residential or housing satisfaction of residents is an indication of the quality of life obtainable in any housing environment. Evidence (Lew and Park, 1998) also shows that in South Korea, for example, house size; number of rooms and type of ownership are important factors explaining housing satisfaction and this had in turn influenced the quality of life in that country. Similarly, Hanson (2006) noted that adequate housing is central to the quality of life of people of working age with sight loss in United Kingdom, while Chance (2009) observed that, among other factors, the presence of private gardens in homes contributed to higher quality of life for residents in that country.

One can infer from the above that housing or residential satisfaction can be used as one of the criteria for measuring or predicting quality of life. Therefore, Park (2006) and Hanson (2006) suggested that for housing to improve the quality of life of residents, it should be affordable; meet specific spatial quality criteria and properly located close to amenities and basic infrastructure. In this study the quality of life of residents in public housing was examined using satisfaction with life in the residence as surrogate for quality of life or standard of living. Factors that influenced residents' satisfaction (quality of life) in public housing were also investigated and compared with findings in previous studies.

3.8.0 Summary

In this Chapter attempt was made at reviewing related literature on a range of issues in evaluation of public housing. It was established that public housing is a social intervention programme, and as such can be evaluated using conceptual and theory-based approaches. In view of this, the review of literature on the different conceptual approaches to evaluation of public housing as well as the concept of adequate housing was carried out. Finding of the review of literature shows that evaluation of public housing is usually based on subjective and objective issues and a majority of previous studies tended to focus more on the process and product than outcome of public housing, particularly in the Nigerian context. This indicates that there is a gap in literature on the subject matter. It was also found that most previous research works evaluated public housing at different levels-including individual housing units, neighbourhood and community levels, and on physical/ spatial, social, socio-spatial and economic dimensions. Therefore, this study focused on both housing unit and neighbourhood levels as well as physical/ spatial and socio-spatial dimensions of evaluation of public housing. Based on the observation

that different evaluation models have been used by prior studies to assess public housing, it was noted that the current study is on goal-based as well as theory-based evaluation.

Furthermore, conceptual, context and objective factors were identified as having influence on evaluation of public housing. Most previous works reviewed adopted household survey method in examining a wide range of issues such as residential satisfaction, performance of building materials, impact of public housing schemes on the quality of life of residents and performance of public sector housing agencies. Consequently, it was noted that the current study is also based on cross-sectional survey of public housing providers and users of public housing in the study area.

CHAPTER FOUR

CONCEPTUAL FRAMEWORK

4.0.0 Introduction

This Chapter sets out the conceptual framework of the thesis. It outlines a set of broad ideas and concepts relevant to the study. This framework illustrates how such concepts are connected in providing proper understanding of the subject matter investigated and communicating it appropriately. Most particularly, the Chapter presents the underpinning idea of the thesis by developing a broad-based structure for clarifying the purpose of the study, and at the same time establishing the framework for the research design, data collection and analysis as well as discussing the result.

This Chapter begins with an overview of programme theory approach to evaluation of public housing. This is followed by discussions on components of the conceptual framework of this study and how it was developed respectively. The Chapter ends with summary on the basic features and a pictorial/ graphic illustration of the different components of the framework as well as relationships between them.

From the review of literature, it was found that public housing is conceived of and evaluated as a social intervention programme with objectives, outcomes and underlying theories. This study adopted the programme theory approach to evaluation of public housing in the study area. The programme theory evaluation approach assesses whether a programme is designed in such a way that it can achieve its intended outcomes (Brousselle and Champagne, 2010). This implies that every programme is based on a set of assumptions and beliefs of things that must be done to bring about desired outcomes, thereby providing a framework for evaluating it. The review of literature also revealed that public housing can also be evaluated based on a number of conceptual approaches. This study therefore approached the evaluation of public housing in Ogun State from housing adequacy perspective in line with the aim and objectives of this present study. The combination of these two approaches presented the researcher a viable framework for carrying out this research work.

4.1 Programme Theory and Conceptual Approaches to Evaluation

Literature on housing abounds with references to the social nature of housing requirements. Thus, housing is most often referred to as a social good and inadequate housing conditions considered as major social problem. The implication of this is that housing is provided in order to solve social problems. This is without prejudice to other problems housing addresses. In the context of this study, public planned actions and activities aimed at addressing challenges of inadequate housing conditions are conceived as social intervention programmes, and are evaluated as such. In view of this, the main research issue in this study is assessment of the extent to which different housing delivery strategies in public housing have addressed housing challenges in Ogun State. This study therefore attempted to provide broad-based framework for assessing the relationships between the provision of adequate housing and quality of life of residents of selected public housing estates in the study area.

The review of literature also shows that there are many theoretical and conceptual frameworks used in evaluating public housing as a social intervention programme. Such approaches are most often based on disciplinary and philosophical orientation, the goal of the evaluation and source of funding for the evaluation research as well as theory-based approaches. Consequently, many prior research studies tended to focus on issues related to output of public housing with little or no attention given to investigating validity of underlying programme theories (Magutu, 1997; Arimah, 2000 Lall, 2002; Apparicio and Seguin, 2006; Hanson et al., 2004; Sengupta and Tipple, 2007; Marcano and Ruprah, 2008; Obeng-Odoom, 2009). From the Nigerian perspective very little work has been done in assessing the plausibility and/or validity of underlying programme theories in public housing. This goes to suggest that there is a gap in literature on evaluation of public housing in the country.

To attempt at bridging this gap in literature by assessing the underlying programme theories in public housing in the study area, this study adopted programme theory evaluation approach and the concept of adequate housing as a framework for the evaluation of public housing in Ogun State. In adopting theory-based evaluation approach, it has been considered easier to identify key components and expected outcomes of public housing as well as examines the underlying assumptions about how the provision of adequate housing will lead to improved quality of life. Adequate housing provision, quality of life and the hypothesized links between them are the basis for developing the programme theory used in this research. Moreover, since the goal of this

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study was to assess the underlying assumptions in public housing provision, it was important to develop a programme theory for public housing in the study area. This particularly made it possible for identification of the implicit assumptions about how the provision of adequate housing will lead to improved quality of life of residents of public housing in Ogun State. Most importantly, this approach provided the researcher an opportunity to validate or reject the programme theory by focusing on the intended goal and actual effects or outcomes of public housing in the study area. This is in line with the view that programme theory evaluation is based on the notion that every programme has underpinning assumptions of how a programme is expected to bring the desired outcomes (Pawson and Tilley, 1997).

Kellogg (1998) and Brousselle and Champagne (2010) indicated that programme theory could be presented in a narrative or graphic form. The narrative form of presentation of programme theory in public housing in Ogun State was adopted in this study. This was chosen for clarity of presentation and comprehension. Therefore, the programme theory for public housing in the study area is stated thus: "*If Ogun State Government builds houses through different strategies and organizations, then, there will be adequate housing to meet the housing needs of different categories of people and their quality of life or standard of living will improve*". The plausibility and/or validity of the above underlying programme theory is one of the key issues the programme theory evaluation approach examined in this study.

From the above stated programme theory, it is evident that one of the key concepts which public housing provision in Ogun State is based on is the concept of 'housing adequacy'. Housing adequacy is conceived in this study as housing that is decent, safe, accessible and affordable. This conception is derived from the review of literature, and was adopted in this study on the basis that these four attributes of housing are fundamental in measuring habitability of housing (Onibokun, 1974; UN-HABITA, 2006). Another concept used in the programme theory is the concept of quality of life. This is also conceived in this study as residents' satisfaction with life and level of residential satisfaction among residents in public housing estates in the study area. These two concepts were also examined in this study.

4.2: The Conceptual Framework of the Study

From the foregoing and findings from the review of literature, a conceptual framework of this study was developed. This is based on programme theory evaluation and conceptual issues identified earlier on. Specifically, three sets of literature were critical in developing this framework. The first contemporary literature is derived from the conceptualization of the link

between programme theories and outcomes. This literature provides convincing evidence suggesting that there is causal link between programme conception and the intended social benefits (Weiss 1997; Brousselle and Champagne, 2010). A second current literature is on the relationship between housing and quality of life (Galster and Hesser, 1981; Lew and Park, 1998; Bovaird and Elke, 2003; Park, 2006). These authors indicated that housing or residential environment is one of the basic indicators of quality of life. The third and last current literature enriched the framework with studies on organizational capacity (Lusthaus et al., 1995; 2002; Wachira, 2009). A significant contribution of these authors suggests that organizational capacity which is organization's performance in product and service delivery is influenced by management and resources capacity as well as external factors. Moreover, Chan et al (2006) indicated that housing project manager's experience in running public housing projects and strategies used in housing construction were among the factor that influenced the quality outcome of public housing in Hong Kong. The integration of these three strands of literature resulted in the conceptual framework of this study (see Figure 4.1).

Examination of the pictorial illustration of the framework shows that it consists of five key components: housing adequacy, socio-economic characteristics of residents, housing characteristics, organizational capacity of housing providers and quality of life of residents. The framework suggests that perception of adequate (decent, safe, accessible and affordable) housing is influenced by residents' characteristics, housing characteristics, housing delivery strategies and organizational capacity of public housing providers. It also suggests that residents' quality of life and residential satisfaction are influenced by socio-economic characteristics, the level of adequacy of their housing, organisational capacity of housing providers as well as housing delivery strategies used in public housing provisions. Whereas, this framework shows that there is a direct relationship between residents' characteristics, adequate housing, residential satisfaction and quality of life, there is indirect relationship between housing delivery strategies, organizational capacity of housing providers, quality of life and residential satisfaction. The plausibility and /or validity of these relationships as suggested in this framework were examined in this study.

In addition to the above, other related issues arising from the stated programme theory and the conceptual framework of this study that were also examined included: - (i) the level of adequacy of housing provided in public housing (ii) whether the different housing delivery strategies used met the housing needs of the different income groups (iii) if housing adequacy translated and/or

related to quality of life, and how related are they? (iv) how useful is the way housing adequacy was conceived in this study and if the variables selected were enough and correlated, and (v) how related is housing adequacy to other well known concepts such as residential/housing satisfaction. It is worthy of note that, in this study, residents' satisfaction with life in public housing estates was used as a surrogate for quality of life. The influence of context (economic, social, political, technological, cultural) factors on the design, implementation, output as well as outcome of public housing is outside the scope of the present study.

4.3 Summary

The goal of this Chapter was to develop and present the conceptual framework of the thesis. Consequently, the conceptual framework of this study was developed with explanation of how it was developed and justifications for it. The Chapter reinforced the need for a broad based framework that transcends boundaries of any one discipline and theory in the evaluation of public housing as a social intervention programme. The conceptual framework has five key components: adequate housing, quality of life, organizational capacity, socio-economic characteristics of housing users and housing characteristics. The framework, indicates direct and indirect relationships among the different components, and presents the basis for the research design, literature review, data collection and analysis as well as interpretation of results.
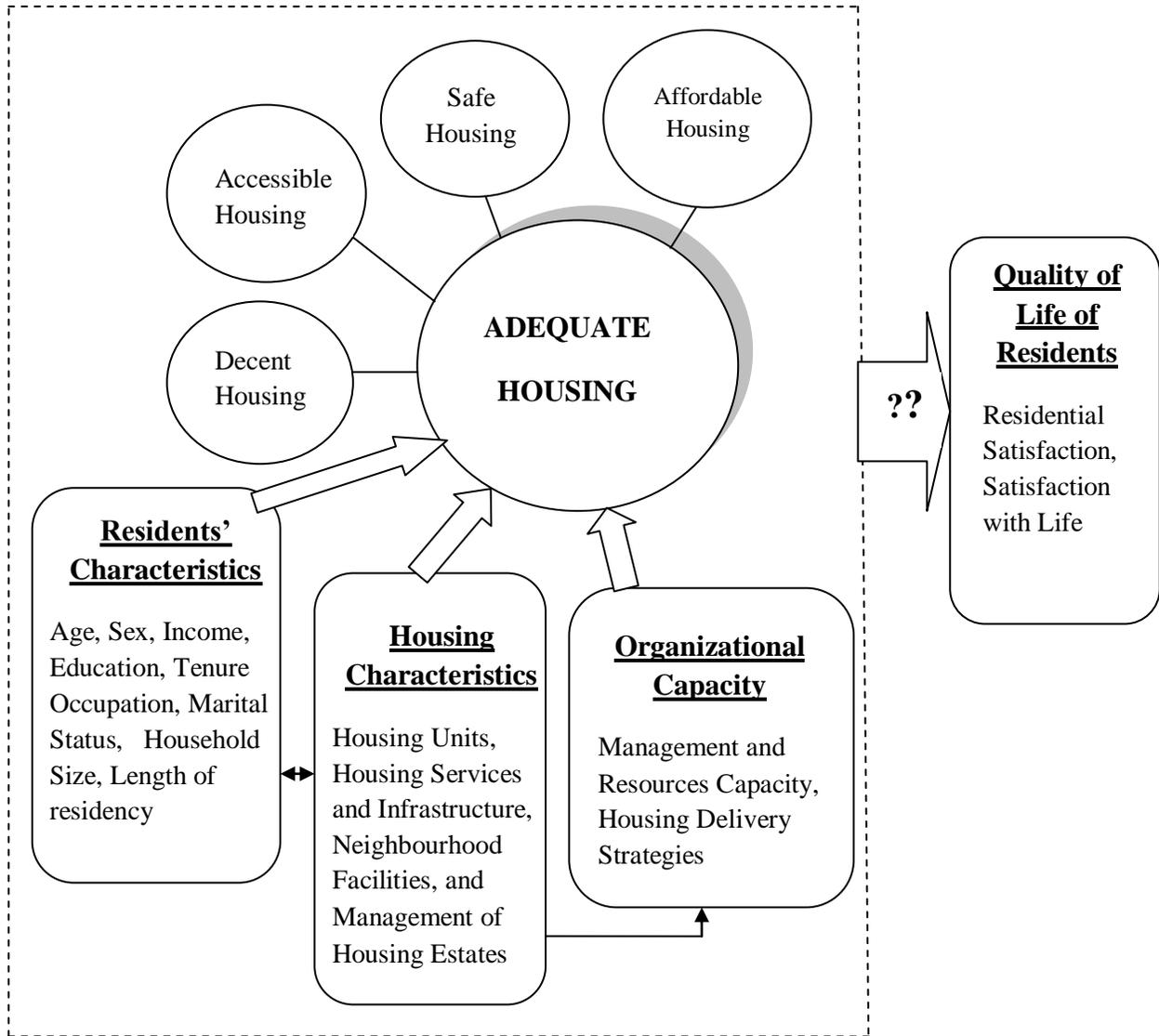
Figure 4.1: The Conceptual Framework of the study.

CHAPTER FIVE

RESEARCH METHODOLOGY

5.0. Introduction

Every research follows appropriate design and well defined procedures. Such research designs and procedures aim at providing answers the research questions and/ or testing the validity of stated hypotheses, as well as assessing the cause and effects being estimated (Oloyo, 2001). This Chapter of the thesis therefore discusses the procedures and methods adopted in the research design, data collection, processing and analysis as well as presentation and interpretations of results and findings.

5.1.0 Research Strategy

Drawing from the review of literature with respect to the research strategies used in similar studies, the research methods adopted for this study were both qualitative and the survey. The three principal survey techniques used were the administration of questionnaires; interviews and non-participant observation. The choice of these survey techniques was to enable the collection of both qualitative and quantitative data from the public housing agencies and users of housing they provided in the study area.

Data used in this thesis was collected from both primary and secondary sources. The primary data was obtained through survey of housing units in selected housing estates and interviews conducted with selected officials of public housing organizations involved in the design, construction and management of selected housing estates. These were complimented with physical observation of the characteristics of the houses and housing estates where the housing units are situated.

The secondary data was derived from multiple sources such as published and unpublished materials in books, journals, encyclopaedias, magazines, research works, conference/seminar and working papers. Others were housing programme brochures, review of government's official documents and statistics, web pages from the internet as well as reports of public housing activities in Ogun State in particular and Nigeria in general.

5.2.0. Sample Frame of the Housing Units and Organisations

The sampling frame of the housing units consists of 709 completed and occupied housing units in ten out of twelve public housing estates developed between 2003 and 2009 (Table 5.1) and the four public housing agencies namely: the Ogun State Ministry of Housing (MOH), Ogun State Housing Corporation (OSHC), Ogun State Property and Investment Company (OPIC), and Gateway City Development Company Limited (GCDCL) directly involved in the construction of the housing units.

5.3.0 Sampling Techniques

Generally, sampling is a common method of collecting data in a survey research. Although, there are a number of sampling techniques available to choose from, the sampling technique most suited for the study was a combination of two techniques, namely: the quota proportionate sampling and purposive sampling techniques. The proportionate sampling method was used in selecting the housing units. This was based on two key reasons. First, was the fact the housing units were constructed through four distinct housing delivery strategies: core housing, turnkey, PPP and shell stage strategies, and thus, there was need to select them based on the delivery strategies. Second was that most of the occupied housing units were constructed through the turnkey and core housing strategies as opposed to very few occupied housing units provided through the PPP and Shell strategies, therefore, there was the need to select housing units in a non random fashion from each strategy according to the proportion of their number in the sample frame. The purposive sampling method was adopted in selecting respondents in the organisations involved in the planning and execution of the organisations' housing projects as were identified by the personnel and human resource departments of the organisations.

5.4.0 Sample Size of the housing units and Staff members of the Organisations

In determining a suitable sample size in a survey research, Denscombe (1998) was of the opinion that the proportion of the population included in the survey is not as important as absolute size of the sample. Similarly, Osuala (2001) noted that a good sample size must be a near representative of the entire population as possible for the generalization of findings. These suggest that there is relatively little advantage in accuracy once a sample is increased beyond a

given size. On this note, the choice of sampling size for this study was guided by two major factors. First was the need to have adequate sample size required in addressing the research questions, and second was the determined quota of the number of occupied housing units that is representative of each of the four delivery strategies as well as the number of staff of the organisations involved in the housing schemes.

Following the sampling methods described above, the proportion and sample sizes of housing units from each of the four strategies (Table 5.1); the sample size for the housing units consisted of 670 housing units presenting 94.50% of the 709 occupied housing units in the ten estates. For the members of staff of the four public housing agencies, the purposive sampling method resulted in the selection of 25 staff members and one senior staff of the post of Head of Department and above from each of the organizations. A total of 100 staff members of various designations and 4 senior officers comprising two Heads of Department, one Director and a Permanent Secretary were selected for data collection.

Table 5.1: Sample Size of Housing Units for Each Housing Delivery Strategy

Delivery Strategies	Housing Estate	Developers	Housing Units Completed	Housing Units Occupied	Sample Size (%)
Core Housing	Workers H/Estate Laderin Abeokuta	MOH	270	270	250(93.0%)
Shell Housing	OSHC Estate, Ajebo Road, Abeokuta	OSHC	100	3	15(100.0%)
	OGSHC H. Estate, Ota	OSHC	60	12	
Public-Private Partnership	Havilah Villas, Isheri	GCDCL+ Grant Properties	100	0	30(100.0%)
	OGD-Sparklight, Ibafo	GCDCL+ Sparklight Ltd	340	30	
Turnkey	Obasanjo Hill-Top (GRA) Estate Abeokuta	OPIC	32	30	375(95.0%)
	Media Village, Abeokuta	OSMOH	104	60	
	OPIC Estate, Agbara	OPIC	60	50	
	Kemta Extension H. Estate, Olokota-Abeokuta	OSHC	88	12	
	OGD H.Estate Asero-Abeokuta	MOH	212	212	
	OGD H/Estate, Itanrin, Ijebu-Ode	MOH	30	30	
	OGSHC Housing Estate, Idiroko	OSHC	15	0	
Total	**12**		**1,411**	**709**	**670**

5.5.0 Design of Data Collection Instruments

Three principal data gathering instruments: the questionnaire, the semi-structured interview guide and observation schedule were used in the collection of primary data for this study. Two sets of questionnaires were prepared, one for the residents of the housing units and the other for the staff of the four public housing organisations in Ogun State. The questionnaires had both closed and open-ended questions. The close ended questions elicited precise responses while the open ended ones allowed the respondents to provide detailed answers and explanations where appropriate. For the close ended questions a 5- point Likert scale (1-5) was used as the scale of measurement for organizational capacity, housing adequacy and residential satisfaction. However, this scale was varied for some other variables measured. All non responses were coded 0. The open–ended questions provided the respondents with the opportunity to express their personal views on the subject matter investigated. The questions in the two questionnaires were arranged in sections in accordance with the groupings of the variables as derived from the major research issues and concepts in the study (see Appendices 9 and10)

For the interviews, an interview guide was prepared. It consisted of a list of issues or questions that were asked in the interviews (Appendix11). This was to ensure that the same number of questions and basic issues were covered in all the interview sessions. Some of the questions were worded in a predetermined fashion. However, the conduct of the interviews followed the adoption of standardized format of interview. This provided the researcher (interviewer) the flexibility of probing and gauging when it was necessary to explore issues raised in the course of the interviews in a greater depth. The open-ended questions dwelt basically on characteristics of the organizations and the housing delivery strategies adopted. The interview schedule was designed to extract specific information on the organizational capacity as well as technical issues on the execution of the organisations' housing projects. It provided additional information to that in the questionnaire survey of members of staff of the organisations sampled.

The observation schedule was prepared basically to record observations made by the researcher during the field work (Appendix 13). This data collection instrument was used in the collection of data pertaining to the physical characteristic of the housing units and housing estates investigated. Among the data this instrument was designed to collect were the types of residence, building materials used, layout of housing estates, physical conditions of access and internal roads and availability of social services within the estates.

5.6.0 Data Collection and Data Treatment

For better comprehension of the methods adopted in the collection and treatment of data for each of the objectives set for the study, the following paragraphs present the administration of data gathering instruments, characteristics and nature of data collected and treatment of the data.

5.6.1 Objective 1: To assess the organizational capacity of public housing agencies and

compare housing delivery strategies in public housing in Ogun State.

Data Characteristics: The data for this objective are both qualitative and quantitative in nature. The qualitative data include the characteristics of the organizations such as their goal in public housing delivery, leadership style, organizational structure, staff morale, sources of housing finance and housing delivery strategies (see Appendix 6). The quantitative data are those on socio-economic characteristics of staff members sampled, the management and resource capacity of the organizations. The quantitative data for comparing housing delivery strategies are those related to residents' perception on housing adequacy, residential satisfaction and satisfaction with life.

Data Source: The data for this objective were derived from public housing organizations, residents of the housing units, the housing units and estates where the housing units are located. Data from the organizations on their organizational capacity and housing projects were sourced through the review of housing programmes brochures and existing documents in the organizations; administration of questionnaire to purposely selected staff members directly involved the organization' housing projects as well as oral interviews with senior officers of the organizations. The data for housing strategies were sourced in the survey of housing units , and oral interviews with the four senior staff members of the post of Head of Department and above in the public housing agencies.

The questionnaire (see Appendix 6) for purposely selected staff members of the four public housing organisations was administered during the working hours of week days. Only staff members directly involved in the design and execution of organization's housing projects were sampled. The human resource and personnel departments of the organizations assisted in the identification of members of staff in this category. Random sampling technique was adopted in selecting respondents who fall within this category. A total of 100 questionnaires that is 25 questionnaires for each of the four organizations were administered, and 92 representing about

92% of the questionnaires were retrieved. However 90 of the questionnaires were valid and used in the analysis. This response rate is quite high for surveys of this nature, and therefore considered satisfactory. It is worthy of note that the assistance of the human resource and personnel departments of the organizations in the identification of qualified staff and administration of the questionnaires as well as approval given to the researcher by the management of the organizations to conduct the survey in the selected public housing agencies contributed to this high response rate.

For the oral interview, this began with securing appointments with the interviewees ahead of the actual interviews. The Permanent Sectary of Ministry of Housing, Director of Estate of Gateway City Development Company Limited, Head of Estate Department in the Ogun State Housing Corporation and Head of Engineering Services of Ogun State Property and Investment Corporation were the key officers interviewed. The interview sessions were conducted by the researcher, with the interview guide providing the framework for the interviews. The interviewees were asked questions as outlined in the guide, while the researcher recorded their responses to each question. Questions were asked to elicit information on organizational capacity, the public housing strategies used as well as the housing estates developed by the organizations between 2003 and 2009. The responses were recorded manually as the interviews progressed.

*Data Analysis***:** For the qualitative data, that is data on organizations' characteristics, housing, unit and housing estate features; content analysis was used in the analysis. The result of the analysis show patterns, characteristics and trends which were interpreted and explanations offered. On organizational capacity, respondents were asked to rate the adequacy level of both management and resource components of their organizations on a 5-point Likert scale, where 1= very inadequate, 2= Inadequate, 3= fairly adequate, 4 = Adequate, 5= very adequate and 0 = No response were. The data obtained from the responses was subjected to descriptive statistics (Uni-Variate) analysis which involved data grouping, computation of frequencies and percentages as well as the presentation of result using tables and charts. This is to provide proper understanding of the characteristics of respondents and their perception on organizational capacity of the public agencies to deliver public housing. The evaluation of organizational capacity was carried out by calculating the sum of rating of adequacy levels of all components used in the assessment as provided by the respondents. The sum of individual respondents' score on a capacity attribute is referred to as individuals' overall score (IS) while the total scores on a given capacity attribute

by all the respondents' is the attribute score (AS). The IS was used in assessing each organization's capacity in public housing delivery. Also, the total scores on a given capacity component by all the respondents' is the component scores (CS) while the total possible maximum score that can be given on a capacity component by all the respondents is referred to as maximum component scores (CS_{max}). For the sake of comparing the organizational capacities of the four agencies, capacity index (CI) for management and resources components, which is a proportion of CS to CS_{max} expressed as parentage, was calculated using the following expression:

$$CI = \frac{CS}{CS_{max}} x100$$

5.6.2. __Objective 2:__ To evaluate the characteristics of housing provided in the public housing in the study area.

Data Characteristics: Data for this objective are mainly qualitative in nature. The data describes the general characteristics of housing provided in the programme. They include the physical and nonphysical characteristics of the housing. Data on the physical characteristics are in four categories: housing unit attributes, housing services and infrastructure, neighbourhood facilities, and management of the estates. The physical characteristics of the housing units and the housing estates where the housing units situate (e.g. housing typology, type of building materials and finishes used, state of repair of the building; the additional space requirement by residents, the conditions of both access and internal roads, the availability of social infrastructure (educational and health services in the estate, availability of recreational/sporting facilities, parking spaces, green areas, nature of layout of the estate, and external lighting (see Appendix 7) constitute the bulk of data for this objective. The non-physical characteristics of the housing units include type of tenure, occupancy ratio, housing affordability and mode of acquisition.

Data Source: The data for this objective were derived from housing estates and units using the observation schedule (Appendix 13). All the housing units sampled were observed and the recording of the observations was done according to the building typology since it was observed that houses of same type shared similar characteristics. For this reason housing units with similar physical characters were given the same code. Each housing unit sampled had a guide to record the observations made. The recording of the observation was based on the code representing its

physical characteristics. Similarly, all the 10 housing estates sampled were observed and the observations recorded on the spot with observation schedule.

Data Analysis: Qualitative analytical method, namely content analysis was used in the analysis of this set of data.

5.6.3. Objective 3: Analyze the socio-economic characteristics of residents of selected housing estates developed through four housing delivery strategies in   public   housing in the study area.

Data Characteristics: The data for this objective are basically quantitative in nature. This data set describes the profile, personalities and attributes of residents of the housing units sampled. The data collected for the residents' characteristics included, gender, age, marital status, educational attainment, employment sector, average monthly income and household size of respondents. Others were length of residency and type of tenure (see Appendix 12).

Data Source: The data were derived from occupants of the housing units sampled through the questionnaire instrument as in Objective 2 above.

Data Analysis: Descriptive statistics was used in analysing the residents' characteristics data. This involved the calculation of frequencies and percentages and the presentation of the result using tables, charts and cross tabulation.

5.6.4. Objective 4: Examine residents' perception of the adequacy of the housing provided through four housing delivery strategies and the factors which influenced it.

Data Characteristics: The data for this objective are mostly quantitative in nature. They are basically indicators of adequacy of housing in meeting the physical, physiological, psychological, socio-economic needs of the residents sampled. Most of the data collected and used in housing adequacy assessment related adequacy of spaces and amenities, the level of natural lighting and thermal comfort in the buildings, adequacy of fire safety and security in the building. Others were the adequacy of housing services and infrastructure, neighbourhood facilities and adequacy of management and maintenance of facilities in the housing estates (see Appendix 8).

Data Source: Data required for assessing the adequacy of the housing provided in the different public housing delivery strategies in Ogun State was derived mainly from the housing unit survey questionnaire. The administration and retrieval of the questionnaires were done in the morning and evening times, weekends and holidays. This ensured that the respondents were in their respective homes and as many questionnaires as possible were retrieved. Proportionate sampling technique was used in selecting respondents from the 670 occupied housing units in 10 housing estates. This ensured that housing units from each of the housing delivery strategies was selected based on the proportion of their existence in the estates, and thus, the sample size was representative of the total number of occupied housing units available at the time of the survey. The target was household heads (male and female) available at the time of visiting the housing units. Of the 670 questionnaires distributed, representing 94.50% of the occupied housing units, a total of 517 valid questionnaires representing around 77.16 percent were retrieved (Table 5.2). This response rate is considered acceptable, because it is higher than that obtained in a similar research (Oladapo, 2006) with a response rate of 61.98%.

Data Analysis**:** The data obtained from respondents' rating on the level of adequacy of the housing unit attributes, housing services and infrastructure, management and maintenance of facilities in the housing estates were on the same 5-point Likert scale as in 5.8.1. The descriptive statistics involved the calculation of frequencies and percentages to know the distribution of overall respondents' rating on all the housing units sampled. Next to this was the calculation of frequencies and percentages for individual ratings on housing provided through different strategies separated. The sum of individual respondents' score on all housing adequacy attributes is referred to as individuals' overall adequacy score (IS) while the total scores given by all the respondents to each of the housing adequacy attribute is the attribute score (AS) . Whereas IS was used in assessing individual's perception on housing adequacy, AS was used in assessing the contribution of each of the 33 attributes to overall housing adequacy and housing adequacy across the delivery strategies. Also, the total scores on a housing sub-component by all the respondents is the component scores (CS), while the total possible maximum score that can be given by all the respondents on each of the four housing sub-component is the maximum sub-component score (CS_{max}). For the purpose of comparing the level of adequacy of each of the four housing sub-components used in this study across the delivery strategies, housing sub-component adequacy index (AI) was calculated by expressing CS as a percentage of $CS_{max.}$ This is expressed mathematically as:

$$\text{AI} = \frac{CS}{CS_{\max}} \, x100$$

Also factor (principal component) analysis was used to obtain the basic dimensions of housing adequacy evaluation by residents while the Optimal Scaling method of Multiple Linear Regression (MLR) was used in identifying the factors influencing housing adequacy. For MLR analysis, individuals' adequacy score (IS) was used as the dependent variable, and was regressed on a group of independent variables (predictor variables) selected from residents' characteristics, housing characteristics, organizational capacity and the housing delivery strategies. The organizational capacity obtained as described in Section 5.6.1 above was included in the regression model by re-coding the obtained values in ascending other:1, 2, 3 and 4 with "1" being the lowest and "4" the highest capacity. The values were entered as ordinal data in the data set for the housing unit survey.

5.6.5. Objective 5: Examine the overall residential satisfaction, and satisfaction with life as well as factors which influence these in the selected public housing estates in the study area.

Data Characteristics: Data for assessing residential satisfaction and satisfaction with life in public housing are mainly quantitative in nature. They include the housing characteristics and general satisfaction with life in the housing units (see also Appendix 9).

Data Source: The data for this objective were derived mainly from the housing unit survey questionnaire as in Objective 4 above.

Data Analysis: Data obtained from respondents' rating on their level of residential satisfaction and satisfaction with life in the housing units on a 5- point scale, where 1= Very dissatisfied; 2= Dissatisfied; 3= Fair; 4= Satisfied, 5= Very satisfied and No response=0 were subjected to both descriptive and inferential statics as indicated in objectives 1 and 4 above. The descriptive statistics were used in the assessment of the overall respondents' perception on the level of residential satisfaction and satisfaction with life. Similarly, rating of residential satisfaction and satisfaction with life was also assessed across the four housing delivery strategies. The results were evaluated by calculating residential satisfaction and satisfaction with life for all the residents across the four housing delivery strategies. The calculation of the satisfaction score for each respondent was done by multiplying the number of respondents on scales 1 to 5 by the 1; 2, 3, 4 or 5 as the case may be. The summation of each respondent's score on all the 31 variables

used in the study is the individual's satisfaction score (ISS) while the total scores given by all the respondents on each of the 31 housing satisfaction attributes is the attribute score (AS). Whereas ISS was used in assessing the level of individuals' satisfaction with the residential environment in the public housing estates, the AS was used in examining the level of contribution of each of the 31 housing attributes to overall residential satisfaction and satisfaction across the four housing delivery strategies.

For comparing the satisfaction of residents with each of the housing sub-components: housing unit attributes, housing services and infrastructure, socio-economic environment, neighbourhood facilities and management and maintenance of facilities in the estates, satisfaction index for each of these sub-components (SI_c) were calculated. This was done by expressing the ratio of AS as a percentage of possible maximum possible total attribute scores that all the respondents can give on any housing sub-component (CS_{max}) using the following formula:

$$SI_c = \frac{AS}{CS_{max}} \, x100$$

As was done in 5.8.5 factor (principal component) analysis was carried out to obtain the basic dimensions of residential satisfaction evaluation by residents while the Optimal Scaling method of Multiple Linear Regression (MLR) was used in investigating the factors influencing residential satisfaction and satisfaction with life. For MLR analysis, ISS was used as the dependent variable, and the analysis involved regressing ISS (dependent variable) with residents' characteristics, organizational capacity and housing delivery strategies and individual's overall housing adequacy scores (IS) as the independent (predictor) variables. Also data for the organizational capacity was included in the regression analysis as described in objective N0.4 above.

The field work for this research lasted 10 weeks beginning from the first week of December, 2009 to the second week of February, 2010, while data entering and analysis lasted between third week of February, 2010 and end of May, 2010 (14 weeks)

Table 5.2: Distribution of Questionnaires to Residents of the Housing units according to

Housing Delivery Strategies

Delivery Strategies	Housing Estate	Sample Frame	Occupied housing units N (%)	Number of questionnaires distributed	Number of duly retrieved valid questionnaires	Percentage of retrieved valid questionnaires
Core Housing	Workers H/Estate Laderin Abeokuta	270	270(100)	250	189	75.60
Shell Housing	OSHC Estate, Ajebo Road, Abeokuta	100	3(3.0)	3	0	0.0
	OGSHC H. Estate, Ota	60	12(20.0)	12	10	83.33
Public-Private Partnership	Havilah Villas, Isheri	100	0(0.0)	0	0	0.0
	OGD-Sparklight, Ibafo	340	30(8.8)	30	23	76.67
Turnkey	Obasanjo Hill-Top (GRA) Estate Abeokuta (Commissioners' Quarters)	32	30 (100)	29	17	58.62
	Media Village, Abeokuta	104	60(57.7)	60	51	85.0
	OPIC Estate, Agbara	60	50(86.7)	48	43	89.58
	Kemta Extension H.Estate, Olokota-Abeokuta	88	12(13.6)	10	10	100
	OGD H.Estate Asero- Abeokuta	212	212(100)	198	152	76.76
	OGD H/Estate, Itanrin, Ijebu-Ode	30	30 (100)	30	22	73.33
	OGSHC H. Estate, Idiroko	15	0(0.0)	0(0.0)	0	0.0
Total	**12**	**1,411**	**709(54.21)**	**670 (94.50)**	**517**	**77.16**

5.7.0 Data Processing

Data processing and analysis were carried out using computer and Statistical Package for Social Sciences (SPSS) 15.0 for Windows. For the qualitative data derived mainly from the interviews and observations, non-statistical analytical tool such as content analysis was used. The responses

and observations were analysed in order to identify common themes and trends in the subject investigated. Comparison was also made to identify similarities and contrasts in the responses, particularly in the different housing delivery strategies. Statistical Package for Social Sciences (SPSS) 15.0 for Windows was used specifically for the statistical analysis of the quantitative data.

The data analyses described between Sections 5.6.1 and 5.6.5 above began with general inspection of the data to identify scores that were beyond the expected maximum scores for the various items in the scale of measurement. A visual examination of the SPSS display of the result indicated that a number of scores were found to be more than the expected item score. This was quickly corrected by going back to the questionnaires, which were numbered according to how the data was keyed into the computer. It was also observed that the pattern of scoring did not suggest that thoughtful assessments were not made and that respondents did not give a candid opinion on the issues under examination. At this point, it was necessary to confirm the statistical method of analyses to be used that is either parametric or non parametric. One of the methods adopted in most research of this nature to arrive at appropriate decision is the Test of Normality. This test was however not necessary in this study, mainly because the data for this study are mainly of nominal and ordinal scales which lend themselves readily to non parametric statistical tools.

5.8. Reliability and Validity Tests

Validity and reliability are among the two most vital concerns in research design, methodology, results and findings. One of the validity test carried out was the pretesting of the questionnaires among staff of Covenant University and residents of the University Staff quarters; and sampling of housing units provided in the four housing delivery strategies in the study area. For the reliability test, whereas the assessment of organizational capacity and adequate housing is based on rating by respondents on a 5 point Likert Scale where No response = 0;Very Inadequate=1; Inadequate=2; Fairly Adequate=3; Adequate =4 and Very Adequate=5, the assessment of residential and life satisfaction of respondents is on 5 point scale, where 1= Very Dissatisfied, 2= Dissatisfied, 3= Fairly Satisfied, 4= Satisfied, 5=Very Satisfied and 0= No response. The reliability or internal consistency of the above scale is very important to this study. As part of the preliminary data analysis, Cronbach's alpha coefficient test was conducted on all variables

used in assessing organizational capacity, housing adequacy and residential satisfaction. Cronbach's alpha coefficient test result of the 20; 33 and 31 variables used in measuring the level of organizational capacity, housing adequacy and residential satisfaction showed high Cronbach's Alpha of 0.897, 0.891 and 0.891 respectively. These values are more than the recommended minimum 0.7 alpha value. Similar study (Oladapo, 2006) reported alpha values of between 0.80 and 0.89 on a 7 point scale. The result of print-out variables for organizational capacity and housing adequacy Appendix 14 and Appendix 15 indicate that the Corrected Item –Total Correlation which indicates the degree to which each variable correlates with the Alpha value has no item with value less than 0.3. This implies that none of the variables is measuring something different from the scale as a whole. Consequently all the 54 variables were considered satisfactory in measuring organizational capacity. Although, Appendix 7 indicated that Satisfaction with the Sizes of kitchen and storage Spaces, Satisfaction with the Level of Privacy in the Residence, Satisfaction with the Level of crime and anti-social activities in the Housing Satisfaction and Satisfaction with the level of Communal Activities in the Housing Estate have low Corrected Item-Total Correlation values of less than the recommended 0.3. This indicated that these items are measuring something different from the scale as a whole. However, since the Cronbach's alpha is not less than 0.7, these items were not removed from the scale. In sum, this result shows good internal consistency of the scale of measurement, and thus, the scales of measurement used are reliable with the sample in the current study.

5.9 Summary

This Chapter which had the aim of discussing the research methodology outlined and described the stage by stage method adopted in carrying out this research. It is evident in this Chapter that both qualitative and the survey research methods were adopted for the study. For the purpose of data collection, the sample size for the organizations consisted of four public housing organizations in the State, whereas the sample size for the housing unit survey was 690 out of 709 completed and occupied housing units. A combination of questionnaire, oral interview and observation schedule was used as data collection instruments. The data collected were processed and analyzed using computer and SPSS 15.0 for windows. The analyses were based on six broad categories of variables, namely, Respondents Characteristics; Organizational Capacity; Housing Characteristic; Housing Adequacy; Residential Satisfaction and Satisfaction with Life. Among

the analyses and statistical tests the data were subjected to include content analysis, descriptive statistics (frequencies, percentages and proportion) and inferential statistical tests (factor, discriminant and regression analyses). The results of the analyses and tests as well as their implications are presented in subsequent Chapters of this thesis.

CHAPTER SIX

THE ORGANIZATIONAL CAPACITY OF PUBLIC HOUSING AGENCIES

6.0 Introduction

The objective of this Chapter is to present, interpret and discuss the result of the analysis of the staff questionnaire survey and oral interviews conducted with selected staff of the public housing agencies in Ogun State. The Chapter is divided into two main segments. Section One presents and discusses the results of data derived from the oral interviews which examined the characteristics of the organizations and some aspects of the housing delivery strategies. The second section is the presentation and discussion of the result of the analysis of the questionnaire survey of staff members in the four public housing agencies which assessed their perception on the organizations' capacity in housing delivery in the study area. The Chapter ends with a summary of findings from the study of the four public housing agencies.

6.1.0 Socio-economic Characteristics of the Respondents (Staff)

The staff survey involved a total of 90 staff members representing 16.64 % of the staff strength of the organizations. The distribution of the respondents across the four organizations shows that 26.7% were from the Ogun State Ministry of Housing (MOH), 25.6 % from each of Ogun State Housing Corporation (OSHC) and Ogun State Property and Investment Corporation (OPIC) while 22.2% were from Gateway City Development Company Limited (GCDCL). The result indicates that the respondents were predominantly male (73.3 %), and 26.7% female, and most (81.1%) of them were married people. Majority of the respondents (58.9%) were between ages 31 years and 45 years; 15.0% between age 46 years and 50 years, 14.0% between 51 years and 60 years while those between ages18 years and 30 years accounted for 10% of the sample (Figure 6.1). Table 6.1 shows that the average monthly income of 41.1% of the respondents was between ₦14, 000 and ₦37, 000; 20% earned between ₦41, 000 and ₦71, 000; 15.6% and 8% earned between (₦38,000-₦44,000) and (₦72,000- ₦145,000 respectively, while 6.7% of the respondents earned below ₦13,000 and above ₦145,000 per month respectively.
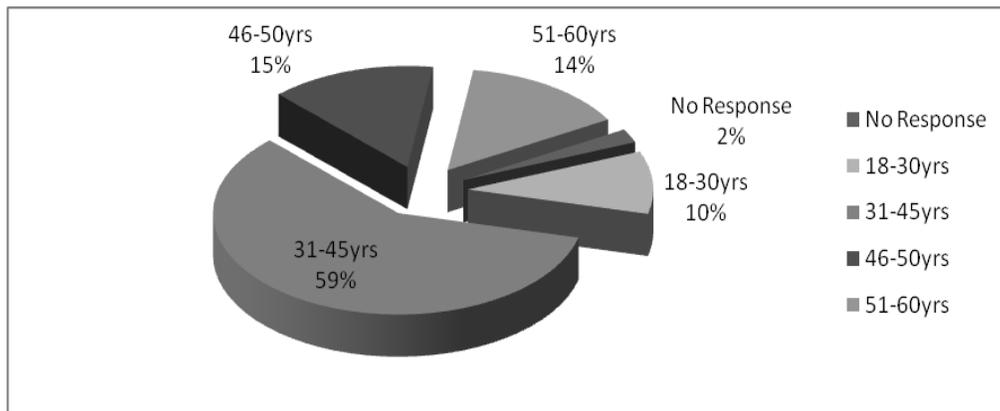
Figure 6.1: Age Grouping of Respondents

Table 6.1 Average Monthly Income of Respondents

Average Monthly Income	Organizations				
	MOH	O S H C	OPIC	G CD C L	Total
No Response	0(0.0)	0(0.0)	1(4.3)	0(0.0)	**1(1.1)**
Below ₦13,000	3(12.5)	0(0.0)	2(8.7)	1(5.0)	**6(6.7)**
₦14,000-₦37,000	11(45.8)	10(43.5)	11(47.8)	5(25.0)	**37(41.1)**
₦38,000-₦44,000	6(25.0)	3(13.0)	1(4.3)	4(20.0)	**14(15.6)**
₦45,000-₦71,000	1(4.2)	8(34.8)	7(30.4)	2(10.0)	**18(20.0)**
₦72,000-₦145,000	2(8.3)	2(8.7)	0(0.0)	4(20.0)	**8(8.9)**
Above ₦145,000	1(4.2)	0(0.0)	1(4.3)	4(20.0)	**6(6.7)**
Total	**24 (100)**	**23(100)**	**23(100)**	**20(100)**	**90(100)**

Numbers in bracket represent percentages; Figures outside bracket represent frequencies

Table 6.2 indicates that the respondents are well educated, most with post-secondary training. Those with Higher National Diploma constituted 42.2% of the respondents. Next to this are those with Bachelor degree (24.4 %), Master degree (20%), National Diploma (7.8%) and those with National Certificate of Education and other qualifications contributed 2.2% each to the sample.

Table 6.2: Highest Educational Qualification of Respondents

Educational Qualifications	Organizations				
	MOH	O S H C	OPIC	G CD C L	Total
No Response	1(4.2)	0(0.)	0(0.0)	0(0.)	**1(1.1)**
National Diploma (ND)	4(16.7)	0(0.0)	2(8.7)	1(5.0)	**7(7.8)**
National Certificate of Education	1(4.2)	0(0.0)	0(0.0)	1(5.0)	**2(2.2)**
Higher National Diploma	12(50.0)	9(39.1)	14(60.9)	3(15.0)	**38(42.2)**
Bachelor Degree	2(8.3)	7(30.4)	5(21.7)	8(40.0)	**22(24.4)**
Masters Degree	4(16.7)	6(26.1)	2(8.7)	6(30.0)	**18(20.0)**
Other qualifications	0(0.0)	1(4.3)	0(0.0)	1(5.0)	**2(2.2)**
Total	**24 (100)**	**23(100)**	**23(100)**	**20(100)**	**90(100)**

Numbers in bracket represent percentages; Figures outside bracket represent frequencies

Similarly, most of the respondents were professionals in the housing sector. It is evident from Table 6.3 that 15.6% of the respondents received their training in Architecture, next to this are those who received their training in Accounting and Finance (13.3%), Administration (11.1 %), Estate Management (10 %), Building Technology (8.9%), Civil Engineering (8.9%) and Urban & Regional Planning (8.9%). Others were Land Surveying (5.6 %) followed by Quantity Surveying and Marketing (4.4%) each and Law (3.3%). The remaining percentage of respondents was from Mechanical Engineering, Information and Communication Technology, Public Relations, Purchasing & Supply and Research and Documentation each contributed 1.0% to the sample. The above result can be explained based on the target population of the survey which focused only on staff members identified to be directly involved in the design and execution of the organizations housing projects.

Table 6.3: Areas of Specialization of   Respondents

	Organizations				Total
Areas of Specialization	**MOH**	**OSHC**	**OPIC**	**GCDCL**	
Accounting /Finance	5(20.8)	2(8.7)	3(13.0)	2(10.0)	**12(13.3)**
Administration	3(12.5)	1(4.3)	3(13.0)	3(15.0)	**10(11.1)**
Architecture	6(25.5)	4(17.4)	2(8.7)	2910.0)	**14(15.6)**
Building Technology	5(20.8)	2(8.7)	0(0.0)	1(5.0)	**8(8.9)**
Civil Engineering	0(0.)	3(13.0)	4(17.4)	1(5.1)	**8(8.9)**
Information & Communication Tech.	0(0.0)	1(4.3)	0(0.0)	0(0.0)	**1(1.1)**
Estate Management	2(8.3)	3(13.0)	2(8.7)	2(10.0)	**9(10.0)**
Land Surveying	0(0.0)	1(4.3)	2(8.7)	2(10.0)	**5(5.6)**
Law	0(0.0)	1(4.3)	1(4.3)	1(5.0)	**3(3.3)**
Marketing	1(4.2)	1(4.3)	1(4.3)	1(5.0)	**4(4.4)**
Mechanical Engineering	0(0.0)	0(0.0)	1(0.0)	0(0.0)	**1(0.0)**
Public Relations	0(0.0)	1(4.3)	0(0.0)	0(0.0)	**1(1.1)**
Purchasing and Supply	1(4.2)	0(0.0)	0(0.0)	0(0.0)	**1(1.1)**
Quantity Surveying	0(0.0)	1(4.3)	2(8.7)	1(5.0)	**4(4.4)**
Research and Documentation	1(4.2))	0(0.0)	0(0.0)	0(0.0)	**1(1.1)**
Urban and Regional Planning	0(0.0)	2(8.7)	2(8.7)	4(20.0)	**8(8.9)**
Total	**24 (100)**	**23(100)**	**23(100)**	**20(100)**	**90(100)**

Numbers in bracket represent percentages; Figures outside bracket represent frequencies

With respect to the designation of the respondents, Table 6.4 shows that those in Senior Technical Staff category constituted about 35.6% of the respondents; 22.2 % were management and administrative staff, 8.9% were directors and deputy directors respectively, 6.7% were heads of departments and deputy heads of departments each, while estate officers and other category of staff members constituted about 5.0% and 4.4% of the sample respectively. A good percentage of the respondents (45.6 %) had less than 10 years working experience, next to this were 21.1%

of those who had between 10 years and 15 years experience, 18.9% with between 15 years and 25 years experience, and 14.4% with over 25 years of experience in the field (Figure 6.4).

Table 6.4: Designation of Respondents

Staff Designation	Organizations				Total
	MOH	OSHC	OPIC	GCDCL	
Directors	0(0.0)	1(4.3)	3(13.0)	4(20.0)	**8(8.9)**
Deputy Directors	3(12.4)	2(8.7)	3(13.0)	0(0.0)	**8(8.9)**
Heads of Departments	2(8.3)	3(13.0)	0(0.0)	1(5.0)	**6(6.7)**
Senior Technical Staff	6(25.0)	10(43.5)	9(39.1)	7(35.0)	**32(35.6)**
Management/Administrative Staff	9(37.5)	3(13.0)	4(17.4)	4(20.0)	**20(22.2)**
Deputy Head s of Departments	1(4.2)	2(8.7)	1(4.3)	2(10.0)	**6(6.7)**
Estate Officers	1(4.2)	1(4.3)	2(8.7)	1(5.0)	**5(5.0)**
Permanent Secretary	1(4.2)	0(0.0)	0(0.0)	0(0.0)	**1(1.0)**
Others	1(4.2)	1(4.3)	1(4.3)	1(5.0)	**4(4.4)**
Total	**24 (100)**	**23(100)**	**23(100)**	**20(100)**	**90(100)**

Numbers in bracket represent percentages; Figures outside bracket represent frequencies

The above result shows that staff members involved in the design and execution of the organizations' housing projects sampled were mainly senior technical and management staff. Although these categories of staff members were mostly male professionals (architects, building technologists, civil engineers, estate mangers, urban and regional planners and quantity surveying) in the building industry, they were within the productive ages of between 31 years and 50 years. This shows the domination of middle aged workers in the public service of Ogun State, and an indication that the staff composition of these agencies is capable of standing the rigour involved in building construction work.

Although, a good number of the staff members sampled had less than ten years working experience, it is evident from the result that the ratio of those with over ten years of experience to those with less than ten years experience was 45.56%:54.44%. This suggests that the organizations have experienced personnel in housing delivery. The large proportion of relatively young population among the staff members also suggests that there are younger than elderly people in the public service of Ogun State. This is well expected for continuity and survival of these organizations. The implication of this result is that the capacity of the organizations to deliver housing is not jeopardized by a large proportion of ageing workers. Based on the above result, the organizations can be considered to have reasonable human capacity to undertake their public housing projects.
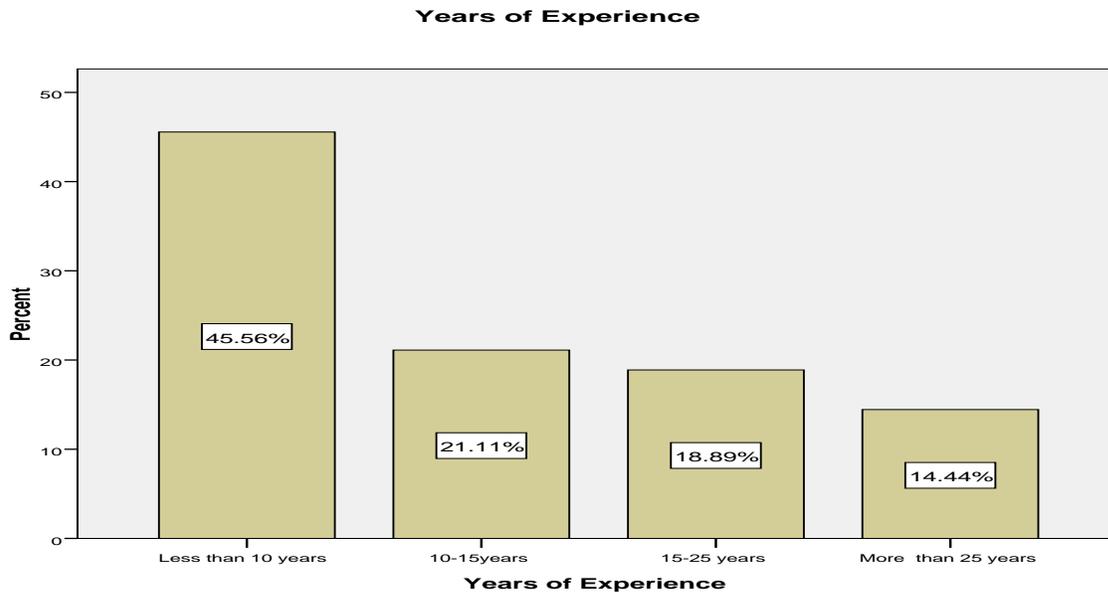
Figure 6.2: Years of Experience of Respondents

6.2.0 Organizational Characteristics of the Public Housing Agencies

The information presented in this section was derived from the oral interviews conducted by the researcher with selected key officers of the four selected public organizations: the MOH, OSHC, OPIC and GCDCL. This section briefly describes the basic characteristics of these public housing agencies, and thus, helping to understand commonalities across the organizations and housing activities of the organizations. The first step in describing the characteristics of an organization is looking at its structure. Lusthaus et al (2002) identified governance and operating structures as the two main components of organization's structure. In governance, the people of the State are the stakeholders and those at the helm of affairs manage the bureaucracy and link public policy with bureaucratic actions. The operating structure represents a system of working relationship involving division of task among people working toward a common goal. According to Lusthaus et al (2002), many scholars and researchers visualize the organisation's structure in terms of organizational chart. For this reason, the organisations' charts are used in this study to describe the organizational structure.

Figures 6.3 and 6.4 show the organizational chart (organogram) of Ogun State Housing Corporation (OSHC), Ogun State Property and Investment Corporation (OPIC) and Gateway City Development Company Limited (GCDCL). Examination of these organizational charts reveals four levels in the staff structure. These are the executive, the directorate, heads of

units/departments and what can be described as the "grassroot level" officers. Whereas, OSHC is headed by an executive officer - the General Manger, both the OPIC and GCDCL are headed by the Managing Directors who oversee the day to day activities of these organizations. The directorate comprises directors who oversee the affairs of the main operational departments, whilst, the heads of units are in charge of the operational units that are not up to the status of departments. The heads of units and departments are responsible for co-coordinating the affairs of the different operational units and reporting back to the chief executive officers. The grassroot level officers are the general technical, business, financial and administrative staff. They constitute a larger quantum of the operational staff of the organizations.

Contrary to the organizational structure in OSHC where the General Manager is the Chief Executive Officer, at the top of the organizational chart of both the OPIC and GCDCL are boards comprising members appointed by the Governor to represent government's interest in the organizations. The boards are headed by chairmen who are the political head while the managing directors are the chief executives and administrative heads. The organizational structures of these organizations suggest that the official policies and implementation of programmes tend to follow a top-down approach, and as such information are transmitted from the executives down to the lowest grassroot level officers through the directorate and heads of departments and units as the case may be.
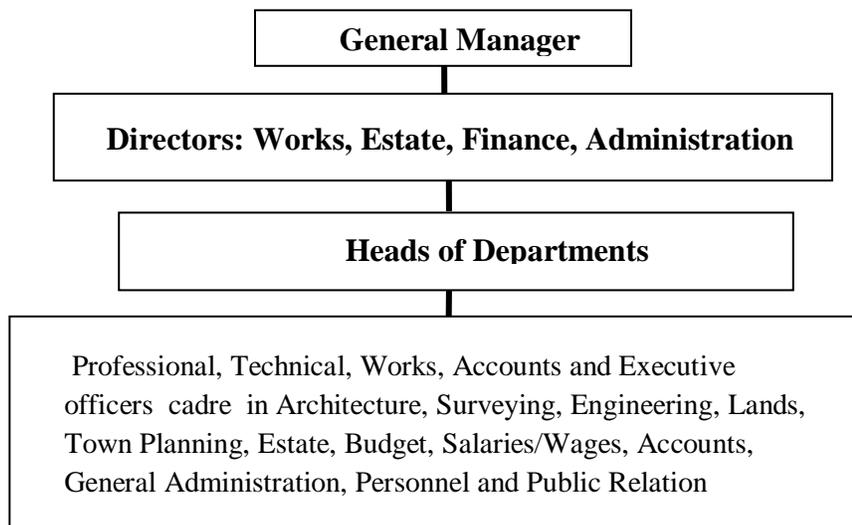
Figure 6.3: Organizational Structure of the Ogun State Housing Corporation (OSHC)

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                    ┌──────────────────┐
                    │      Board       │
                    └──────────────────┘
                    ┌──────────────────┐
                    │ Managing Director│
                    └──────────────────┘
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Directors
Estate &Survey; Lands; Lands (Abeokuta), Works &Services, Administration, Personnel Management; Research and Planning; Legal Services; Marketing; Accounts

Heads of Units
OPIC Estate (Agbara) Internal Revenue, Computer, Internal Audit

General Staff
Estate Management, Land Surveying, Architecture, Planning, Engineering, Quantity Surveying, Business Administration, Human Resource Management, Research and Documentation, Legal Services, Marketing, Book Keeping, Budgeting, Accounting' Auditing, Advertising, Public Relation, Salary and Wages etc

Figure 6.4: Organizational Structure of OPIC and GCDCL

Unlike the organisational charts of the OSHC, OPIC and GCDCL, the Commissioner is the political head of the Ministry of Housing while the administrative head is the Permanent Secretary (PS). The organogram of MOH shows a more organizational hierarchy than those of OSHC, OPIC and GCDCL, which is a typical feature of government ministries in Nigeria. It is can be seen from Figure 6.5 that there are seven levels of staff in the Ministry of Housing. A part from the Commissioner and Permanent Secretary, the other categories of staff indefinable in the organizational chart of the Ministry are the directorate, officers and foremen. Compared to the organizational structures of OSHC, OPIC and GCDCL, there are no Boards, General Managers or Managing Directors. This suggests a different goal and aspiration, decision making process and perhaps different approach to housing delivery process.

It is evident from the foregoing that the organizational structures of public housing agencies in Ogun State are clearly distinguishable into the governance structure and operating structures as indicated in literature (Lusthaus et al., 2002; Andrew and Boyne, 2005; Irani, 2010). The structures in all the four organisations show that staff members are classified according to the functions they perform in their professional life and in the organizations (functional structure) while the organisations are structured into different divisions according to the services they

render (divisional structure). Based on the finding on the organisational structure, one can infer that the structure of public housing agencies in Ogun State is a blend of functional and divisional structure. This type of organizational structure is described as matrix organizational structure by (Clark 2010), and it is considered the best type of structure because it combines the best of functional and division organisational structures.

```
┌─────────────────────────┐
│      Commissioner       │
└─────────────────────────┘
┌─────────────────────────┐
│   Permanent Secretary   │
└─────────────────────────┘
```

Directors

Administration and Supplies, Planning, Research& Statistics, Engineering Services, Housing, Public Buildings, Architectural Services, Finance & Accounts, Audit Unit

Deputy Directors

Administration & Supplies, Planning, Research and Statistics, Engineering Services, Housing, Public Buildings, Architectural Services, Finance & Accounts, Executive Officer

Assistant Deputy Directors

Administration supplies; Planning, Research & Statistics, Engineering Services, Housing, Public Buildings, Architectural Services, Finance & Accounts

Officers' Cadre

Administration, Executive, Estate, Professional, Technical, Works officers in structural Engineering, Quantity Surveying, Building, Architecture, Accounts

Foremen

Craftsmen, Electrical Assistant, Plumbing, Carpentering

Figure 6.5: Organizational structure of the Ogun State Ministry of Housing

Having described the organizational structure as a key component of characteristics of the organizations, it is important to examine other aspects of the organizational characteristics. The

principal characteristics examined include staff strength, organizational goal, housing delivery strategies and sources of funding for housing projects. The study found that Ogun State Ministry of Housing had a total of 226 persons in different professions and fields of employment at the time of this survey. According to the officer interviewed, "the *staff of the Ministry of Housing comprises highly motivated professionals, technical and non technical staff with good attitude to work and high morale"*. On the organizational goal, the officer of this Ministry commented: "*the Ministry's goal in public housing delivery in the State was basically for social welfare"*. This suggests that the main reason why the Ministry is involved in public housing provision is to provide housing as a social product not really for profit making. With regards to how the Ministry funds its housing projects, this interviewee explained:

"*Although the State government makes budgetary allocations for housing projects on a yearly basis depending on the number of housing projects and available funds, most housing schemes undertaken by the Ministry are self-sustaining. In some cases we collected money from prospective home buyers in full or instalments on or before the completion of housing units, and to ensure prudent management and accountability, such funds for housing projects are usually disbursed in phases through the director in charge of the projects"*

The above submission suggests that the Ministry of Housing derives funding for public housing from both external and internal sources. The external source is from government allocation while the internal source is from prospective home buyers. These sources of funding provided support for the two housing delivery strategies, namely: the core housing and turnkey strategies which the Ministry had so far employed in public housing provision. According to the officer interviewed, the choice of these housing delivery strategies was based on resources at the disposal of the Ministry and target population.

Ogun State Housing Corporation (OGSHC) on the other hand had staff strength of 123 persons. As the oldest public housing agency in the State its initial mandate was to provide housing to the public on the basis of social welfare rather than for profit making. However, according to the officer with the Corporation interviewed "*the current goal of the Corporation in public housing delivery in the State is the provision of housing to the public at commercial prices"*. This implies that the agency is a government- established profit making organization. This is in line with evidences in literature (Chukwujekwu, 2005) indicating that as part of survival strategies, State Housing Corporations in Nigeria have metamorphosed from social welfare oriented public agencies to profit making organizations. The officer interviewed claimed that OSHC had full compliments of human capital to support its housing projects and staff members of the

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Corporation were generally considered to be of high morale and their attitude to work very encouraging. The study found that since the inception of the OSHC, it has employed the turnkey, site-and–services, shell stage and core housing delivery strategies in the execution of its housing projects. The officer interviewed further explained that *"the choice of these strategies was based available resources and the desire to meet the housing needs of different income groups"*.

On how the Corporation financed it housing projects, the officer interviewed commented:

"We do not receive any budgetary allocation from government for our housing projects. We generate funds mainly from the sale of houses to the public and the profits reinvested in the production of more houses. Some of our housing projects are funded through loans *from the Federal Mortgage Bank of Nigeria (FMBN). Such funds are usually disbursed on priority* basis *with emphasis on housing projects with potentials of quick returns to the Corporation"*.

This submission shows that the OSHC is a profit oriented public housing agencies that depends on internally generated revenue and loans in financing its housing project. It also suggests that the Corporation adopts different housing delivery strategies in a bid to meet the housing need of all income levels.

The Ogun State Property and Investment Company (OPIC) at the time of this survey had strength of about 152 personnel of different categories of professional and non professionals. The officer interviewed revealed that OPIC combines the inputs of consultants and in-house professionals in the realisation of its housing and engineering projects. He rated the staff morale as being very high and their general attitude to work as being considerably good. According the officer with this organization interviewed, *"OPIC combines the features of both public and private organizations"*. The public sector features according this officer:

"........stemmed from the recent re-structuring of the organization in line with public service schedule. This was to ensure that staff members of our organisation benefited from the current pension and gratuity regime and can also be appointed as Permanent Secretary like other public sector workers in the State".

He further commented: .... *"the private sector feature of OPIC is that the organization builds and sells houses to the public at commercial rates"*. Although, the organization's housing projects were targeted at all income groups, this officer revealed that their current focus was on the provision of housing for the middle and upper income classes. On the rational for focusing

on these two income classes, this officer noted: "*OPIC is a self-sustaining and profit motivated public sector organization that receives no budgetary allocation from government for its housing projects.* He however pointed out that the Ogun State government has invested land in OPIC at various locations in the State. In his words "*the State government has invested about 100,000 hectares of land in OPIC at Agbara, on which the Organization pays dividends to the State government*".

The study found that the housing delivery strategies employed by OPIC are mainly site-and-services and turnkey, and disbursement of funds for the schemes are usually in phases. It was also found that OPIC is a profit–making organizations involved in housing provision, civil works and real estate business. In fact the finding here is consistent with OPIC (2008) which indicated that OPIC is a multi-task organization with a number of subsidiaries identified in chapter two of the thesis.

The Gateway City Development Company Limited (GCDCL) is the youngest of the three parasatals under the Ministry of Housing. At the time of this survey, it had total staff strength of 40. According to the officer interviewed,

"*As a young organization   it is projected that by 2012 we will have full complement of staff required for our operations in general and housing delivery mandate in particular, however, our 40- member work force enjoys competitive salaries and wages more than what is obtainable in the public service in the State. We pay wages comparable to what is obtained in UAC properties*"

The above submission suggests that GCDCL was yet to have the required staff strength; however, the staff members were well motivated through competitive remuneration. On the goal of the organization in public housing and sources of funding for its housing projects the interviewee noted:

"*GCDCL is a private sector arm of State government in public housing delivery in the Gateway City (Isheri, Ibafo, and Mowe) axis of Ogun State, and the aim of the organization's goal in public housing delivery is to make profits in public housing delivery, and because of this we receive no financial allocation from the State government for our operations; rather we generate funds from the sales of land to the public*". *Also* GCDCL *fund its housing projects through loans from banks and partnerships with private corporate housing developers and such funds are disbursed on priority basis*"

This study found that the GCDCL is involved in site-and-services and Public-Private Partnership (PPP) in housing delivery strategies, and like in OPIC, the Ogun State government also invested land in GCDCL and thus, its main sources of funds for public housing projects are the sales of land, loans and partners arrangements with private sector organisations

It is worth noting here that all the officers interviewed in the four public housing organizations indicated that all those who had so far assumed leadership positions in the four agencies were appointed from among the most senior officers of the organizations. This suggests that persons assumed leadership positions in these organizations by virtue of being a member of staff of the organizations, their qualification, experienced and length of service in the organizations. Thus, leadership in these organizations consist of people who are in authority by virtue of their position to influence staff members of the organizations to achieve organizational goals. This implies that the leadership structure in the organizations is basically derived from the type of leadership that grows from within an organization (Wachira, 2009). This is typical of public agencies in Nigeria. Also, looking at the organisational structures, the predominant organizational structures suggest a centralised structure where retention of decision-making authority resides with managerial staff. This is in contrast to decentralised organisational structure where authority for decision making is distributed throughout the organization and staff members have the right to make decision without obtaining approval from senior management staff. This implies that the centralised communication structure is also predominant in these four public housing agencies in Ogun State.

Table 6.5 shows the summary of the organizational characteristics of the four public housing agencies investigated. Examination of Table 6.5 shows that most of the organizations are profit oriented public agencies that depend on funds generated from both internal and external sources for public housing provision. Therefore, one can infer that the characteristics of these organizations identified in the study may influence the organizations' capacity to deliver housing and the characteristics of housing provided. Specifically, it is natural to think that the focus on commercial housing by the organizations may have implication on the characteristics of housing provided. Viewed from this perspective, it may be argued that since housing sector is a very competitive one, and in order for these organizations to compete favourably with commercial private sector housing providers, there is need for these organisations to engage in commercial housing to remain in business. This is perhaps one of the strategies towards ensuring efficiency in housing delivery and survival of public housing organizations in the 21st century and beyond.

It is also a way of improving funding of public housing sector as public housing agencies depend less on government for funding, most particularly at this time of declining revenue and competing demands on government by other sectors of the economy. The finding of this study also shows that irrespective of whether the organization is social welfare or profit motivated, all the organisations studied adopted common housing delivery strategies. However, Table 6.5 shows that the turnkey approach was common to all the organisations, while the shell and public-private partnership strategies were used by the OSHC and GCDCL respectively. This tends to suggest that the turnkey housing delivery strategy can be designed to suit both social housing and commercial housing.

Table 6.5: Organizational Characteristics

Characteristics	MOH	OSHC	OPIC	GCDCL
Type of Organization	Ministry	Parasatal	Parasatal	Parasatal
Organizational goal in Public Housing	Social Welfare	Profit making	Profit making	Profit making
Staff Strength	226	123	152	40
Leadership Style	Formal	Formal	Formal	Formal
Communication Structure	Centralised	Centralised	Centralised	Centralised
Funding Public Housing	Government allocation and internally generated	Internally generated	Internally generated	Internally Generated
Methods of funds disbursement	Phased	Priority basis	Phased	Priority Basis
Housing delivery Strategies	Core housing & Turnkey	Turnkey; Shell , Core Housing, Site and Services	Turnkey & Site and Services	PPP, Turnkey, Site and Services

6.3. Organizational Capacity of the Public Housing Agencies

Having examined the characteristics of public housing agencies in the study area, it is apt to assess their capacity to provide public housing. The assessment of organizational capacity was carried out according to the procedures outlined in Section 5.8.1. Literature in organizational studies shows that the overall capacity of an organization can be determined based on management capacity and resources availability (Lusthaus et al., 2002) as well as exogenous factors, namely, social, economic and political environment in which it operates (Wachira, 2009). In line with this, capacity audit was conducted for the four public housing organizations based on two main capacity components, namely, management and resource components. The

exogenous factors are however outside the scope of the current study. Variables used in assessing the management components and resource components are as listed in Appendix 6 . The result of the analysis are presented and discussed in subsequent sections.

6.3.1 Individual Adequacy Scores on Overall Organizational Capacity

Table 6.6 shows individual overall adequacy scores by all the respondents on the overall organizational capacity of the four housing agencies. Examination of this Table reveals that majority (52.23%) of the respondents perceived the organizational capacity of these organizations to be adequate; whilst 33.33% claimed that the organizational capacity was fair. Although 2.22% indicated that the organizational capacity was inadequate and very inadequate respectively, about 10.0% of the respondents perceived the organizational capacity to be very adequate. This result simply shows that majority of the respondents perceived the capacity of the four public housing agencies as adequate in public housing delivery in Ogun State.

Table 6.6: Individuals' Score on Overall Organizational Capacity

Adequacy Scores	Rating	Frequency	Percentage
20-35	Very Inadequate	2	2.22
36-51	Inadequate	2	2.22
52- 67	Fair	30	33.33
68-83	Adequate	47	52.23
84 -100	Very Adequate	9	10.00
Total		**90**	**100**

6.3.2 Contributing Factors to Overall Organizational Capacity

Table 6.7 shows the level of contributions of the 20 capacity components to overall adequacy of organizational capacity arranged in descending order of their level of contributions. Components on the top have more contributions than those below. A close examination of this result (Table 6.7) reveals that leadership style which is a management component contributed most while the method of fund disbursement for housing projects which is also a management component contributed least to the overall level of adequacy of organizational capacity. This is because the two attributes have the highest and least TAS of 348 and 210 respectively. It can also be seen that the resource component that contributed most and least to adequacy of organizational capacity are working environment for staff and availability of funds for housing projects. Also

this claim is based on the evidence in Table 6.7 showing that the two attributes have the TAS of 313 and 266 respectively.

Table 6.7: Contributing Components to Overall Organizational Capacity

S/N	Capacity Components	Attribute Score (AS)	Sub-System
1	Leadership Style	348	**Management**
2	Clarity of Organizations' Goal in Public Housing Delivery	335	**Management**
3	Housing Project Process Management and Monitoring Strategies	322	**Management**
4	Level of Innovation in Public Housing Delivery	316	**Management**
5	Communication Channel	315	**Management**
6	Working Environment for Staff	313	**Resources**
7	Methods of role assignment to Staff	313	**Management**
8	Level of Technology and Know -how in Public Housing	301	**Resources**
9	Office spaces and furniture	300	**Resources**
10	Human Resource Capacity	299	**Resources**
11	Staff Morale and Attitude to work	298	**Resources**
12	Institutional Capacity Building Process	297	**Management**
13	Information Management System	294	**Management**
14	Staff Performance Appraisal Procedure	283	**Management**
15	Operational Equipment and Vehicles	274	**Resources**
16	Staff Development Programme	268	**Management**
17	Fund for Housing Projects	266	**Resources**
18	Staff Incentives and reward system	263	**Management**
19	Level of Staff Motivation	252	**Management**
20	Method of Disbursement funds for Housing Projects	210	**Management**

The above result suggests that leadership style was the best management attribute and contributed most to organisations' capacity while the phased and priority methods of disbursement of funds to housing projects contributed least in enhancing the adequacy level of the organizations' capacity. Similarly, level of contribution of the working environment of staff to the organisations' capacity level suggests that most staff members particularly those involved in the design and execution of the housing projects had very good working environment such as office spaces, site offices and others. On the other hand, the low level of contribution of the method of disbursement of funds for housing projects suggests that there is need for more effective method(s) of disbursement of funds to housing projects. The contribution of methods of fund disbursement in the organisations' has strong link to the level of funding in the organisations which Table 6.7 shows contributed the least to resources capacity in the organisations. This suggests that inadequate funds may have contributed to the respondents' perception of the method of disburdenment of funds for public housing projects. The above result is a pointer to the fact that although the organizations' reliance on different sources of

funding including loans and internally generated revenue for public housing has failed to provide adequate funding for public housing projects in the State. A possible explanation for this is found within the context of prevailing unfavourable economic situation which has impacted negatively on all sectors of Nigeria's economy.

6.3.3 Overall Adequacy of Management Components

Having assessed the overall adequacy of both management and resource components in the preceding Section, this Section examines the adequacy level of management components in the organisations. This is to enhance our understanding of the extent the 13 components under the management sub-system contributed to overall organizations' capacity to deliver public housing. The result of the analysis (Table 6.8) shows that a good proportion (47.78%) of the respondents perceived the overall management capacity as being fair. Next to this is 41.12% who viewed the management component as adequate, 4.44% who indicated it was very adequate and inadequate. However, a small fraction (2.22%) of the sample claimed that management component was very inadequate in public housing delivery in the study area. In all, the result shows that the proportion of respondents who said the management component was fair was more than those who said it was inadequate or adequate.

Again, from Table 6.7 it is obvious that leadership style contributed the most to adequacy of management components. Next to this are the following attributes: clarity of organizations' goal in public housing delivery, housing process management and monitoring strategies, level of innovation in public housing delivery and communication channel respectively. The three components with lowest contributions to adequacy of management components were staff incentives and reward system, staff motivation and method of funds disbursement to housing projects respectively. This result suggests that most of the management components with low contribution to organizational capacity were staff related. This result is inconsistent with the claims by the key officers interviewed, who indicated that the staff members of the organizations were adequately motivated. The probable explanation to the above result is that perceptions differ from one individual to another, and thus both management and general staff members viewed organisational issues from different perspectives.

Table 6.8: Individuals' Score on Adequacy of Management Capacity

Adequacy Scores	Rating	Frequency	Percentage
12.0-21.0	Very Inadequate	2	2.22
22.6-31.0	Inadequate	4	4.44
32.0 -40.0	Fair	43	47.78
41.0-50.0	Adequate	37	41.12
51.0 -60.0	Very Adequate	4	4.44
Total		**90**	**100**

6.3.4 Overall Adequacy of Resource Component

The result of analysis of staff members perception on adequacy level of resource components in the organizations (Table 6.9) shows that 42.22% of the respondents perceived resource components of as adequate for public housing delivery, while 4.44% perceived it as very adequate. Also 6.67% of the respondents indicated that the resource capacity of the organizations was inadequate while small fraction (2.22%) claimed it was very inadequate. However, 44.44% of those interviewed were of the view that the resource capacity of the four public housing agencies investigated was fair for public housing delivery in Ogun State. This result implies that a good proportion (46.66%) of the respondents perceived the resource capacity of these organizations as adequate, 8.69% perceived it as inadequate, while 44.44% were of the opinion that the resource capacity of the organizations was fair. In contrast to what was obtained in management components, more respondents perceived resource components as adequate and very adequate than those that said it was fair and inadequate

Table 6.9: Individuals' Scores on Adequacy of Resources Capacity

Adequacy Score	Rating	Frequency	Percentage
8.0-14.0	Very Inadequate	2	2.22
14.0-20.0	Inadequate	6	6.67
21.0-27.0	Fair	40	44.44
27.0-33.0	Adequate	38	42.22
34.0-40.0	Very Adequate	4	4.44
Total		**90**	**100**

With regards to which resource components contributed most or least to adequacy of resource capacity, result of the analysis (Table 6.7) shows that of the seven attributes in the resource component arranged in descending order of level of contributions, Clarity of Organizations' Goal

in Public Housing Delivery has the highest attribute score of 335. Next to it are Working Environment for Staff, Technology and Know-how in Public Housing, and Office Spaces and Furniture respectively while Fund for Housing Projects contributed the least to level of adequacy of resource component. On the low level of contribution of Funding for Housing projects, Operational Equipment and Vehicles and Staff Morale and Attitude to Work contributed the least to resource capacity. It is possible that current economic situation in Nigeria has adversely affected the availability of funds to execute housing projects and acquire necessary operational equipments and vehicles, thus the organizations have insufficient funds for housing projects. Due to the level of availability of funds for housing projects, Methods of Disbursement of Funds for Housing Projects contributed least to adequacy of management capacity. Similarly, the level of contribution of management attributes such as Staff Motivation; Staff Incentives and Reward System; Staff Development Programme; and Staff Performance Appraisal Procedure respectively could have also influenced the level of contributions of Staff Morale and Attitude to Work to resource capacity of these organizations.

6.4.0 Adequacy of Organizational Capacity in the different Organizations

This Section presents and discusses the result of the analysis on individual capacities of the four public housing agencies. Figure 6.6 is the distribution of adequacy scores on the organizations' capacity across the four public housing agencies. Examination of the Figure 6.6 shows that greater proportion of respondents across the four organizations perceived the organizational capacity as adequate. This is affirmed by the result which shows that 66.67%, 82.62%, 73.91% and 55% of the respondents in the MOH. OHSC, OPIC and GCDCL respectively indicated that the organizational capacity was adequate. Of the four organizations, the highest proportion (45%) of respondents who indicated that their organization had fair capacity were in the GCDCL, while the highest proportion (13.05% who perceived that their organization had inadequate capacity in public housing delivery were in OPIC. It is also evident from Figure 6.6 that none of the respondents in the MOH and GCDCL perceived their organizational capacity as inadequate while 4.35% of the respondents in OSHC perceived their organizational capacity as very inadequate in housing delivery. Similarly, the highest proportion (82.62%) of respondents who perceived their organizational capacity as adequate were in OSHC.
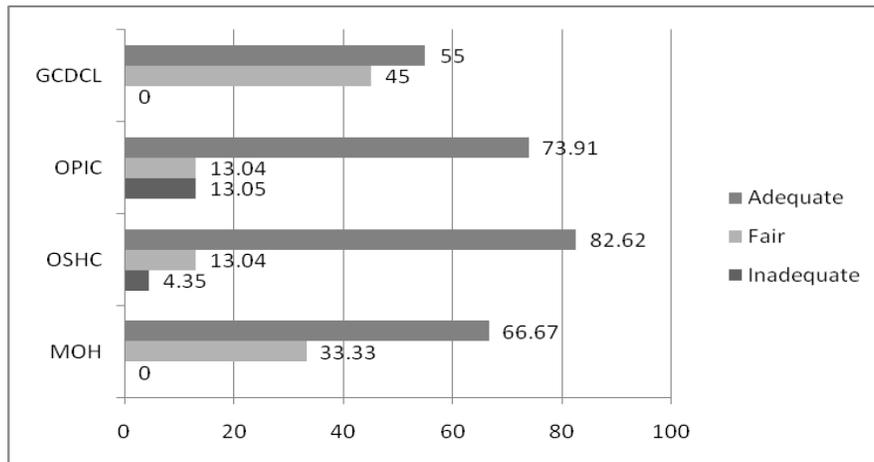
Figure 6.6: Adequacy of Organizational Capacity across the Organizations

6.4.1 Contributing Attributes to Adequacy of Organizational Capacity across Organizations

In this section, the contributions of different capacity components to overall capacity of the organizations are examined. This is to identify the extent to which each component contributed to the level of adequacy of the organizations' individual capacity. Table 6.10 shows the result of the analysis on contributing attributes to organizational capacity across the four organizations. Examination of Table 6.10 shows that in the MOH the clarity of organizational goal in public housing contributed most while staff motivation contributed least to organizational capacity. This is because these attributes have TAS of 94 and 65 respectively. In contrast, leadership style with TAS of 90; 93 and 79 contributed most to adequacy of organizational capacity in the OSHC, OPIC and GCDCL respectively. However, Office spaces, staff incentives and reward system, and Staff Development Programmes contributed least to adequacy of organizational capacity in the OSHC OPIC and GCDCL respectively. This result suggests that in each of the organizations, the leadership style is perceived as a key attribute that contributed to the capacity of the organizations in public housing delivery. However, staff welfare related issues were perceived as key inhibiting attributes of the capacity of the organizations in public housing provision.

Table 6.10: Contributing Attributes to Organizational Capacity across the Organizations

S/N	Organizational Capacity Components	MOH (AS)	OSHC (AS)	OPIC (AS)	GCDCL (AS)
1	Leadership Style	86	90	93	79
2	Information management strategies	77	70	78	68
3	Housing Project process management and monitoring Strategies	89	81	83	69
4	Level of Innovation in public housing delivery	82	83	86	65
5	Definition and Assignment of role to Staff	81	79	90	60
6	Staff motivation	65	76	74	56
7	Staff incentives and reward system	71	66	69	60
8	Staff performance appraisal procedure	76	80	70	67
9	Staff development programme	74	65	78	51
10	Institutional capacity building Process	77	80	87	63
11	Methods of disbursement of funds to housing projects	87	79	84	68
12	Communication Channels	86	73	82	74
13	Clarity of Organizations' goal in public housing delivery	94	84	89	68
14	Human Resource Capacity	86	87	75	57
15	Staff Morale and Attitude to work	75	72	91	68
16	Work environment for Staff	83	70	84	76
17	Operational equipment and vehicles	71	75	71	67
18	Level of Technological know-how in housing delivery	81	74	78	68
19	Availability of funds for housing projects	73	65	75	53
20	Office spaces and furniture	76	64	82	78

AS =Attribute Score

Shaded scores represent the highest and lowest Attribute Score for each organisation

6.4.2 Contributing Attributes to Adequacy of Management and Resource Capacity across the Organizations

In examining the contributions of each of the attributes to adequacy of management capacity in each of the four organizations, the result in Table 6.10 becomes useful. From the result on this Table it can be seen that in the MOH, Housing Project Process Management and Monitoring Strategies has the highest TAS of 89 which implies that this attribute contributed most to management capacity in the MOH while the management components with the least contribution to management capacity is Staff Motivation with TAS of 65. In contrast, Leadership Style has the highest TAS (90; 93 and 79) in OSHC, OPIC and GCDCL respectively. This implies that this attribute contributed the most to management capacity in these organizations. However, Staff Development Programmes contributed the least to management capacity in both OSHC and

GCDCL respectively, whereas Staff Incentives and Reward System contributed least to management capacity in the OPIC.

From the above result, it could be inferred that among the attributes in the management sub-system that contributed least to management capacity in public housing agencies in Ogun State were staff welfare related issues such as Staff Motivation, Staff development Programme and Staff Incentives and Reward System. This finding is perhaps contradictory to the perception of the four key officers of the organizations interviewed who claimed that staff members of these agencies were adequately motivated and were of high morale.

 On the level of contributions of the seven attributes under the resource components to the organizations' capacity, again Table 6.10 shows that in the MOH, the component with the most contribution to adequacy of resource capacity was the Human Resource Capacity with TAS of 86 while the least was Operational Equipment and Vehicles with TAS of 71. Human Resource Capacity with TAS of 87 also contributed the most to adequacy of resource capacity in the OSHC while Office spaces and furniture with TAS of 64 contributed the least adequacy of resource capacity in this organization. However, in the OPIC, Staff Morale and Attitude to Work with TAS of 91 ranked top as the most contributing attribute to adequacy of resource capacity in this organization, and the least contributing attribute was Operational Equipment and Vehicles with TAS of 71. In contrast, Office spaces and furniture with the TAS 78 and availability of funds for housing projects with the TAS of 53 were the most and least contributing attributes to adequacy of resource capacity in the GCDCL respectively. The level of contribution of office spaces and furniture to resource capacity of GCDCL is well expected going by the organization's ultra modern office edifice.

Generally speaking, the above result shows that, of the seven attributes used in assessing resource capacity, adequacy of Funds for Housing Projects is among the attributes with the least contributing attributes to adequacy of resource capacity across the four organizations. This suggests that the organizations' housing projects were not adequately funded. This may be linked to prevailing economic situation in Nigeria, which might have adversely affected the housing sector. Similarly, the low contribution of office spaces and furniture to adequacy of resource capacity in OSHC is well expected, as it was observed in the course of the survey that staff offices in this organization were not as good as those in the other three organizations. A possible explanation for this is that although OSHC is the oldest public housing agency in Ogun State, it does not have a purpose-built office complex like the other three organizations; rather residential houses were adopted as office spaces for this organization. As well, the relatively low

contribution of Human Resource Capacity in the GCDCL can be linked to the fact that this organization is barely five years old, and as the key officers interviewed indicated, this organization was expected to have full compliments of staff by 2012. The result also shows that in both the MOH and OPIC, availability of Operational Equipment and Vehicles contributed the least to resource capacity of these agencies, suggesting that operational equipments and vehicles were in short supply in the organizations.

6.4.3. Comparison of Organizational Capacity across Organizations

 The comparison of organisation's capacity in public housing delivery was carried out using computed Capacity Index (CI). This is an expression of the component scores as a percentage of the possible maximum scores that all the respondents can give on the management and resources components as described in Section 5.8.1. The result (Table 6.11) shows that the CI for management and resources components were 66.54 and 64.88 in MOH; 65.28 and 61.37 in OSHC; 71.10 and 68.20 in OPIC, while in the GCDCL the CI were 65.46 and 66.71 respectively.

Table 6.11: Adequacy Indices of Organizational Capacity of the four Organizations

	MOH N=24	OSHC N=23	OPIC N=23	GCDCL N=20
Management Capacity	66.54	65.28	71.10	65.46
Resources Capacity	64.88	61.37	68.20	66.71
Organizational Capacity	**65.96**	**63.91**	**70.09**	**65.90**

The above result shows that all the organisations were better in management than in resources capacity except GCDCL that was better in resources than in management capacity. However, OPIC had the highest management capacity next to OPIC are MOH and GCDCL respectively while OSHC had the least management capacity.   Similarly, OPIC had the best resources capacity, but the GCDCL was next to OPIC in resources capacity, followed by MOH, while OSHC had the least resources capacity. Comparing the overall individual organisations' capacity, the result shows that OPIC had the best organizational capacity. Next were the MOH and GCDCL respectively, and the OSHC had the least organisational capacity.

On the levels of contribution of management and resources components to the organisations' individual capacities, Table 6.11 above shows that management components contributed more

than resources components in the OPIC, MOH and OSHC, while resources components contributed more to organizations capacity than the management components in the GCDCL.

To examine whether the differences in the organizations' capacity in housing delivery is statistically significant or not, Kruskal Wallis Test was conducted, and the result indicates that the differences in the management, resources capacities across the four organizations are not statistically significant. This is because with the Chi-Square (6.699) and df (3), the P-Value is 0.082 which is more than 0.05 (P> 0.05). This result implies that the level of management and resource capacities of the organization does not show significant difference across the organizations, and thus the four organizations had comparable organizational capacities for public housing delivery. This result is well expected because findings of this study show that apart from differences in organizational goal and staff strength, the organizations share common organisational characteristics, and hence similar organizational capacity.

From the foregoing results it is obvious that the leadership style in the organizations was the best they can have; however, the staff members were not adequately motivated, and thus staff welfare related issues were among the attributes that contributed minimally to the organisations' capacity. It is also very clear that the organizations housing projects lacked adequate funding and staff members lacked adequate operation vehicles and equipments to carry out their statutory obligations in public housing provision. As regarding the result on individual capacity of the organizations, the possible explanation for the result obtained is that the OPIC being the first public housing agency in Ogun State, established as a profit making organization, had over the years been involved in real estate business within and outside Ogun State, and thus, had thus far developed a robust management framework and sound resource base adequate for its housing projects. Arguably, the involvement in commercial housing by OPIC and GCDCL from inception may have contributed to capacity building process in these organizations. In addition to this, the number of highly qualified personnel in the employment of GCDCL (Table 6.2) might have as well contributed to its organizational capacity even though it is a relatively young organization compared to OSHC and OPIC.

Although the Ogun State Ministry of Housing (MOH) has the largest staff strength, its status as a government funded Ministry, fiscal constraints on the part of government have limited the capacity of the government to provide funds, vehicle and operational equipment in supporting the public housing activities of the Ministry. These might have influenced the organisational capacity of the MOH. For OSHC, one may argue that the shift in emphasis from social housing to commercial housing as a key survival strategy by the State Housing Corporations in Nigeria

(Chukwujekwu, 2005) and the challenges associated with this may have influenced the organization's capacity in public housing provision. However, this study has no further concrete evidence to support on this assumption.

The finding in this Chapter has vast policy implications, particularly, with respect to enhancement of organizations' capacity in public housing provision. One of the key implications is that members of staff of public housing agencies are not well motivated, suggesting that robust staff welfare packages need to be put in place to boost the morale of public sector workers in these agencies. Another implication is that public housing providers in the study area have insufficient funds, operational equipment and vehicles to execute housing projects. Consequently, the design of future housing schemes should take cognizance of this, both at the policy and practice levels, so that the capacity of public housing agencies to effectively implement public housing schemes will not be jeopardized.

6.5 Summary

This Chapter examined the organizational characteristics and capacity of the selected four public housing agencies in Ogun State. The Chapter identified Leadership Style that emerges from within the organizations, multiple level staff structure, matrix organizational structure and centralized communication channel as key and common organizational characteristics of public housing agencies in Ogun State. The organizations were found to be more of profit- motivated than social welfare oriented, however, common housing delivery strategy among the four organisations was the turnkey housing delivery strategy.

The result of the staff survey shows that senior technical and management Staff were actually involved in the planning and execution of their housing projects. It was found that a good proportion of these staff members had over ten years of experience, and thus, the organizations are considered to have experienced personnel to handle their housing schemes. On staff members' perception on organizational capacity across the organizations, this study found that majority of the respondents perceived the organizational capacity of the agencies in public housing delivery in Ogun State as adequate. Whereas, management components contributed most to organizational capacity, it was found that leadership style contributed most while method of disbursement of funds to housing projects contributed least to adequacy of management capacity. In addition to this, among other attributes in the management components that contributed least to management capacity in public housing agencies in Ogun State were staff

welfare related issues such as Staff Motivation, Staff Development Programme and Staff Incentives and Reward System. The finding of this Chapter also indicated that a good proportion of the respondents perceived the resource capacity of the agencies as adequate. The working environment for staff was found to have contributed most while availability of Funds for Housing Projects contributed the least to resource capacity across the organizations.

Across the four organizations surveyed, OPIC was found to have the most adequate organizational capacity for housing delivery as perceived by the staff, while the OSHC had the least capacity. However, all the organizations were found to have similar levels of organizational capacity for public housing delivery. This suggests that there should be no differences in management issues across the housing delivery strategies in general as perceived by residents of housing provided by the organizations. Also, in individual resource capacity, the organisations had similar levels of capacity. Whereas in GCDCL, resource components contributed more than management components to overall organizational capacity, management component contributed more to adequate of organizational capacity than resource components in OPIC, MOH and OSHC as rated by the staff members interviewed.

In summary, this Chapter has shown that the four public housing agencies in Ogun State investigated were more of profit making than social welfare organizations, However, resource availability challenge, mainly that of funding and some management practices including but not limited to Staff Motivation, Methods of Disbursement of Funds for Housing Projects, Staff Incentives and Reward System and Staff Development Programmes were confronting these organizations. The policy implication of this finding is that public housing agencies in the study area require capacity building in the areas of funding and staff welfare conditions to enhance their capability in providing adequate housing to members of the public in Ogun State.

CHAPTER SEVEN

CHARACTERISTICS OF HOUSING PROVIDED BY PUBLIC HOUSING AGENCIES

7.0.0 Introduction

This Chapter presents and discusses the result of analysis of the data derived from the observation schedule and part of the housing unit survey questionnaire. It examines the characteristics of housing provided through the four housing delivery strategies: Core housing, Turnkey, Public-Private Partnership (PPP) and Shell housing delivery strategies. The Chapter begins with the presentation and discussion of the result of analysis of data on housing unit features, next to this are housing services and infrastructure and the housing estate characteristics features respectively. It also presents a comparative analysis of the findings on housing unit survey, and ends with a summary of findings and general observation.

7.1.0 Overall Housing Unit Attributes

Several architectural and non-architectural attributes are used to describe the dwelling (housing) units and immediate residential environment. Of the total of 517 housing units sampled, 57.06% were provided through the Turnkey strategy, 36.56% were provided through the Core Housing, 4.45% was provided through the Public Private Partnership (PPP) housing and 1.93% were provided through the Shell Stage housing delivery strategies. About 51.45% of the housing units were single family bungalows and 46.03% semi-detached bungalows. Only 2.52 % of the housing units were duplexes and are in the Obasanjo-Hill-Top (GRA) Estate in Abeokuta (Figure 7.1). Many(42.40%) of the housing units were 3-bedroom apartments, 35.59% were 2 bed rooms ; 17.02% were 1-bedroom and 4.26% were 4-bedroom apartments. Housing units of more than 4-bedrooms contributed less than 1.0% to the sample. The data on Table 7.2 indicates that 25.35 % of the housing units had 0.6 person per room, 15.40% (0.5 person), 13.65% (1 person) and 10.92 % had 0.75 people per room. Generally speaking, the result shows that across the four housing delivery strategies, the mean occupancy ratio of houses sampled was 0.6415. This suggests that less than one person occupied a room on the average, and therefore, the housing units and by extension the estates were not over crowded. The above implies that the

public housing programme in Ogun State provided mainly low density residential estates of 2 and 3- bedroom bungalows.
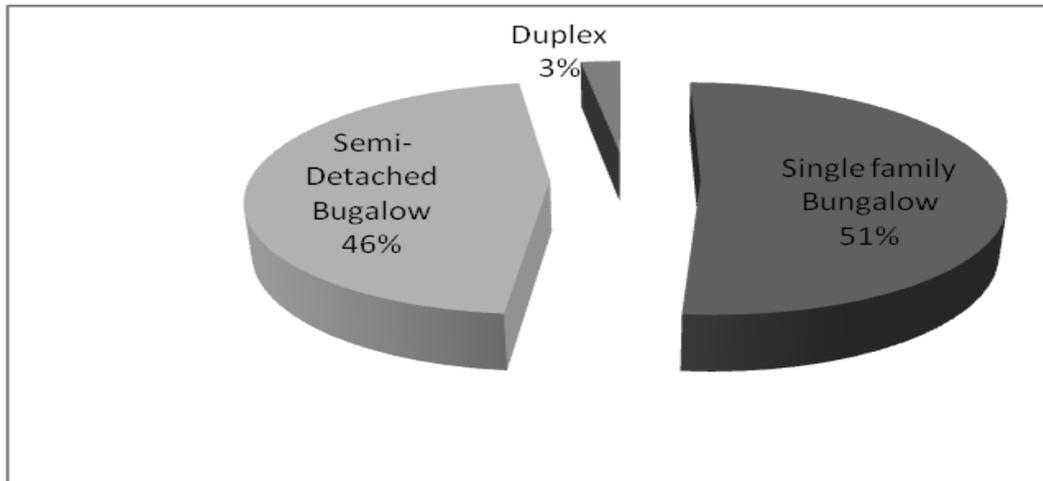
Figure 7.1: Housing Typology
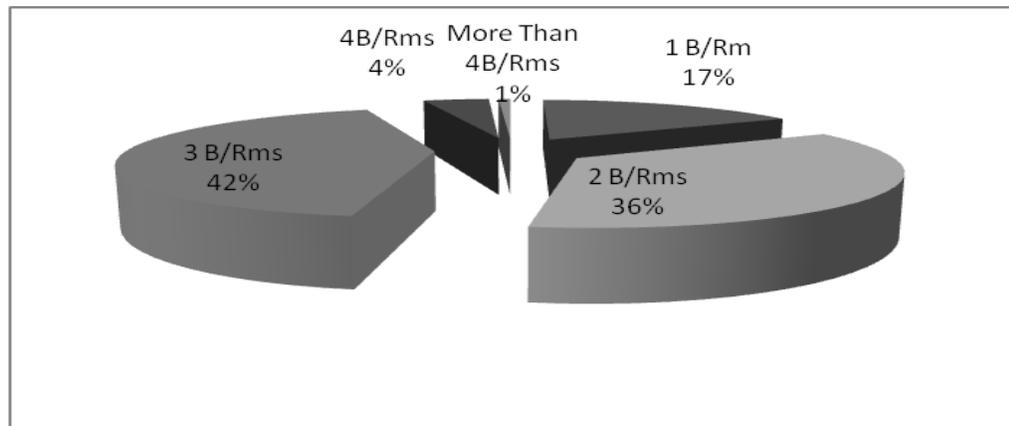
Figure7.2: Sizes of Dwelling Units

On the mode of ownership acquisition of the units, 35.78% of respondents indicated that the units were acquired through mortgage arrangements, 17.02% said they bought their house directly from the developers, while 6.58% claimed that government allocated the houses to them. However, 35.01 % of those in the owner-occupied housing units did not indicate the mode of acquisition of the housing units. This is probably as result of the inability of some of the respondents to understand the question asked on this matter. But from the responses, it is obvious that three main modes of housing acquisition existed in the OGD Housing Programme. These are mortgage, outright purchase and government allocation.

Residents sampled evaluated the process of acquisition of their dwellings. Specifically, around 39.85% of the respondents indicated that the process of acquisition of their housing units can best be described as less stringent, 30.37% claimed that the process and conditions for acquiring their houses were stringent. Whereas 17.41% of respondents indicated that their experience in the process of acquiring their housing units was not stringent, only 3.87% claimed that the process was very stringent. This result shows that the process of acquiring a public housing built by Gbenga Daniel's administration in Ogun State was less stringent, friendly and convenient. The respondents also evaluated the cost of acquiring and/ or rentage of housing units. Majority of the residents (88.39%) indicated that the cost of acquiring or rentage of their dwelling units were affordable to them. Next to this are 6.77% who claimed that cost of the housing was unaffordable, 2.9% said it was highly affordable and only 1.16% indicated that the dwellings were highly unaffordable. This revelation suggests that housing provided by public housing agencies in Ogun State were considered affordable by the residents. This is an indication that one of the key objectives of public housing provision in Ogun State which is to provide affordable housing can be considered to have been achieved to an extent.

7.1.1 Additional Requirements in the Housing Units

As part of the measures to assess the overall physical attributes of the housing units, respondents were asked to indicate space(s) not provided in their current dwelling units which they would like to have. The result in Table 7.1 shows that 11.80% of the respondents either indicated that they needed any additional space or provided no responses. This suggests that this proportion of respondents had no additional space requirement and/or where undecided. It can also be seen from Table 7.1 that 9.67% of respondents indicated that they would like to have shop and laundry, 10.25% indicated the need for shop and storage spaces, 10.05% wanted shop and visitors' toilet, and 9.09% indicated that they needed shop and guest room. Also, 42.230% of the respondents indicated that they wanted guest room, visitors' water closet and laundry while 2.90% wanted outdoor cooking space.

The above result shows that many of the respondents needed additional spaces within their housing units that were not originally provided in their current dwelling units. The above result suggests that these spaces were not provided. However, it may also be that some of these spaces were provided, but due to growing family need and change of status of residents, the spaces were

no longer adequate in meeting current needs. This argument is based on available evidence showing that most of the respondents who indicated that they needed additional spaces were in need of bedrooms, toilet facilities and shops.

Table 7.1: Additional Requirements in the Housing Units

Spaces	Frequency	Percentage
No additional requirement	61	11.80
Shop and Laundry	50	9.67
Shop and Storage spaces only	53	10.25
Shop and Visitors toilet	52	10.05
Shop and Guest Room	47	9.09
Outdoor Cooking area	15	2.90
Guest Room , Visitors WC and Laundry	239	42.23

7.2.0 Housing Characteristics across the different Delivery Strategies

7.2.1 Housing Unit Attributes

Table 7.2 shows the different types of housing units provided through the Core Housing, Turnkey, PPP, and Shell delivery strategies in the housing programme in Ogun State. Examination of this Table shows that majority (75.66%) of the housing units provided through the Core housing strategy were semi-detached bungalows, while 66% , 60.87% and 100% of the housing units provided through the Turnkey, PPP and Shell strategies respectively were detached single family bungalows. A small fraction (4.40%) of single family duplexes was provided through the turnkey strategy. This result shows that majority of houses provided through public housing in Ogun State were single family detached bungalows.

Table 7.2: Housing Typology

| Residence Type | Housing Delivery Strategies | | | | Total |
	Core Housing	Turnkey	PPP	Shell	
Single family Bungalow	46(24.34)	196(66.44)	14(60.87)	10(100)	**266(51.45)**
Semi-Detached Bungalow	143(75.66)	86(29.15)	9(39.13)	0(0.00)	**238(46.04)**
Duplex	0(0.00)	13(4.40)	0(0.00)	0(0.00)	**13(2.51)**
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

Similarly, the distribution of the sizes of the housing units according to the delivery strategies (Table 7.3) shows that majority (44.97%) of the 1-bedroom housing units were provided in the

Core housing strategy. This is not surprising because the scheme was designed to provide one bed room housing units which can be increased to 3-bedroom by the occupants. Also, 52.17% and 46.10% of the 2-bedroom units were provided through the PPP and Turnkey strategies respectively, 90% of the units provide in the Shell strategy were 3-bedroom, 7.11% of the 4-bed room units were provided through the turnkey units, while very few number of housing units of over 4-bedroom units were provided in the Turnkey delivery strategy. It is evident from this result that a good proportion (42.40%) of all the housing units provided were 3-bedroom units, 35.59% were 2-bedrooms, 17.02% were 1-bedroom and 4.26% were 4-bedroom units. One important observation from this result is that of the 189 Core Housing units sampled, 36 units representing 19.05% had been transformed to 2-beroom units, while 66 units (34.90%) have been transformed from 1-bed room to 3-bedroom units within a period of two years. This suggests that a good number of the residents in the Core Housing have experienced improved economic status in the last two years.

Table 7.3: Sizes of Housing Units

Size of Residence	Housing Delivery Strategies				
	Core Housing	Turnkey	PPP	Shell	Total
1 Bedroom	85(44.97)	1(0.34)	1(4.35)	1(10.0)	88(17.02)
2 Bedrooms	36(19.05)	136(46.10)	12(52.17)	0(0.00)	184(35.59)
3 Bedrooms	66(34.90)	134(45.4)	10(43.50)	9(90.0)	219(42.40)
4 Bed rooms	1(0.53)	21(7.11)	0(0.00)	0(0.00)	22(4.26)
More Than 4 Bedrooms	1(0.53)	3(1.02)	0(0.00)	0(0.00)	4(0.77)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

Comparing the additional requirements in the housing units, respondents in houses provided through the PPP had lesser need for additional requirements; next to them were those in the Turnkey and Core Housing respectively, while those that lived in the Shell housing expressed the highest need for additional spaces. Table 7.4 shows that a good proportion of the respondents in all the estates required guest room and visitors' water closet. Whereas 32.54% of the respondents in the Turnkey housing 26.90%, 20.00% and 13.76% of the respondents in PPP, Shell and Core Housing respectively indicated their desire to have a guest room only . Similarly, 60.00%; 21.69%; 15.90% and 8.70% of the respondents in the Shell, Core housing, Turnkey and PPP housing respectively required a guest room and visitors toilet. This result suggests that the PPP housing strategy provided the most spatially sufficient units, next to it is the turnkey, core housing and shell delivery strategies respectively.

Table 7.4: Additional Spatial Requirements in the Housing Units across the Strategies

Spaces	Housing Delivery Strategies			
	Core Housing	Turnkey	PPP	Shell
No additional requirement	12(6.35)	44(14.92)	5(21.74)	0(0.00)
Space for Shop	16(8.47)	12(4.07)	0(0.00)	0(0.00)
Storages	17(8.99)	20(6.78)	2(8.70)	1(10.0)
Visitors toilet	12(6.35)	21(7.11)	6(26.09)	1(10.0)
Guest Room	26(13.76)	96(32.54)	6(26.09)	2(20.0)
Shop and Laundry	9(4.77)	13(4.41)	0(0.00)	0(0.00)
Outdoor Cooking area	4(2.12)	10(3.39)	1(4.35)	0(0.00)
Shop and Visitors' Toilet	9(4.76)	2(0.68)	1(4.35)	0(0.00)
Guest Room and Visitors WC	41(21.69)	46(15.59)	2(8.7)	6(60.0)
Guest Room and Laundry	5(2.65)	9(3.05)	0(0.00)	0(0.00)
Shop and Guest room	29(15.34)	18(6.10)	0(0.00)	0(0.00)
Shop and Storage Spaces	9(4.76)	4(1.36)	0(0.00)	0(0.00)

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

On the mode of acquisition of the housing units, the result shows that there was high non response rate on the mode of acquisition of the housing units, probably because the question was not well understood by some the respondents. However, the result (Table 7.5) shows that 35.78% of all the housing units were acquired through mortgage, 17.02% were through outright purchasing from the developers, while the remaining percentage were through government allocation, outright purchasing from previous owners, and inheritance. In the core housing, majority (84.13%) of the respondents indicated that the houses were acquired through mortgage arrangement, whereas 21.69%, 65.22% and 80.0% of those in the turnkey, PPP and shell provided houses respectively claimed that they bought the houses directly from the developers.

Table 7.5: Modes of Acquisition of Housing Units

Mode of Housing Acquisition	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	26(13.75)	148(50.17)	6(26.09)	1(10)	181(35.01)
Bought directly from the developers	1(0.53)	64(21.69)	15(65.22)	8(80.0)	88(17.02)
Bought from previous owner(s)	0(0.00)	12(4.07)	0(0.00)	0(0.00)	12(2.32)
Government allocation	3(1.59)	30(10.17)	0(0.00)	1(10.0)	34(6.58)
Mortgage Arrangement	159(84.13)	24(8.14)	2(8.7)	0(0.00)	185(35.78)
Gift	0(0.00)	1(0.34)	0(0.00)	0(0.00)	1(0.19)
Inherited	0(0.00)	16(5.42)	0(0.00)	0(0.00)	16(3.09)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represents percentages

The above result shows that mortgage arrangement was significant in providing most of the respondents in the core housing access to housing in this programme. The policy implication of this is that if well implemented, mortgage financing can increase access to housing among low

and middle income earners in Nigeria. However, outright purchasing from the developers was the common housing acquisition method in the turnkey, PPP and Shell housing delivery strategies in the study area. This might be due to the economic status of residents of the turnkey, PPP and Shell housing units.

With regards to the perception of the respondents on the condition or process of acquiring the housing units, Table 7.6 shows that 17.41% of respondents claimed that housing acquisition process was not stringent, 39.85% claimed it was less stringent, 30.37% felt it was stringent while very small fraction (3.87%) perceived the process as stringent. A closer examination of the result reveals that the highest proportion of respondents who claimed that the process was stringent were in Shell provided housing, while the least number of respondent who said the process was stringent were in the Core housing. Also more respondents in the Core housing than any other respondents claimed that the process was not stringent to them. This is understandable because housing acquisition in the shell strategy was through outright purchasing, while for the Core Housing strategy, most of the residents acquired their housing units through mortgage arrangement which provided less financial burden on the home buyers by spreading the payment over reasonable number of years. It is however natural to think that those who indicated that the process of acquiring the dwellings units in the Core housing was stringent may be have been tenants and/ or workers who did not have the initial deposit of 10% (₦97, 500.00) of the cost of the houses, otherwise the process and conditions may as well be considered as convenient, as majority of the respondents in the core housing had indicated.

Table 7.6: Evaluation of Housing Acquisition Process

	Housing Delivery Strategies				Total
Acquisition Process	**Core Housing**	**Turnkey**	**PPP**	**Shell**	
No Response	34(17.99)	10(3.39)	0(0.00)	0(0.00)	44(8.51)
Very Stringent	11(5.82)	9(3.05)	0(0.00)	0(0.00)	20(3.87)
Stringent	40(21.16)	105(35.59)	8(34.78)	4(40.0)	157(30.37)
Less Stringent	66(34.92)	125(42.37)	11(47.82)	4(40.0)	206(39.85)
Not Stringent	38(20.11)	46(15.39)	4(17.39)	2(20.0)	90(17.41)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

Similarly, respondents were asked to evaluate the cost of the housing units in relation to their income. The result of the analysis in Table 7.7 shows that a majority (88.39%) of the respondents across all the housing delivery strategies indicated that the cost of acquiring and /or renting the housing units was affordable to them. Surprisingly, all the respondents in the Shell provided

housing claimed that the housing units were affordable. A possible explanation for this is that majority of the occupants of Shell strategy provided housing may be high income people. Also, it can be seen from the result that 7.41% of respondents in the Core housing claimed that the housing unit was highly affordable to them. This might be due to the mortgage arrangement used in the acquisition of the houses which required initial deposit of 10% (₦97, 500.00) of the total cost of housing and the balance repaid through flexible payment options spreads over a period between 15 years and 20 years. It may also be argued that houses provided through the core housing were less expensive than those provided through the other strategies.

Table 7.7: Evaluation of Cost of Housing

| Cost of Housing | Housing Delivery Strategies | | | | |
	Core Housing	Turnkey	PPP	Shell	Total
No Response	2(1.06)	2(0.68)	0(0.00)	0(0.00)	4(0.78)
Highly Unaffordable	1(0.53)	5(1.70)	0(0.00)	0(0.00)	6(1.16)
Unaffordable	12(6.35)	20(6.78)	3(13.04)	0(0.00)	35(6.77)
Affordable	160(84.65)	267(90.51)	20(86.96)	10(100.0)	457(88.39)
Highly affordable	14(7.41)	1(0.34)	0(0.00)	0(0.00)	15(2.90)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

On the state of repairs of the housing units, it was found that most (93.04%) of the housing units sampled were structurally sound. Specifically, all the housing units sampled in the PPP and Shell provided houses were in sound condition externally. However, 11.53% and 1.06% of houses provided through the Turnkey and Core Housing strategies respectively required minor repairs. The above can be explained within the context that the housing units were relatively new and most of them were less than less than six years old.

In the use of materials, it was observed that across the four housing delivery strategies, most of the houses were constructed with conventional building materials. Majority (96.32%) of the houses were constructed with Sandcrete cement blocks, while a small fraction (3.68%) especially in the turnkey housing estates were built with burnt bricks. Also, most (97.10%) of the houses were roofed with aluminum long span roofing sheets, however 5.09% of Turnkey provide houses sampled were roofed with aluminum villa tiles. All the houses sampled in the Core housing, PPP and Shell provided houses had glazed aluminum windows, while 34.23% of the Turnkey provided houses had glazed louvered windows. Similarly, 58.09% of the houses sampled had panelled steel external doors, 40.04% had panelled timber, and the remaining percentage had

glazed aluminum and flushed timber external doors. Specifically, the highest number of houses with paneled steel external doors was in the Shell provided houses, while the least were in the Core housing. Also, houses provided through the Core housing and Turnkey strategies had more steel than timber external doors. In the same vein, 92.84% of the houses were of asbestos ceiling, while the remaining percentage were of mineral fiber, acoustic ceiling and PVC strips. With regards to perimeter fencing, 53.0% of the housing units sampled had no perimeter fencing, 42.94% had perimeter fencing in sound condition while the perimeter fencing for 4.06 housing units required minor repairs. The highest percentage (75.66%) of housing units without perimeter fencing were Core housing units, while all the Shell provided houses had perimeter fencing. Also a majority (98.07%) of the houses samples across the strategies had burglary proof windows, whilst only small fraction (1.93%) of turnkey provided houses had no burglary proof windows. Generally, the foregoing shows that in all the housing delivery strategies conventional building materials were predominantly used in the construction of the houses.

On the occupancy ratio of the houses, the result of the analysis on the number of persons per room (Table 7.8) shows that the minimum number of persons per room was 0.2 persons while the maximum was 3 persons. However, on the average, there were 0.642 persons per room, and only a small fraction (0.39%) of the housing units sampled had 3 persons per room, while 31.65% had 1.0 person per room (Appendix 17). Also, the result shows that 20.86% of the housing units in the Core Housing had 0.6 persons per room, 10.16% that had 1 person per room and 0.54% with 2 persons per room, whereas 27.55% of the housing units in Turnkey provided houses had 0.6 persons per room, 14.79% had 1 person per room, while 0.68% had 2 and 3 persons per room.

Table 7.8 :Descriptive Statistics of Occupancy Ratio

	Range	Min.	Max.	Mean	Std. Devtn.	Distribution	
						Skew.	Kurt.
Number of Persons / Room	2.80	.20	3.00	.6415	.32195	2.662	14.072

Comparing this result with findings in the Core Housing estate, it could be said that houses provided through the Turnkey strategy had high occupancy ratio than those in the Core Housing. This implies that the Turnkey provided houses that accommodated more people than those provided through the Core Housing strategy. Similarly, 31.82% of housing units provided

through the PPP strategy had 1.0 person per room, while 70% of Shell provides houses had 0.75 people per room. This finding shows that public housing units sampled were not overcrowded but had low occupancy ratio.

7.2.2 Housing Services and Infrastructure

Housing services and infrastructure form an integral part of the immediate housing environment. The availability or otherwise of such services like water, electricity and garbage disposal facilities may influence the level of housing adequacy and residential satisfaction as well quality of life of residents. For this reason, respondents were asked to identify their sources of water and power supply as well as those responsible for refuse collection and disposal from their dwellings. The result (Table 7.9) shows that 48.36% of the respondent claimed that their main source of water supply was borehole within the estate; 23.60% source water from private boreholes, 13.92% from wells, 9.28% from water vendors and 2.51% from water vendors and wells. Those who obtained water from vendors and private boreholes as well as water vendors and borehole in the estates constituted small fractions of 0.77% and 0.39% of the sample respectively. The result also shows that most respondents in Core housing and PPP provided housing units sourced their water from boreholes provided by the housing developers, whilst, all the respondents in Shell and a good proportion of residents in Turnkey provided housing units source their water from private boreholes. However, 22.10% of respondents in Turnkey provided housing depended on wells for their domestic water supply. This result suggests that while developers of Core housing, PPP and Turnkey housing made some provision of water supply to the residents; developers of Shell housing estates may not have considered it necessary to make provision for portable water supply to residents of Shell provided houses. This result clearly shows that the principal source of water supply was from boreholes either built by housing developers or individual house owners. This is implies that the services of the Ogun State Water Corporation have not been extended to occupants of the newly constructed public housing estates sampled.

Table 7.9: Mode of Water Supply in Housing Units

Mode of Water Supply	Core Housing	Turnkey	PPP	Shell	Total
		Housing Delivery Strategies			
No Response	0(0.00)	1(0.34)	0(0.00)	0(0.00)	1(0.19)
Water Vendors	10(5.29)	38(12.88)	0(0.00)	0(0.00)	48(9.28)
Wells	5(2.65)	67(22.71)	0(0.00)	0(0.00)	72(13.92)
Boreholes provided by the developers	171(90.48)	56(18.98)	23(100)	0(0.00)	250(48.36)
Public Water Supply System	0(0.00)	5(1.69)	0(0.00)	0(0.00)	5(0.97)
Private Borehole	0(0.00)	112(37.97)	0(0.00)	10(100.0)	121(23.60)
Water Vendors and Wells	0(0.00)	13(4.41)	0(0.00)	0(0.00)	13(2.51)
Water vendors and Private Borehole	1(0.53)	3(1.02)	0(0.00)	0(0.00)	4(0.77)
Water vendors and Borehole in the Estate	2(1.06)	0(0.00)	0(0.00)	0(0.00)	2(0.39)

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

With regards to supply of electricity, Table 7.10 shows that 49.52% of the respondents in all the housing units sampled depended mainly on public power supply system electricity supply to their homes, 40.62% sourced their electricity supply from the public power supply system and personal generators, 9.28% had electricity from personal power generating sets while, 0.39% claimed that solar panels were their main source of electricity. In the housing units provided through the four strategies, majority (77.25%) of respondents in the Core Housing had public power supply, 19.58% sourced their electricity from the Public power supply system and personal generators, 2.65% claimed that they sourced electricity supply from personal generators only. Contrary to what was obtained in the Core Housing, majority of the respondents (53.90%) in the Turnkey provided housing units indicated that their main sources power were public power supply and private generators, 33.56% and 11.86% sourced their electricity from the national grid and private generators respectively for their domestic power need. In both the PPP and Shell provided housing 47.83% and 70.0% of the respondent's sourced electricity from the public power supply, while 34.78% in PPP housing had private generators as their main source of electricity supply. The above result shows that although there appears to be relatively good power supply from the National grid to the public housing estates, however, most residents in public housing units sampled supplemented public power supply with alternative power supply systems, particularly personal power generating sets.

Table 7.10: Sources of Power Supply to Housing Units

Main Source of Power Supply	Housing Delivery Strategies				
	Core Housing	**Turnkey**	**PPP**	**Shell**	**Total**
No Response	1(0.53)	0(0.00)	0(0.00)	0(0.00)	1(0.19)
Personal Power Generating Set	5(2.65)	35(11.86)	8(34.78)	0(0.00)	48(9.28)
Public Power Supply	146(77.25)	99(33.56)	4(17.39)	7(70.0)	256(49.52)
Solar Panel	0(0.00)	2(0.68)	0(0.00)	0(0.00)	2(0.39)
Public Power Supply and Personal Generator	37(19.58)	159(53.90)	11(47.83)	3(30.0)	210(40.62)

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

On who was responsible for the collection and disposal of garbage from the dwelling units, the result (Table 7.11) shows that a good percentage (62.28%) of the respondents claimed that the residents were responsible for refuse collection and disposal from their homes. Next to this were 56.0%, 18.50% and 12.19% who said that estate managers, contractors and government agencies respectively were responsible for refuse collection and disposal from the housing units. Further examination of Table 7.11 reveals that a good majority (91.53%, 90.0%, and 78.26%) of the respondents in the Turnkey, Shell and PPP housing respectively claimed that residents were responsible for refuse collection and disposal from their housing units. In contrast, 48.15% of respondents in the Core Housing claimed that contractors were responsible for the collection and disposal of garbage from the housing units. Also, in the Core Housing, Shell and Turnkey provided housing, 31.22%, 10.0% and 1.02% of the respondents respectively indicated that refuse collection and disposal were done by government agencies, while 5.82% of the respondents in the Core Housing claimed that estate mangers were responsible for refuse management. Also 21.74% and 5.09% of respondents in the PPP and turnkey housing estates respectively indicated that estate mangers were responsible for refuse disposal, while 1.69% claimed that contractors were involved in the refuse collection and disposal. Evidence from the result presented above shows that the residents of public housing samples were actually responsible for the collection and disposal of garbage from their respective housing units. The direct involvement of the residents in refuse management may be as result of lack of adequate framework for waste management in the estates by the developers. This has implication on the cleanliness of the estates, health and quality of life of the residents of the estates

Table 7.11: Refuse Collection and Disposal from Housing Units

Refuse Disposal	Housing Delivery Strategies				
	Core Housing	Turnkey	PPP	Shell	Total
No Response	3(1.59)	2(0.68)	0(0.00)	0(0.00)	5(0.97)
Residents	25(13.23)	270(91.53)	18(78.26)	9(90)	322(62.28)
Contractors	91(48.15)	5(1.69)	0(0.00)	0(0.00)	96(18.57)
The Estate Managers	11(5.82)	15(5.09)	5(21.74)	0(0.00)	31(6.0)
Government Agencies	59(31.22)	3(1.02)	0(0.00)	1(10.0)	63(12.19)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket   represent percentages

7.2.3 Housing Estate Characteristics and Neighbourhood Facilities

The main features used to describe the characteristics of housing estates developed through the four housing delivery strategies were layout of the estates, condition of access and internal road network, security, perimeter fencing and availability of social services. However, these are not the only features that are important for proper functioning of housing estates, nor are they more important than other features that were not considered here. These housing estate features were selected based on the aim and objectives of this study, and the data were obtained by observations and were recorded in the observation schedule (see Appendix 13)

 Table 7.12 shows the summary of the result of the analysis of data derived from the observation schedule. The result indicates that the layouts of all the housing estates from where samples were drawn from were on gridiron pattern (see Appendix 18). First, the gridiron layout ensured that housing units were easily accessible from the internal roads. Second, it also accounted for proper numbering and identification of the housing units, as the study observed that all the housing units were properly numbered in all the housing estates surveyed. Also, the internal roads in both the Core Housing and Shell housing Estates where not tarred while those in most of the Turnkey and PPP housing estates were partly or fully tarred. However, except for the main access road to Agbara Estate that was tarred but dilapidated, access roads to all other housing estates were tarred and in good condition. None of the housing estates had walkways for pedestrian circulation; however, there were evidence of street lighting in all the estates. It was also observed that most of the housing estates surveyed lacked open spaces and landscaped green areas. For example, in Agbara and OGD-Asero Abeokuta estates built through Turnkey strategy, opens spaces were virtually non-existence; however, the Obasanjo Hill-Top and OGD-Sparklight had some elements of landscaping with the use of kerbs and interlocking stones.

With regards to security measures in the estates, only OGD-Sparklight (PPP) and Obasanjo Hill-Top Estates (Turnkey) had functional security post at their main entrances. Similarly, the OGD-Asero and Agbara Estates were the only two estates with functional police posts. The lack of security posts and perimeter fencing in the core housing and most of the housing estates may have accounted for the existence of perimeter fencing, burglary proof windows and steel doors in a good number of the housing units as found in this study.

It was also observed that all the housing estates sampled lacked recreational and sporting facilities as well as adequate shopping and healthcare facilities. However shops and a health centre were found in the Core housing estate. Similarly, apart from the OGD-Sparklight (PPP) estate which had purpose-built play areas for children, there were no evidence of such facilities in the other nine housing estates sampled. Again, apart from Agbara and OGD-Sparklight housing estates with some educational facilities, such facilities were virtually absent in the other estates. Although, there were places of worship in the two of the estates (see Table 7.12), each housing unit sampled had parking space for least one car. It is noteworthy to state that it was also observed that in the OGD Workers' and OGD Asero housing estates both in Abeokuta as well as Agbara estate, there were functional Community Development Associations (CDAs) that were involved in security and management and maintenance activities in estates.

On external lighting in the housing estates, it was found that street lighting was provided in all the housing estates. However, one of the retiree respondents observed that "*the street lights in Agbara Estate stopped working after the estate was commissioned in 2006*". In the provision of drainage for the discharge of storm water, some of the housing estates built through the turnkey strategies were provided with storm water drainage channels, but some of them have been blocked because they are not properly maintained, In the Shell, Core Housing and PPP estates, storm water drainage facilities were not provided.

Table 7.12: Housing Estate Characteristics and Facilities across Housing Delivery Strategies

Housing Estate Features	Housing Delivery Strategies			
	Core Housing	Turnkey	PPP	Shell
Layout of Housing Estate	Grid	Grid	Grid	Grid
Characteristics of Roads in the Estate	Not tarred	Partly tarred	Tarred	Not tarred
Pedestrian Walkways Present?	NO	NO	NO	No
Security Post at entrances to the Housing Estate?	No	No, except in Obasanjo GRA Hilltop Estates	Yes	Yes
Police Post Available?	NO	Yes, Agbara & Asero	NO	NO
Shopping Facilities present the Housing Estate s	Yes	Yes	No	No
Educational Facilities in the Housing Estate	No	Yes, for Agbara Estate only	Nursery School present	No
Recreational/ Sporting facilities available in Housing Estate?	No	No	No	No
Purpose Built Play Ground for Children available in Housing Estate?	No	No	Yes	No
Parking Spaces provided in Housing Estates?	Yes	Yes	Yes	Yes
Open Spaces and Green Areas Available?	No	Yes for Obasanjo GRA	Yes	No
Medical and Health Care facilities available in the Estate	Yes	No	No	No
Condition of access roads in the estate	Tarred	Agbara Estate tarred but dilapidated	Not tarred	No
Perimeter fence on the estate	No	Yes, in Obasanjo Hill- Top Estate	Yes	No
Street Lights in the estate	Yes	Yes	Yes	Yes
Places of worship within the estate	Yes	Yes	No	No

7.3.0: Comparative Analysis of Housing Characteristics across the Delivery Strategies

From the result of housing characteristics survey presented in this Chapter, it is clear that housing provided through the four delivery strategies share significant similarities and minor differences. Generally speaking, all the delivery strategies provided single family apartments in bungalows and in 3-bedroom category, however; only the Turnkey strategy provided housing units of more than one floor (duplex). Similarly, except the Shell strategy, the other three housing delivery strategies provided semi-detached residential apartments in the 2-bedroom category. The Turnkey delivery strategy had evidence of provision of 4-bedroom apartments. Whereas most houses were bought directly from the developers in the Turnkey, PPP and Shell housing, a majority of the houses provided through the Core Housing strategy were acquired through mortgage arrangement. This is probably because the core housing was a mortgage – based housing delivery strategy. Greater proportion of the housing units in all the estates sampled were acquired in a less stringent free process and evaluated as affordable by the respondents. However, all the respondents in the Shell housing indicated that their housing units were affordable compared to 90.51% of those in the turnkey housing, 86.96% of those in PPP housing and 84.65% of those in the core housing who claimed that cost of their housing was affordable. The highest proportion of those who claimed that the cost of acquiring their dwellings was unaffordable was in the PPP housing estate. This result suggests that the Shell strategy provided the most affordable housing; next to it are the turnkey, PPP and Core Housing. Without prejudice to an earlier finding indicating that the Core Housing strategy provided the least expensive housing, finding in this Chapter may have been informed by the economic status of the residents of the housing units, because what is affordable to one person may be unaffordable to the other person depending on the person economic status.

In terms of occupancy ratio, finding of the Chapter shows that most houses provided through the four strategies had less than one person per room, but greater proportion of PPP provided houses had the highest occupancy ratio of one person per room. Next to this were the turnkey, core housing and lastly shell housing. With regards to the use of building materials, there was no significant difference in the materials used in houses across the different housing delivery strategies. Apart from the turnkey strategy that used bricks as alternative walling materials in a number of housing units in the OGD-Asero and the Presidential Mandate Housing Scheme in Olokuta both in Abeokuta, all other strategies used conventional walling material (Sandcrete blocks). Also evidence of difference in window types and ceiling materials was seen in the

turnkey and shell strategies respectively. The use of different ceiling materials in the shell housing may have been due to the fact the shell strategy allowed the house owners to use materials of their choice on the buildings.

 Majority of the houses provided through the Shell and Turnkey strategies had private boreholes whereas those in the core housing had boreholes built by housing developers as their main source of water. This tends to suggest that the providers of the PPP and Core housing attached greater importance to water supply than those in the providers of turnkey and shell housing estates. Similarly, most of the residents in the core and shell housing estates relied on public power supply compared those who lived in the turnkey and PPP housing who relied on both public power and private generators for electricity supply. However, in all the estates, there is evidence indicating that households' power need was provided by both public and private power supply systems. It was found that most residents were involved in refuse collection and disposal in the housing estates. In the Core housing, Obasanjo Hill-Top and PPP housing estates, government agencies and contractors were involved in refuse collection and disposal. For instance plastic refuse collection bins were found in front of some of the housing units and in designated locations in the OGD- Sparklight and Obasanjo Hill-Top Estates. This shows that there was an arrangement for collection and disposal of domestic wastes from these two estates.

 The Chapter has shown that all the housing estates sampled lacked recreational and sporting facilities. Whereas, the PPP and some Turnkey estates have provision for educational facilities, only the core housing estate had evidence of healthcare facility. This is probably because at the time of this survey, the estate had the largest concentration of households among all the estates sampled and most of them were civil servants. The implication of the finding is that many of the newly constructed public housing estates in the study area lacked basic amenities, infrastructure and social services required for decent living. Therefore, public housing providers and policy makers must take cognisance of the vital role of social infrastructure and housing services in the provision of adequate housing

7.4.0 Summary

This Chapter has examined the characteristics of housing provided through the four housing delivery strategies investigated. It assessed the housing unit attributes; housing unit services and

infrastructure and housing estate features for the purpose of comparing the findings from each of the delivery strategies. The result shows that housing developed in the OGD housing programme were mostly 3-bedroom single family apartments. However, most of the units lacked guest rooms, visitors' water closet and laundry facilities. One key findings of this Chapter is that many of the houses were acquired in less stringent process from the developers through mortgage arrangement and outright purchasing. The houses were generally evaluated to be affordable by the respondents. In fact the finding indicated that the Shell strategy provided the most affordable housing; next to it are the turnkey, PPP and Core Housing respectively. In the same vein, although there were no significant differences in the use of building materials across the different strategies, the majority of the houses were constructed with conventional building materials such as cement Sandcrete blocks, aluminium burglary proof windows and steel external doors. This implies that public housing agencies in the State still rely on the use of conventional building materials and the culture of using alternative building materials is yet to be imbibed. Therefore, there is need for policy adjustment to accommodate massive use of alternative building materials in public housing provision in the State.

Evidence from the study also shows that majority of the housing units sampled depended principally on boreholes for water supply. In contrast, nearly one half of the housing units sampled depended on public power supply for their daily domestic electricity need. It is also evident from this Chapter that there was no proper framework for garbage collection and disposal in the turnkey (except Obasanjo Hill-Top Estate) and Shell housing estates. Also, most of public housing estates investigated lacked open space and landscape green area, social and economic infrastructure such educational, shopping, recreational and health facilities as well as places of worship. These are key elements for sustainable residential environment, and copious evidence abound in this chapter suggesting that the OGD Housing programme had so far paid little or no attention to the provision these services in these housing estates. This may have far reaching implication on housing adequacy and residential satisfaction.

In sum, this Chapter has shown that the characteristics of housing provided by public housing agencies are similar. Moreover, the housing estates had tarred and motor able access roads, good layouts and proper identification of housing units. They were relatively not over crowded, and thus can be considered as low-density residential areas. But urgent attention is required on policy framework that encourages the provision basic amenities, social infrastructure and more large housing units in future public housing programme.

CHAPTER EIGHT

SOCIAL AND ECONOMIC CHARACTERISTICS OF RESIDENTS OF

PUBLIC HOUSING ESTATES

8.0.0 Introduction

This Chapter examines the socio-economic characteristics of residents in housing units sampled. The data used was derived from the housing unit survey questionnaire. This aspect of residents' characterization has some social and policy implications, particularly as it relates to housing affordability and policy of equal opportunity (housing accessibility). However, without proper integration of information related to dwellings and users of the dwellings, the concepts and assessments of adequate housing, residential satisfaction as well as evaluation of the outcomes of the different housing delivery strategies used in public housing will remain intractable problems for researchers and policy makers. It is on this basis that this Chapter is divided into three main sections. The first section is an exploration of the residents' personal attributes in all the housing estates put together, and the variations of these attributes across the respective housing estates provided through the four housing delivery strategies. Section two undertakes comparative analysis of the residents' characteristics across the housing delivery strategies. The last section is a summary and policy implications of findings.

8.1.0 Socio-economic Characteristics of the Respondents in all the Housing Units

The sample consists of 517 respondents drawn from 517 housing units in nine housing estates developed through the four housing delivery strategies in public housing in Ogun State. The majority of the respondents (57.06 %) were drawn from the Turnkey provided housing estates, next to this are 36.56% from the Core Housing estate, 4.45% from the Public-Private Partnership housing estate and lastly 1.93% from the Shell housing estate. The respondents in the selected public housing units were 64.41% male and 35.59 % female. This shows the dominance of male over female as household heads in the study area. Majority of the respondents (56.67 %) were between ages 31 and 45 years, next to this are 27.08% of those between 46 years and 59 years, 12.57% between 18 years and 30 years and those of 60 years and above constituted only 3.10% in the sample (Figure 8.1). This result shows that most household heads in public housing in the

area were of middle age. The inclusion of respondents of age between 18 years and 30years suggest that although the target of the survey was on household heads, however, some of the questionnaires were filled by youths.
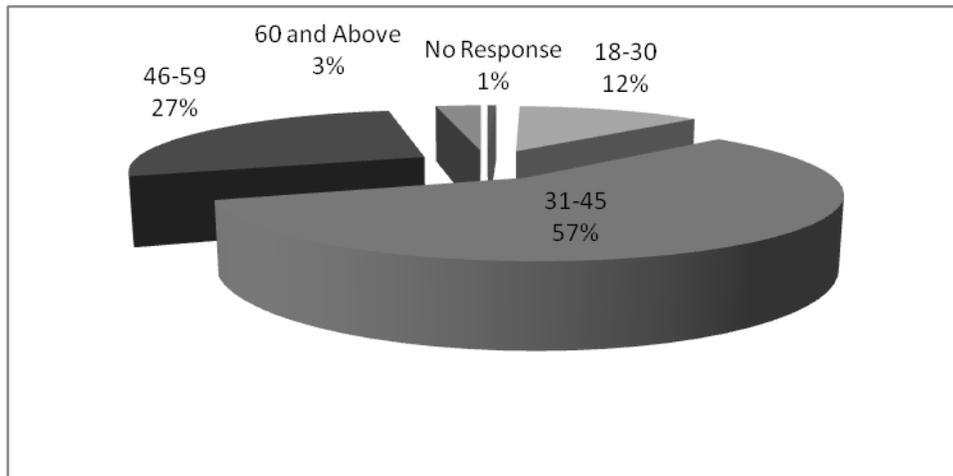
Figure 8.1: Age Group of Respondents

The result also shows that most (88.40%) of the respondents were married compared to 7.74% who were single. Also 1.7% of the respondents were widowed while small fraction (0.77%) were divorced. The respondents are well educated as most (58.41%) of them had first degree and its equivalent from the Universities or Polytechnics. Whereas those with postgraduate qualifications constituted 22.82%, graduates from colleges and institutes constituted 11.61% of the sample. Residents with other qualifications accounted for 2.71%, and those with secondary and primary educated constituted 2.13% and 0.77% respectively. Government establishments provided employment to 57.64% of the respondents, 19.73% were self employed, 17.80% were employed in private sector organizations, 2.9% were not employed in any of the sectors mentioned above, and 1.16% of the respondents were retirees. The result also shows that the highest number of government employees (78.89%) among those interviewed lived in houses provided through the Core housing strategy, while the highest number (48.48%) of non-government workers lived in the Turnkey provided housing. Although about 6.96% of the respondents did not disclose their monthly income range, Figure 8.2 shows that 35.98% of respondents earned an average monthly income of between ₦38, 000 and ₦71, 000 (Middle Low income group), 26.50% earned below ₦38, 000(low-income group), 14.67% earned ₦145, 000 and while 14.89% of the respondents earned between ₦72, 000 and ₦145, 000 per month (Middle High Income group). The result clearly shows that the largest proportion (44.97%) of

low-income people lived in Core housing units, while the largest percentage (70.0%) of high income people lived in the Shell housing estate.
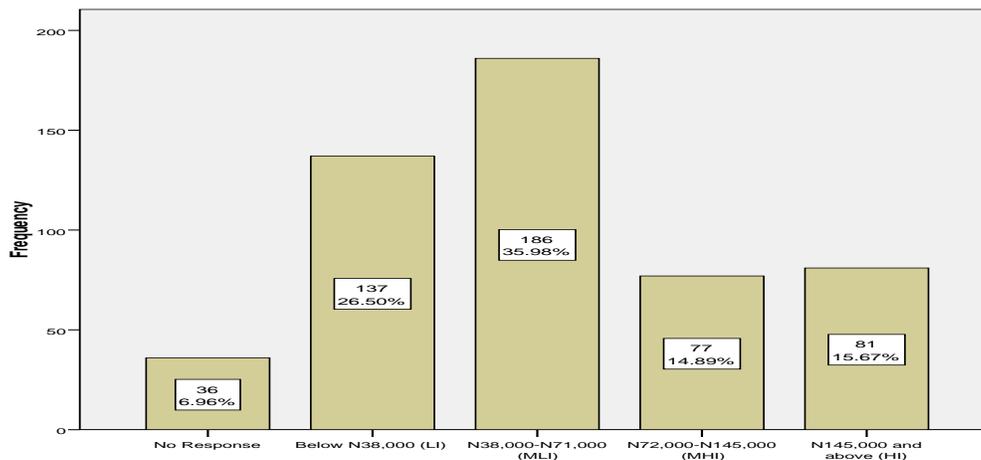
Fiagure 8.2 Personal Average Monthly Income (Naira)

 A larger percentage (78.53%) of the respondents had lived in the residence for between 1year and 3years, 15.86% had lived for less than 1 year and 3.87% lived between 4years and 5years. This result implies that the respondents were at least used to the residential environment and as such can provide reliable information for objective assessment of their housing environment. Figure 8.3 shows that whereas 39.26% of respondents indicated that they had household size of more than 4 persons, 31.72% claimed they had 4 persons, 17.41% had 3 persons, 8.3% had 2 persons and 2.51 % that had 1 person living in the apartments. This is an indication of the dominance of households with more than 4 persons in the study area, and this is well expected as most the respondents were in marriage relationship. The majority (62.28%) of respondents lived in owner-occupied housing units, 32.50% in rented housing units, and 4.43% lived in official government quarters (Figure 8.4). Similarly, larger proportions of owner-occupiers (85.19%, 73.91%, and 90.0%) were from the Core housing, PPP and Shell housing schemes respectively, while 46.44% of those who lived in turnkey housing were tenants in rented housing units. This shows that the public housing programme was promoting home ownership in the State.

From the above result, it can be seen that greater proportion of respondents were male, married people and employed in the public sector. Evidence from the result also shows that majority of the occupants of public housing in this State are educated persons in the prime of their productive life (31-59 years) and were of low and the middle-income people. A majority of them were owner-occupiers who have lived between 1and 3 years in the housing units and had

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household size of 4 persons each. These findings tend to suggest the public housing in Ogun State was basically aimed at making educated public and private sectors middle- low income workers home owners. However, the result shows that all income groups are accommodated in public housing scheme, which suggests that public housing is encouraging housing accessibility among different socio-economic groups in Ogun State.
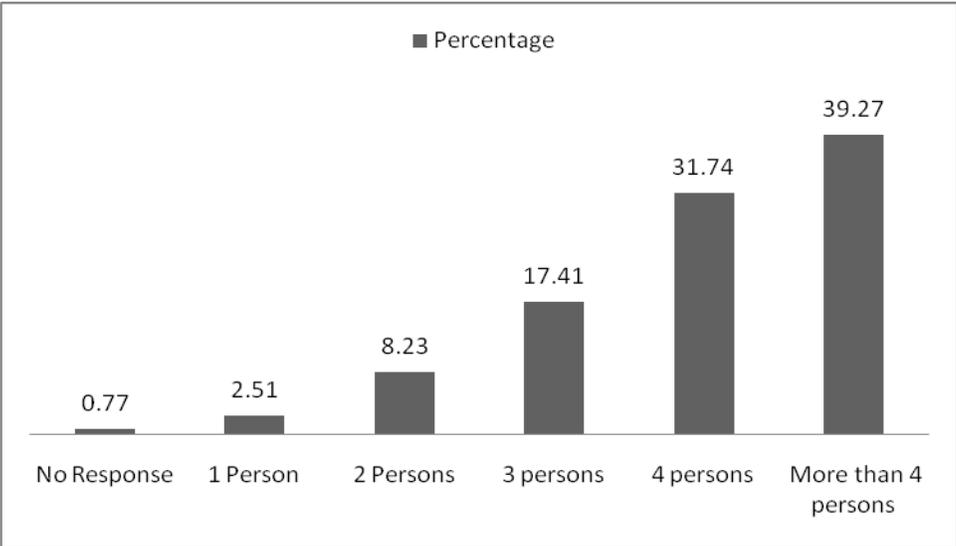
Figure 8.3: Household Sizes
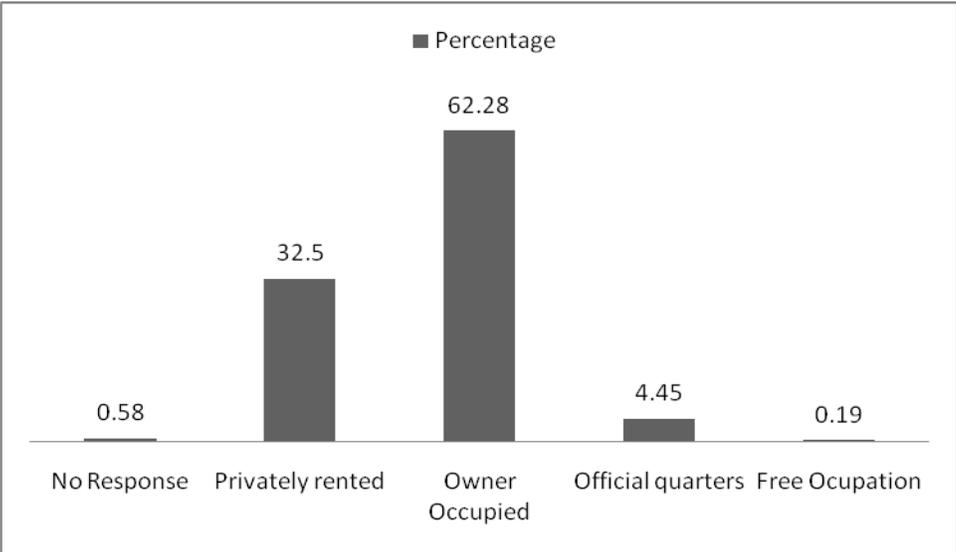
Figure 8.4 :Tenure Types

8.1.1 Socio-economic Characteristics of Residents across the different Delivery Strategies

Examination of Table 8.1 shows the distribution of the sex of the respondents across housing provided through the four housing delivery strategies. Table 8.1 indicates that the highest percentage (80.0%) of male respondents were in Shell provided housing, the least were in the Core housing. In contrast, the highest proportion (42.86%) of female respondents lived in the Core housing, whilst the least (20.0%) lived in Shell housing. However, in all the housing units sampled, male respondents were more than female respondents.

Table 8.1: Respondents Sex

Respondent's Sex	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
Male	108(57.14)	203(68.81)	14(60.87)	8(80.0)	333(64.41)
Female	81(42.86)	92(31.19)	9(39.13)	2(20.0)	184(35.59)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers in outside bracket represent frequencies; Figures in bracket represent percentages

The age groups of the respondents shows that those in age bracket (31-45) years constituted most of the respondents in the Core housing, Turnkey and PPP estates, however, the largest proportion(60.0%) of those within the age bracket of between 45 years and 59 years lived in the Shell housing estate (Table 8.2). The least proportion of younger people (18-30) years lived in the Turnkey estates, while the highest number lived in the Core housing estate. Whereas, no respondent of age 60years and above lived in both the PPP and Shell provided housing, 4.07% and 2.12 % of those in this age category interviewed lived in the Turnkey and Core Housing units respectively. This result suggests that larger proportion of younger people lived in the Core housing and more aged people lived in Turnkey provided housing units

Table 8.2: Age Grouping

Age Group in Years	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	3(1.59)	0(0.00)	0(0.00)	0(0.00)	3(0.58)
18-30	33(17.46)	25(8.47)	6(26.09)	1(10.00)	65(12.57)
31-45	97(51.32)	184(62.37)	9(39.13)	3(30.00)	293(56.67)
46-59	52(27.51)	74(25.08)	8(34.78)	6(60.00)	140(27.08)
60 and above	4(2.12)	12(4.07)	0(0.00)	0(0.00)	16(3.09)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

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Table 8.3 shows that most of the respondents in all the estates were married people. The largest number of single persons (those who had married before) and those who had divorced lived in the Core housing estate. Similarly the largest number of respondents who had lost their spouses (widowed) lived in Turnkey provided housing units. Notably, all the respondents in the shell provided housing units were married. This result shows that people of the different marital status lived in both the Core housing and Turnkey provided housing. A possible explanation for this is the fact that more people lived in housing estates provided through these two strategies than those provided through the PPP and Shell strategies.

Table 8.3: Marital Status of Respondents

Marital Status	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	4(2.12)	3(1.02)	0(0.00)	0(0.00)	7(1.35)
Single	19(10.05)	17(5.76)	4(17.39)	0(0.00)	40(7.74)
Divorced	3(1.59)	1(0.34)	0(0.00)	0(0.00)	4(0.77)
Married	160(84.65)	269(91.18)	18(78.26)	10(100.00)	457(88.40)
Widowed	3(1.59)	5(1.70)	1(4.35)	0(0.00)	9(1.74)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket   represent percentages

With regards to the levels of educational attainment of the respondents, Table 8.4 shows that majority of the respondents across the housing estate had first degree or its equivalent. However, the highest proportion (59.32%) of this group of respondents lived in Turnkey provided housing units. This Table shows that 40.0%; 30.43%, 25.76% and 16.40% of the respondents in the Shell, PPP, Turnkey and Core housing estates respectively had postgraduate qualifications, while 15.87%, 13.04%,8.18% and 1.0% of the respondents in the Core housing, PPP, Turnkey and Shell housing units had qualifications from Colleges and Institutes. Whereas, no respondents with primary and or secondary education lived in the PPP and Shell estates, almost same proportion of holders of primary and secondary educational qualifications lived in the Core and Turnkey provided housing units. Again this may be due to the number of respondents from these estates involved in the survey.

Table 8.4 : Highest Educational Attainment of Respondents

Level of Education	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	6(3.18)	2(0.68)	0(0.00)	0(0.00)	8(1.55)
Primary	2(1.06)	2(0.68)	0(0.00)	0(0.00)	4(0.77)
Secondary	6(3.18)	5(1.69)	0(0.00)	0(0.00)	11(2.13
Colleges/ Institutes	30(15.87)	26(8.18)	3(13.04)	1(10.0)	60(11.61)
University/Polytechnic Graduate	109(57.67)	175(59.32)	13(56.52)	5(50.0)	302(58.41)
Postgraduate	31(16.40)	76(25.76)	7(30.43)	4(40.0)	118(22.82)
Others	5(2.65)	9(3.05)	0(0.00)	0(0.00)	14(2.71)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequency; Figure in bracket represents percentage

Based on the educational qualifications of the respondents as presented above, the result in Table 8.5 below shows that, the number of respondents employed in the public sector were more in number than self-employed and private sector employees in the Core Housing and Turnkey estates, while self employed persons (52.18% and 50.00%) were more in number in the PPP and Shell housing unite respectively than those employed in other sector. This is because the Core housing scheme and a good number of the Turnkey housing units were targeted at civil servants as well as political appointees and their domestic staff. It can also be seen from Table 8.5 that 40.0%, 23.39%, 13.04% and 8.47% of respondents employed by private sector organizations lived in the Shell, Turnkey, PPP and Core housing units respectively. Notably, majority of the respondents in the Shell housing units were not employed in the public sector, while the retirees encountered in this survey lived in both the Turnkey and Core Housing estates.

Table 8.5: Employment Sector of Respondents

Employment Sector	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	3(1.59)	1(0.34)	0(0.00	0(0.00)	4(0.77)
Government	151(79.89)	138(46.78)	8(34.78)	1(10.00)	298(57.64)
Private	16(8.47)	69(23.39)	3(13.04)	4(40.00)	92(17.80)
Self Employed	11(5.82)	74(25.09)	12(52.18)	5(50.00)	102(19.73)
Retired	2(1.06)	4(1.36)	0(0.00)	0(0.00)	6(1.16)
Others	6(3.18)	9(3.05)	0(0.00)	0(0.00)	15(2.90)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

The result in Table 8.6 shows that most (36.27% and 39.13%) of the respondents in the Turnkey and PPP housing units respectively earned an average monthly income of between

₦38,000 and ₦71,000(Middle Low Income group), 44.97% in the Core Housing earned less than ₦38, 000.00(Low Income), and 70% of those in the Shell estate earned more than ₦145,000 per month (High Income). This result shows that most low-income earners lived in the Core housing units , high income earners lived in the Shell housing units , most middle low-income earners (₦38,000-₦71,000) lived in Turnkey provided housing units. However, a good number of respondents in the high income class in the Turnkey housing units lived in the Obasanjo-Hill-Top GRA estate (Commissioners' quarters) in Abeokuta. It is observed that 6.96% of respondents did not provide information on their income. This may be due to personal reasons and the general apathy among many people in disclosing information on their personal income. Generally speaking, the result shows that all income groups lived in public housing in the State.

Table 8.6: Personal Average Monthly Income of Respondents

Average Monthly Income (Naira)	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	19(10.05)	16(5.42)	1(4.35)	0(0.00)	36(6.96)
Below ₦38,000 (LI)	85(44.97)	50(16.94)	1(4.35)	1(10.00)	137(26.50)
₦38,000-₦71,000 (MLI)	68(35.98)	107(36.27)	9(39.13)	2(20.00)	186(35.98)
₦72,000-₦145,000 (MHI)	11(5.82)	58(19.66)	8(34.78)	0(0.00)	77(14.89)
₦145,000 and above (HI)	6(3.18)	64(21.70)	4(17.39)	7(70.00)	81(15.67)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

On how long the respondents had lived in the housing units, Table 8.7 indicates that most (85.19% and 80.68%) of the respondents in the Core housing and Turnkey units respectively had lived in the housing units for between 1year and 3 years. In contrast, most (82.61% and 70.0%) of the respondents in the PPP and Shell housing estates respectively had lived less than one year in the housing units. This provides support to the fact that the housing units in these two estates were recently constructed. It can be seen from the Table 8.7 that the largest number of respondents who had lived more than 4 years lived in the Turnkey estates. This is because the first set of housing estates in the OGD Housing Programme in Ogun State (e.g. OGD- Asero and Media Village) were constructed through the turnkey strategy. The knowledge of length of residency of the respondents is vital in interpreting respondents' perception on housing adequacy and residential satisfaction. Generally, the above result suggests that a good proportion of the respondents had lived in the estates in a reasonable period to provide reliable information on their perception on their residential environment.

Table 8.7: Length of Residency in the Housing Estates

Length of Residency	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	2(1.06)	3(1.02)	0(0.00)	0(0.00)	5(0.97)
Less than 1 year	23(12.17)	33(11.19)	19(82.61)	7(70.00)	82(15.86)
1year-3years	161(85.19)	238(80.68)	4(17.39)	3(30.00)	406(78.53
4years -5 years	3(1.59)	17(5.76)	0(0.00)	0(0.00)	20(3.87)
More than 5years	0(0.00)	4(1.02)	0(0.00)	0(0.00)	4(0.77)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequency; Figure in bracket represents percentage

The result of the analysis on the type of tenure of the respondents shows that most of the respondents in the Core Housing, PPP and Shell provided dwelling were owner-occupiers (Table 8.8). In the Turnkey provided housing, the respondents consisted of almost equal proportion of owner-occupiers and renters. The number of respondents in official quarters found in Turnkey provided housing units were mostly political appointees who lived in the commissioners' quarters and Gateway Television staff who lived in the Media Village. This finding suggests that the public housing programme in the study area was promoting home ownership among residents of the State.

Table 8. 8: Type of Tenure

Tenure Type	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	3(1.59)	0(0.00)	0(0.00)	0(0.00)	3(0.58)
Privately Rented	24(12.70)	137(46.44)	6(26.09)	1(10.00)	168(32.50)
Owner Occupied	161(85.19)	135(45.76)	17(73.91)	9(90.00)	322(62.28)
Official Quarters	1(0.53)	22(7.46)	0(0.00)	0(0.00)	23(4.45)
Free Occupation	0(0.00)	1(0.34)	0(0.00)	0(0.00)	1(0.19)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

Also, the result of analysis on the household sizes of respondents shows that a good proportion (37.04% and 41.36%) of the respondents in the Core Housing and Turnkey provided housing units had more than 4 persons per household. However, most (70.0%) of the respondents in the Shell housing had household sizes of more than 4 persons. Examination of Table 8.9 below shows that the number of respondents with household size of 3 persons lived in the Turnkey estates, while the majority of those with household size of 2 persons lived in the Core Housing estate. This result shows that apart from the Shell housing estate where no respondent indicated household size of 1 or 2 persons, families with household sizes of between 1 and more than 4

persons lived in public housing estate developed through the Core housing, Turnkey and PPP strategies in the study area.

Table 8. 9: Household Sizes of Respondents

Household Size	Housing Delivery Strategies				Total
	Core Housing	Turnkey	PPP	Shell	
No Response	2(1.06)	1(0.34)	1(4.35)	0(0.00)	4(0.77)
1person	9(4.76)	3(1.02)	1(4.35)	0(0.00)	13(2.51)
2 Persons	13(6.88)	24(8.14)	6(6.09)	0(0.00)	43(8.32)
3 Persons	35(18.51)	50(16.94)	4(17.39)	1(10.00)	90(17.41)
4 Persons	60(31.74)	95(32.20)	7(30.43)	2(20.00)	164(31.72)
More than 4 persons	70(37.04)	122(41.36)	4(17.39)	7(70.00)	203(39.27)
Total	**189(100.00)**	**295(100.00)**	**23(100.00)**	**10(100.00)**	**517(100.00)**

Numbers outside bracket represent frequencies; Figures in bracket represent percentages

The result presented above indicates a number of similarities and difference in the attributes and personalities of residents in the housing units provided in the different housing delivery strategies. Among the significant similarities identified are that majority of those sampled in the different housing estates (irrespective of the housing delivery strategy) were males, married and had University or Polytechnic education. Also, across the housing provided through the different strategies, most of the respondents had lived in the housing units for upward of about 3 years, had household size of more than 4 persons, and were within very productive age bracket of between 31 and 59 years. Comparatively, a majority of respondents in the Core housing and turnkey units were public sector workers as opposed to those in PPP and Shell estates who were mostly self-employed. This is most expected, because the Core housing and most of the units provided built through the Turnkey strategies were targeted at public sector workers in Ogun State. The result also shows that a majority of residents in the PPP and Shell housing units were new comers having stayed less than one year in the housing units. In contrast, most residents in the Core Housing and Turnkey units had stayed in the estates between 1 year and 3 years. This can be attributed to the age of the estates, as most of the Turnkey estates were constructed earlier than the PPP and Shell estates. This suggests that the respondents in the Core housing and Turnkey estates were more conversant with their housing environment and can give more reliable data than those in the PPP and Shell estates. However, this does not rub-off the validity of findings of the current study with respect to housing units provided through these strategies.

Most of the respondents in the Core Housing, Turnkey and PPP provided housing units were within the age group of between 31 and 45 years; this is contrary to what is obtained in the Shell

housing units where most respondents were in the age bracket of between 46 and 59 years. Although, the result indicates that most residents in the Core, Turnkey and PPP housing units had household size of four persons, those living in the Shell housing units had the largest household size of more than four persons. This is well expected, given that a majority of those sampled were married and in their productive years.

On the level educational attainment of the respondents, the result shows that whereas the Core housing and Turnkey housing units in addition to providing samples consisting of people with various levels of educational attainment from with primary to postgraduate and professional qualifications, the PPP and Shell estates had no respondents with the primary and secondary school as their highest educational attainment. This tends to suggest that these two housing delivery strategies provided housing mainly for the highly educated people. Similarly, evidence from this chapter shows that the highest proportion of low and high income earners lived in the Core housing and Shell housing units respectively; the highest proportion of the middle –low and middle high income groups lived in the PPP housing units, and respondents in the Turnkey provided housing units consisted mainly of the middle low income earners. This finding tends to correlate with the distribution of residents in the housing units according to level of highest educational attainment. This result clearly show that the Core housing strategy specifically serviced the needs of the low income people, and the Shell strategy for the high income class, the Turnkey for all income groups while the PPP strategy served the housing need of the middle and high income earners. With respect to tenure, in the different housing estates, it is evident from the result that in addition to rented and owner-occupied identified as the two basic tenure types in both PPP and Shell housing estates, other tenure options such as official quarters and free occupation were identified in the Core housing and Turnkey estates. Specifically, whereas the Core housing, PPP and Shell strategies had higher percentage of owner-occupiers, the Turnkey strategies had slightly higher proportion of renters than owner-occupiers. This tends to suggest that most occupants of Turnkey housing units were either not within the areas the houses were located or were not first time housing owners. It can also be argued that the home buyers were not really in need of the housing units; rather the units were acquired as a form of investment, which can be sold when the value had appreciated. Conversely, one can also say that beneficiaries of houses provided through the Core housing, PPP and Shell strategies were first time house owners that were really in need of housing basically to meet their immediate housing need.

8.2 Summary

In this Chapter attempt was made at exploring the characteristics and personalities of respondents in housing provided through the four strategies investigated. A number of key findings were made. Notably, the majority of the respondents in public housing sampled were educated family persons with household size of 4 persons. They were mostly public sector workers and within the most productive years of their lives. Also, the majority of low and high income people were found in the Core housing and Shell housing units respectively, a reasonable proportion of the middle–low and middle high-income earners were in the PPP, while the Turnkey estates provided housing mostly to the middle-low- income earners. In addition, the Chapter revealed that majority of the residents in these public housing estates were owner-occupiers who had lived in the estates between 1 and 3 years.

On the whole, findings in this Chapter have shown that residents of public housing estates provided through the four housing delivery strategies in public housing in Ogun State consisted of both male and female of different levels of education, income, and marital status; and were engaged in the public and private sectors of the economy. Public housing in the study area was also found to have provided housing for different household sizes and tenure options.

It is worthy of note that the aspect of residents' characterization examined in this Chapter has some implications. Specifically, a significant proportion of the variation in perception of housing adequacy and satisfaction may have its explanation to the differences in residents' personalities and attributes as well as characteristics of the dwellings units. It is expected that housing adequacy, residential satisfaction as well as quality of life of residents in public housing can be related to users' characteristics. The overall implication of the findings in the Chapter is that public housing provision in the study area was actually promoting home ownership among different socio-economic groups, but more emphasis was given to housing provision for educated low and middle income civil servants in Ogun State.

CHAPTER NINE

ASSESSMENT OF THE ADEQUACY OF PUBLIC HOUSING

9.0 Introduction

One of the principal objectives of this research is to assess the level of adequacy of housing provided in public housing in Ogun State. For this reason, this Chapter presents, interprets and discusses result of the analysis carried out to assess the level of adequacy of housing provided through the four housing delivery strategies in the study area. The data used in the Chapter was derived mainly from the housing unit survey with the questionnaire as the key data gathering instrument. Emphasis is on the perception of respondents on the level of the adequacy of housing which characteristics were examined in Chapter Seven. This aspect of the study is very vital, particularly in assessing the success or otherwise of the four housing delivery strategies in particular and public housing in general in the study area. It is also important for understanding residents' housing preferences as input for future public housing schemes as well as exploring the key factors predicting housing adequacy.

The Chapter begins with the evaluation of overall housing adequacy, next to this are the assessment of differences in perception of adequacy of housing among the respondents; examination of the relationship between housing adequacy and residents' characteristics, and identification of factors influencing housing adequacy respectively. It also reports result on the dimensions of housing adequacy evaluation and comparative analysis of the level of adequacy of housing provided through the four housing delivery strategies. The Chapter ends with a summary and possible policy implication of findings.

9.1.0 Overall Housing Adequacy

Table 9.1 shows the result of each of the respondents' (residents) rating of the level of adequacy of housing provided in all the housing estates sampled in Ogun State. It is evident from Table 9.1 that around 52.61% of the respondents rated the housing as inadequate, 30.56% claimed it was fair, 9.09% felt that their housing was adequate, 1.74% indicated that it was very adequate, while 6.0% perceived it as very inadequate. This result clearly shows that a majority of the residents' perceived housing provided in public housing in the study area as inadequate.

Table 9.1: Overall Housing Adequacy

Adequacy Scores	Rating	Frequency	Percentage
56-74	Very Inadequate	31	6.00
75-93	Inadequate	272	52.61
94-112	Fair	158	30.56
113-131	Adequate	47	9.09
132-150	Very Adequate	9	1.74
Total		**517**	**100.00**

9.1.2 Contributing   Attributes to Overall Housing Adequacy

On the extent to which each of the 33 housing attributes examined contributed to overall housing adequacy, the total adequacy scores given by all the respondents on each of the attributes (TAS) referred to as attribute score was used. Table 9.2 shows all the housing attributes arranged in descending order of their contributions to overall housing adequacy. Examination of Table 9.2 reveals that of the 33 attributes drawn from Housing Unit Attributes, Housing Services and Infrastructure, Neighbourhood Facilities and Management and Maintenance of Facilities in the Housing Estates; Level of Privacy contributed most while the provision of Recreational Facilities contributed least to overall housing adequacy in the study area. This claimed is affirmed by the result in Table 9.2 indicating that Level of Privacy has the highest AS of 2009 while Recreational Facilities has the least AS of 762 . It can also be seen from Table 9.2 that the first 15 attributes are Housing Unit Attributes and the first attribute outside Housing Unit Attribute sub-system with the highest contribution is Sanitary and Drainage Facilities, which is under Housing Services and Infrastructure sub-system. This attribute has AS of 1471. In contrast, the last 5 attributes on Table 9.2 with least contributions to overall housing adequacy are Neighbourhood Facilities related attributes. They include provision of Play Ground for Children, Healthcare, Educational, Shopping and Recreational/ Sporting Facilities. These listed housing attributes have relatively low Attribute Scores. The above result shows that residents perceived Housing Unit Attributes as having contributed to overall housing adequacy more than any other housing sub-components. The provision or access to Neighbourhood Facilities within or from the housing units and /or estates was seen as key contributors to overall housing inadequacy in public housing in the study area. This result is well expected, because findings in Chapter Seven indicated that social infrastructure such as healthcare, educational, shopping and recreational/sporting facilities were virtually absent in most the housing estates sampled.

Table 9.2: Contribution of Housing Attributes to Overall Housing Adequacy

	Housing Attributes	Attribute Scores (AS)	Housing Sub-Component
1	The Level of Privacy	2009	Housing Unit Attributes
2	Sizes of Bed rooms	1967	Housing Unit Attributes
3	Natural Lighting in Kitchen	1881	Housing Unit Attributes
4	Natural Lighting in Bed Rooms	1863	Housing Unit Attributes
5	Ventilation in Bedrooms	1850	Housing Unit Attributes
6	Sizes of Living and Dining	1847	Housing Unit Attributes
7	Ventilation in Living/Dining	1810	Housing Unit Attributes
8	Lighting in Living/ Dining	1795	Housing Unit Attributes
9	Sizes Kitchen and Storage	1739	Housing Unit Attributes
10	Protection against dampness	1720	Housing Unit Attributes
11	Protection against Noise	1708	Housing Unit Attributes
12	The Level of Thermal Comfort	1658	Housing Unit Attributes
13	Protection against harmful Insect	1574	Housing Unit Attributes
14	Security Measure in residence	1556	Housing Unit Attributes
15	Number of Bedrooms	1547	Housing Unit Attributes
16	Sanitary and drainage facilities	1471	Housing Services and Infrastructure
17	Public Transport Service	1447	Neighbourhood Facilities
18	Place of Worship	1434	Neighbourhood Facilities
19	Road Network	1392	Housing Services and Infrastructure
20	Fire Protection measures	1386	Housing unit Attributes
21	Parking Spaces	1380	Neighbourhood Facilities
22	Communal Activities	1372	Management of Facilities
23	Power Supply	1250	Housing Services and Infrastructure
24	Management & Maintenance of facilities	1245	Management of Facilities
25	External Lighting	1182	Housing Services and Infrastructure
26	Portable water supply	1158	Housing Services and Infrastructure
27	Open Spaces and Green areas	1112	Neighbourhood Facilities
28	Garbage disposal facilities	1054	Housing Services and Infrastructure
29	Play Ground for Children	957	Neighbourhood Facilities
30	Healthcare facilities	875	Neighbourhood Facilities
31	Educational Facilities	833	Neighbourhood Facilities
32	Shopping Facilities	829	Neighbourhood Facilities
33	Recreational Facilities	762	Neighbourhood Facilities

9.1.3 Adequacy of Housing Sub-Components

(i). Adequacy of Housing Unit Attributes

On the level of adequacy of the key four housing sub-components used in the study to assess housing adequacy, the result in Table 9.3 reveals that about one half (50.48%) of the respondents claimed that the level of adequacy of Housing Unit Attributes was fair, 18.96% felt Housing Unit Attributes were adequate and 2.32% indicated that they were very adequate. However, 25.73% and 2.51% claimed that the Housing Unit Attributes were inadequate and very inadequate respectively.

Table 9.3: Overall Adequacy of Housing Unit Attributes

Adequacy Scores	Rating	Frequency	Percentage
30-39	Very Inadequate	13	2.51
40-49	Inadequate	133	25.73
50-59	Fair	261	50.48
60-69	Adequate	98	18.96
70-79	Very Adequate	12	2.32
Total		**517**	**100.00**

The above result is affirmed by the responses on the level of adequacy of each of the 16 Housing Unit Attributes (see Table 9.2). The result on Table 9.2 indicates that the Level of Privacy, one of the Housing Unit Attributes contributed most while the availability of Fire Protection Measures contributed least to the overall level of adequacy of Housing Unit Attributes. This is based on the observation that the Level of Privacy has the highest AS of 2009 while Fire Protection Measures has the lowest AS of 1386. Examining the Attribute Score column on Table 9.2 arranged in descending order, it can be seen that most of the respondents indicated that the Sizes of Spaces, Natural Ventilation and Lighting as well as Level of Privacy and Thermal Comfort were adequate in their housing units. Also, Protection Against Dampness, Noise and Harmful Insects and Animals were perceived as adequate. Although, a reasonable proportion of the respondents indicated that the Number of Bedrooms and Fire Protection Measures were generally inadequate in their housing units, the percentage of those who felt that the Number of Bedrooms and Fire Protection Measures in their housing were fair and very adequate put together was greater than those who indicated that these attributes were inadequate. The possible explanation for this result on inadequacy of bedrooms is found within the context of the fact that most of the respondents indicated a number of additional spaces, including guest bedrooms that were not available in their current apartments (see Table 7.1)

Generally speaking, the above result shows that Level of Privacy was the most highly rated and dominant Housing Unit Attribute, next to it are the Sizes of Bedrooms etc in that order, while the availability of Fire Protection Measures was the least rated and lowest dominant Housing Unit Attribute. This implies that the Level of Privacy was a key source of adequacy of housing units, while inadequate provision of Fire Protection Measures in the housing units was a principal source of inadequacy of Housing Unit Features. This suggests that adequate attention was given to the architectural design of individual units with particular reference to spatial arrangement, fenestration and sizes of interior spaces, but the same degree of attention may not have been

given to Fire Prevention and Protection measures in the design of the housing units.

(ii) Adequacy of Housing Services and Infrastructure

Regarding the level of adequacy of Housing Services and Infrastructure, the result of the analysis in Table 9.4 reveals that around 51.45% and 11.030% of the respondents perceived Housing Services and Infrastructure as inadequate and very inadequate respectively. However, 8.50% and 0.97% of the respondents were of the view that the level of adequacy of Housing Services and Infrastructure were adequate and very adequate respectively. Also around 28.05% of respondents perceived the level of adequacy of Housing Services and Infrastructure as fair. This result clearly shows that majority of the respondents perceived Housing Services and Infrastructure as inadequate.

Table 9.4: Overall Adequacies of Housing Services and Infrastructure

Adequacy Scores	Rating	Frequency	Percentage
6-10	Very Inadequate	57	11.03
11-15	Inadequate	266	51.45
16-20	Fair	145	28.05
21-25	Adequate	44	8.50
26-30	Very Adequate	5	0.97
Total		**517**	**100.00**

On the contribution of Housing Services and Infrastructure attributes to the overall level of adequacy of Housing Services and Infrastructure, it is obvious from Table 9.2 that most residents found the provision of Sanitary and Drainage Facilities adequate in their houses. This is because of the four housing attributes used in assessing the level of adequacy of Housing Services and Infrastructure; Sanitary and Drainage Facilities has the highest AS of 1471while the provision of Garbage Collection and Disposal Facilities with AS 1054 contributed the least to overall adequacy of Housing Services and Infrastructure. This result is a reflection of the earlier findings of this study (see Tables 7.9 and 7.10) indicating that there were no visible evidence of refuse collection and disposal facilities in most of the estates (except in the Core Housing, PPP and Obasanjo Hill-Top), and thus residents adopted various options in disposing their domestic wastes. Similarly, majority of the housing units depended on public power supply for their electricity need and going by the epileptic power supply situation in Nigeria, the power source from the National Grid may not have provided adequate electricity to the residents. In the same

vein, since most of the residents were found to depend on borehole and wells for their domestic water supply, one may infer that portable water supply in public housing estates sampled may not have been adequate. All these might have contributed to the respondents' perception of the level of adequacy of Housing Services and Infrastructure in the housing estates.

(iii) *Adequacy of Neighbourhood Facilities*

With respect to level of adequacy level of Neighbourhood Facilities, the result of analysis shows that respondents generally viewed the facilities provided in the housing estates as inadequate. This claim is affirmed by the result on Table 9.5 which shows that whereas 42.17 % and 24.95% of the respondents perceived the provision of Neighbourhood Facilities as inadequate and very inadequate respectively, 7.16%, and 1.55% felt that the level of adequacy of Neighbourhood Facilities was adequate and very adequate respectively, while 24.18% indicated that the level of adequacy of neighbourhood facilities was fair.

Table 9.5: Adequacy of Neighbourhood Facilities

Adequacy Scores	Rating	Frequency	Percentage
9-14	Very Inadequate	129	24.95
15-20	Inadequate	218	42.17
21-26	Fair	125	24.18
27-32	Adequate	37	7.16
33-38	Very Adequate	8	1.55
Total		**517**	**100**

Specifically, the result (Table 9.2) shows that of the 9 Neighbourhood Facilities, the availability of Public Transport Services in the estates contributed most while the provision of Recreational/ Sporting Facilities contributed least to the level of adequacy of neighbourhood facilities in the estates. This claim is affirmed by the result (Table 9.2) indicating that the availability of Public Transport Services has the highest AS of 1447 while the provision of Recreational Facilities has the least AS of 762 .This result is well expected going by the observation that all the estates surveyed are located along major roads easily accessible from different parts of the cities by commercial vehicles and motorbikes. It is obvious from the result (Table 9.2) that among other least adequate neighbourhood facilities were Shopping Facilities (829), Educational, Healthcare Facilities (875) and Play Ground for Children (957). This result is a reflection of Table 7.12 which indicated that in most of the estates sampled, recreational, shopping, educational and

healthcare facilities were virtually lacking in the housing estates sampled.

(iv) Adequacy of Management of Facilities in the Housing Estates

The management of common facilities in public housing estates is a key component of housing provision; therefore an assessment of the level of adequacy of the management of existing facilities was carried out in this study. The result (Table 9.6) indicates that majority (50.7%) of the respondents claimed that the level of management and maintenance of existing facilities in the estates was inadequate while very small fractions (7.0% and 1.5%) indicated that it was adequate and very adequate respectively. However, 25.9% of the respondents felt that management and maintenance of facilities in the housing estates were fair.

Table 9.6: Adequacy of Management of Facilities

Adequacy Scores	Rating	Frequency	Percentage
2-3	Very Inadequate	77	14.9
4-5	Inadequate	262	50.7
6-7	Fair	134	25.9
8-9	Adequate	36	7.0
10-11	Very Adequate	8	1.5
Total		**517**	**100.00**

Again, from Table 9.2 it can be seen that of the two attributes used in assessing the level of adequacy of management of facilities in the estate, Communal Activities with AS of 1372 contributed more than level of Management and Maintenance of Facilities in the Estates to the overall level of adequacy management of estate facilities. This can be explained within the context of the existence of Community Development Associations (CDAs) in a number of the estates sampled. The study found that in some of the estates, the CDAs were encouraging communal activities such as the provision security services and maintenance of existing common facilities in the estates, whereas in some estates CDAs were non-existent. Consequently, the responsibility of maintaining existing facilities was left to housing providers and individual residents.

The result presented in this section shows that although a good majority of the respondents perceived the housing package as inadequate, most of them felt that the level of adequacy of Housing Unit Attributes was fair. Similarly, a sizeable percentage of the respondents indicated the level of adequacy of Housing Services and Infrastructure, Neighbourhood Facilities and

Management of estate facilities was also fair. This suggests that majority of the respondents and sizeable number of them perceived the level of adequacy of Housing Unit Attributes and other housing attributes as manageable. Specifically, the provision of Neighbourhood facilities in the housing estates was lowly rated in the adequacy scale. This is because earlier findings in Chapter Seven indicated that basic social infrastructure (schools, health centres, recreational facilities, children's play ground and shopping facilities) were virtually absent in most of the estates sampled. This result suggests that public housing providers in the study area appeared to have relegated the provision of utilities and social infrastructure and maintenance of such facilities where they existed in public housing estates to the background. This implies that public housing providers in Ogun State paid more attention to architectural design and construction of housing units, and thus Housing Unit Attributes were key sources of housing adequacy in public housing.

9.2.0: Housing Adequacy across Housing Delivery Strategies

This section examines the level of adequacy of housing provided across the four housing delivery strategies. Emphasis is on the result of analysis on the level of adequacy of housing provided through the Core, Turnkey, PPP and Shell housing delivery strategies. This is with a view to highlighting the differences in housing adequacy and identifying what attributes contributed the most or least to overall housing adequacy across the delivery strategies.

Figure 9.1 shows result of the analysis of overall perception of housing adequacy across the four housing delivery strategies. Examination of the result shows that 33.34%, 42.86% and 23.80% of the respondents in the Core Housing indicated that the adequacy level of housing in the estate was inadequate, fair and adequate respectively, while74.91%, 21.69% and 3.4% of those in the Turnkey housing estates perceived their housing as inadequate, fair and adequate respectively. Similarly, 52.17% and 47.83% of the respondents in the PPP housing felt that their housing was inadequate and fair respectively and 70%, 20% and 10% of those who lived in the Shell housing estate perceived their housing as inadequate, fair and adequate respectively. It is evident from this result that almost half of the respondents in the Core and PPP housing found the housing provided as fair, whereas majority of the respondents in the Turnkey, PPP and Shell estates perceived their housing as inadequate. It is also obvious that the highest proportion of respondents who perceived their housing as adequate lived in the Core Housing, while the highest proportion of respondents who found their housing to be fair lived in the PPP housing.

This suggests that the Core Housing delivery strategy provided the most adequate housing as perceived by the users.
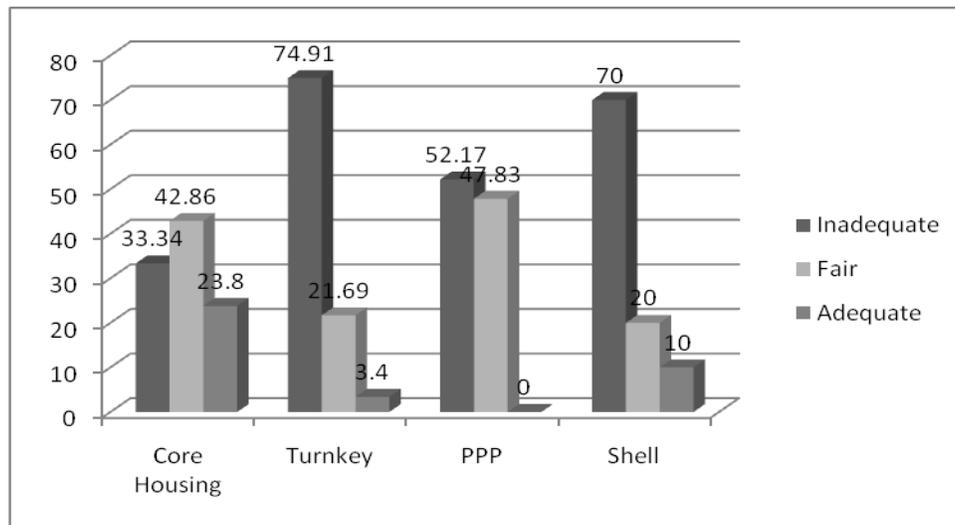
Figure 9.1: Individual Housing Adequacy Rating across the Delivery Strategies

9.2.1: Contributing Attributes to Housing Adequacy across the Four Strategies

Having examined the overall perception of the level of adequacy of housing across the different strategies, this section assesses the level of contribution of specific housing attributes to housing adequacy across the different strategies. Using the AS, the level of contribution of each of the 33 housing attributes was examined. The result (Table 9.7) shows the AS of each of the 33 housing attributes across the different housing delivery strategies. It can be seen from the this Table that in the Core housing units the Sizes of Bedroom and provision of Educational Facilities contributed most and least to housing adequacy. This is because these attributes have AS of 732 and 307 respectively. It can also be seen that portable water supply and the availability of open spaces and green areas with AS of 481 each contributed moderately to the level of housing adequacy in the core housing. Contrary to the result in the Core Housing, the Level of Privacy and provision of Recreational Facilities with AS 1156 and 393 respectively contributed most and least, whilst Fire Protection Measures in the housing units and the provision of Parking Spaces with AS of 744 and 747 respectively contributed moderately to the level of housing adequacy in the Turnkey housing estates. Similar to what is obtained in the Turnkey housing estates, the Level of Privacy in the housing units contributed most to housing adequacy in both the PPP and Shell housing estates, however, the provision of Recreational/Sporting Facilities with AS of 393

contributed the least to housing adequacy in Turnkey housing estates. This is because this attribute has indices of 97 and 42 in these two estates respectively. The provision of Healthcare and Shopping Facilities with AS of 31 and 15 respectively contributed least to the level of housing adequacy in PPP and Shell housing estates.

Table 9.7: Contributing Attributes to Housing Adequacy across the Four Strategies

S/N	Housing Attributes	Core Housing (N=189)	Turnkey (N=295)	PPP (N=23)	Shell (N=10)
		Housing Delivery Strategies			
1	The Level of Privacy	714	1156	97	42
2	Sizes of Bedrooms	732	1115	84	36
3	Natural Lighting in Kitchen	701	1059	88	33
4	Natural Lighting in Bedrooms	707	1032	86	38
5	Ventilation in Bedrooms	719	1013	81	37
6	Sizes of Living and Dining	684	1048	78	37
7	Lighting in Living/ Dining	688	992	81	34
8	Sizes Kitchen and Storage	587	1025	88	39
9	Protection against Dampness	607	911	68	34
10	Protection against Noise	653	960	67	28
11	The Level of Thermal Comfort	612	940	78	31
12	Ventilation in Living/Dining	698	1001	77	34
13	Security Measure in residence	617	843	64	32
14	Number of Bedrooms	563	883	75	26
15	Fire Protection measures	557	744	56	29
16	Protection against harmful Insect	601	879	63	31
17	Sanitary and Drainage facilities	558	813	70	30
18	Power Supply	550	627	47	26
19	Portable water supply	481	599	54	24
20	Garbage disposal facilities	573	406	58	17
21	Public Transport Services	605	729	73	40
22	Place of Worship	583	762	53	36
23	Road Network	628	676	64	24
24	Parking Spaces	542	747	73	18
25	External Lighting	582	520	64	16
26	Open Spaces and Green areas	481	556	59	16
27	Play Ground for Children	403	467	71	16
28	Healthcare facilities	408	421	31	15
29	Shopping Facilities	372	411	31	15
30	Educational Facilities	307	465	45	16
31	Recreational Facilities	316	393	37	16
32	Communal Activities	591	730	32	19
33	Management and Maintenance of facilities in the housing estates	579	598	46	22

Shaded Scores represents the highest and lowest attribute score in each organisation.

Further examination of Table 9.7 reveals that the first 14 attributes with the most contribution to housing adequacy in each of the housing delivery strategies are the housing unit attributes; next to these are housing services and infrastructure, management and maintenance of estate facilities and the least were neighbourhood facilities respectively. Notably, the result clearly shows that whereas, the level of privacy contributed most to the level of housing adequacy in the turnkey, PPP and Shell housing, the size of bedrooms contributed the most to housing adequacy in the Core housing. This is probably due to the fact that residents in the core housing have the opportunity of making input into the sizes of bedrooms in their housing units, which is not possible in the other strategies. The above result suggests that in the respective housing delivery strategies more attention was probably given to the spatial and architectural design of the housing units attributes than any other housing sub-components in the estates.

On which housing unit attributes contributed most and least to the adequacy level of housing unit attributes across the different strategies; the result on Table 9.7shows that whereas the Sizes of Bedrooms with AS (732) was the most highly rated housing unit attribute in the Core Housing estate, the Level of Privacy has the highest AS in the Turnkey, PPP and Shell provided housing, respectively. Also in the Core Housing, Turnkey and PPP estates Fire Protection measures has the lowest AS (557, 744 and 56) respectively while the Number of Bedrooms had the lowest AS (26) in the Shell housing. This result is indicative that in the Core housing, the Size of Bedrooms contributed most to adequacy level of housing unit attributes, while the level of privacy contributed most to the adequacy of housing unit attributes in the Turnkey, PPP and Shell provided housing. Although fire protection measures contributed least to adequacy of housing unit attributes in the Core, Turnkey and PPP provided housing, the Number of Bedrooms contributed least to the adequacy level of housing unit attributes in Shell provided housing.

A possible explanation for the above result is that residents in Core housing units have the opportunity of ensuring that suitable bedroom sizes were constructed in the course of the expansion work in their core housing units, while residents in the other estates had no such opportunity. The Number of Bedrooms contributed least to the adequacy level of housing unit attributes in Shell provided housing probably because all the respondents in this estate indicated that they had household size of a minimum of four persons (Table 9.7), and the housing units in this estate are 3-bedroom flats (see Table 7.3), this suggests that the number of bedrooms may not be adequate for the occupants of most of the housing units in this estate.

Evaluating the level of contribution of the different housing attributes to the level of adequacy of housing services and infrastructure, it can be seen from Table 9.8 that in the Core housing estate the internal road network with AS of 628 contributed most while portable water supply with AS of 481 contributed least to the level of adequacy of housing services and infrastructure. In contrast, the provision of sanitary and drainage facilities with AS of 813, 70 and 30 in the Turnkey, PPP and Shell estates respectively contributed most to the level of adequacy of housing services and infrastructure in these estates. However, the provision of refuse disposal facilities with very low TAS of 406 contributed least to adequacy of housing services in Turnkey housing estates, power supply with AS of 47 contributed least to adequacy of housing services in the PPP housing estates and external lighting with AS of 16 contributed the least to the adequacy of housing services and infrastructure in the Shell housing estate.

This above result can be explained within the context good road network and unsteady water supply of portal water in the Core housing estate, lack of refuse disposal facilities in most of the Turnkey housing estates (except in Obasanjo Hill-Top GRA estate) and absence of functional street lighting in some of the housing estates. This finding suggests that there is lack of proper framework for refuse disposal, provision of portable water and electricity supply in public housing estates in the study area.

Examination of the result (Table 9.7) of analysis of the level of contribution of each of the 9 attributes used in assessing neighbourhood facilities reveals that the availability of public transport services with TAS of 605 contributed most while the provision of educational facilities with TAS of 307 contributed least to the adequacy of neighbourhood facilities in the Core housing estate. This result can be explained based on the earlier observation in chapter seven that the Core housing estate is accessible from all parts of Abeokuta through a good access road but lacked the presence of educational facilities. Contrary to the result obtained in the Core housing, the provision of the Place of Worship with and Recreational facilities with attribute scores of 762 and 393 respectively contributed most and least to adequacy of neighbourhood facilities in Turnkey built housing estates . There is obvious interesting result in the PPP housing estates where Table 9.8 shows that both the availability of public transport services and provision of parking spaces each with AS of 73 jointly contributed most to the level of adequacy of Neighbourhood Facilities and the provision of Healthcare and Shopping Facilities with AS of 31 each, jointly contributed least to adequacy of neighbourhood facilities. Similarly, the availability of public transport services with AS of 40 contributed most and both the provision of healthcare

and shopping facilities with AS of 15 each, jointly contributed the least to adequacy of Neighbourhood Facilities in Shell housing estate. Again, the above result in PPP and Shell estates is a reflection of the characteristics of these estates as discussed in Chapter Seven, where it was noted that the PPP and Shell estates lacked health care and shopping facilities.

In summary, the above result may have provided support to earlier findings in Chapter Seven on housing estate characteristics, where it was found that most basic social infrastructure (schools, health centres, recreational facilities, children's play ground and shopping facilities) were virtually lacking in most of the estates sampled. The result suggests that public housing providers in Ogun State appeared not to have given the provision of social infrastructure in public housing estates priority position in the implementation of the public housing schemes. This has impacted negatively of the level of adequacy of such facilities in the estates, which may have implications for satisfaction and quality of life of the residents.

9.3. Adequacy Index of Housing Sub-Components

So far attention has been given to the assessment of the overall level of adequacy of the different housing attributes across the four housing delivery strategies. Attempt was made at identifying the contributions of the different housing attributes to the level of adequacy of housing provided in public housing schemes and across the four strategies. But for the purpose of comparing the level of adequacy of the four housing sub-components: Housing Unit Attributes, Housing Services and Infrastructure, Neighbourhood Facilities and Management of Estate Facilities; adequacy indices were computed for each of these four housing sub-components in each of the housing delivery strategies jointly and separately. The Adequacy Index of housing sub-component was calculated as percentage of proportion of the total adequacy score on each housing sub-components by all the respondents to the possible maximum total adequacy score that all the respondents can give on each of the four housing sub-components.

Table 9.8 shows that Housing Unit Attributes have the highest sub-component index of 67.24. Next to it were the Management of Facilities in the housing estates with index of 50.62, Housing Services and Infrastructure with index of 49.45 with Neighbourhood Facilities having an index of 41.41.This result shows that the Housing Unit Attributes were the most adequate housing sub-components. Next, were Management of Facilities in the Estates and the provision of Housing Services and Infrastructure respectively, while the least adequate sub-component was the provision of Neighbourhood Facilities. Based on this result, it could be inferred that Housing

Unit attributes contributed most whilst and Neighbourhood Facilities contributed least to overall housing adequacy in public housing estates in the study area.

Table 9.8: Housing Sub-Components Adequacy Indices

Housing Sub-Components	Management of Estate Facilities	Neighbourhood Facilities	Housing Services and Infrastructure	Housing Unit Attributes
Sub-Component Adequacy Scores	2617	9634	7670	27810.00
Possible Maximum sub-component Adequacy Scores	5170	23265	15510	41360.00
Sub-Component Adequacy Indices	**50.62**	**41.41**	**49.45**	**67.24**

Across the four housing delivery strategies, the result (Table 9.9) reveals that in the Core housing and Turnkey strategies, Housing Unit Attributes contributed most to housing adequacy. A possible explanation to the above result is that residents of Core housing units have the opportunity of ensuring that suitable desired spatial characteristics of their dwellings are achieved in the course of the expansion work in the core housing units, while residents in the other estates have no such opportunity. Next to it is Management of Facilities in the estates and the least was the provision of Neighbourhood Facilities.

Table 9.9: Adequacy Indices Housing Sub-components across the different Housing Delivery Strategies

Housing Delivery Strategies	Core Housing N=189	Turnkey N=295	PPP N=23	Shell N=10
Housing Unit Attributes	69.05	66.12	66.90	67.63
Housing Services and Infrastructure	59.47	41.14	51.74	45.67
Neighbourhood Facilities	47.23	37.30	45.70	41.78
Management of Estate Facilities	61.90	45.01	33.91	41.00
Adequacy Index of sub-components	**60.92**	**52.43**	**56.36**	**54.97**

The above result indicates that Housing Unit Attributes and Management of Estate Facilities were more adequate than Housing Services and Infrastructure and Neighbourhood Facilities in the housing provided through the Core and Turnkey delivery strategies. In contrast, Housing Unit Attributes and Housing Services and Infrastructure were more adequate than Management of Estate Facilities and Neighbourhood Facilities in both the PPP and Shell housing estates. It is therefore obvious from the result that across all the strategies Housing Unit Attributes contributed most to overall level of housing adequacy. This again underscores, the notion that special attention was given to the design and construction of housing units across all the strategies.

Comparing the adequacy level of each of the housing sub-components, Table 9.9 also shows

that in the Core housing all the four housing sub-components had higher sub-component indices than the other strategies, suggesting that all the sub-components in the Core Housing estate were more adequate than those in the other estates constructed through the other three strategies. Generally speaking, across the different estates sampled, the result shows that housing services and infrastructure were most adequate in the Core housing estate and least adequate in the Turnkey estates. It can also be seen that the provision of neighbourhood facilities were least adequate in the Turnkey housing estates. This result may have provided support to earlier findings in chapter seven on housing estate characteristics, where it was found that key basic social infrastructure (schools, health centres, recreational facilities, children's play ground and shopping facilities) were virtually lacking in most of the estates sampled. The result also suggests that public housing providers in Ogun State appear not to be giving the provision of social infrastructure in public housing estates priority position in public housing. This has impacted negatively of the adequacy of such facilities in the estates, and may have implications for satisfaction and quality of life of the residents.

The result shows that most respondents in the Turnkey, PPP and Shell housing estates perceived the level of management and maintenance of facilities in their estate as inadequate, whereas a good proportion of respondents in the Core housing perceived the level of adequacy of management of estate facilities as adequate. A possible explanation to this is that the Core housing estate was predominantly occupied by civil servants' and thus, due to the homogeneity of the population in this estate, it was easy to establish social ties and maintain social cohesion capable of promoting the formation of Community Development Associations (CDAs) necessary in communal activities. The study found that the CDAs and the housing providers were involved in the area management and maintenance of facilities in the Core housing and some turnkey estates. This was not found in the PPP and Shell estates and may have partly accounted for the level of adequacy of management and maintenance of facilities in the PPP and Shell housing estates. Although, the CDAs were found to be involved in security and maintenance of common facilities in some of the Turnkey estates sampled, the above result is suggests that the management and maintenance of existing facilities was beyond the sole capacity of the CDAs in most of the estates. Similarly, of all the estates sampled, only the PPP estate had a maintenance office, however, going by the evidence in this study with particular reference to the management and maintenance of facilities in PPP estate, one may doubt the functionality of the estate maintenance office in that housing estate

Generally, the finding of this study shows that the respondents in housing provided across the different strategies perceived the level of adequacy of the housing was perceived as being fair, that is neither adequate nor inadequate. This implies that the housing was generally manageable. However, going by the adequacy indices of housing across the different strategies, one can infer that the Core housing strategy with adequacy index of 60.92 provided the most adequate housing. Next to it were the PPP (56.36) and Shell strategies (54.97) respectively, while the Turnkey strategy with an index of 52.43 provided the least adequate housing.

9.4.0 Variations in Housing Adequacy

The study examined the level of significance of the differences in adequacy level in the four different housing delivery strategies across the four housing sub-components and socio-economic groups of the respondents. The purpose for this analysis was to examine whether the differences in housing adequacy across the delivery strategies is statically significant or a mere chance occurrence as well as what variables are responsible for the difference in housing adequacy that could be used for further analysis on factors affecting residents perception of housing adequacy. First, the first analysis was done using the Kruskal –Wallis and H Mann-Whitney U-Tests with individual adequacy scores on housing unit attributes, housing services, neighbourhood facilities and management of estates as the dependent variables and the four housing delivery strategies as independent variables in the first instance. The test result revealed that difference in adequacy of housing unit attributes (λ^2 =9.431, df=3, P<0.05), housing (λ^2 =148.294, df=3, P<0.0005), neighbourhood facilities (λ^2 =119.932, df=3, P<0.0005) and management of estates (λ^2 =141.392, df=3, P<0.0005) were significant. This result suggests that housing attributes accounted for differences in levels of housing adequacy across the different housing delivery strategies in the study area.

Second, using individual adequacy scores as dependent variables and socio-economic characteristics (sex, age, marital status, education, employment, income, number of people living in the residence and tenure) of the respondents as independent variables, the test result also shows that differences in perception on housing adequacy by sex (U=28213.500, W=83824.500, Z=-1.490, P>0.05) is not significant. This suggests that differences in housing adequacy cannot be explained on the basis of respondents' sex. As well, the result reveals that variation in perception on housing adequacy by age (λ^2 =19.276, df=3, P<0.0005), income (λ^2 =24.254, df=3, P<0.0005), marital status (λ^2 =8.649, df=3, P<0.05), education (λ^2 =13.333, df=5, P<0.05) and tenure (λ^2 =33.238, df=3, P<0.0005) were statistically significant. This implies that

respondents' age, income, marital status, level of educational attainment and tenure status may have accounted for the differences in housing adequacy. However, respondents' employment (λ^2 =8.772, df=4, P>0.05), length of residency (λ^2 =1.904, df=3, P>0.05) and number of person living in the residence (λ^2 =0.643, df=4, P>0.05) may not have accounted for the variation in housing adequacy.

In all, the above result has revealed that differences in perception on housing adequacy in this study were due to differences in age, income level of education, marital status as well housing ownership status of residents, but not on account of age of residents, their employment sector, household size and how long they have lived in the residence. This finding provides a clue to the view that perception of housing adequacy could vary across housing provided through different strategies and may be due to age, income classes, level of education, and marital status as well as tenure status of the respondents.

9.4.1. Factors Influencing Overall Housing Adequacy

This study examined the factors that influenced the respondents' perception of housing adequacy in the survey. Categorical regression analysis was carried out using the optimal scaling method with individual adequacy score (IS) as the dependent variable and respondent's sex, age group, marital status, level of education, employment, personal average monthly income, number of persons living in the residence, length of residency, tenure, residence type, additional requirement, state of repair of residence, organizational capacity and housing delivery strategies as predictors (independent variables). The result shows that much of the variance in the dependent variable is explained by the regression model with Multiple R = 0.682, Adjusted R Square = 0.407 and the R Square value of 0.465.This implies that the regression model used explains about (0.465x100) 46.5% of the variance in housing adequacy. The result (F=8.090, P=0.000) also implies that the result is statistically significant at P<0.0005.

Table 9.10 shows the level of contributions of each predictor in explaining the dependent variable. It can be seen from this result that of the 14 independent variables included in this regression model, 10 were significant predictors of housing adequacy. The variables in order of importance are Housing Delivery Strategies (Beta=0.456; F-118.301, P=0.000). This suggests that Housing Delivery Strategy is the strongest predictor of housing adequacy, and thus a key contributor to explaining housing adequacy in this survey. Next to it are Additional Space Requirement in the Housing Units (Beta = 0.351, F=90.586; P value=0.000); Age (Beta= -0.155, F = 17.697, P= 0.000), Organizational Capacity (Beta=0.144, F=15.141, P=0.000), Income

(Beta=0.138, F=10.890, P=0.000) and Tenure (Beta=0.134, F=11.246, P=0.000). Others are Education (Beta=-0.086, F=6.017, P=0.002), Marital Status (Beta=0.09, F=6.140, P=0.000, and Employment Sector (Beta=0.068, F=3.933,P=0.002) as well as Residence Type (Beta=0.088,F=4.074, P=0.018. Attributes such as Sex (Beta =0.034, F=0.912, P=0.34), Number of Persons Living in the Residence (Beta=-0.048, F=1.850, P=0.174) Length of Residency (Beta =-0.047, F=1.738, P=0.177) and State of Repairs of Residence (Beta =0.051, F=1.957, P=0.162) do not make significant contribution to the prediction of overall housing adequacy.

Table: 9. 10: Regression Coefficients of Predictors of Overall Housing Adequacy

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error	Beta	Std. Error	Beta
Respondent's Sex	.034	.036	1	.912	.340
Age Group in Years	-.155	.037	4	17.697	.000*
Marital Status of Respondent	.090	.036	4	6.140	.000*
Level of Education of Respondents	-.086	.035	6	6.017	.000*
Employment Sector	.068	.034	5	3.933	.002*
Personal Average Monthly Income Group in Naira	-.138	.042	3	10.890	.000*
Number of Persons Living in the Residence	-.048	.036	1	1.850	.174
Length of Residency in the Housing Estate	-.047	.035	2	1.738	.177
Tenure	.134	.040	4	11.246	.000*
Residence Type	.088	.044	2	4.074	.018**
Additional Space Requirement in the Housing Units	-.351	.037	11	90.586	.000*
State of Repairs of Residence	.051	.036	1	1.957	.162
Organizational Capacity	.144	.037	3	15.141	.000*
Housing Delivery Strategies	-.456	.042	3	118.301	.000*

*Statically significant at P<0.0005, ** Significant at P<0.005

Although one may attribute the above result partly to overlap of some of the independent variables in the model, it is however obvious that the result provides support to earlier finding in Section 9.4.0 suggesting that differences in perception of housing adequacy in the survey was not due to the sex of respondent, household size and how long respondents have lived in the residence. In contrast, the result is inconsistent with earlier notion also in Section 9.4.0 indicating that differences in perception of housing adequacy is not on account of differences in the employment sector of respondents. Generally, the result shows that socio-economic attributes of occupants of housing have significant   influence on their perception of housing adequacy.

Previous research works appeared not to have focused on factors that influenced perception of housing adequacy as it is with housing and residential satisfaction. However, finding of this study goes to suggest perception of housing adequacy is a function of socio-economic characteristics of residents (age, income, education, marital status, and employment), tenure, housing delivery strategies, capacity of housing providers and housing attributes. This appears to be consistent with a number of factors which previous studies (Atkinson et al, 2002; Salleh, 2008; Mohit et al, 2010) have identified to be of significant influence on housing satisfaction. In this respect, one can infer that housing adequacy is related to housing satisfaction.

9.5 Dimensions of Evaluation of Overall Housing Adequacy

The study also examined how the respondents construed housing adequacy that is the respondents' underlying construct of housing adequacy evaluation. A Principal Component Analysis was carried out using the variable Principal Normalization method with the criteria for convergence set at 0.00001. The factor analysis of housing adequacy variables shows that two key factors accounted for 40.607% of the variance in the result (Appendix 19). The components loadings in (Appendix 13) show the factors that the variables represented. Table 9.11 indicates that the first factor of housing adequacy evaluation which accounted for 28.95% of the variance in the data represented Ambient Condition, Services and Security was highly loaded on 18 factors.

The second factor which is the provision Educational, Shopping and Recreational facilities accounted for 11.66% of the variance, loaded highly on a number of housing attributes (variables). This factor loaded on four housing attributes as shown in Table 9.11. The result of the factor analysis suggests that the dimensions on which the respondents construed their housing adequacy perception was based on users' perspective of ambient condition, housing services and security as well as provision/and or access to basic neighbourhood facilities.

Table 9.11: Dimensions of Housing Adequacy Description in all the Housing Estates

Factors	Housing Adequacy Attributes	Factor Scores
1:Ambient condition housing services and security	Adequacy of Natural Lighting in Living/Dining Spaces	0.668
	Adequacy of Natural Lighting in Bedrooms	0.635
	Adequacy of Circulation of Fresh air in Living/ Dining spaces	0.652
	Adequacy of fresh air in bedrooms	0.615
	Level of Thermal Comfort in the Residence	0.581
	Adequacy of Protection against insects and dangerous animals	0.571
	Adequacy of Security Measures in the Residence	0.666
	Adequacy of Fire Safety measures in the Residence	0.609
	Adequacy of Power Supply	0.641
	Adequacy of Portable Water Supply	0.612
	Adequacy of Refuse Disposal facilities in the Estate	0.640
	Adequacy of Parking Spaces provided in the Estate	0.625
	Adequacy of Open Spaces and Green Areas in the Housing Estate	0.615
	Adequacy of Medical and Health Care facilities in the Estate	0.560
	Adequacy of External Lighting in the Housing Estate	0.639
	Adequacy of Road Network within the Estate	0.680
	Adequacy of Management and Maintenance of Facilities in the Estate	0.718
2: Neighborhood Facilities	Adequacy of Educational Facilities in the Housing Estate	-0.603
	Adequacy of Shopping Facilities in the Housing Estate	-0.590
	Adequacy of Recreational/ Sporting facilities in the Housing Estate	-0.582
	Adequacy of Play Ground for Children in the Estate	-0.542

9.5 .1: Dimensions of Evaluation of Housing Adequacy across the different Strategies.

(i) The Core Housing Strategy

To examine if there are differences on how the respondents construed their housing adequacy evaluation across the four strategies, a principal component analysis was carried out using the variable Principal Normalization Method with the criteria for convergence set at 0.00001 across the four housing delivery strategies. The factor analysis of housing adequacy attributes in the Core housing strategy shows that as was the case with respondents in all the housing delivery strategies put together, two key factors accounted for 38.86% of the variance in the result

(Appendix 20). The components loadings in (Appendix 14) show the factors that the attributes represented. Table 9.12 shows that the first factor of housing adequacy evaluation which accounted for 28.23% of the variance in the data represented Ambient Condition, Security and Housing Services loaded highly on 23 housing attributes as indicated in Table 9.12. The second factor which accounted for 10.63% of the variance in the data represented the provision of Educational, Shopping and Recreational facilities and Neighbourhood facilities was loaded on four neighbourhood facilities attributes.

The above result shows that the key factors describing how the residents of the Core housing construed housing adequacy are ambient condition, security, provision and maintenance of services, as well as the provision of neighborhood facilities.

Table 9.12: Dimensions of Housing Adequacy Description in the Core Housing Strategy

Factors	Housing Adequacy Attributes	Factor Scores
1: Ambient condition , security and provision and maintenance of services	Adequacy of Number of Bedrooms	0.573
	Adequacy of Sizes of Cooking and Storage Spaces	0.504
	Adequacy of Natural Lighting in Living/Dining Spaces	0.712
	Adequacy of Natural Lighting in Bedrooms	0.644
	Adequacy of Natural Lighting in Kitchen	0.568
	Adequacy of Circulation of Fresh air in Living/ Dining Spaces	0.619
	Adequacy of fresh air in bedrooms	0.548
	Level of Thermal Comfort in the Residence	0.526
	Adequacy of Protection against Noise Pollution	0.508
	Adequacy of Protection against Dampness in the Building	0.541
	Adequacy of Protection against insects and dangerous animals	0.598
	Adequacy of Security Measures in the Residence	0.660
	Adequacy of Fire Safety measures in the Residence	0.571
	Adequacy of Power Supply	0.572
	Adequacy of Portable Water Supply	0.530
	Adequacy of Sanitary/ Drainage Facilities in the Residence	0.562
	Adequacy of Refuse Disposal facilities in the Estate	0.531
	Adequacy of Parking Spaces provided in the Estate	0.647
	Adequacy of Accessibility to Public Transport Service	0.504
	Adequacy of External Lighting in the Housing Estate	0.538
	Adequacy of Road Network within the Estate	0.542
	Adequacy of Communal Activities within the Estate	0.547
	Adequacy of Management and Maintenance of Facilities in the Estate	0.674
2:Neighbourhood Facilities	Adequacy of Educational Facilities in the Housing Estate	0.722
	Adequacy of Shopping Facilities in the Housing Estate	0.619

	Adequacy of Recreational/ Sporting facilities in the Housing Estate	0.736
	Adequacy of Play Ground for Children in the Estate	0.627

(ii) The Turnkey Strategy

In the Turnkey housing delivery strategy, the result of the factor analysis shows that five factors accounted for 94.61% of the variance in the data (Appendix 21). The components loadings (Appendix 15) show the factors that the variables represented. Examination of Table 9.13 reveals that the first factor which accounted for 36.56% of the variance in the data which is Place of Worship loaded and represented adequacy of place of worship in the estate (0.500), while the second factor which accounted for 22.67% of the variance in the result is Ambient Comfort, Provision and Maintenance of facilities. Like in the Core housing strategy, the second factor is loaded and represented 14 housing attributes (Table 9.13). The provision of Neighbourhood Facilities is the third factor accounting for 14.01% of the variance is loaded and represented 5 housing adequacy attributes. The fourth factor- Safety and availability of Sanitary/ Drainage and Public Transport Services accounted for 11.36% of the variance in the data is loaded and represented 4 housing adequacy attributes. Finally the fifth factor which is the Size of Bedrooms accounted for 9.97% of variance in the data is loaded and represented adequacy of sizes of bedrooms (-0.555).

It is evident from this result that similar factors as obtained in the Core housing strategy describe the dimension of housing adequacy evaluation in the Turnkey strategy. However, differences exist in the factor loadings and the number of attributes represented by each of the five factors. For instance, whereas Water Supply is an independent factor in the Core housing strategy, but Water Supply is represented by Factor 2 in the Turnkey strategy. Similarly, the Size of Bedrooms is the fifth factor in the Core housing, while the Size of Bedrooms is represented by Factor 1 in the Core housing strategy. This goes to suggest that respondents in the Core and Turnkey housing estates construed housing adequacy in closely related ways.

Table 9. 13: Dimensions of Housing Adequacy Description in the Turnkey Strategy

Factors	Housing Adequacy Attributes	Factor Scores
1 : Place of Worship	Adequacy of Places of Worship in the Estate	0.500
2: Ambient comfort provision and maintenance of services	Adequacy of Number of Bedrooms	0.523
	Level of Thermal Comfort in the Residence	0.636
	Adequacy of Natural Lighting in Living/Dining Spaces	0.666
	Adequacy of Natural Lighting in Kitchen	0.548
	Adequacy of Natural Lighting in Bedrooms	0.665
	Adequacy of External Lighting in the Housing Estate	0.627
	Adequacy of Circulation of Fresh air in Living/ Dining rooms	0.694
	Adequacy of fresh air in bedrooms	0.652
	Adequacy of Management and Maintenance of Facilities in the Estate	0.571
	Adequacy of Open Spaces and Green Areas in the Housing Estate	0.640
	Adequacy of Refuse Disposal facilities in the Estate	0.514
	Adequacy of Portable Water Supply	0.629
	Adequacy of Power Supply	0.559
	Adequacy of Road Network within the Estate	0.644
3:Neighbourhood Facilities	Adequacy of Educational Facilities in the Housing Estate	0.729
	Adequacy of Shopping Facilities in the Housing Estate	0.688
	Adequacy of Recreational/ Sporting facilities in the Housing Estate	0.717
	Adequacy of Medical and Health Care facilities in the Estate	0.580
	Adequacy of Play Ground for Children in the Estate	0.680
4: Safety and availability of Sanitary/ Drainage and Public Transport Services	Adequacy of Protection against Noise Pollution	0.633
	Adequacy of Protection against Dampness in the Building	0.662
	Adequacy of Sanitary/ Drainage Facilities in the Residence	0.617
	Adequacy of Accessibility to Public Transport Service	-0.527
5: Size of Bedroom	Adequacy of Sizes of Bedrooms	-0.555

(iii) PPP Housing Delivery Strategy

The result of the factor analysis of housing adequacy attributes (Appendix 16) shows that five

factors accounted for 81.76% of the variance in the data in the PPP housing delivery strategy.

The details of factor loadings (Appendix 22) show the attributes that the factor represented.

Similar to what is obtained in the Core housing and Turnkey strategies, Table 9.14 shows that

the key factors describing the dimensions of housing adequacy evaluation in the PPP strategy are

Place of Worship which accounted 53.03% of the variance in the data, Neighbourhood Facilities (36.60%), Security and provision of Housing Services (18.75%). These three factors represented similar attributes in the Core housing and Turnkey strategies but with different factor loadings. However, the fourth factor which accounted for 12.76% of the variance in the data is Ambient Comfort in the residence, and it is loaded and represented adequacy of Circulation of Fresh Air in Living/ Dining rooms (0.547) and level of Thermal Comfort in the residence (0.953). The last factor which is Privacy, Ambient condition of Bedrooms and Refuse Disposal accounted for 9.69% of variance in the data is loaded and represented adequacy of fresh air in bedrooms (0.825), adequacy of privacy in the residence (0.854) and adequacy of refuse disposal facilities in the estate (-0.640).

Table 9.14: Dimensions of Housing Adequacy Description in the PPP Strategy

Factors	Housing Attributes	Factor Scores
1: Place of Worship	Adequacy of Places of Worship in the Estate	0.758
2:Spatial ,security and Facilities condition	Adequacy of Sizes of Living/ Dining Spaces	0.659
	Adequacy of Sizes of Bedrooms	0.624
	Adequacy of Number of Bedrooms	-0.967
	Adequacy of Sizes of Cooking and Storage Spaces	0.967
	Adequacy of Natural Lighting in Living/Dining Spaces	0.959
	Adequacy of Natural Lighting in Bedrooms	0.630
	Adequacy of Protection against Noise Pollution	0.962
	Adequacy of Fire Safety measures in the Residence	-0.825
	Adequacy of Shopping Facilities in the Housing Estate	-0.975
	Adequacy of Educational Facilities in the Housing Estate	0.975
	Adequacy of Medical and Health Care facilities in the Estate	0.982
	Adequacy of External Lighting in the Housing Estate	0.825
	Adequacy of Road Network within the Estate	0.825
	Adequacy of Communal Activities within the Estate	0.822
	Adequacy of Management and Maintenance of Facilities	0.967

	in the Estate	
3: Provision of Housing Services	Adequacy of Natural Lighting in Kitchen	0.978
	Adequacy of Protection against insects and dangerous animals	0.770
	Adequacy of Security Measures in the Residence	0.978
	Adequacy of Power Supply	-0.638
	Adequacy of Portable Water Supply	0.813
	Adequacy of Sanitary/ Drainage Facilities in the Residence	0.967
4: Ambient Comfort	Adequacy of Circulation of Fresh air in Living/ Dining rooms	0.547
	Level of Thermal Comfort in the Residence	0.953
5: Privacy, Ambient Condition of Bedrooms and Refuse Disposal	Adequacy of fresh air in bedrooms	0.825
	Adequacy of Privacy in the Residence	0.854
	Adequacy of Refuse Disposal facilities in the Estate	-0.640

(iv)The Shell Housing Delivery Strategy

The result (Appendix 23) shows that the five factors describing the dimensions of housing adequacy in the Shell Stage strategy account for 95.18% of the variance in the data. Appendix 23 shows the attributes that the factors represented and the loadings. Detail examination of Table 9.15 reveals that the first factor- Place of Worship accounted for 51.37% variance in the data and is loaded and presented adequacy of adequacy of Places of Worship in the estate (0.758). The second factor is Spatial, Ambient and Facilities Conditions accounted for 20.01% of the variance and it is loaded and represented a total of 19 housing adequacy attributes. The third factor which accounted for 11.73% of variance in the result is Safety and provision of Housing Services and it is loaded and represented 6 housing adequacy attributes. Thermal Comfort is the next factor and it accounted for 7.73% of the variance in the data. It is loaded and represented level of thermal comfort in the residence (-0.953), while the fifth factor is Privacy, Ambient condition of Bed rooms and Refuse Disposal which also accounted for 4.34% of the total variance in the result. This factor is loaded and represented 3 housing adequacy attributes as indicated in Table 9.15.

Table 9.15: Dimensions of Housing Adequacy Description in the Shell Strategy

Factors	Housing Attributes	Factor Scores
1: Place of Worship	Adequacy of Places of Worship in the Estate	0.758
2: Spatial and Facilities condition	Adequacy of Sizes of Living/ Dining Spaces	0.659
	Adequacy of Sizes of Bedrooms	0.624
	Adequacy of Number of Bedrooms	-0.967
	Adequacy of Sizes of Cooking and Storage Spaces	-0.967
	Adequacy of Natural Lighting in Living/Dining Spaces	-0.959
	Adequacy of Natural Lighting in Bedrooms	-0.630
	Adequacy of Protection against Noise Pollution	0.962
	Adequacy of Shopping Facilities in the Housing Estate	0.975
	Adequacy of Educational Facilities in the Housing Estate	0.975
	Adequacy of Recreational/ Sporting facilities in the Housing Estate	0.975
	Adequacy of Play Ground for Children in the Estate	0.975
	Adequacy of Parking Spaces provided in the Estate	0.969
	Adequacy of Open Spaces and Green Areas in the Housing Estate	0.975
	Adequacy of Medical and Health Care facilities in the Estate	0.982
	Adequacy of External Lighting in the Housing Estate	0.825
	Adequacy of Road Network within the Estate	0.825
	Adequacy of Communal Activities within the Estate	0.822
	Adequacy of Management and Maintenance of Facilities in the Estate	0.967
3:Security ,Safety and Provision of Housing Services	Adequacy of Protection against Dampness in the Building	-0.568
	Adequacy of Protection against insects and dangerous animals	0.770
	Adequacy of Security Measures in the Residence	0.978
	Adequacy of Power Supply	-0.638
	Adequacy of Portable Water Supply	0.813

	Adequacy of Sanitary/ Drainage Facilities in the Residence	0.967
4: Thermal comfort	Level of Thermal Comfort in the Residence	-0.953
5: Privacy, Ambient condition of Bedrooms and Refuse Disposal	Adequacy of fresh air in Bedrooms	0.825
	Adequacy of Privacy in the Residence	0.854
	Adequacy of Refuse Disposal facilities in the Estate	-0.640

9.5.2: Comparison of Dimensions of Housing Adequacy Evaluation across the different Strategies

From the foregoing result of factor analysis across the four housing delivery strategies, it is evident that there are similarities and differences on how the residents construed housing adequacy. Table 9.16 shows the result of how residents in housing provided through the four strategies construed housing adequacy. It is evident from this result that across the four strategies residents construed housing adequacy based on ambient comfort, safety, provision of and maintenance housing services, infrastructure and neighbourhood facilities. There are also obvious differences across the housing estates. Whereas, residents in the Turnkey, PPP and Shell housing estates construed adequate housing with respect to the provision of place of worship, residents in the Core housing appeared not to have construed housing adequacy along this dimension. It is also observed that while the residents of Core housing construed housing adequacy based on two key factors, residents in the Turnkey, PPP and Shell housing estates construed housing adequacy based on five main factors. In like manner, the result shows that only residents in the Turnkey housing estates construed housing adequacy along the dimension of Size of Bedrooms as a single factor, while only those in the PPP and Shell housing construed adequate housing in the dimension of privacy.

In all, finding of this section suggest that different housing attributes loaded in each of the factors identified above have significant contribution to respondents' perception of housing adequacy separately in each strategies and jointly in all the strategies. This implies that these factors can be used to offer an explanation on respondent's perception of the level of adequacy of public housing in the study area.

Table 9.16: Summary of Result of Factor Analysis on Housing Adequacy across the Strategies

Factors	Housing Delivery Strategies			
	Core Housing	**Turnkey**	**PPP**	**Shell**
Factor 1	Ambient condition , Security and Provision and Maintenance of Services	Place of Worship	Place of Worship	Place of worship
Factor 2	Neighborhood Facilities	Ambient comfort, Provision and Maintenance of Housing Services	Spatial, Security and Facilities condition	Spatial, Ambient and facilities condition
Factor 3	None	Neighborhood Facilities	Provision of Housing Services	Safety and provision of Housing Services
Factor 4	None	Safety and availability of Sanitary/ Drainage and Public Transport Services	Ambient Comfort	Thermal comfort
Factor 5	None	Size of Bed rooms	Privacy, Ambient condition of Bedrooms and Refuse Disposal	Privacy, Ambient condition of Bedrooms and Refuse Disposal

On why the dimensions of evaluation differ between the strategies, a possible explanation can be found within the context of the personal attributes of the residents. From the knowledge of human psychology it is known that no two human beings are same in personality, and thus may not see things from the same perspective. For this reason, people tend to see things from different perspectives and perception. This underscores the subjectivity of human judgment and perception. It is thought that the homogeneity of residents of the Core housing estate may have accounted for the difference in the dimensions which they construed housing adequacy. It may also be viewed that the levels of involvement of the residents of the Core Housing estate in the development and management of the housing could have contributed to how they construed housing adequacy. Arguably, based on the result on Table 9.16, it could be inferred that residents of the Core Housing estate do not attach much importance to the provision of places of worship like those in Turnkey, PPP and Shell housing estates, hence, they appeared not to have construed housing adequacy along the dimension of availability of place of worship. This

suggests that individual and collective priority could have also influenced how the residents construed housing adequacy in the study area.

Another reason why the dimensions of evaluation of housing adequacy differ between the strategies may be due to residents past housing experience. This notion suggests that the nature of residents' previous housing environment before the current situation could have influenced individual's perception and idea of adequate housing. Closely related to this, is that the size and type of housing occupied by residents. It is also possible that these influenced they way housing adequacy was construed in this study. By this, one is suggesting that an occupant of a 1-bedroom semi-detached bungalow may not construed housing adequacy the same way an occupant of a single family duplex will do. This is of course without any prejudice to other factors that may likely influence the way respondents' construed adequate housing not identified in this study.

9.6 Summary

This Chapter assessed the level of adequacy of public housing provided through the four housing delivery strategies in public housing in Ogun State. Findings show that most of the respondents found the sizes of spaces, natural ventilation and lighting as well as level of privacy and thermal comfort in their houses to be adequate. However the level of privacy in the housing units was identified as key source of housing adequacy, and thus contributed most while fire protection measures contributed least to adequacy of Housing Unit Attributes. It was also found that of the four housing sub-components, Housing Unit Attributes ranked highest, while Neighbourhood Facilities ranked lowest in the housing adequacy scale. The implication of this is that Housing Unit Attributes contributed most, whereas the provision of Neighbourhood Facilities contributed least to overall adequacy of public housing in the study area. For this reason, the architectural attributes of the housing units across the four strategies were considered significant contributors to overall housing adequacy (see Plates 1-8 and Appendices1-5) while the provision of neighbourhood facilities in the estates was a notable source of housing inadequacy in public housing in the study area. The policy implication of this finding is that the architectural design of the housing units took into consideration basic dwelling unit requirements such as privacy and ambient comfort while the provision of support services and facilities was not given adequate attention in public housing provision in Ogun State. Consequently, the housing estates generally

lacked healthcare facilities, reliable portable water supply, good drainage system, functional street lighting, recreational and educational facilities, refuse disposal system, landscaped open spaces and green areas as well as shopping facilities. This has implications for satisfaction and quality of life the residents of the housing estates.

It was also found that of the four housing delivery strategies investigated, the Core housing strategy provided the most adequate housing as perceived by the residents. Next are the PPP and Shell strategies respectively, while the Turnkey strategy provided the least adequate housing. This result suggests that there is significant difference in the perception of the levels of adequacy of housing provided in the four housing delivery strategies. Specifically, the test of difference in the adequacy level of housing across the strategies indicates that housing attributes, residents characteristics accounted for the differences between the perceived adequacies in each housing delivery strategy. Therefore, what accounted for the differences in perception of housing adequacy across the four strategies were housing characteristic and socio-economic and demographic characteristics of the respondents.

Also this Chapter has revealed that across the four housing delivery strategies, residents construed housing adequacy based on ambient comfort, safety, provision of and maintenance housing services, infrastructure and neighbourhood facilities. However, in all the housing estates put together, respondents construed housing adequacy in two main dimensions-ambient condition, housing services and security, as well as provision of neighbourhood facilities. The policy implication of the above finding is that public housing providers should place more emphasis on ambient condition, housing services and security, as well as provision of neighbourhood facilities in order to achieve the goal of providing adequate housing.

In this Chapter, ten key predictors of housing adequacy were identified in the study area. In order of importance they include housing delivery strategies, additional requirements in housing units, age of residents, organizational capacity of housing providers, income of residents, and tenure type. Others are marital status, type of residence, employment sector and level of educational attainment. The implication of this finding is that the adoption of appropriate housing delivery strategies by competent housing providers in the provision of user responsive housing units, availability of adequate and necessary environmental amenities, the provision of services and neighbourhood facilities coupled with an effective and efficient management and maintenance framework are the basic ingredients for the provision of adequate housing.

It is also evident from this Chapter that housing unit attributes with moderate contribution to housing adequacy such as Protection Against Dampness, Noise, Harmful Animals and Insects, Level of Thermal Comfort, Security and Fire Safety Measures as well as Number of Bedrooms in the housing units need to be upgraded through improved housing design in order to enhance the level adequacy of public housing in the study area. The implication of this is that architects involved in the design, planning and implementation of public housing schemes should engage appropriate design practices in conceiving houses that meet users' need for fire safety, security, thermal comfort and adequate sleeping area. This means more attention should be given to these aspects of housing design in the study area.

In addition to the above, other key housing elements and facilities whose improvement can enhance the level of adequacy of public housing are neighbourhood facilities, housing services and infrastructure, as well as proper management and maintenance of these facilities where they exist. The study shows that these attributes and management of housing estates with low attribute scores made low contribution to overall housing adequacy. It is therefore suggested that public housing providers should evolve efficient mechanism for the provision and management of social infrastructure, basic services and amenities in public housing estates. Similarly, public housing providers can also build larger housing units to meet the need of households with large family size, as the study shows that 3- bedroom apartment cannot meet the need of households of four persons and above in the study area.

Another aspect which the Chapter has indicated need attention is locational appropriateness of public housing estates in relation to proximity to healthcare, educational, recreational and shopping facilities should be given priority attention by public housing providers in the study area. In this regard, it has become imperative that planning for housing development should be integrated with other urban land uses so that an efficient social infrastructure provision system could be effectively implemented within the framework of public housing delivery system. This is with a view to enhancing the adequacy of public housing in the study area in particular and Nigeria in general.

CHAPTER TEN

RESIDENTIAL SATISFACTION IN PUBLIC HOUSING

10.0. Introduction

The goal of this Chapter is to present and discuss result of the analysis carried out to examine the satisfaction level of residents with housing provided in public housing in Ogun State. Bulk of the data used was derived from the housing unit survey questionnaire. The Chapter begins with the overall assessment of respondents' satisfaction with the residential environment. Next is the examination of differences in residential satisfaction and factors that influenced it across the four housing delivery strategies. Also, an assessment of the various dimensions of evaluation of residential satisfaction is presented and discussed. The next section of this Chapter examines the factors influencing residential satisfaction in all the housing estates. In the penultimate section, comparative analysis of residential satisfaction across the four housing delivery strategies is discussed, while the last section is a summary and policy implications of key findings.

The aspect of this research discussed in this Chapter is particularly very important for different reasons. First, residential satisfaction is an important indicator for judging the success of housing schemes. Second, residential or housing satisfaction is a principal predictor of residents' perception of general quality of life. Lastly, residential satisfaction is used as a tool for capturing residents' perception of inadequacies in their current housing environment in order to improve on it. Housing schemes not only involve the provision of housing units and services but also entails the evaluation of how users think of housing provided and its effects on their life. It is for this reason that one of the growing concerns of housing developers across the globe is how to assess the level of tenants' satisfaction with housing and services they provide as well as identifying relevant factors which influence this. Such information is used in future housing development. This, among other issues, underscores the essence of this Chapter.

10.1 Evaluation of Residential Satisfaction

The presentation and discussion of result of analysis of residential satisfaction in this study involve the presentation of residents' rating on their overall satisfaction with housing as regards five man sub-components of the housing environment. These sub-components are Housing Unit Attributes, Housing Services and Infrastructure, Neighbourhood Facilities; Socio-economic

Environment and Management of facilities in the housing estates. Next to this is the presentation of housing satisfaction across the four housing delivery strategies, assessment of the levels of contribution of various housing attributes to residential satisfaction, and lastly identification of factors influencing overall housing satisfaction in all the housing estates sampled.

10.1.1 Overall Residential Satisfaction

Table 10.1 shows result of analysis on residential satisfaction with the all housing estates constructed in the public housing in the study area. Close examination of Table 10.1 reveals that 48.55% of respondents were dissatisfied and 5.42% were very dissatisfied with the housing. Also 8.12% of the respondents were satisfied and 0.97% of the respondents were very satisfied, but 36.94% said they were neither satisfied nor dissatisfied. This result also shows that majority (53.97%) of the respondents were dissatisfied while small fraction (9.09%) of the respondents were satisfied with housing in all the estates. This result clearly shows that majority of the respondents were dissatisfied with the housing environment provided in the public housing in the study area. The possible explanation for this result is found in Table 9.1 which indicated that majority of the respondents found public housing as inadequate. This may have influenced their perception of the level of satisfaction with their residential environment.

Table 10.1: Overall Residential Satisfaction in all the Housing Estates

Individual Satisfaction Scores	Rating	Frequency	Percentage
53.0-71.0	Very Dissatisfied	28	5.42
72.0-90.0	Dissatisfied	251	48.55
91.0-109.0	Fair	191	36.94
110.0-128.0	Satisfied	42	8.12
129.0-148.0	Very Satisfied	5	0.97
Total		**517**	**100.00**

Since some of the respondents indicated that they were satisfied while a reasonable percentage claimed that they were neither satisfied nor dissatisfied with the housing environment, this may be considered to be partly contradictory to the finding in Ukoha and Beamish (1997) which indicated that residents of public housing in Abuja were completely dissatisfied with their overall housing situation, and in Kaitilla (1993) suggesting that residents in public housing in Papua, New Guinea were also dissatisfied with the total housing provided. The implication of the above result is that residents in all the public housing estates surveyed were most satisfied with the

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architectural characteristics of the housing units and least satisfied with the location of neighbourhood facilities within and around the housing estates.

10.1.2 Contribution of Housing Attributes to Overall Residential Satisfaction

Examination of the contributions of each of the 31 housing attributes to residential satisfaction was carried out using the Attribute Scores (AS). As stated earlier on, the AS is the total of scores on each of the attributes given by all the respondents. The result (Table 10.2) shows the relative contributions of each of the housing attributes arranged in descending order of their contribution to residential satisfaction. The result reveals that the Level of Privacy in the housing units has the highest contribution while nearness of residence to Shopping Facilities has the least contribution to residential satisfaction. This is because the former has the highest attribute score (AS) of 2013 while the latter has the least attribute score (AS) of 963. This implies that the respondents were most satisfied with the level of privacy in the housing units whilst they were least satisfied with the distance between their housing units and nearest Shopping Facilities.

The result on the contribution of the 31 housing attributes to residential satisfaction is found within the context of earlier finding indicating that the level of privacy in the housing units was the most adequate housing attribute and contributed most to housing adequacy while provision of shopping facilities in the housing estates was among the least adequate housing attribute and thus contributed least to overall housing adequacy (see Table 9.2). Specifically, the level of contribution of housing attributes to residential satisfaction (Table 10.1) is similar to that obtained in the level of contribution of related housing attributes to overall housing adequacy. Notably, the above result is in line with findings in Djebarni and Al-Abed (2000) indicating that one of the most associated factors of residential satisfaction in public housing in Yemen was the level of privacy in the housing environment. It also provides support to findings in Fatoye and Odusami (2009) which indicated that inadequate provision of basic social amenities and infrastructural services was the main source of occupants' dissatisfaction with their residential environment in public housing in Lagos, Nigeria.

Table 10.2: Contribution of Housing Attributes to overall Residential Satisfaction

S/N	Housing Attributes	Attribute Score (AS)	Sub-Component
1	Level of Privacy	2013	Housing Unit Attributes
2	Sizes of Bedrooms in the house	1962	Housing Unit Attributes
3	Sizes of Living / Dining spaces	1885	Housing Unit Attributes
4	Level of Noise in the Housing Estate	1783	Socio-economic environment
5	Location of Residence	1772	Housing Unit Attributes
6	Level of Crime and Anti-social activities	1765	Socio-economic environment
7	Type of Residence	1752	Housing Unit Attributes
8	Sizes of kitchen and Storages	1752	Housing Unit Attributes
9	Security of life and Property	1746	Management of Estate
10	Cost of housing	1741	Housing Unit Attributes
11	Natural Lighting and Ventilation in Living and Bedrooms	1722	Housing Unit Attributes
12	Residency Rules and Regulations	1696	Management of Estates
13	External Appearance of Residence	1680	Housing Unit Attributes
14	Bath and Toilet facilities	1668	Housing Unit Attributes
15	Residence in relation to your culture	1647	Socio-economic Environment
16	Distance to Place of Work	1621	Socio-economic Environment
17	Building Materials used	1562	Housing Unit Attributes
18	Number of Bedrooms	1555	Housing Unit Attributes
19	State of Cleanliness of the Housing Estate	1499	Management of Estates
20	Communal Activities and social interactions	1405	Socio-economic Environment
21	Nearness of House to Public Infrastructure and Urban Services	1339	Location of Facilities
22	Management and Maintenance of Facilities	1310	Management of Estates
23	Electrical Services	1271	Housing Services
24	Water Supply and Sanitary Services	1263	Housing Services
25	Nearness of House to Children's School	1244	Location of Facilities
26	Nearness of House to the Nearest Market	1098	Location of Facilities
27	Nearness of House to Nearest Healthcare Facilities	1034	Location of Facilities
28	Business and Job Opportunities	1032	Socio-economic Environment
29	Nearness of house to Recreation / Sporting Facilities	987	Location of facilities
30	Prices of Goods and Services	983	Socio-economic Environment
31	Nearness of house to Shopping Facilities	963	Location of Facilities

10.1.3: Satisfaction with Housing sub-Components

The level of satisfaction with the five housing sub-components was also examined. This was done in order to identify how the respondents perceived the levels of satisfaction with Housing Unit Attributes, Housing Services, location of Facilities within the neighbourhood, Socio-economic Environment of the housing estates and Management of the housing estates. It was also important in identifying which attributes contributed most and least to overall residential satisfaction, for policy action as the case may be.

(i) *Satisfaction with Housing Unit Attributes*

A total of 12 Housing Unit Attributes were used in the assessment of respondents' satisfaction with Housing Unit Attributes in all the housing estates. The result (Table 10.3) shows that most (50.29%) of the respondents indicated that they were neither satisfied nor dissatisfied with the Housing Unit Attributes, 29.59% expressed satisfied with the Housing Unit Attributes and 4.26% were very satisfied with the dwelling unit attributes. However, 14.31% and 1.55% of the respondents were dissatisfied and very dissatisfied respectively with the Housing Unit Attributes. This result implies that 15.86% of the respondents expressed dissatisfaction with the Housing Unit Attributes while 33.85% were satisfied. Therefore, more respondents were satisfied than those who were dissatisfied with the Housing Unit Attributes. This result is similar to respondents' perception of the level of adequacy of Housing Unit Attributes (see Table 9.2) which indicated that majority of the respondents felt that the Housing Unit Attributes were fair. However, the proportion of respondents who expressed satisfaction with Housing Unit Attributes was more than that who perceived that Housing Unit Attributes were adequate.

Table 10.3: Satisfaction with Housing Unit Attributes

Individual Satisfaction Scores	Rating	Frequency	Percentage
18.0-26.0	Very Dissatisfied	8	1.55
27.0.-34.0	Dissatisfied	74	14.31
35.0-43.0	Fair	260	50.29
44.0.-51.0	Satisfied	153	29.59
52.0-60.0	Very Satisfied	22	4.26
Total		**517**	**100.00**

 An examination of the level of contribution of Housing Unit Attributes to residential satisfaction reveals that of the 12 attributes investigated , the Level of Privacy has the highest attribute score (AS) of 2013 while the Number of Bedrooms has the least AS of 963 (see Table 10.2). This shows that the Level of Privacy contributed most while the Number of Bedrooms in the housing units contributed the least to residential satisfaction. Among other Housing Unit Attributes with high contribution to residential satisfaction are Sizes of Bedrooms in the house (1962) and Sizes of Living/Dining Spaces (1885), while other attributes with low contributions are Building Materials used (1562) and Bath and Toilet facilities (1668). The above result implies that the respondents were most satisfied with the Level of Privacy and were least satisfied with the Number of Bedrooms in their housing units. This goes to suggest that respondents would prefer housing units with more bedrooms than the one they occupied.

(ii)   Satisfaction with Housing Services

Two housing attributes: Water Supply and Sanitary Services and Electrical Services were used in the assessment of respondents' satisfaction with Housing Services. Contrary to the result obtained in satisfaction with Housing Unit Attributes, Table 10.4 shows that most (56.87% and 11.41%) of the respondents were dissatisfied and very dissatisfied respectively, while 16.44% and 1.35% respectively were satisfied and very satisfied with Housing Services. This result is indicative that those who were dissatisfied were more than those were actually satisfied with housing services.

10.4: Satisfaction with Housing Services

Individual Satisfaction Scores	Rating	Frequency	Percentage
2.0-3.0	Very Dissatisfied	59	11.41
4.0-5.0	Dissatisfied	294	56.87
6.0-7.0	Fair	72	13.93
8.0-9.0	Satisfied	85	16.44
10-11	Very Satisfied	7	1.35
Total		**517**	**100.00**

On the contribution of the two attributes to residential satisfaction, again, Table 10.2 shows that Electrical Services have higher AS of 1271 than Water Supply and Sanitary Services with AS of 1263. This implies that the former attribute contributed more than the later to overall residential satisfaction. The above result affirmed that respondents were more satisfied with Electrical Services than Water Supply and Sanitary Services in all the housing estates. This is similar to respondents' perception of level adequacy of housing services and infrastructure (see Table 9.3), where majority of the respondents indicated that Housing Services and Infrastructure were inadequate. The result on level of adequacy obtained earlier on may have influenced respondents' level of satisfaction with Housing Services in all the housing estates.

(iii) Satisfaction with the location of Neighbourhood Facilities

Respondents' satisfaction with the location and access to 6 neighbourhood facilities was also examined. The facilities investigated were Urban Services and Infrastructure, Children's School, Market, Recreational / Sporting Facilities, Shopping and Healthcare Facilities. The result (Table 10.5) shows that around 44.87% and 23.98% of the respondents claimed they were dissatisfied and very dissatisfied with the location of these facilities respectively, while 7.16% and 0.58% indicated that they were satisfied and very satisfied respectively with the location of neighbourhood facilities. However, 23.40% of the respondents felt they were neither satisfied

nor dissatisfied with the location of these six neighbourhood facilities. This result shows that majority (68.85%) of the respondents were dissatisfied with the location of neighbourhood facilities. This result is similar to that obtained in Chapter Nine, which it was found that majority of the respondents found neighbourhood facilities to be inadequate (see Table 9.5). A possible explanation for the above result is that most of the housing estates sampled lacked social infrastructure such as educational, shopping and healthcare facilities etc.

10.5: Satisfaction with location of Neighbourhood Facilities

Individual Satisfaction Scores	Rating	Frequency	Percentage
5.0-9.0	Very Dissatisfied	124	23.98
10.0-14.0	Dissatisfied	232	44.87
15.0-19.0	Fair	121	23.40
20.0-24.0	Satisfied	37	7.16
25.0-30.0	Very Satisfied	3	0.58
Total		**517**	**100.00**

An examination of the result of analysis of the contributions of attributes related to the location of neighbourhood facilities to overall residential satisfaction (Table 10.2) reveals that the nearness of house to Public Infrastructure and Urban Services with attribute score (AS) of 1339 contributed most, while nearness of the housing estate to Shopping Facilities with AS of 963 contributed the least to overall residential satisfaction. The possible explanation for this result can be found within the observations which show that all the estates sampled (except the PPP and Agbara estates) are located within neighbourhoods that have easier access to public infrastructure and urban services.

(iv)   *Satisfaction with Socio-Economic Environment of the Housing Estates*

The socio-economic environment of the housing estates was assessed by the level of Noise, Crime and Anti-social Activities, Residence Relation to the Culture of the Respondents, Distance between Residence and Place of Work, Communal Activities, Business and Job Opportunities as well as Prices of Goods and Services within and around the estates. Table 10.6 shows the respondents level of satisfaction with these housing sub-components. An examination of Table 10.6 reveals that most (57.45%) of the respondents were neither satisfied nor dissatisfied with the socio-economic environment of the housing estates. However, 13.54% and 2.13% of the respondents were satisfied and very satisfied with socio-economic environment of the housing

estates respectively, while 23.98% and 2.90% of them were dissatisfied and very dissatisfied with socio-economic environment within and around the estates respectively. This result indicates that majority of respondents expressed dissatisfaction with the socio-economic environment of the housing estates.

With respect to the level of contribution of each of the seven attributes of socio-economic environment to residential satisfaction, again Table 10.2 shows that the level of Noise in the housing estate with AS of 1783 contributed most while the Prices of Goods and Services with AS of 983 contributed the least to residential satisfaction. This result could be explained on the basis of the observation that all the housing estates are located away from densely populated areas of the urban areas which are potential noise zones. Also the absence of shopping facilities in most of the estates suggests that prices of goods and services in the estates could be higher than what is obtainable in the city centres. This can be attributed to the cost of commuting between the housing estates and shopping centres and markets within the urban areas.

Table 10.6: Satisfaction with Socio-Economic Environment of Housing Estates

Individual Satisfaction Scores	Rating	Frequency	Percentage
7.0-12.0	Very Dissatisfied	15	2.90
13.0-17.0	Dissatisfied	124	23.98
18.0-22.0	Fair	297	57.45
23.0-27.0	Satisfied	70	13.54
28.0-33.0	Very Satisfied	11	2.13
Total		**517**	**100.00**

(v) Satisfaction with Management of Housing Estates

Ukoha and Beamish (1997) identified the management aspect of public housing as one of the sources of housing satisfaction in Nigeria; therefore an examination of the level of satisfaction of residents with the management of housing estates was examined. This study used four attributes, namely: General Cleanliness of the Estates, Rules and Regulations Regarding Residency, Management and Maintenance of Facilities and General Security of Life and Property in the housing estates in assessing respondents' level of satisfaction with Management sub-component of public housing. Examination of the result on Table 10.7 reveals that 41.59% and 12.38% of the respondents were respectively satisfied and very satisfied with the management of the estates, while small fractions (1.55% and 0.20%) were respectively dissatisfied and very dissatisfied respectively. However, 44.29% of the respondents felt they were neither satisfied nor dissatisfied

with the management of the housing estates. This result clearly shows that majority of the respondents were satisfied with the management of the housing estates. This is however inconsistent with the level of adequacy of the management of facilities in the housing estates which Table 9.6 indicated that majority of the respondents felt was inadequate. It also appears not to be in agreement with findings in Ukoha and Beamish (1997) suggesting that management features were among the key sources of dissatisfaction in the public housing in Abuja, Nigeria. However, it could be inferred that the involvement of residents' Community Development Association (CDAs) in the management of the estates might have accounted for respondents' satisfaction with the management aspect of the estates.

10.7: Satisfaction with Management of Housing Estates

Individual Satisfaction Scores	Rating	Frequency	Percentage
0.0-3.0	Very Dissatisfied	1	0.20
4.0-7.0	Dissatisfied	8	1.55
8.0-11.0	Fair	229	44.29
12.0-15.0	Satisfied	215	41.59
16.0-20.0	Very Satisfied	64	12.38
Total		**517**	**100.00**

The contribution of each of the attributes of management of housing estate to overall residential satisfaction was examined, and result on Table 10.2 shows that Security of Life and Property in the estates with AS of 1746, contributed most while the Management and Maintenance of Facilities in the estates with AS of 1310 contributed the least to residential satisfaction. It is thought that the presence of police post in some of the estates as well as involvement of CDAs and private security outfits in providing security services in the housing estates could have accounted for the above result. However, the inability of the CDAs and housing providers to undertake the management and periodic maintenance of common facilities in the housing estates could have also influenced respondents' satisfaction with the management components of the housing estates.

The foregoing result has revealed that although the number of respondents who were dissatisfied with the housing was more than those who were really satisfied, most of the respondents were satisfied with Housing Unit Attributes and Management of Housing Estate sub-components with majority of the respondents expressed dissatisfaction with the Housing Services, location of Neighbourhood Facilities and Socio-economic Environment of the Housing Estates. On the level of contribution of each attribute to overall residential satisfaction, it can be seen from Table

10.2 that attributes with AS of 1885 and above made high contribution while those with AS of between 1310 and 1783 made moderate contribution and housing attributes with AS below 1310 made low contribution to overall residential satisfaction. Based on the above result, it can be inferred that Housing Unit Attributes contributed most, while the location of Neighbourhood Facilities contributed the least to the overall residential satisfaction. This finding is consistent with the perception of overall housing adequacy which indicated that the overall housing was inadequate. This can been attributed to lack of social infrastructure and other basic housing support services in the public housing estates sampled. Therefore, there is need for adequate attention to the provision of adequate social infrastructure in public housing estates in order to enhance the satisfaction level of residents in public housing in the study area.

10.2.0 Residential Satisfaction across the Four Housing Delivery Strategies

Having examined the overall residential satisfaction with all the housing estates built in the four strategies jointly, this section assess the satisfaction level of respondents with housing provided through the four housing delivery strategies separately. This is with a view to identifying differences and similarities across the strategies. Figure 10.1 shows the result of residential satisfaction of respondents in housing provided through the four housing delivery strategies. Examination of the result reveals that 48.14%, 28.83%, 17.39% and 80% of the respondents in the Core Housing, Turnkey, PPP and Shell strategies respectively felt they were neither satisfied nor dissatisfied with the housing in the estates sampled, while 30.69%, 69.14%, 82.61% and 10% of those in the Core Housing, Turnkey, PPP and Shell respectively claimed they were dissatisfied with their residential environment. About 21.17%, 2.03% and 10.0% of those sampled in the Core housing, Turnkey and Shell strategies were respectively satisfied with the residential environment provided in the estates. It is evident from the result that whereas the largest number of respondents who were satisfied with their residential environment were in the Core Housing, none of those interviewed in the PPP housing indicated that he/she was satisfied with the housing in this estate. Specifically, the largest proportion of those who claimed they were dissatisfied lived in the PPP estate. This result suggests that residents in the Core housing were the most satisfied while those living in the PPP housing were the least satisfied. This provides support to the earlier finding indicating that housing provided through the Core Housing strategy was perceived as the most adequate by respondents.

Two reasons may be offered for the above result. First is the observation that most of the respondents in the Core housing are civil servants and the housing was provided by their employer as part of employees' well fare scheme, and thus it could be viewed as lack of patriotism on the part of the respondents to express dissatisfaction with housing provided by their employer. Second, it may be due to the involvement of the residents (most of who are owners of the houses) in the extension of the housing from 1-Bedroom unit to 2- and 3-bedroom units. Therefore, as owner-occupiers, it is natural for them to express satisfaction with housing they were actively involved in its development. This view is based on the observation residents in the Core Housing estate have an opportunity to make input in ensuring that the houses meet their family and personal needs, desires and aspirations. One may also argue that it is for the same reasons of being owner-occupiers and being involved in the finishing work of housing units that the Shell delivery strategy has second highest proportion of respondents who expressed satisfaction with their housing environment and least proportion of those who were dissatisfied with their housing. This result tends to suggest that people are less satisfied with housing in which they had little or no input both at the design and/or construction stages. Therefore, public housing policy formulation, programme design and implementation should give priority attention to the involvement of housing users in housing provision for enhanced level of satisfaction.
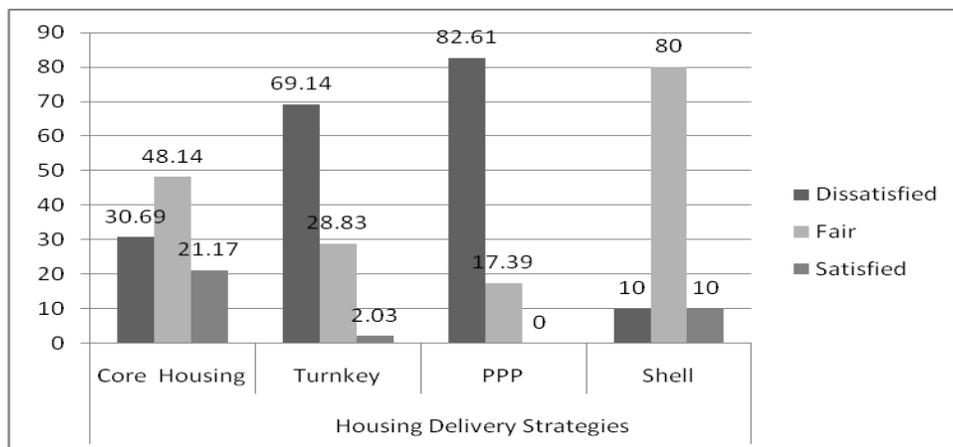
Figure 10.1: Residential Satiafaction Across Housing Delivery Strategies

10.2.1: Contribution of Housing Attributes to Residential Satisfaction across the Delivery Strategies

For better understanding of the level of contributions of each of the 31 housing attributes to residential satisfaction across the four housing delivery strategies, Table 10.8 shows the

contribution of each of the 31 housing attributes to residential satisfaction across the four strategies based on their attribute scores. A close examination of the result (Table 10.8) reveals that in the Core housing, Sizes of Living/ Dining Spaces has the highest AS (887) while the attribute with the lowest AS (378) is nearness of house to shopping facilities. This implies that, Sizes of Living / Dining Spaces contributed most, while nearness of house to Shopping Facilities had the least contribution to residential satisfaction in housing provided through the Core Housing strategy. Other high contributing attributes are Sizes of Bedroom with AS (715), the Location of Residence in Estate, AS (683) and Natural Lighting and Ventilation in Living and Bedrooms, AS (677), while Prices of Goods and Services, AS (460) and Business and Job Opportunities in the estates with AS (443) are other low contributing attributes. Majority of the attributes- including Number of Bedrooms (575), Type of Residence (661), Electrical Services (572) and Nearness of House to the Nearest Market (477) are considered as moderate contributing attributes to residential satisfaction in the Core housing. This result therefore shows that Housing Unit Attributes made the most contribution while location of Neighbourhood Facilities contributed the least to residential satisfaction in the Core Housing estate.

In contrast to the result discussed above, Sizes of Kitchen and Storage Spaces with AS of (1190) made the most contribution while Prices of Goods and Services with AS of 483 made the least contribution to residential satisfaction in Turnkey provided housing. Also the attributes with the most contribution outside Housing Unit Attributes was the level of Crime and Anti-social Activities with AS of 1026. Again, attributes with the least contribution to residential satisfaction in the Turnkey provided housing are those associated with location of Neighbourhood Facilities, and they include   nearness of house to Recreational/Sporting Facilities, AS(500), nearness of house to Shopping Facilities, AS (488) and nearness of house to the nearest Healthcare Facilities, AS(516) among others.

Interestingly, in both the PPP and Shell provided housing, the Level of Privacy in the housing units has the highest AS of 78 and 44 respectively. This implies that the Level of Privacy in the dwelling units contributed most to residential satisfaction in the PPP and Shell stage housing. However, like in the Turnkey housing, the Prices of Goods and Services with AS of 17 contributed the least to residential satisfaction in the PPP provided housing. On the other hand, nearness of house to Recreational/ Sporting Facilities with AS of 17 contributed the least to residential satisfaction in the Shell provided housing. In both the PPP and Shell provided housing, Table 10.8 shows that the first attribute outside Housing Unit Attributes with the most contribution to residential satisfaction are general Security of Life and Property with AS of 86

and Rules and Regulations Regarding Residency with AS of 37 respectively, both of which are associated with Management of Housing Estate attributes. The result in the PPP and Shell provided housing also shows that Housing Unit Attributes contributed most while location of Neighbourhood Facilities contributed least to residential satisfaction. Therefore, it could be inferred that across the four delivery strategies Housing Unit Attributes were high contributors and location of Neighbourhood Facilities was low contributor to residential satisfaction.

Table 10.8 Contribution of Housing Attributes to Residential Satisfaction

S/N	Housing Attributes	Housing Delivery Strategies			
		Core Housing	Turnkey	PPP	Shell
1	Sizes of Living and Dining Spaces	887	1084	78	36
2	Sizes of Bedrooms in the House	715	1145	83	36
3	Number of Bedrooms	575	881	72	27
4	Type of Residence	661	979	71	38
5	Bath and Toilet facilities	634	929	74	31
6	Building Materials used	570	888	72	32
7	Location of Residence in the Estate	683	974	76	37
8	External Appearance of Residence	642	926	74	38
9	Natural Lighting and Ventilation in Living and Bedrooms	677	934	76	35
10	Sizes of Kitchen and Storages	550	1190	86	36
11	Level of Privacy in your House	719	1162	88	44
12	Cost of Housing	665	954	87	35
13	Water Supply and Sanitary Services	552	633	50	28
14	Electrical Services	572	625	45	29
15	Nearness of House to Recreation /Sporting Facilities	435	500	31	17
16	Nearness of House to Public Infrastructure and Urban Services	545	695	63	35
17	Nearness of House to Shopping Facilities	378	488	26	27
18	Nearness of House to the nearest Healthcare Facilities	453	516	31	34
19	Nearness of house to Children's School	469	700	43	30
20	Nearness of House to the nearest Market	477	551	37	33
21	Nearness of House to Place of Work	670	514	53	33
22	Prices of Goods and Services	460	483	17	23
23	Business and Job Opportunities	443	536	32	21
24	Level of Crimes and Anti-Social Activities	625	1026	81	33
25	Communal Activities	596	766	25	18
26	Residence in Relation to Respondents' Culture	656	892	68	35
27	Level of Noise in the Estates	677	998	76	32
28	Rules and Regulations Regarding Residency	666	924	74	37
29	General Cleanliness of the Estates	652	745	67	26
30	General Security of life and Property in the Estate	657	968	86	35
31	Management and Maintenance of Facilities in the Estates	610	629	48	23

Shaded scores represent highest and lowest attribute scores in each strategy

The contribution of each of the 12 Housing Unit Attributes to residential satisfaction across the four delivery strategies was also examined. From Table 10.8 it can be seen that in the Core Housing, Housing attributes with the most contribution to residential satisfaction is the Sizes of

Living/Dining Spaces with AS of 887 and the attribute with least contribution was the Sizes of Kitchen and Storage Spaces with AS of 550. Housing Unit Attributes such as Bath and Toilet Facilities (634), Type of Residence (661) and External Appearance of the Residence (642) can be considered to have contributed moderately to satisfaction with Housing Unit Attributes in Core housing. The above result tends to suggest that more attention was given to the design of Living/ Dining Spaces in the Core Housing strategy than any other Housing Unit Attributes. Contrary to the result in the Core Housing, the Sizes of Kitchen and Storage Spaces with AS of 1190 contributed the most while the Number of Bedrooms with AS of 881 contributed the least respondents' satisfaction with Housing Unit Attributes in the Turnkey provided housing. This result suggests that in the Turnkey delivery strategy the design and construction of kitchen and storage spaces were given more attention than any other Housing Unit Attribute. But in the PPP provided housing the result shows that the Level of Privacy with AS of 88 contributed the most, whereas the Type of Residence occupied by the respondents with AS of 71 contributed the least to satisfaction with Housing Unit Attributes. This suggests that most respondents in the PPP housing estate were dissatisfied with the Type of building in which they occupied (See Table 7.2 for the housing typologies in the PPP estate). Other Housing Unit Attributes with high contribution to satisfaction with Housing Unit Attributes are Cost of Housing (87), Sizes of Kitchen and Storage spaces (86) and Sizes of Bedrooms (83). Attributes with moderate contribution to satisfaction with Housing Unit Attributes are Location of Residence in the Estate (76), Natural Lighting and Ventilation of Living and Bedrooms (76), Bath and Toilet Facilities (74) and External Appearance of the Residence (74).

A slightly similar result obtained in the PPP provided housing is seen in the Shell provided housing as Table 10.9 also shows that the Level of Privacy with AS of 44 contributed most to satisfaction with Housing Unit Attributes in the Shell provided housing. However, the Number of Bedrooms (27) contributed the least to satisfaction with Housing Unit Attributes in the Shell housing. Other attributes in order of their contribution to satisfaction with Housing Unit Attributes in Shell provided housing were the Type of Residence and External Appearance of Residence both with AS of 38, Location of Residence in the Estate (37), Sizes of Living/ Dining spaces and Sizes of Bedrooms as well as Size of Kitchen and Storages, all of which have AS of 36. This result clearly shows that whereas respondents in the Shell housing were most satisfied with the Level of Privacy in the housing units, they were least satisfied with the Number of Bedrooms in the housing units.

One notable observation from the result discussed above is that whereas residents in the PPP and Shell housing were most satisfied with the level of privacy in their housing units, which is consistent with earlier findings in Chapter Nine, indicating that the Level of Privacy was the most adequate Housing Unit Attributes in these two estates. Respondents in the Core and Turnkey housing were most satisfied with the Sizes of Living/Dining spaces and Sizes of Kitchen and Storage spaces respectively. Therefore, one can infer that in the PPP and Shell housing delivery strategies more attention was given to design for privacy while in the Core and Turnkey housing more attention was given to Sizes of Living/Dining and Kitchen and Storages respectively. It is also worthy of note that some Housing Unit Attributes such as Sizes of Living/ Dining spaces, Sizes of Bedrooms, Sizes of Kitchen and Storage Spaces have the same level of contribution to satisfaction with Housing Unit Attributes in Shell provided housing. In summary, it is evident from findings on satisfaction with Housing Unit Attributes that the result is similar to that obtained in adequacy with Housing Unit Attributes across the four delivery strategies in Chapter Nine (see Table 9.9).

Comparatively, evidence on Table 10.8 indicates that in the Core and Shell provided housing, Electrical Services contributed more than Water Supply and Sanitary Services to satisfaction with Housing Services. But, in the Turnkey and PPP housing, Water Supply and Sanitary Services contributed more than Electrical Services to satisfaction with Housing Services. This suggests that residents in Core and Shell housing were more satisfied with electricity supply than water and sanitary services, while the reverse is the case in the Turnkey and PPP provided housing.

Like in the assessment of housing adequacy, the researcher was also interested in finding out the contributions of the 6 Neighbourhood Facilities, namely: Recreation/Sporting, Public Infrastructure and Urban Services, Shopping Facilities, Healthcare and Children's School as well as Market to satisfaction with neighbourhood facilities. From Table 10.9 it can be seen that in Core, Shell and PPP provided housing, nearness of house to Public Infrastructure and Urban Services with AS of 545, 35 and 63 respectively contributed most to satisfaction with the location of facilities, while nearness of house to shopping facilities with AS of 378, 27, and 26 respectively contributed the least to satisfaction with location of facilities. But in the Shell housing, nearness of house to Recreation/ Sporting Facilities with AS of 17, contributed the least to satisfaction with location of facilities. In Turnkey housing estates, whereas the nearness of house to Children's School with AS of 700 contributed most and nearness of house to Shopping

Facilities with AS of 488, contributed the least to satisfaction with the location and access to neighbourhood of facilities.

The above result on satisfaction with the location and access of facilities may be linked to respondents' perception of the level of adequacy of neighbourhood facilities in Chapter Nine, where most respondents indicated that neighbourhood facilities were inadequate. It was observed that although most of the housing estates surveyed (except OPIC Estate, Agbara) had no evidence of educational facilities, on which basis provision of educational facilities was rated inadequate by respondents, the result presented in this section shows that respondents were generally satisfied with the closeness of their homes to their children's schools. This suggests that schools located within the neighbourhoods but outside the housing estates could have influenced the respondents' level of satisfaction with nearness of children's schools to their housing units. Similarly, the location of most of the housing estates along major access routes (except the OGD Housing Estate, Asero-Abeokuta) could have provided the residents' fairly good access to urban services as this result tends to suggest.

Examination of contributions of each of the attributes in the Socio-economic Environment sub-component to satisfaction with the Socio-economic Environment was carried out using the attribute scores on Table 10.8. The result reveals that in Core housing, the Level of Noise with AS of 677 contributed most while Business and Job Opportunities with AS of 443 contributed the least to satisfaction with Socio-economic Environment of the housing estates. Other attributes in order of their contributions are Nearness of House to Place of Work (670), Residence Relation to Respondents' Culture (656), level of Crime and Anti-social Activities (625) and level of Communal Activities (596). On the other hand, the level of Crime and Anti-social Activities with AS of (1026, 81) and Prices of Goods and Services with AS (483; 17) contributed most and least to satisfaction with Socio-economic Environment in Turnkey and PPP housing respectively. Other attributes in order of their contributions in the Turnkey housing estates include Level of Noise (998); Residence Relation to Respondents' culture (892) and Level of Communal Activities (766). In the PPP housing strategy, other attributes in order of their contributions to satisfaction with Soico-economic Environment are Level of Noise (76); Residence Relation to Respondents' Culture (68), Nearness of House to the Place of Work (53) and Business and Job Opportunities (32). But in the Shell housing, Residence in Relation to Respondents' Culture (35) contributed most and Communal Activities (18) contributed least to satisfaction with socio-economic environment. Other attributes in order of their contribution to

satisfaction with socio-economic environment in the Shell housing are Nearness of Housing to Place of Work and Level of Crime and Anti-social Activities both of which have AS of 33, Level of Noise (32); Prices of Goods and Services (23) and Business and Job opportunities (21).

One can infer from the above result that the Level of Noise in the housing estates provided across the four housing delivery strategies contributed the most to satisfaction with socio-economic activities, while the Prices of Goods and Services as well as Business and Job Opportunities within and around the housing estates contributed the least to satisfaction with socio-economic environment among the respondents. The possible explanation for the above result could be found on the observation of the existence of Community Development Associations (CDAs) which ensured good neighbourliness, communal activities, social interactions as well as reduction in anti-social activities and crime in most of the public housing estates sampled. As already indicated, the location of the estates away from city centres that are potentially source of noise pollution might have accounted for the level of noise in the housing estates. However, the respondents' satisfaction level with Business and Job Opportunities and Prices of Goods and Services may not be unconnected with the prevailing economic situation in Nigeria in general and Ogun State in particular, which have impacted negatively on availability of jobs and hike in prices of goods and services.

The contribution of Management of Housing Estate Attributes to satisfaction with management of the housing estates was also assessed. The result (Table 10. 8) reveals that in both the Core and Shell housing estates, Rules and Regulations regarding residency in the estate contributed most to satisfaction with management of the estates. This is because the attribute has highest AS of 666 and 37 in these two estates respectively. But, Management and Maintenance of Facilities in the estates with AS of 610 and 23 in the Core and Shell housing respectively contributed least to satisfaction with Management of Housing Estates. Other attributes in the order of their contribution to satisfaction with management of estates in the Core housing are general Security of Life and Property in the Estate (657) and General Cleanliness of the Estate (652) while in Shell housing, General Security of Life and Property (35) contributed more than General Cleanliness of the Estate (26) to satisfaction with Management of the Estates. Similarly, in Turnkey and PPP housing estates, General Security of Life and Property with AS of 968 and 86 respectively contributed most to satisfaction with Management of the Estates. But in the Turnkey housing estates, Rules and Regulations Regarding Residency in the estates (924) contributed least while in the PPP housing, Management and Maintenance of Facilities in the Estates (48)

contributed the least to satisfaction with Management of the Housing Estates. Interestingly, in the Turnkey and PPP housing estates, General Security of Life and Property contributed more than General Cleanliness of the Estates to satisfaction with Management of the Housing Estates.

The above result could be justified if one considers the physical attributes of the houses and various efforts by both housing developers and residents in ensuring adequate security of lives and property as well as cleanliness of the housing estates. For instance, efforts in ensuring security were identified in the provision of burglary proof doors and windows, perimeter fence with gates in most of the housings units sampled. The formation of vigilante groups by the CDAs in most of the housing estates surveyed underscores the above view. However, lack of effective and efficient management and maintenance framework of existing facilities in some of the housing estates could have influence residents' satisfaction level with the management and maintenance of facilities in the estates. Generally speaking, findings of this section reveal that a sizeable proportion of those interviewed across housing provided in the four delivery strategies were satisfied with Housing Unit Attributes and Estate Management sub-components, while majority expressed dissatisfaction with Housing Services, location of Neighbourhood Facilities and Socio-economic Environment of the estates. However, majority of the respondents were neither satisfied nor dissatisfied with the five housing sub-components investigated. This simply means that this category of respondents perceived the five sub-components as manageable that is they were neither impressed nor disappointed with the housing attributes.

10.3: Satisfaction with Housing sub-Components across the Delivery Strategies

Comparing respondents' satisfaction with the five housing sub-components used in examining residential satisfaction was also important in the current research. This is particularly so if the level of satisfaction with each of the housing sub-components and their contributions to overall residential satisfaction in all the housing estates and across the four delivery strategies must be known. This analysis was carried out by computing the satisfaction indices of the five housing sub-components. As indicated in Section 5.6.5, this was calculated by expressing the sum of attribute scores in each housing sub-component as a percentage of possible maximum attribute score for all the housing attributes in each of the housing sub-component. The choice of satisfaction index for this analysis was based on the fact that the five housing sub-components do not have equal number of attributes. For the purpose of interpretation, a 3- level satisfaction

scale –including 70.0-100.0 for High Satisfaction; 50.0- 69.0 for Moderate Satisfaction and less than 50.0 for Low satisfaction was adopted.

Table 10.9 shows result of the analysis, and examination of the result reveals that the housing sub-component with the highest satisfaction index (67.9) is the Housing Unit Attributes. Next are Management of Estate (60.45), Socio-economic Environment (56.57) and Housing Services sub-components (49.01) respectively, while the location of Neighbourhood facilities has the least satisfaction index of 42.95. It is evident from the above result that respondents were most satisfied with the Housing Unit Attributes; followed by Management of Estates, Socio-economic Environment of the Housing Estates and the provision of Housing Services, but were least satisfied with the location and access to Neighbourhood Facilities. This finding provides support to earlier one indicating that respondents were most satisfied with Housing Unit Attributes and least satisfied with location of Neighbourhood Facilities. Using the 3-level satisfaction scale, the result shows that respondents perceived moderate satisfaction with Housing Unit Attributes, Management of Estates and Socio-economic Environment while they perceived low satisfaction with the provision of Housing Services and location of Neighbourhood Facilities.

Table 10.9: Satisfaction Indices of Housing sub-Components

Housing Sub-Components	Attribute Scores	Max. Possible Scores	Satisfaction Indices	Levels of Satisfaction
Housing Unit Attributes (12)	21064.00	31020.00	**67.90**	**Moderate**
Housing Services (2)	2534.00	5170	**49.01**	**Low**
Location of Neighbourhood Facilities (6)	6661.00	15510	**42.95**	**Low**
Socio-economic Environment(7)	10236.00	18095	**56.57**	**Moderate**
Management of Estate (4)	6251.00	10340	**60.45**	**Moderate**
Total	46746.00	80135.00	**-**	

Figures in bracket represent the number of housing attributes in each sub-component

The above result appears to be inconsistent with findings in Mohit et al (2010) suggesting that residents in low cost public housing estates in Kuala Lumpur, Malaysia, were more satisfied with the housing services than any other housing component. It is however in agreement with finding by Fatoye and Odusami (2009) and Jiboye (2009) which show that occupants' in public housing estates in Lagos, Nigeria, were more satisfied with design of their dwelling units than with the other components of the housing environment.

10.3.1 Satisfaction with Housing sub-components across the Different Strategies

The satisfaction indices of housing sub-components across the different housing delivery strategies were also computed. This was done in order to compare respondents' satisfaction level with the five housing sub-components across the four housing delivery strategies. Table10.10 shows the result of the analysis, and examination of the result (Table 10.10) reveals that the in the Core housing, housing unit attribute sub-component had the highest satisfaction index of 69.80. Next to this were management of estate (68.39), socio-economic environment (62.39) and housing services (57.47) respectively, while the location of neighbourhood facilities had the least index of 49.33. The same pattern of result was obtained in the Turnkey provided housing. In the PPP and Shell provided housing, the result shows that housing unit attributes sub-component had the highest satisfaction indices of 68.04 and 71.17. Next were management of estates (59.78; 58.0), housing services (41.3; 57.0) and socio-economic environment sub-component (40.37; 54.57) respectively, while the location of neighbourhood facilities had the least satisfaction indices of 33.49 and 35.67 respectively. This result implies that in housing provided through the four different housing delivery strategies, respondents were most satisfied with housing unit attributes and least satisfied with the location and provision of neighbourhood facilities. This further confirms the finding that housing unit attributes contributed the most, while the location of neighbourhood infrastructure contributed the least to residential satisfaction in all the housing estates sampled.

With regards to satisfaction with the five housing sub-components across the different strategies, the result (Table 10.10) shows that the respondents in the Core, PPP and Shell provided housing perceived high level satisfaction with housing unit attributes, whereas those who lived in the Turnkey provided housing were moderately satisfied with the housing unit attributes. Also, respondents in the Core and Shell housing were moderately satisfied with the housing services, while those in Turnkey and PPP housing perceived low satisfaction with housing services. Notably, the respondents in all the housing estates perceived low satisfaction level with the location of neighbourhood facilities. This result supports the findings that most of the housing estates lack of basic amenities and infrastructural services. It can also be seen from Table 10.10 that only respondents in the PPP housing estate perceived low satisfaction level with socio-economic environment, whereas residents in Core, Turnkey and Shell housing were moderately satisfied with the socio-economic environment of the housing estates. With regards to satisfaction with Management of estate, the result shows that only residents in the Core housing

estate perceived high satisfaction level, while residents in the other estates were moderately satisfied with management of the estates.

Table 10.10: Satisfaction Indices across Housing Delivery Strategies

Housing sub-Components	Housing Delivery Strategies			
	Core Housing N=189	Turnkey N=295	PPP N=23	Shell N=10
Housing Unit Attributes	69.80	66.57	68.04	71.17
Housing Services	59.47	42.64	41.30	57.00
Location of Neighbourhood facilities	49.33	39.84	33.49	35.67
Socio-economic Environment	62.39	53.91	40.37	54.57
Management of Estates	68.39	55.51	59.78	58.00
Satisfaction Indices	**63.31**	**55.57**	**53.07**	**57.93**

Generally speaking, the result indicates that satisfaction indices in Core, Turnkey, PPP and Shell housing were 63.31; 55.57, 53.07 and 57.93 respectively, suggesting that the respondents in the Core housing were the most satisfied with the residential environment. Next were those in the Shell, Turnkey provided housing respectively, while the respondents in the PPP provided housing were the least satisfied with their residential environment. This result is similar to the adequacy level of housing provided across the four delivery strategies as revealed in Chapter Nine where Core housing provided the most adequate, while the Turnkey strategy provided the least adequate housing.   Result in this section clearly shows that more respondents in Core housing were satisfied with the provision of housing services; next were those in the Shell, Turnkey and PPP housing respectively. The result (Table 10.10) also shows that majority of respondents were dissatisfied with the provision of housing services in their housing units across the four delivery strategies. This goes to suggest that respondents in Core and Shell provided houses were more satisfied with the location of neighbourhood facilities than those who lived in the Turnkey and PPP provided housing. The possible explanation for this is the observation that the Core and Shell housing estates are located very close to city centres, which makes the respondents gain easy access to neighbourhood facilities. The reverse is the case in the PPP and many of the Turnkey housing estates sampled.

Across the four delivery strategies, the result shows that the largest proportion of those that were satisfied with the socio-economic environment lived in Core housing. Next were those in the Shell and Turnkey housing, while no respondent in the PPP housing expressed satisfaction with the socio-economic environment in the estate. This result is expected because at the time of the

survey, the Core housing estate had the single largest number of residents. It is therefore thought that the relatively large population in this estate might have influenced socio-economic environment of the estates. Similarly, location of the PPP housing estate at the outskirt of Lagos and the few residents in this estate could have accounted for the situation where none of the respondents expressed satisfaction with the socio-economic environment within and around the estate. In the same vein, although the Shell housing estate had the least number of residents, but its location within the industrial and business area of Ota could have contributed to respondents' satisfaction with the socio-economic environment.

As stated earlier on, this study investigated the differences and similarities in residential satisfaction of respondents across the four housing delivery strategies. The result shows that respondents in the four housing delivery strategies indicated different levels of satisfaction with their residential environment. Evidence in this study indicates that across the four different strategies, Core housing strategy had the largest population of respondents who were satisfied with their residential environment followed by respondents in the Shell and Turnkey provided housing. However, no respondent in the PPP housing expressed satisfaction with the residential environment. For this reason, one can infer that Core housing delivery strategy provided the most satisfactory housing to the residents, closely followed by the Shell and Turnkey strategies respectively. The PPP housing delivery strategy however provided the least satisfactory housing environment as perceived by the respondents.

From the foregoing discussion, it could be inferred that of the five housing sub-components of residential environment investigated in this survey, residents in the Core housing perceived the higher satisfaction level with Housing Services, Socio-economic Environment and Management of Estate than residents in housing provided by the other three delivery strategies. This implies that in the Core housing delivery strategy, more attention was given to these housing sub-systems than in the others strategies. However, residents in Shell housing estate perceived the highest satisfaction with the Housing Unit Attributes and higher satisfaction level with the location of Neighbourhood Facilities and Socio-economic Environment than those in the PPP and Turnkey housing. Also respondents in both the PPP and Shell housing perceived the least satisfaction level with location of Neighbourhood Facilities. Across the four housing delivery strategies, respondents perceived higher satisfaction level with the Housing Unit Attributes than any other housing and nieghbourhood sub- components. This finding appears to be consistent with finding in Salleh (2008) indicating that satisfaction levels were generally higher with

dwelling units than neighbourhood facilities in low-cost public housing estates in Malaysia.

10.4 Variation in Satisfaction with Housing sub-components

The study also examined whether there is a difference in levels of satisfaction with the five housing sub-components across the five delivery strategies jointly, and across the delivery strategies separately. It was for this reason that the Kruskal Wallis Test was carried out. The data used for this test was the attributes scores for each of the housing sub-components as the dependent variables and the four housing delivery strategies as independent variables. The test result shows values (df=3, P<0.0005), which implies that there is significant difference in residential satisfaction across the four housing delivery strategies. For differences in satisfaction with the Housing Unit Attributes, Housing Services, Location of Neighbourhood Facilities, Socio-economic Environment and Management of Estate, the test revealed that difference in satisfaction with Housing Unit Attributes (λ^2 =6.032, df=3, P>0.05) is not statistically significant, while difference in satisfaction with Housing Services (λ^2 =146.30, df=3, P<0.0005), Location of Neighbourhood Facilities (λ^2 =81.743, df=3, P<0.0005), Socio-economic Environment (λ^2 =108.446, df=3, P<0.0005) and Management of Estate (λ^2 =141.626, df=3, P<0.0005) are statistically significant. This implies that much of the difference in residential satisfaction among the respondents across the four housing delivery strategies is not as a result of differences in Housing Unit Attributes, but rather, it can be attributable to differences in the provision of Housing Services, location of Neighbourhood Facilities, Socio-economic Environment of the housing estates and Management of Estates. This result is supported by the finding in Chapter Seven, which indicated that housing provided across the four housing delivery strategies have similar Housing Unit Attributes but differed in the provision of Housing Services, Neighbourhood Facilities, Management of the Estates.

10.4.1 Variation in Satisfaction across Socio-economic characteristics of Respondents

According to Kellecki and Berkoz (2006), levels of satisfaction with housing environment vary according to the demographic and socio-economic differences of users. Therefore, this study investigated the extent to which the above submission is supported by the current study. Using individual satisfaction scores (ISS) as the dependent variables and socio-economic characteristics of the respondents (sex, age education, marital status, and employment, and income, length of residency, tenure and number of person living in the residence) as independents variables, Mann-

Whitney U and Kruskal Wallis Tests were carried out. The tests revealed that differences in residential satisfaction by sex (U= 2777.8.00, Z=-1.801, P> 0.05), age (λ^2 =3.151, df=3, P>0.05), marital status (λ^2 =7.505, df=3, P>0.05), length of residency (λ^2 =1.579, df=3, P>0.05) and number of persons living in the residence (λ^2 =5.840 df= 4, P>0.05) are not statistically significant. This implies that that difference in levels of residential satisfaction among the respondents are not due to sex, age, marital status, number of people living in the residence and length of residency. With particular reference to length of residency, this result appears to be inconsistent with Stewart and Peck (1985) who associated high housing satisfaction with more years in residence. The result also shows that the difference in residential satisfaction by level of educational attainment (λ^2 =15.318, df=5, P<0.05), employment sector (λ^2 =9.871, df=4, P<0.05), income (λ^2 =15.487, d.f=3, P<0.05), and tenure (λ^2 =27.345, df=3, P<0.05) are statistically significant. This goes to suggest that difference in residential satisfaction in this study has links to the level of educational attainment, employment and income of the respondent as well as his/her tenure status. With specific reference to tenure, the result is in line with findings in previous studies (Lu, 2002; Elsinga and Hockstra, 2005) which associated differences in residential satisfaction with tenure types. From the foregoing, one can conclude that finding in this study collaborates substantial with the view expressed by Kellecki and Berkoz (2006).

10.4.2 Factors affecting Residential Satisfaction in all the Housing Estates

Based on the result obtained in Sections 10.4 and 10.4.1, the researcher further investigated factors affecting residential satisfaction in all the housing estates. Identification of the factors was viewed as necessary in predicting residential satisfaction in public housing in the study area. It was for this reason that Categorical regression analysis was carried our using the optimal scaling method with the criteria for convergence set at 0.00001. In carrying out this analysis, individual satisfaction scores (ISS) was the dependent variable and respondents' sex, age group, marital status, level of education, employment, personal average monthly income, number of persons living in the residence, length of residency, tenure, additional space requirements in the housing units, state of repairs of residence, organizational capacity, housing delivery strategies and individual housing adequacy scores were the predictors (independent) variables. The result shows that much of the variance in the dependent variable is explained by the regression model with Multiple R = 1, Adjusted R Square = 1.000 and the R Square value of 1.000.This implies that the regression model used explains 100% of the variance in residential satisfaction in all the

housing estates. The result also shows (F=718909, 256, P=0.000), which also implies that the result and regression model are statistical significant at P<0.0005.

Similarly, Table 10.11 shows the levels of contribution of each predictor in explaining the dependent variable. It can be seen from this Table 10.11 that of the 14 independent variables included in the regression model, 11 variables were significant predictors of residential satisfaction. The variables in the order of their contributions are housing adequacy (Beta=1.000 F=52886811.001, P=0.000), organizational capacity (Beta=0.043, F=94.020, P=0.000), housing delivery strategies (Beta=0.043, F=92.369, P=0.000), age (Beta=0.001, F=74.269, P=0.000), additional space requirement in the housing units (Beta = 0.001, F=73.337; P=0.000) and educational attainment (Beta=-0.001, F=13.879, P=0.000). Others are employment sector and tenure. However the result shows that attributes such as sex, number of persons living in the residence, length of residency, and state of repairs of the residence do not make significant contribution to residential satisfaction. The above result supports an earlier one on the variation of residential satisfaction across the respondents' socio-economic characteristics (see Section 10.4.1).

Table 10.11: Regression Coefficients of Predictors of Residential Satisfaction in all the Housing Estates

Independent Variables	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error	Beta	Std. Error	Beta
Sex	.000	.000	1	5.109	.024
Age Group	.001	.000	4	74.269	.000*
Marital Status	.000	.000	4	6.139	.000*
Number of persons Living in the Residence	.000	.000	5	8.958	.000*
Level of Educational Attainment	-.001	.000	6	13.879	.000*
Employment Sector	.000	.000	3	5.645	.001**
Personal Income	.000	.000	3	7.048	.000*
Length of Residency in the Housing Estate	.000	.000	4	1.969	.098
Tenure	.000	.000	4	11.635	.000*
Housing Delivery Strategies	.043	.004	3	92.369	.000*
Organizational Capacity	.043	.004	2	94.020	.000*
State of Repair of Residence	.000	.000	1	2.551	.111
Additional Space requirements in Housing Units	.001	.000	8	73.337	.000*
Housing Adequacy	1.00	.000	26	52886811.001	.000*

Dependent Variable: Individual Satisfaction Scores   *Significant P<0.0005 ** Significant at P<0.005

One significant inference from the above result is that the result suggests that housing adequacy is the strongest predictor of residential satisfaction, which is why the R^2 =1, and thus, the regression model used explains 100% of the variance in residential satisfaction in all the housing estates. This has provided a clue that both housing adequacy and residential satisfaction are very closely related concepts and one can be used as a surrogate of the other. In view of this, it was considered that the inclusion of housing adequacy as one of the predictors of residential satisfaction might have influenced the outcome of the analysis. Hence, it was necessary to repeat the analysis without housing adequacy as a predictor.

Using individual satisfaction scores (ISS) as the dependent variable and respondents' sex, age group, marital status, level of education, employment, personal average monthly income, number of persons living in the residence, length of residency, tenure, additional space requirements in the housing units, state of repairs of residence, organizational capacity, housing delivery strategies and individual housing adequacy scores as predictors (independent) variables. The result shows that much of the variance in the dependent variable is explained by the regression model with Multiple R = .593 Adjusted R Square =0.290 and the R Square value of .352.This implies that that the regression model used explains 35.2% of the variance in residential satisfaction in all the housing estates. The result also shows (F=5.689,df=45, P=0.000), which also implies that the result and regression model are statistical significant at P<0.0005.

From Table 10.12, it is evident that of the 13 predictor variables used 8 were significant predictors of residential satisfaction. The variables in order of their importance are housing delivery strategies (Beta=-0.380, F=70.243, P=0.000), Spaces not provided in housing units (Beta=-0.238, F=36.871, P=0.000), organizational capacity (Beta =0.223, F=31.692, P=0.000), age (Beta=-0.137, F=12.860, P=0.000) and Length of residency (Beta=-0.122, F=10.267, P=0.000). Others include Tenure (Beta=0.103, F=6.195, P=0.000), Number of persons living in the residence (Beta=-0.085, F=4.918, P=0.000), Level of educational attainment (Beta=-0.080, F=4.438, P=0.000). Attributes such as sex, marital status, employment sector, personal income and state of repairs of residence appeared not to have made any significant contributions in predicting residential satisfaction.

Comparing the above result with that obtained with the inclusion of housing adequacy as a predictor the R^2 values differ with the former having higher values than the latter. This further confirms the influence of housing adequacy in the first case. It is also evident that in the first case 11 variables were predictors, while 8 variables were identified as predictors of residential satisfaction in the second case. Whereas sex and state of repairs of residence were not predictors

in cases, marital status, personal income and employment sector of respondents which are predictors in the first case are not predictors in the second case.

Table 10.12: Alternative Regression Coefficients of Predictors of Residential Satisfaction in all the Housing Estates without Housing Adequacy as a predictor

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error	Beta	Std. Error	Beta
Sex	.047	.039	1	1.504	.221
Age Group	-.137	.038	4	12.860	.000*
Marital Status	.062	.038	2	2.588	.076
Number of Persons Living in the Residence	-.085	.038	5	4.918	.000*
Level of Educational attainment	-.080	.038	6	4.438	.000*
Employment Sector	-.072	.038	3	3.492	.016
Personal Income	-.092	.046	3	4.031	.008
Length of Residency in the Housing Estate	-.122	.038	4	10.267	.000*
Tenure	.103	.041	4	6.195	.000*
Organizational Capacity	.223	.040	3	31.692	.000*
Housing delivery strategies	-.380	.045	1	70.243	.000*
State of Repair of Residence	.042	.039	1	1.127	.289
Spaces not Provided in the Residence	-.238	.039	8	36.871	.000*

Dependent Variable: Individual Satisfaction Scores   * Significant predictors (P< 0.0005)

In any case, the above result clearly shows that housing adequacy, organizational capacity of housing providers; housing delivery strategies, age, educational attainment, and additional space requirements in housing units, tenure, and length of residency, personal income as well as marital status are predictors of residential satisfaction in the study area. This is consistent with findings in previous studies (Kellecki and Berkoz, 2006; Salleh, 2008; Jiboye, 2009; 2010; Mohit et al, 2010) which indicated that residential satisfaction is associated with residents' characteristics, housing characteristics, neighbourhood facilities, social context and management features. In addition, the result also shows that housing delivery strategies and organizational capacity of housing providers influenced residential satisfaction in public housing in Ogun State. This is also consistent with the findings in Chan et al (2006) indicating that managerial experience of housing providers and method of housing construction influenced the quality outcome of public housing in Hong Kong. Of particular interest to this study is the relationship between residential satisfaction and housing adequacy. The result has shown that housing adequacy is a principal predictor of residential satisfaction, which suggests that residential satisfaction and housing adequacy may be the same, and as such, one can be a substitute for the other in the evaluation of public housing.

10.5 Dimensions of Evaluation of Residential Satisfaction in all the Housing Estates

The study also examined how the respondents construed residential satisfaction. This is necessary for the identification of the key factors that described residential satisfaction in all the housing estates. It was for this reason that principal component analysis was carried out using the variable Principal Normalization method with the criteria for convergence set at 0.00001. The factor analysis of residential satisfaction in all the housing estates shows that two factors accounted for 42.84% of the variance in the result (Appendix 24). The components loadings in (Appendix 24) show the factors that the variables represented. Table 10.13 shows that the first factor which accounted for 29.62% of the variance in the data represented the Appearance and Location of Residence and Maintenance of facilities is loaded highly on satisfaction with management and maintenance of facilities in housing estate (0.729) and satisfaction with natural lighting and air circulation in living and bedrooms (0.728). Other housing attributes loaded on this factor are satisfaction with the general cleanliness of the housing estate (0.688), satisfaction with water supply and sanitary services (0.677), satisfaction with the residence in relation to respondents' culture (0.691), satisfaction with bath and toilet facilities in the residence (0.639) and satisfaction with the type of residence (0.625) and others.

The second factor which accounted for 13.23% of the variance in the result was related to Level Privacy and Sizes of Spaces, and is loaded on satisfaction with the sizes of living and dining spaces (0.630), satisfaction with the sizes of bedrooms in the house (0.610), satisfaction with the sizes of cooking and storage spaces (0.601) and satisfaction with the level of privacy in the residence (0.545). The above result suggests that the dimensions along which respondents construed residential satisfaction evaluation was on users' perspective with respect to the physical appearance of buildings, the provision and maintenance of services facilities and level of privacy in the housing units. This is similar to earlier result obtained in the evaluation of housing adequacy (see Table 9.15)

Table 10.13: Dimensions of Residential Satisfaction Description in all the Housing Estates

Factors	Housing Attributes	Factor Loading
Factor 1: Appearance and location of residence and maintenance of facilities	Satisfaction with the Type of Residence	0.625
	Satisfaction with Bath and Toilet facilities in the Residence	0.639
	Satisfaction with the Location of Residence	0.596
	Satisfaction with the Type of Building Materials Used	504
	Satisfaction with External Appearance of Residence	0.625
	Satisfaction with natural lighting and air circulation in Living and Bed rooms	0.728
	Satisfaction with Water Supply and Sanitary Services in the residence	0.677
	Satisfaction with Electrical Services in the Residence	0.641
	Satisfaction with nearness of house to Recreation / Sporting Facilities	0.609
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.582
	Satisfaction with nearness of house to Shopping Facilities from Residence	0.506
	Satisfaction with the nearness of house to Place of Work	0.522
	Satisfaction with the nearness of house to nearest Health Care Facilities	0.567
	Satisfaction with the nearness of house to the nearest Market	0.585
	Satisfaction with the Prices of goods and services in the Housing Estate	-0.608
	Satisfaction with the level of Communal Activities in the Housing Estates	0.525
	Suitability of Residence to Natural way of life	0.691
	Satisfaction with Rules and Regulations within the Housing Estate	0.665
	Satisfaction with management and maintenance of facilities in Housing Estate	0.729
	Satisfaction with the state of Cleanliness of the Housing Estate	0.688
	Satisfaction with Security of life and Property in the Housing Estate	0.509
Factor 2: Privacy and Sizes of interior spaces	Satisfaction with the Sizes of Living and Dining Spaces	0.630
	Satisfaction with the Sizes of Bedrooms in the house	0.610
	Satisfaction with the Sizes of cooking and Storage Spaces	0.601
	Satisfaction with the level of Privacy in the Residence	0.545

10.5 .1: Dimensions of Evaluation of Residential Satisfaction across the different Strategies

(i) The Core Housing Strategy

In examining how the respondents construed evaluation of residential satisfaction across the different housing delivery strategies, a principal component analysis was carried out using the

variable Principal normalization method with the criteria for convergence set at 0.00001 across the different housing delivery strategies. The factor analysis of residential satisfaction evaluation variables in the Core housing strategy shows that three (3) factors accounted for 49.12% of the variance in the result (Appendix 25). The components loadings in (Appendix 25) show the factors that the variables represented. Table 10.14 shows that the first factor of residential satisfaction evaluation which accounted for 32.17% of the variance in the data represented spatial characteristics of buildings, provision and maintenance of services and facilities loaded highly on a number of attributes: satisfaction with lighting and air circulation in living and bedrooms (0.728), satisfaction with bath and toilet facilities (0.708), satisfaction with number of bedrooms (0.704) satisfaction with the type of residence (0.704), satisfaction with general cleanliness of the housing estate (0.688) and others. The second factor which accounted for 9.34% of the variance in the result was security and loaded on satisfaction with security of life and property in the housing estates (-0.524) while the last factor was size of bedrooms which accounted for 7.60% of variance in the result   loaded on satisfaction with the sizes of bedrooms in the house (0.647).

From the above result, it can be appreciated that respondents in the Core housing estate evaluated residential satisfaction based on spatial and physical attributes of buildings, provision and maintenance of services and facilities, level of security, and sizes of bedrooms.

Table 10.14: Dimensions of Residential Satisfaction Description in the Core Housing Estate

Factors	Housing Attributes	Factor Loading
Factor 1: Spatial and locational characteristics of buildings, provision and maintenance of services and facilities	Satisfaction with the Sizes of Living and Dining Spaces	0.531
	Satisfaction with the Number of Bedrooms in the Residence	0.704
	Satisfaction with the Sizes of Cooking and Storage Spaces	0.567
	Satisfaction with the Type of Residence	0.702
	Satisfaction with Bath and Toilet facilities in the Residence	0.708
	Satisfaction with the Type of Building Materials Used	0.518
	Satisfaction with the Location of Residence	0.630
	Satisfaction with External Appearance of Residence	0.620
	Natural Lighting and air circulation in Living and Bed rooms	0.728
	Satisfaction with the level of Noise in the Housing Estate	0.612

	Satisfaction with Water Supply and Sanitary Services in the residence	0.641
	Satisfaction with Electrical Services in the Residence	0.571
	Satisfaction with the Cost of Acquiring/ Rentage of Residence	0.523
	Satisfaction with nearness of house to Recreation / Sporting Facilities	0.539
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.502
	Satisfaction with nearness of house to nearest Health Care Facilities	0.517
	Satisfaction with nearness of house to Children's School	0.569
	Satisfaction with the nearness of house to the nearest Market	0.674
	Satisfaction with the Prices of goods and services in the Housing Estate	0.600
	Satisfaction with the Residence in relation to your Culture	0.560
	Satisfaction with Rules and Regulations within the Housing Estate	0.568
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.646
	Satisfaction with the state of Cleanliness of the Housing Estate	0.579
	Satisfaction with the Prices of goods and services in the Housing Estate	-0.608
	Satisfaction with the level of Communal Activities in the Housing Estates	0.525
	Satisfaction with the Residence in relation to your Culture	0.560
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.646
	Satisfaction with the state of Cleanliness of the Housing Estate	0.688
Factor 2: Security	Satisfaction with Security of life and property in the housing Estate	-0.524
Factor 3: Size of Bedrooms	Satisfaction with the Sizes of Bedrooms in the house	0.647

(ii) The Turnkey Housing Strategy

The result of the factor analysis on how respondents in the Turnkey provided housing construed residential satisfaction again shows that three (3) factors accounted for 52.66% of variance in the result (Appendix 26). The components loadings in (Appendix 26) show the factors that the variables represented. Table 10.15 shows that the first factor of residential satisfaction evaluation which accounted for 28.86% of the variance in the data represented the physical and locational characteristics of residence and management of facilities loaded highly on satisfaction with nearness of house to public infrastructure and urban services (0.747), satisfaction with level of communal activities in the housing estates (0.743), satisfaction with residence in relation to culture of respondents(0.722), nearness of house to shopping facilities(0.713), satisfaction with nearness of house to the nearest market(0.710) and satisfaction with prices of goods and services in the housing estate (0.706) and others.

The second factor accounted for 15.26% of variance in the result represented the sizes of spaces number of bedrooms and cost of housing is loaded on satisfaction with the sizes of living/dining spaces (0.615), number of bedrooms in the residence (0.602), satisfaction with sizes of cooking and storage spaces (0.574), satisfaction with sizes of bedrooms in the house (0.566), and satisfaction with the cost of acquiring/ rentage of the residence (0.520). The third factor accounted for 8.55% of variance in the result represented the provision of housing services loaded on satisfaction with electrical services in the residence (0.609) and satisfaction with water supply and sanitary services (0.595).

From the result presented above, one can infer that respondents in all the Turnkey housing estates based their residential satisfaction evaluation of three key factors of physical attributes of buildings, location of facilities, sizes of interior spaces and provision of housing services

Table10. 15: Dimensions of Residential Satisfaction Description in all Turnkey Housing Estates

Factors	Housing Attributes	Factor Loading
Factor 1: Physical and locational characteristics of residence and management of facilities .	Satisfaction with the Type of Residence	0.578
	Satisfaction with Bath and Toilet facilities in the Residence	0.617
	Satisfaction with the Location of Residence	0.504
	Satisfaction with External Appearance of Residence	0.523
	Satisfaction with nearness of house to Recreation / Sporting Facilities	0.551
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.747
	Satisfaction with proximity to Shopping Facilities from Residence	0.713
	Satisfaction with nearness of house to nearest Health Care Facilities from your House	0.545
	Satisfaction with nearness of house to Children's School	0.605
	Satisfaction with the nearness of house to the Nearest Market	0.710
	Satisfaction with the Prices of goods and services in the Housing Estate	0.706
	Satisfaction with Business and Job opportunities within and around the Estate	0.617
	Satisfaction with the level of Communal Activities in the Housing Estates	0.743
	Satisfaction with the Residence in relation to your Culture	0.722
	Satisfaction with Rules and Regulations within the Housing Estate	0.686
	Satisfaction with Management and Maintenance of facilities in Housing	0.667

	Estate	
	Satisfaction with the state of Cleanliness of the Housing Estate	0.609
	Satisfaction with Security of life and Property in the Housing Estate	0.619
Factor 2: Sizes of interior Spaces and cost of housing	Satisfaction with the Sizes of Living and Dining Spaces	0.615
	Satisfaction with the Sizes of Bedrooms in the house	0.566
	Satisfaction with the Number of Bedrooms in the Residence	0.602
	Satisfaction with the Sizes of Cooking and Storage Spaces	0.574
	Satisfaction with the Cost of Acquiring/ Rentage of Residence	0.520
Factor 3: Provision of Housing services	Satisfaction with Electrical Services in the Residence	0.609
	Satisfaction with Water Supply and Sanitary Services in the residence	0.595

(iii) The Public Private Partnership (PPP) Housing Strategy

In the PPP housing estate, the result of the factor analysis of the residential satisfaction evaluation shows that four (4) factors accounted for about 71.67% of variance in the result (Appendix 27). The components loadings (Appendix 27) show the factors that the variables represented. Table 10.20 shows that the first factor of residential satisfaction evaluation which accounted for 27.20% of the variance in the data represented housing unit attributes and management of facilities in the estate highly loaded on satisfaction with the location of residence in the housing estate (0.944), satisfaction with external appearance of the residence (0.940), satisfaction with bath and toilet facilities in the residence (0.939), satisfaction with general security of life and property in the estates (0.933), satisfaction with management and maintenance of facilities in the housing estate (0.929) and satisfaction with the type of building materials used on the building (-0.921). Among other attributes this factor is loaded on are satisfaction with nearness of house to public infrastructure and urban services (0.838), satisfaction with cost of acquiring/rentage of residence (0.673), satisfaction with electrical services (0.653), satisfaction with relation of residence to culture (0.588) and satisfaction with rules and regulations regarding residency in the housing estate (0.577).

The second factor which accounted for 19.15% of variance in the result represented provision of housing services and location of neighbourhood facilities loaded highly on satisfaction with nearness of house to the nearest healthcare facilities (0.825), satisfaction with nearness of house to the nearest market (0.816) and satisfaction with the type of residence (-0.806). This factor was also loaded on satisfaction with communal activities in the housing estate (0.640),

satisfaction with the level of noise in the housing estate (0.560) and satisfaction with electrical services (-0.544).

The third factor counted for 16.54% of variance in the result represented Sizes of living/dining space, water supply and socio-economic environment of housing estate and loaded on satisfaction with water supply and sanitary services (0.813), satisfaction with   level of crime and anti-social activities in the estate (0.784) satisfaction of house to the place of work (-0.759), satisfaction with natural lighting and air circulation in living and bedrooms (0.610), satisfaction with sizes of living/ dining spaces (0.581) and satisfaction with business and job opportunities within and around the housing estates (-0.578).

The fourth factor that described residential satisfaction in this estate accounted for 8.78% of variance in the result represented number of bedrooms, sizes of cooking and storages and cleanliness of the housing estate loaded on satisfaction with the number of bedrooms in the residence (-0.681), satisfaction with sizes of cooking and storage spaces (0.642), satisfaction with nearness of house to (0.690) and general cleanliness of housing estate (0.659).

Table 10.16: Dimensions of Residential Satisfaction Description in the PPP Housing Estate

Factors	Housing Attributes	Factor Loading
Factor 1: Physical and locational characteristics of residence and management of facilities	Satisfaction with the Type of Building Materials Used	-0.921
	Satisfaction with Bath and Toilet facilities in the Residence	0.939
	Satisfaction with the Location of Residence	0.944
	Satisfaction with External Appearance of Residence	0.940
	Satisfaction with Electrical Services in the Residence	0.653
	Satisfaction with the Cost of Acquiring/ Rentage of Residence	0.673
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.838
	Suitability of Residence to natural way of life	0.558
	Satisfaction with Rules and Regulations within the Housing Estate	0.577
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.929
	Satisfaction with Security of life and Property in the Housing Estate	0.933
Factor 2: Provision of housing services and location of facilities	Satisfaction with the level of Noise in the Housing Estate	0.560
	Satisfaction with Electrical Services in the Residence	-0.544
	Satisfaction with the Type of Residence	-0.806
	Satisfaction with nearness of house to nearest Health Care Facilities from your House	0.825
	Satisfaction with the nearness of house to the nearest Market	0.816
	Satisfaction with the level of Communal Activities in the Housing Estates	0.640
Factor 3: Sizes of	Satisfaction with the Sizes of Living and Dining Spaces	0.581

living/ dining water supply and socio-economic environment	Satisfaction with Natural Lighting and air circulation in Living and Bed rooms	0.610
	Satisfaction with Water Supply and Sanitary Services in the residence	0.813
	Satisfaction with the Distance to Place of Work	-0.759
	Satisfaction with Business and Job opportunities within and around the Estate	-0.578
	Satisfaction with the Level of crime and anti-social activities in the Housing Estate	0.784
Factor 4:Number of bedrooms, sizes of cooking and storages and cleanliness of the estates	Satisfaction with the Number of Bedrooms in the Residence	-0.681
	Satisfaction with the Sizes of Cooking and Storage Spaces	0.642
	Satisfaction with nearness of house to Children's School	0.690
	Satisfaction with the general cleanliness of the Housing Estate	0.659

(iii) The Shell Housing Strategy

The result of the factor analysis on how respondents in Shell provided housing construed residential satisfaction shows that four (4) factors accounted for 82.43% of variance in the result (Appendix 28). The components loadings in Appendix 28 show the factors that the variables represented. Table 10.21 shows that the first factor of residential satisfaction evaluation which accounted for 30.16% of the variance in the data represented management of estate facilities, water supply and number of bedrooms loaded highly on satisfaction with level of communal activities in the estate (0.980), satisfaction with nearness of house to place of work (0.978), nearness of house to recreation/sporting facilities (0.948), satisfaction with business and job opportunities with and around the estate(0.943), rules and regulations regarding residency in the housing estate (0.877). The others two attributes loaded on this factors were satisfaction with water supply and sanitary services (0.607) and satisfaction with the number of bedrooms in the residence (-0.556).

Housing Unit Attributes and provision of Electrical Services and Public Infrastructure was the second factor which accounted for 22.29% loaded highly on satisfaction with the level of noise in the housing estate (0.925), satisfaction with nearness of house to public infrastructure and urban services (0.921), satisfaction with level of crime and anti-social activities in the housing estate (0.921), satisfaction with the type of building material used (0.836), satisfaction with bath and toilet facilities in the residence (-0.712), satisfaction with electrical services (-0.625) and satisfaction with sizes of cooking and storage spaces (0.591).

The third factor accounted for 17.31% of variance in the result represented sizes of bedrooms, cost of housing and nearness of house to shopping facilities loaded highly on satisfaction with sizes of bedrooms in the house (0.965), nearness of house to shopping facilities (-0.874), satisfaction with electrical services in the residence (0.728) and satisfaction with the cost of

acquiring/rentage of residence (0.673). The fourth factor which accounted for 12.68% of variance in the result represented location of residence, children's school, place of work and sizes of living/ dining spaces loaded on satisfaction with nearness of house to children's (0.724), satisfaction with nearness of house to place of work (0.683), satisfaction with sizes of living/dining spaces(0.613), satisfaction with location of residence (-0.613) and satisfaction with natural lighting and air circulation in living and bed rooms (-0.557).

Table 10.17: Dimensions of Residential Satisfaction Description in the Shell Housing Estate

Factors	Housing Attributes	Factor Loading
Factor 1: Management of Estate facilities, Water Supply and Number of Bedrooms,	Satisfaction with the Number of Bedrooms in the Residence	-0.556
	Satisfaction with Water Supply and Sanitary Services in the residence	0.607
	Satisfaction with nearness of house to Recreation / Sporting Facilities	0.948
	Satisfaction with the Distance to Place of Work	0.978
	Satisfaction with Business and Job opportunities within and around the Estate	0.943
	Satisfaction with the level of Communal Activities in the Housing Estates	0.980
	Satisfaction with the Residence in relation to your Culture	0.603
	Satisfaction with Rules and Regulations within the Housing Estate	0.877
	Satisfaction with Management and Maintenance of facilities in Housing Estate	0.945
	Satisfaction with the state of Cleanliness of the Housing Estate	0.945
Factor2: Housing Unit Attributes , Provision of Electrical access and Urban Services	Satisfaction with the level of Noise in the Housing Estate	.0.925
	Satisfaction with the Sizes of Cooking and Storage Spaces	0.591
	Satisfaction with Bath and Toilet facilities in the Residence	-0.712
	Satisfaction with the Type of Building Materials Used	0.836
	Satisfaction with Electrical Services in the Residence	-0.652
	Satisfaction with nearness to House to Public Infrastructure and Urban Services	0.921
	Satisfaction with the Level of crime and anti-social activities in the Housing Estate	0.921
	Satisfaction with Security of life and Property in the Housing Estate	0.921
Factor 3: Sizes of bed rooms , cost of housing and nearness of shopping facilities	Satisfaction with the Sizes of bedrooms in the house	0.965
	Satisfaction with the Cost of Acquiring/ Rentage of Residence	0.673
	Satisfaction with proximity to Shopping Facilities from Residence	-0.874
Factor 4: Sizes of living/	Satisfaction with nearness of house to Children's School	0.724

dining spaces and bedroom, location of children's school and place of work	Satisfaction with the Sizes of Living and Dining Spaces	0.613
	Satisfaction with the Location of Residence	-0.613
	Satisfaction with Natural lighting and air circulation in Living and bed rooms	-0.557
	Satisfaction with the distance to Place of Work	0.683

The examination of dimensions of residential satisfaction across the different strategies shows an interesting pattern. In the Core, Turnkey, PPP and Shell housing estates, the strong feelings attached to physical attributes of housing units, location of neighbourhood facilities and management of estate facilities have been identified. It can also been seen from the result that the provision of housing services, sizes of interior spaces and security were the other key constructs that were identified and named as key factors that can be used to describe residential satisfaction in the estates provided through the Core and Turnkey delivery strategies. Whereas, in the Core and Turnkey housing estates three distinct dimensions of evaluation of residential satisfaction are identifiable, four factors were found to be fundamental to how the respondents in the Shell and PPP housing construed residential satisfaction. Specifically, a closer examination of the four dimensions of residential satisfaction evaluation in the PPP and Shell housing estates reveals that in each of the factors, housing unit attributes, housing services, location of facilities estate management variables were all loaded. This is an indication of the importance the respondents attached to these housing attributes.

10.5.2 Comparison of Dimensions of Residential Satisfaction Evaluation across the different Strategies

The examination of dimensions of residential satisfaction across the different strategies shows an interesting result. In the Core, Turnkey, PPP and Shell housing estates, there appear to be strong feelings attached to physical and spatial attributes of buildings, location of neighbourhood facilities and management of estate facilities among the respondents. From the result (Table 10.18), it can be seen that the provision of housing services, sizes of interior spaces and security are the key factors that can be used to describe residential satisfaction in the estates provided through the Core and Turnkey housing delivery strategies. It was found that whereas, in the Core and Turnkey housing three distinct dimensions of evaluation of residential satisfaction are identifiable, while four dimensions were identified in both the PPP and Shell housing strategies.

Specifically, the result shows that the respondents in the Core housing evaluated residential satisfaction based on spatial and physical attributes of buildings, provision and maintenance of services and facilities, level of security, and sizes of bed rooms, similar result was obtained in the turnkey housing where the respondents construed residential satisfaction evaluation on three key factors of physical attributes of buildings, location of facilities, sizes of interior spaces and provision of housing services. On the other hand, four factors were found as being fundamental to how the respondents in the Shell and PPP housing construed residential satisfaction. An examination of the four dimensions of residential satisfaction revealed that in each of the factors, housing unit attributes and housing services, location of facilities and management of estate variables were all loaded.

Table 10.18: Summary of Result of Factor Analysis on Residential Satisfaction across the Strategies

Housing Delivery Strategies			
Factors	**Core Housing**	**Turnkey**	**PPP**	**Shell**
Factor 1	Physical and locational characteristics of buildings, provision and maintenance of services and facilities.	Physical and locational characteristics of residence and management of facilities.	Physical and locational characteristics of residence and management of facilities.	Physical characteristics, of residence water supply and management facilities in the estates water.
Factor 2	Security	Sizes of interior Spaces and cost of housing	Provision of housing services and location of facilities	Housing unit attributes , provision of electrical access and urban services
Factor 3	Size of Bedrooms	Provision of Housing Services	Sizes of living/ dining water supply in residence and socio-economic environment of estate	Sizes of bed rooms, cost and location of residence in relation to shopping facilities.
Factor 4	-	-	Size of residence and cleanliness of the estates	Size and location of residence with respects to children's school and place of work

On why the differences in dimensions across the delivery strategies , one possible explanation is that differences in the levels of individual satisfaction with the residential environment could have been responsible for this. In fact individual differences, preferences and levels of involvement of the residents in the construction of the housing units and maintenance of facilities in the housing could have also influenced the differences in the dimensions of evaluation of

residential satisfaction. Other reasons for the differences may be linked to residents past housing experience, housing characteristics and the variables used in the assessment of residential satisfaction in this study

10.6 Summary

In this Chapter, it was found out that majority of the respondents in public housing estates surveyed were not satisfied with their residential environment, while small proportion indicated that they were satisfied. However, about one–third of the population sampled were neither satisfied nor dissatisfied with the residential environment. The respondents perceived moderate level of satisfaction with housing units attributes, socio-economic environment and estate management features. They however perceived low satisfaction level with the provision of housing services as well as location of neighbourhood facilities respectively. In housing provided in the different delivery strategies, it was found that the Core Housing strategy provided housing of highest satisfaction level; next to it were the Shell, Turnkey and PPP delivery strategies respectively. This result tends to suggest that satisfaction increases with increase involvement of the housing user in the development of the dwelling units. The policy implication is that future housing schemes should be designed to accommodate more inputs from intended housing users.

With regards to contributing factors to residential satisfaction, the result revealed that housing unit attributes were key source of residential satisfaction. Next to this were management of estate, the socio-economic environment of the estates, provision of housing services, and lastly location of neighbourhood facilities. Specifically, the principal attribute of residential satisfaction was found to be the level of privacy in the housing units; while the main source of dissatisfaction was nearness of house to shopping facilities. The policy implication is that public housing estates should be appropriately located in relation to neighbourhood facilities. There is also need to provide shopping facilities in public housing estates to improve residents' satisfaction.

The Chapter also examined the dimensions of evaluation of residential satisfaction in the study area. Using the Principal Component Analysis, the study found that the respondents construed residential satisfaction as physical and locational characteristics of buildings, provision and maintenance of services and facilities; Sizes of interior Spaces and cost of housing; location or residence in relation to social and economic facilities, security and state of cleanliness of the estates.

This finding is an indication of the importance residents of public housing attached to physical and spatial characteristics of housing units, accessibility to and maintenance of housing services and neighbourhood facilities as well as privacy. Therefore future public housing scheme should give adequate attention to these housing sub-components to ensure the success of public housing programmes in improving residents' satisfaction with public housing.

On the factors influencing residential satisfaction, the study conducted categorical regression analysis using the Optimal Scaling method to identify housing adequacy, organizational capacity of housing providers, housing delivery strategies, age, educational attainment, and additional space requirements in housing units, marital status, income, employment sector, length of residency in the housing estate and number of persons living in the residence as key factors that influenced residential satisfaction in the study area. This finding has particularly confirmed findings of previous studies socio-economic and demographic attributes of residents are strong predictors of residential satisfaction. In addition, the study shows that housing adequacy, housing delivery strategies and organizational capacity of housing providers are strong predictors of residential satisfaction. In terms of policy implication, this finding is vital in suggesting that public housing providers should have requisite organisational capacity in engaging appropriate and efficient housing delivery strategies in the provision of satisfactory public housing.

Finally, it was also found out that in all the housing, result of the categorical regression analysis showed that there were perfect positive relationship between residential satisfaction and housing adequacy. This suggests that the concepts of residential satisfaction and housing adequacy may as well be considered as closely related concepts with one serving as a surrogate for the other. It also suggests housing adequacy connotes residential or housing satisfaction among occupants of public housing in the study area. The policy implication of this is that in public housing, attributes of adequate and satisfactory housing as used in this study can be considered as being similar, and thus the provision of adequate housing can result in residents' satisfaction. In housing research, the above finding implies that housing adequacy or residential satisfaction can be used in the evaluation of the performance of public housing from the users' perspective.

In summary, the chapter has shown that the key housing attributes and facilities whose improvement can enhance residential satisfaction in public housing are neighbourhood facilities, housing services, socio-economic environment as well as proper management of housing estates as the study indicates that these attributes were responsible for low residential satisfaction in the study area. Consequently it is suggested that housing providers should collaborate with residents'

CDAs to evolve an efficient mechanism in the provision and maintenance of basic services, amenities and facilities in public housing estates. Also all housing elements with moderate and low contribution to residential satisfaction should be upgraded through good housing design practice in future public housing schemes, as this will enhance residential satisfaction in public housing estates in the study area.

CHAPTER ELEVEN

RESIDENTS' SATISFACTION WITH LIFE IN PUBLIC HOUSING

11.0 Introduction

Current literature in housing studies as discussed in this study have established the fact that public housing schemes are social programmes meant to address poor housing situation and improve on the quality of life of residents. Hence, an evaluation of public housing without the examination of the outcome of public housing schemes on the quality of life of beneficiaries may be considered incomplete. It is for this reason that satisfaction with life in public housing was used as a surrogate for investigating the quality of life of residents in public housing estates in the study area. This Chapter presents and discusses result of the analysis of respondents' satisfaction with life in public housing. The data used in the analysis were derived from the housing unit survey questionnaire.

The Chapter begins with an examination of the respondents' satisfaction with life in all the housing estates sampled. Next is the assessment of satisfaction with life across the different housing delivery strategies. Also, factors influencing satisfaction with life in all the housing estates are identified and discussed. The next section of this Chapter examines the relationship between housing adequacy, residential satisfaction and satisfaction with life in public housing. As well, the result of discriminant analysis of which housing attributes differentiated between respondents who were satisfied and those who were not satisfied with life in the public housing estates are presented. Finally, the Chapter presents a comparative analysis of satisfaction with life across the different housing delivery strategies; and ends with summary of findings and the policy implication.

11.1.1 Satisfaction with Life in all the Housing Estates

The evaluation of the respondents' satisfaction level with life in housing provided in public housing was carried out, and the discussion on this involved the presentation of the result on respondents' satisfaction with life in all the housing estates put together and across housing estates provided through the different housing delivery strategies separately. Figure 11.1 shows the respondents' satisfaction with life in all the public housing estates sampled in the survey. An examination of this result reveals that most of the respondents were satisfied with life in public housing. This claim is affirmed by the result which shows that 53.0% of the respondents were

satisfied, 7.0% were very satisfied, 3.0% were dissatisfied and 1.0% of respondents felt very dissatisfied with life in the housing estates. However, 36.0% of the respondents claimed that they were neither satisfied nor dissatisfied. This result clearly shows that a good majority (60.0%) of the respondents were satisfied while only small fractions (4.0%) were dissatisfied with life in the public housing estates sampled.
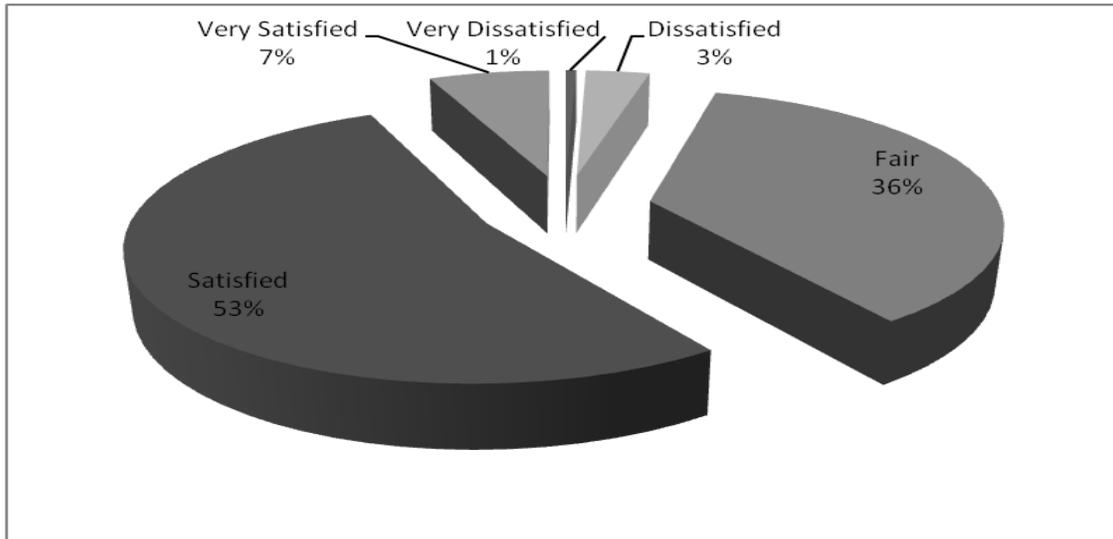
Figure 11.1 Residents' Satisfaction with Life in Public Housing

11.1.2: Satisfaction with Life across the different housing Delivery Strategies

Across the four housing delivery strategies, the result (Figure 11.2) shows that majority (61.40%) of the respondents in Core housing were satisfied, 1.10% of the respondents were dissatisfied with life in the estate, while 36.50% felt they were neither satisfied nor dissatisfied. Also in the Turnkey housing estates, 56.30% of respondents claimed they were satisfied, 5.8% indicated that they were dissatisfied while 38.0% of the respondents were neither satisfied nor dissatisfied with life in their residences. In the PPP housing estate, 78.3% of the respondents were satisfied and 21.7% were neither satisfied nor dissatisfied with life in the housing estate, 90.0% of the respondents claimed they were satisfied while 10.0% were neither satisfied nor dissatisfied with life in this estate.

This result clearly shows that greater percentage of respondents in Shell and PPP housing estates were satisfied with life in these estates. However, it is obvious from the result that no respondents in these two estates felt very satisfied with life. Going by evidence in the result that the highest proportion (10.1%) of respondents who were very satisfied with life lived in the Core

housing, one can infer from the result that respondents in this estate perceived the highest level of satisfaction with life. But, generally speaking, it is clear from the result that most of the respondents were satisfied with life in all the estates. This tends to suggest that residents in public housing in the study area were reasonably satisfied with the quality of life in the estates.
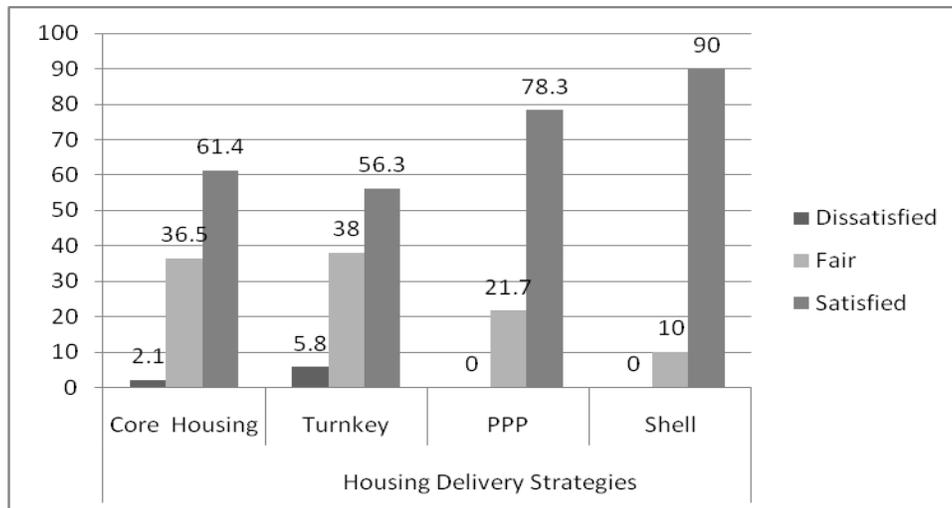
Figure: 11.2: Satisfaction with life across the different Housing Delivery Strategies

Going by earlier findings in Chapters Nine and Ten which indicated that the Core housing strategy provided the most adequate and satisfied housing, the largest of proportion respondents who indicated that they were very satisfied with life lived in the Core housing. However, evidence in this Chapter shows that the largest proportion of respondents who were satisfied with life lived in Shell housing, even though respondents did not express the highest level of housing adequacy and residential satisfaction. Also the result shows that next to respondents in Core housing, a proportion of respondents in the Turkey housing indicated that they were very satisfied with life in the housing estates, but the least proportion of those who were satisfied with life lived in Turnkey housing estates. Interestingly, no respondent in the Shell and PPP housing estates felt very satisfied or dissatisfied with life in their respective housing estates. But next to those in the Shell housing estate, high percentage of the respondents in the PPP housing expressed satisfaction with life in the housing estate.

This result can be on attributed to the predominant proportion of high income earners in the Shell housing estate as Stam and Ruut (2007) associated improved satisfaction with life to increasing individual income and household savings. This finding is an important one because it provides support to the notion that the quality of residential environment is just one of the many factors that contribute to satisfaction with life, thereby underscoring the strong influence of factors

outside housing environment such as income, employment; social ties and other factors upon the quality of life. In addition, evidence in this chapter shows that adequate housing and high level of residential satisfaction have strong relationship with satisfaction with life in public housing in the study area. This finding notwithstanding, it is worthy of note that in this survey the respondents, generally perceived high satisfaction level with life in public housing estates investigated.

One possible explanation for the result on satisfaction with life across housing provided through the four housing delivery strategies is that the proportion of the respondents who expressed satisfaction with life in this study increased with reduction in the number of respondents. It is evident from the result that respondents in the Shell housing with the least population had the highest proportion (90%) of those who claimed they were satisfied with life while the Turnkey strategy has the least proportion (56.20%) of respondents who were satisfied with life in the housing estates. This suggests that the number of respondents probably influenced this result. Going by the result on level of adequacy and residential satisfaction, which indicated that respondents in the Core housing perceived housing provided as the most adequate, and thus, expressed the highest level of satisfaction with their residential environment compared to respondents in the other three strategies, one may conclude that respondents in the Core housing perceived relatively higher level of satisfaction with life. However, it is worthy of note that the above result is consistent with the view that satisfaction with life in public housing in the study area may not be on account of housing adequacy and residential satisfaction alone.

An examination of the socio-economic characteristics of the respondents in the Shell housing estate (see Table 8.4, Table 8.6 and Table 8.8) for instance, shows that most of the respondents were high income earners, highly educated and owner occupiers compared to respondents in the Core housing who were predominantly low and middle low income earners. This suggests that the relatively high proportion of respondents who were satisfied with life in the Shell housing estate may have been influenced by their socio-economic attributes. This finding tends to provide support to the notion that quality of life is influenced by not only housing environment, but also by a gamut of other factors. It is also consistent with the notion in (Westaway, 2006) that some individuals rate their quality of life very good even in extremely poor physical living conditions whilst others rate their quality of life poor even though their environmental living conditions are excellent. This clearly underscores the limitations of subjective approach to evaluation of the physical environment.

11.2.0 Variation in Satisfaction with Life in all the Housing Estates

The study also examined the differences in satisfaction with life in all the housing estates along the line of personal and housing characteristics. It was for this reason that Mann-Whitney U and Kruskal Wallis Tests were conducted. The individuals' scores on satisfaction with life was the dependent variable while individual satisfaction and housing adequacy scores, socio-economic and demographic characteristics of the respondents (sex, age education, marital status, and employment, and income, length of residency, tenure and number of person living in the residence) were the independent variables. The test result revealed that difference in satisfaction with life by sex (U= 45.500, W= 51.500, Z=-0.357, P>0.05), age (λ^2 =4.625, df=4, P>0.05), marital status (λ^2 =4.154, df=4, P>0.05), level of educational attainment(λ^2 =1.894, df=4, P>0.05), employment sector (λ^2 =2.543, df=4, P>0.05) and additional space requirements in the housing units (λ^2 =8.871 df=4, P>0.05) are not statistically significant. This implies that that difference in satisfaction with life in the housing estates were not due to sex, age, marital status, level of educational attainment, employment sector and additional space requirements in the housing units.

In contrast, differences in residential satisfaction by housing delivery strategies (λ^2 =17.291, d.f=4, P<0.05), personal income (λ^2 =10.654, df=4, P<0.05), number of persons living in the residence (λ^2 =11.300, df=4, P<0.05), length of residency (λ^2 =13.955, df=4, P<0.05), tenure (λ^2 =55.183, d.f=4, P<0.05), state of repair of residence (λ^2 =46.746, df=4, P<0.05), housing adequacy(λ^2 =74.265, df=4, P<0.05) and residential satisfaction (λ^2 =89.103, df=4, P<0.05) are statistically significant. This result goes to suggest that differences in satisfaction with life in this study may be as a result of variation in income, length of residency in the housing estate, tenure, state of repairs of the residence, housing adequacy and residential satisfaction as well as housing delivery strategies. This indicates that these variables are most likely predictors of respondents' level of satisfaction with life in public housing in the study area, and thus, can be used in the subsequent analysis.

11.2.1 Factors Affecting Satisfaction with Life in all the Housing Estates

In identifying the factors affecting satisfaction with life in all the housing estates, which is one of the key objectives of this study and necessary in predicting the outcome of public housing provision on the life of beneficiaries; Categorical Regression Analysis was carried out using the optimal scaling method with the criteria for convergence set at 0.00001. The data used were individual satisfaction with life scores as the dependent variable and respondent's sex, age group,

marital status, level of education, employment, personal average monthly income, number of persons living in the residence, length of residency, tenure, additional space requirements in the housing units, state of repairs of residence, organizational capacity, housing delivery strategies as well as individual housing adequacy and residential satisfaction scores as independent (predictors) variables. The result of the categorical regression analysis shows that much of the variance in the satisfaction with life is explained by the regression model with Multiple R = 0.652, Adjusted R Square = 0.426 and the R Square value of 0.346.This implies that the regression model used explains 34.6%of the variance in satisfaction with life in all the housing estates. The result also shows (F=5.330, d.f. =3 P=0.000), which also implies that the result is statistically significant and the regression model is statistical significant at P<0.0005.

On the contributions of each of the independent variables in predicting satisfaction with life, Table 11.1 shows that of the 15 independent variables included in this regression model, 13 of them were found to be significant predictors of satisfaction with life. The variables in order of their contributions include residential satisfaction (Beta=0.399, F=74.434, P=0.000), tenure (Beta=0.224, F=28.003, P=0.000), housing adequacy (Beta=0.196, F=16.485, P=0.000), housing delivery strategies (Beta=0.193, F=16.164, P=0.000), length of residency (Beta = -0.143, F=14.732; P =0.000), income (Beta=-0.126, F=10.932, P=0.000) and age (Beta = 0.125, F=10.124; P =0.000). Others are level of educational attainment (Beta=0.116, F=9.945, P=0.000), state of repair of residence (Beta=110, F=8.144, P=0.005), employment sector (Beta=0.083, F=4.877, P=0.000), number of person living in the residence (Beta=0.083, F=5.132, P=0.000) and additional space requirement (Beta=-0.068, F=3.521, P=0.001). This result shows that residential satisfaction is the strongest predictor of satisfaction with life and thus a key contributor to explaining the quality life of residents in all the public housing sampled However, sex, marital status and organizational capacity of housing providers appear not to make significant contribution to predicting satisfaction with life in public housing. Comparing the above result with that obtained in Section 11.1.3, it is obvious that sex and marital status are not predictors of satisfaction with life in public housing in this study.

Table 11.1: Regression Coefficients of Predictors of Satisfaction with Life in all the Housing Estates

	Standardized Coefficients		df	F	Sig.
Independent Variable	Beta	Std. Error	Beta	Std. Error	Beta
Sex	.075	.036	1	4.277	.039
Age	.125	.039	4	10.124	.000*
Marital Status	.051	.038	4	1.819	.124
Level of Education Attainment	.116	.037	6	9.945	.000*
Employment Sector	.083	.038	3	4.877	.002**
Income	.126	.038	4	10.932	.000*
Length of Residency	-.143	.037	4	14.732	.000*
Additional Space requirements in the Housing Units	-.068	.036	8	3.521	.001*
Tenure	.224	.042	4	28.003	.000*
Number of Persons Living in the Residence	.083	.037	5	5.132	.000*
State of Repairs of Residence	.110	.039	1	8.144	.005**
Housing Delivery Strategies	.193	.047	2	16.614	.000*
Housing Adequacy	.196	.048	6	16.485	.000*
Residential Satisfaction	.399	.046	10	74.434	.000*
Organizational Capacity	.059	.042	1	1.968	.161

Dependent Variable: Satisfaction with life in the Housing Estate   *Significant predictors (P<0.0005), ** Significant at P<0.005

The finding on factors affecting respondents' satisfaction with life (quality of life) in public housing is quite revealing and has vast policy implication. Basically, it implies that for public housing schemes to be of positive impact on the quality of life of beneficiaries, tenure options, age and income of target population should be given adequate consideration. In addition, appropriate and efficient housing delivery strategies should be engaged in providing housing with attributes that reflects the levels of adequacy and ensures satisfaction required to sustain decent living in the housing estates as long as possible, and thus reduce mobility where and when possible.

11.2.2 Discriminants of Satisfaction with life in all the Housing Estates

This study also investigated on which which   attributes will discriminate between those who are satisfied with life and those who are not. Therefore, this section reports the result of analysis on what attributes differentiated between respondents who were satisfied and those who were not satisfied with life in the housing estates. For the purpose of carrying out this analysis, the perception of satisfaction with life in the housing estates was recorded, with responses of very dissatisfied and dissatisfied recoded as not satisfied and responses of satisfied and very satisfied

recoded satisfied, while fair was re-coded neither satisfied nor dissatisfied. Discriminant analysis was carried out basically to identify the attributes which distinguished those who were satisfied from those who were not satisfied with life in the housing estates. This analysis was carried out using individuals' satisfaction with life scores as the dependent variable and individual adequacy and satisfaction scores on the housing sub-components: housing unit attributes, housing services and infrastructure, neighbourhood facilities, socio-economic environment and management of estates and socio-economic characteristics of respondents (age, sex, marital status, level of educational attainment, employment sector, income), length of residency in the housing estate, state of repair of residence, tenure, number of persons living in the residence and housing delivery strategies as independent as variables. The stepwise method using the Wilk's lambda and the F value set at 3.84 for entry and 2.71 for removal.

The result (Table 11.2) shows that eight factors best discriminated respondents that expressed satisfaction with life from those who expressed dissatisfaction. They were the factors with significance of less than 0.05, which suggests that they were as a resulted of significant group differences. These factors included satisfaction with management of estate (Wilks' lambada= 0.824, $F_{(2,514)}$= 54.934, P<0.01) satisfaction with housing unit attributes (Wilks' lambada= 0.751, $F_{(2,1026)}$= 39.458, P< 0.01), state of repair of residence (Wilks' lambada= 0.714, $F_{(2, 1024)}$= 31.36 P< 0.01), satisfaction with housing services (Wilks' lambada= 0.679, $F_{(2, 1022)}$= 27.30 P< 0.01), tenure (Wilks' lambada= 0.650, $F_{(2, 1020)}$= 24. 521, P< 0.01), length of residency in the housing estate(Wilks' lambada= 0.634, $F_{(2, 1018)}$= 21.698, P< 0.01), housing delivery strategies(Wilks' lambada= 0.623, $F_{(2, 1016)}$= 19.401, P< 0.01), and satisfaction with socio-economic environment of housing estates(Wilks' lambada= 0.611, $F_{(2, 1014)}$= 17.73, P< 0.01).

These eight discriminants were grouped under two discriminant functions. Discriminant function 1 was extracted; explaining 87.5% of variance in the result. Wilk's lambada was significant for the function (λ^2 =251.850, df=16, P<0.01) (see Appendix 29). This suggests that the means of the function were equal across groups and the discriminant function does better than chance at separating the groups. The structure matrix (Appendix 29) shows the correlation of each of distinguishing variables with the discriminant function. An examination of this Table 11.2 reveals that the largest standardized coefficient for function 1 was satisfaction with management of the estates, indicating that it had the greatest discriminating ability between those who were satisfied and those who were not satisfied with life in the housing estate.

Table 11.2: Discriminant Analysis of Satisfaction with life in all the Housing Estates

Step	Entered	Wilks' Lambda							
		Statistic	df1	df2	df3	Exact F			
						Statistic	df1	df2	Sig.
1	Satisfaction with Management of Estate	0.824	1	2	514	54.934	2	514	.000
2	Satisfaction with Housing Unit Attributes	0.751	2	2	514	39.458	4	1026	.000
3	State of Repair of Residence	0.714	3	2	514	31.36	6	1024	.000
4	Satisfaction with Housing Services	0.679	4	2	514	27.3	8	1022	.000
5	Tenure	0.65	5	2	514	24.521	10	1020	.000
6	Length of residency in the Housing Estate	0.634	6	2	514	21.698	12	1018	.000
7	Housing delivery strategies	0.623	7	2	514	19.401	14	1016	.000
8	Satisfaction with Socio-economic environment of housing estates	0.611	8	2	514	17.73	16	1014	.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.

a Maximum number of steps is 40.

b Minimum partial F to enter is 3.84.

c Maximum partial F to remove is 2.71.

d F level, tolerance, or VIN insufficient for further computation

Appendix 29 also shows that the canonical variable differentiated the respondents who expressed satisfaction and those who expressed dissatisfaction with life in the housing estates, while Table 11.3 shows that this variable had scores of 0.542 for the respondents that were satisfied and -2.151 for those who were not satisfied with life in the housing estates.

Using the values presented in Appendix 29, the discriminant function for the satisfied respondents is given as:

S=0.622SEM + 0.499SHUA -0.440SHS+0.363TEN+0.316SRR+0.305HDS+0.250SSE-0.076LR

Where S= Satisfied with life in the housing estate

SEM, SHUA, SHS, TEN, SRR, HDS, SSE and LR are respondent's scores on each discriminant.

If a respondent's score on the discriminant function is closer to 0.542, then the respondent was satisfied with life in the housing estate. If the respondent's score on the discriminant function is closer to -2.151, then the respondent was not satisfied with life in the housing estate. However, using a cut score, which is usually halfway between the two centroids in Appendix 29, one can figure out which group a respondent belongs to. In this case the cut score is given as:

$$Cut\ Score = (-2.151+0.542)/2 = -1.609.$$

If an individual person's score on the discriminant function (calculated by substituting in their scores on the discriminant in the discriminant function earlier written) above is -1.609, then the respondent was satisfied with life. If their discriminant function score is below, then the respondent was not satisfied with life in the housing estate.

The discriminant functions were used to group the respondents. Table 11.3   shows that 71.8% of the respondents were correctly grouped based on their responses on satisfaction with life in the public housing estates. An examination of Table 11.3 further reveals that 71.9% of the respondents who expressed satisfaction with life were correctly grouped, with 4.2% and 23.9% put in the wrong groups of respondents that were not satisfied and those who were neither satisfied nor dissatisfied respectively. As well, 61.9% of those who were not satisfied were correctly grouped, with 38.1% wrongly put in the group of respondents who were neither satisfied nor dissatisfied. When cross-validated, 71.6% of those who were satisfied were correctly grouped, while 57.1% of the respondents who were not satisfied were correctly grouped, giving an overall average of 70.6% of respondents correctly grouped. This suggests that the variables were at least effective in discriminating between those who were satisfied with life in the public housing estates and those who were not satisfied.

Table 11.3   Classification of Results (b, c)

Satisfaction with Life in Housing Estates			Predicted Group Membership			Total
			Neither Satisfied nor Dissatisfied	Not Satisfied	Satisfied	
Original	%	Neither Satisfied nor Dissatisfied with Life	72.6	9.1	18.3	100.0
		Not Satisfied	38.1	61.9	.0	100.0
		Satisfied	23.9	4.2	71.9	100.0
Cross-validated(a)	%	Neither Satisfied nor Dissatisfied with Life	70.4	9.1	20.4	100.0
		Not Satisfied	42.9	57.1	.0	100.0
		Satisfied	23.9	4.5	71.6	100.0

a Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
b 71.8% of original grouped cases correctly classified.
c 70.6% of cross-validated grouped cases correctly classified.

The result provides support to earlier findings in Chapter Ten indicating that more respondents were satisfied with management of housing estates (see Table 10.7). This suggests that the general cleanliness of the estates, rules and regulations regarding residency, management and maintenance of facilities and general security of life and property in the housing estates were better in estates where respondents were satisfied with life than in housing estates were respondents were not satisfied with life . This implies that respondents who were satisfied with life lived in housing estates with good management of housing estate, housing with good housing

unit attributes, structurally sound with housing services and favourable socio-economic environment. It also implies that the type of tenure, length of residency in the housing estate and the strategy used in housing provision can discriminate between those who are satisfied with life and those who are not. This result has further provided support to the finding suggesting that housing characteristics (housing adequacy), state of repair of residence, tenure length of residency in the residence and housing delivery strategies are predictors of residential satisfaction.

The above result has vast implication for public housing policy. Principally, the result implies that the level of management framework in public housing is fundamental to residential satisfaction and by extension of great influence to the quality of life of residents. Therefore, public housing policy formulators, programme designers and executors should pay priority attention to the establishment of functional and efficient maintenance and management framework in public housing estates to enhance the quality of residential environment in public housing for the benefit of residents and surrounding neighbourhood.

11.3 Summary

The respondents' satisfaction with life in all the housing estates and across the four housing delivery strategies as well as the factors influencing this was the focus of this Chapter. It was found that majority (60.0%) of the respondents were satisfied while only small fractions (4.0%) were dissatisfied with life in the housing estates. Across the different housing delivery strategies, the highest proportion of respondents who felt satisfied with life in the housing estates lived in the Shell housing estate. Next were those who lived in the PPP housing estate and the least proportion of respondents who were satisfied with life lived in Turnkey housing estates. However, the highest proportion of those who were very satisfied with life in public housing in this survey lived in the Core housing estate, and next were those in Turnkey housing estates. Interestingly, none of the respondents in the Shell and PPP housing estates felt very satisfied with life in their residences. Generally speaking, this Chapter has revealed that most respondents in newly constructed public housing in Ogun State were satisfied with life, and thus can be considered to have perceived good quality of life. This finding can be considered to have provided support to the notion that adequate housing and residential satisfaction have positive relationship with satisfaction with life (quality of life) in public housing in the study area.

Result of the categorical regression analysis revealed that in all the housing estates sampled, residential satisfaction, tenure, housing adequacy, housing delivery strategies, length of residency in the housing estates, income and age of respondents were factors that influenced satisfaction with life. This implies that in addition to income, age and how long occupants had lived in a particular residential environment; housing attributes, level of satisfaction of residents with the housing environment as well as the strategy used in public housing provision had influence on residents' perception of quality of life in public housing. Thus, for improved quality of life of occupants of public housing the above listed factors should be given adequate consideration in public housing policy formulation and programme implementation.

Also eight factors, namely: satisfaction with management of housing estates, satisfaction with housing unit attributes, state of repair of residence, satisfaction with housing services, tenure, length of residency in the housing estate, housing delivery strategies and satisfaction with socio-economic environment of housing estates were identified as the factors that best discriminated between the respondents who were satisfied with life in the housing estates and those who were not. However, satisfaction with estate management had the strongest discriminating value in all the housing estates, suggesting that the level of management of public housing estate play key role in determining the level of respondents' satisfaction with life in public housing. Therefore, there is need for the adoption of adequate framework for the management and maintenance of facilities and services in public housing estates in the study area.

CHAPTER TWELVE

SUMMARY, SYNTHESIS AND CONCLUSIONS

12.0. Introduction

This last Chapter of the thesis aggregates the key findings and issues in this research and their implications. The Chapter begins with an overview of the research. Next is the summary of key findings as well as synthesis of key issues arising from the study. The implications of study findings are also presented and discussed. The areas of further research on the subject matter are highlighted before concluding remarks are made.

12.1. Overview of Research

Much has been written on public housing in Nigeria in particular and Developing Countries in general. However, very little is known and documented on the objectives and outcome of public housing as social intervention programmes in Ogun State, south west Nigeria. Specifically, much is not known on the outcome of different public housing delivery strategies and the extent to which past and present housing schemes have achieved and/or are achieving the intended goals and objectives in Ogun State in particular and Nigeria in general. As a result, it has become increasingly difficult indentifying the most viable public housing provision strategies and options in addressing housing need of the different socio-economic groups as well as impact of public housing schemes on the quality of life of beneficiaries in Nigeria. In addition, there is paucity of empirical data on residents' perception of the adequacy level of public housing, and moreover, not much research work has been done to explore the plausibility and/or validity of programme theories in public housing in Nigeria. These are no doubt important for housing policy formulation, programme design and implementation, and particularly in identifying optimum efficiency and economics in the judicious allocation and use of resources in addressing housing challenges confronting most residents in the study area in particular and Nigerians in general. Also good understanding of the extent to which the assumptions and beliefs (underlying theories) on how public housing can lead to expected social impact is very important in knowledge creation and advancement in housing studies. It is against this background and the need for proper understanding of the outcome of various housing delivery strategies in public housing that

an in-depth evaluation of public housing in Ogun State was carried out. The research activities and findings are reported in this thesis.

As indicated earlier on, this study sought to evaluate public housing in Ogun State, Nigeria. In pursuant to this goal, Chapter One of this thesis outlined the following objectives of this study to include: (i) to assess the organizational capacity of public housing agencies and compare housing delivery strategies in the public housing in Ogun State (ii) to evaluate the characteristics of housing provided through public housing in the study area (iii) to analyze the socio-economic characteristics of the residents of selected housing estates developed through the four different housing delivery strategies in the public housing in the study area (iv) to examine residents' perception of the adequacy of housing provided through the different housing delivery strategies and the factors which influenced it and (v) to examine the overall residential satisfaction and satisfaction with life as well as factors which influenced these in the selected public housing estates in the study area.

With the above aim and objectives in mind, Chapter Two established the context of the study by providing basic information on the nature and structure of public housing policy and provisions in Ogun State. It is evident from that Chapter that current effort in public housing provisions in Ogun State was initiated out of government's desire to continuously seek pathways to addressing burgeoning housing challenge in the State. Therefore, the public housing under the administration of Gbenga Daniel in the State (May 2003- May 2011) was designed to achieve some fundamental objectives using different strategies. Information on the strategies and public agencies involved in public housing provisions were provided in that Chapter. These formed the basis for the formulation of research questions and objectives of the study.

The obvious starting point in situating this research within the broad spectrum of existing body of knowledge on evaluation of public housing as social intervention programme is the review of related literature. From the literature search on evaluation of social intervention programmes, several concepts, theories, approaches and levels of programme evaluation in general and public housing programmes in particular were identified in Chapter Three. This Chapter specifically established a link between evaluation of social programme and evaluation of public housing. It also identified various conceptual approaches used in the evaluation of public housing from where the current study draws its strength. The literature search revealed that goal-based,

summative and theory-based evaluation approach was suitable for this research in line with global trend in evaluation of social intervention programmes.

In view of the number of concepts, theories and approaches identified in the evaluation of social intervention programmes, there was need to establish direction, focus and limit for the study by developing a framework that encapsulates both theoretical and conceptual issues relevant to the current study. In Chapter Four, a framework based on theory-based evaluation approach and relevant underpinning concepts was developed and presented. The development of this framework provided the basis for the review of literature, data collection, analysis and discussion of the results and implication of findings.

Having established the framework for data collection, analysis and discussion of results and findings, it was apt to elucidate upon the methods used in the research design, data collection, presentation, processing, analysis and interpretations of results. From Chapter Five it can be seen that both qualitative and survey research methods were used in this study, and that the units of data collection and analysis were public housing organisations and housing units provided by them. This Chapter also identified the questionnaire as the key survey technique and interview guide and observation schedule as the two qualitative techniques used in the study. It was also indicated that both descriptive and inferential statistical as well as non statistical tools were used in the analysis of data collected from the field work and literature search. The results, interpretation of the results and findings as well as their implications were presented in Chapters Six, Seven, Eight, Nine, Ten, and Eleven in line with the aim and objectives of the study. The following sections present a summary of key findings, synthesis of key issues arising from the study and their implications, areas of further research and final conclusions respectively.

12.2 Summary of Key Findings
Generally, public housing schemes are viewed as projects and programmes initiated by government and implemented through different strategies. They are conceived principally as social intervention programmes expected to bring about a number of social impacts. The first ever integrated public housing programme under the current democratic dispensation was initiated in Ogun State in 2003. From the government's perspective, the provision of housing by its agencies through the Core housing, Turnkey, and PPP as well as Shell strategies will result in adequate housing for meeting housing need and improving the quality of life of different

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categories of people in the State. Therefore the goal of public housing was to provide adequate housing to different categories of people at affordable cost in response to high population growth especially in urban centres of the State. This goes to suggest that in Ogun State; too, public housing is conceived and implemented based on certain underlying assumptions on intended outcomes. However, even with previous housing programmes implemented in Ogun State, the State is still facing some critical housing shortages, and the problem is getting worse every day. Therefore there is need to examine the way the government in the State was approaching the issue of providing adequate and affordable housing for an expanding population in recent times. As discussed above, this research was aimed at assessing public housing provision in Ogun State between 2003 and 2011 in the integrated public housing programme. The focus was to examine the plausibility and/or validity of the programme theories in public housing provision in the study area as stated in Chapter Four of this thesis. This section therefore presents the summary of key findings in this study. The emphasis is on organizational capacity of public housing agencies, residents' perception of housing adequacy, residential satisfaction and satisfaction with life, which are the key issues examined in this study.

From the result of analyses of data gathered from the different sources in the course of this research endeavour, the key findings from the study can be summarised as below:

1. Majority (more than 60%) of respondents in the four public housing agencies perceived the organizational capacity of the agencies in public housing delivery as adequate. Whereas the MOH, OSHC and OPIC were rated as having higher management than resource capacity, GCDCL was rated as having higher resource than management capacity.

2. Majority of housing units provided by the four housing agencies were single family bungalows of 3-bedroom category and were constructed mainly with cement Sandcrete blocks, aluminium burglary proof windows, and long span aluminium roofing sheets. Most of the housing units depended on water from boreholes and public power supply for daily domestic water and electricity supplies respectively.

3. Most of the housing estates lacked landscaped open spaces, social and economic infrastructure such as educational, shopping, recreational and health facilities. Although, street lights and parking spaces were present in all the housing estates, only the Core housing estate had a health centre, as the PPP housing estate was the only estate with children's play areas and maintenance office.

4. Most residents sampled were married, educated, middle-aged, owner-occupiers employed and public sector workers. Majority of low and high income earners lived in the Core housing and Shell housing estates respectively while most of the middle–high income earners lived in the PPP with Turnkey estates providing housing mainly for the middle-low income earners.

5. Most respondents in all the housing estates evaluated the cost of acquisition or rentage of houses in the public housing estates sampled in the study area as affordable.

6. Majority (58.61%) of respondents in all the housing estates evaluated housing provided as inadequate. Housing unit attributes were evaluated as the most adequate while neighbourhood facilities were rated as the least adequate. The level of privacy was the most adequate housing attribute with the provision of recreational facilities were rated as the least adequate housing attributes.

7. The Core housing strategy was perceived as having provided the most adequate housing, while Turnkey strategy was ranked as having provided the least adequate housing by the respondents. Housing unit attributes also contributed most with neighbourhood facilities contributing the least to overall housing adequacy.

8. Housing delivery strategies, additional space requirement in the housing units, age of respondents, organizational capacity, personal income, tenure status, education, marital status, and employment sector as well as residence type were significant factors influencing residents' perception of housing adequacy in all the housing estates.

9. Residents in all the four strategies construed housing satisfaction along two key dimensions: (i) ambient condition, housing services and security, and (ii) the provision of educational, shopping and recreational facilities.

10. More than one-half (54%) of the respondents in all the housing estates felt dissatisfied with residential environment in the estates. They perceived the highest level of satisfaction with housing unit attributes and least with the location of neighbourhood facilities. The level of privacy was ranked as having contributed most while the nearness of dwelling units to shopping facilities contributed the least to overall residential satisfaction. Respondents in the Core housing were ranked as the most satisfied with their housing environment while those in the PPP housing were the least satisfied. Housing adequacy, organizational capacity, housing delivery strategies, age, additional space requirement in the housing units, and level of educational attainment, employment sector

as well as tenure status were factors that influenced residential satisfaction in public housing in this study.

11. Respondents in all the housing estates construed residential satisfaction along two key dimensions: (i) appearance and location of residence, and (ii) maintenance of facilities.

12. Most (60%) of the respondents in all the housing estates were satisfied with life. The highest proportion of those who expressed satisfaction with life lived in the Shell housing estate while those that lived in the Turnkey estates perceived the lowest level of satisfaction with life. Residential satisfaction, tenure status, housing adequacy, housing delivery strategies, length of residency in the housing estates, income and age of respondents were key factors that influenced satisfaction with life in public housing in this study.

13. Satisfaction with management of housing estates, housing unit attributes, services, socio-economic environment of housing estates, state of repairs of residence, tenure, length of residency and housing delivery strategies best discriminated between the respondents who were satisfied with life and those who were not satisfied with life in the housing estates.

14. Core housing delivery strategy was rated as the most appropriate option for majority of respondents in Ogun State.

15. The adoption of multiple housing delivery options in the provision of adequate and satisfactory housing can influence the quality of life outcome of different categories of people residing in public housing estates in Ogun State.

12.3 Synthesis of Key Issues Arising from the Study

Based on the goal, objectives and findings of this research as presented above, a number of key issues emanating from this study were identified. First is the organizational capacity of public housing agencies and its influence on housing adequacy. Second is the level of adequacy of public housing. Another issue is whether the different housing delivery strategies met the housing need of different categories of people. Finally is whether the provision of adequate housing translated or related to quality of life as assumed by public sector policy makers and technocrats in Ogun State.

It is evident from the study that public housing agencies investigated had similar levels of organizational capacity in public housing provision as perceived by the staff. Of the four agencies investigated, OPIC was perceived as having the highest organizational capacity,

followed by GCDCL and MOH respectively while OSHC was perceived as having the lowest capacity. The observation that OPIC and GCDCL which are full-fledged profit-oriented organizations right from inception were rated higher than the MOH and OSHC that are partially profit making agencies, suggests that the more profit oriented a public sector housing agency is the higher it is rated on the capacity scale. Therefore, one may conclude that for higher organizational capacity, public housing agencies should strive to be more profit than welfare oriented.

Another issue related to the above is the idea that organizational capacity has influence on housing adequacy outcome in public housing. As far as possible, evidence in this study shows that this is supported by this research. This is based on the revelation that organizational capacity was a significant predictor of residents' perception of housing adequacy. This finding appears to be consistent with the finding in Chan et al (2006) indicating that the project manager's experience in running public housing projects and the competency of site labour influenced the quality outcome of public housing in Hong Kong.

From the underlying programme theory of public housing in the study area, it is assumed that the different housing delivery strategies would meet the housing need of different categories of people in the State. As indicated in the summary of finding above, the four strategies actually provided housing for the different categories of people across all socio-economic groups. Specifically, the survey shows that the Core housing and Shell strategies provided housing mainly for low and high-income earners, respectively, whereas the PPP and Turnkey provided the housing mainly for medium-income earners. The difference in the composition of residents in housing provided in the different strategies may be linked to the fact that each of the strategies were conceived to address the housing need of specific categories of people, which is probably why most of the low-income and high-income earners lived in the core and shell housing estates respectively.

Similarly, it was assumed that the use of different housing delivery strategies has influence on housing adequacy outcome. It is also evident in this study that residents in the four housing delivery strategies perceived different levels of housing adequacy, with housing provided in the Core housing strategy rated highest and housing provided through the Turnkey strategy rated lowest on the adequacy scale. Moreover, it was found that of the ten factors which contributed significantly to predicting housing adequacy; housing delivery strategies was indeed the strongest predictor of housing adequacy.

On whether, the similar levels of organizational capacity of public housing agencies and the different housing delivery strategies had translated to the provision of housing of the similar levels of adequacy in the State, findings show that residents of housing provided through the four strategies perceived different levels of adequacy. For instance, most respondents rated the housing as inadequate. In view of the observation that majority of the staff of the organizations perceived the organizations' capacity as adequate; one would have expected that housing provided by them also be rated as adequate by majority of the residents. In the same vein, it was also expected that OPIC which was rated highest in organizational capacity to have provided housing with highest rating on the adequacy scale in the Turnkey strategy, but surprisingly, housing provided through the Turnkey strategy was rated least on the adequacy scale, while contrary to expectation, the MOH that was ranked third on the capacity scale provided the highest rated housing through the Core housing strategy. This goes to suggest that similar organizational capacity does not necessarily translates to similar level of housing adequacy. A number of reasons can be given for the above result. Among such reasons are that the Turnkey strategy which was rated lowest on the adequacy was used by the OPIC, MOH and OSHC, and housing provided by OPIC was less than 20% of the sample, and thus, the relatively small sample of housing provided through the OPIC would not have made any significant difference on the adequacy of housing provided through the Turnkey strategy. Another possible explanation is that context (socio-economic, political, cultural) factors that were not examined in this study might have influenced the housing adequacy outcome in the study area. Most importantly, one can also say that difference between the study populations (residents) that evaluated the adequacy of housing provided in the estates and those (staff) who rated the level of adequacy of organizational capacity was responsible for this result.

It is also evident from the survey that the proportions of respondents in each of the strategies that rated the housing as adequate were not similar, as one would have expected. The difference in perception of housing adequacy across the strategies could be as a result of differences in housing characteristics, individual socio-economic attributes, housing preferences and tenure status as well as level of involvement of respondents in the development of housing units. This is based on findings which show that housing provided through the Core housing estate where majority of housing units were owner-occupied and residents were involved in the development of their dwelling units were rated higher on the adequacy scale than Turnkey and PPP strategies where most renters lived and residents were not involved in housing development process. This

goes to suggest that participation of end users in housing development processes and house ownership can enhance housing adequacy rating.

From the foregoing, one can conclude that housing delivery strategies have stronger influence on housing adequacy outcome than organizational capacity in public housing in Ogun State. Therefore, the notion that organizational capacities of public housing agencies and housing delivery strategies have influence on housing adequacy outcome is supported by this research.

Reflecting on the result of residents' satisfaction with the residential environment and generally with life in public housing, one may want to know whether the levels of adequacy as perceived by the residents translated and/or are related to perception of quality of life. Findings show that more than 50% of the respondents in the survey were not satisfied with the residential environment in public housing estates. As was obtained in housing adequacy, the Core housing strategy provided the highest rated housing on the satisfaction scale. Contrary to expectation, the PPP provided the least rated housing on the satisfaction scale instead of the Turnkey strategy which had the least adequacy housing as perceived by the residents. It is also evident that the levels of satisfaction varied according to the delivery strategies. This again suggests that this could be a direct consequence of the different levels of housing adequacy as perceived by the respondents, differences in residents' socio-economic and demographic characteristics and housing preferences as well as their individual previous housing experience. The seeming contradiction observed above may be due to the fact that there are slight differences in the composition of variables used in measuring housing adequacy and residential satisfaction in this research. Whereas variables measuring socio-economic attributes were used in the assessment of satisfaction, this group of variables were not included in the assessment of housing adequacy.

 It is quite interesting to know that in spite of the fact that majority of the respondents in the survey perceived housing provided as inadequate and were not satisfied with the residential environment in the estates; majority of them were generally satisfied with life in the housing estates. As expected, levels of satisfaction with life varied according to the strategies with the highest proportion of residents who were satisfied with life found in the Shell housing estate and the least in the Turnkey estates. This shows a seeming contradiction in the findings. Based on findings of previous studies (Galster, 1987; Elke, 2003; Park, 2006; Hanson, 2006), there is a direct relationship between adequate housing; residential satisfaction and quality of life. Therefore, one would have expected that majority of the respondents felt dissatisfied with life in line with the levels of housing adequacy and residential satisfaction. Similarly, one would have also expected that the Core housing strategy with the highest rated housing in terms of adequacy

and satisfaction had the highest proportion of residents that were satisfied with life. The reasons for this contradiction are not farfetched. From the literature review, it was found that housing and/or residential environment is just one component of quality of life indicators, it is therefore argued that the level of residential satisfaction perceived by the residents in this study could not have had overwhelming influence on their perception of satisfaction with life (quality of life). Other indicators such as income, education and work could have influenced the result. Indeed, examination of the levels of educational attainment, personal income and employment sector of the respondents (see Tables: 8.4; 8.5; 8.6) will reveal that most of the residents in the Shell and PPP estates were highly educated, non-public sector employees and high income earners, which goes to suggest that education, income and employment accounted for the result in satisfaction with life as indicated in this study. This finding is consistent with evidence in literature indicating that quality of life is a multi-dimensional concept (Fadda and Jiron, 1999; Bovaird and Elke, 2003). In addition, the findings indicate that the proportion of the residents who were satisfied with life decreases with increase in the number of respondents in the strategies. For example, the Shell housing with the least number of respondents had 90% of them indicating satisfaction with life while the Turnkey strategy with the highest contribution to the sample had about 56% of the respondents perceiving satisfaction with life. This also suggests that the proportion of the sample from each of the strategies in the survey might have influenced the outcome of quality of life assessment in this study.

Closely related to residents' perception of housing adequacy and residential satisfaction is how the residents construed housing adequacy and residential satisfaction in this study. There are copious evidence to suggest that the dimensions along which the residents construed these concepts were in agreement with literature, which indicates that housing environment can be evaluated along the physical and spatial attributes, locational suitability, efficiency of management framework (Onibokun, 1976; Ilesanmi, 2005, Fatoye and Odusanmi, 2009) and economic dimensions (Hanson et al, 2004; Groenhart, 2007).

With regards to the factors influencing perception of housing adequacy, residential satisfaction and satisfaction with life, findings show that residents' perception of housing adequacy was influenced by housing delivery strategies, additional space requirement in the housing units, age of respondents, organizational capacity, personal income, tenure status, education, marital status, and employment sector as well as residence type. This is in agreement with evidence in literature indicating that adequate housing varies according to cultural, social and economic variables, and consumer preferences (Ferrell et al, 1977; UN-HABITAT, 2006a; Obeng-Odoom,

2009).There is however no evidence in literature associating housing delivery strategies, education, marital status and employment with perception of housing adequacy. Similarly, housing adequacy, organizational capacity, housing delivery strategies, age, additional space requirement in the housing units, and level of educational attainment, employment sector as well as tenure status were identified as factors with significant influence on residential satisfaction in this study. Again, this is in agreement with previous studies suggesting that tenure status, socio-economic characteristics of residents and housing characteristics were predictors of residential satisfaction (Kaitilla, 1993; Lu, 1999; Kellecki and Berkoz, 2006; Salleh, 2008; Fatoye, 2009; Mohit et al, 2010). Although the above finding appears to be inconsistent with Stewrt and Peck (1985) linking residential satisfaction with length of residency, there are little evidence in contemporary literature linking housing adequacy, organizational capacity, housing delivery strategies, age, employment and education with residential satisfaction.

On the factors influencing residents' satisfaction with life (quality of life), evidence in literature abound linking residential environment, education, income, employment, age, household size with quality of life (Milbrath, 1997; Fadda and Jiron, 1999; Bashir, 2002). This is in line with findings of the current study. However, the assumption that organizational capacity of housing providers has influence on residents perception of satisfaction with life is not supported by this research.

Apart from the foregoing, there are other key issues of interest in this study. One of such is the conception of housing adequacy in this research. In a study of this nature, it is beneficial to examine how concepts are applied and measured. This is necessary from research and academic point of view. As already stated, the concept of housing adequacy as used in this research refers to safe, accessible, decent and affordable housing. It is on the basis of this conception that variables used in this study were selected and the attributes measured. Of interest in this study is how useful the way adequate housing was conceived of viewed and assessed in this study and if the variables selected were enough and well correlated. These issues were addressed as far as possible within the context of available evidence in this study. First, the Corrected Item-Total Correlation values of more than the recommended 0.3 obtained in Cronbach's alpha test Table for the 33 variables used in assessing housing adequacy suggests that the variables were correlated and measured the same thing. Second, the R^2 value (46.5%) in the regression model used in indentifying the predictors of housing adequacy shows that the regression model explained about 47% of the variance in housing adequacy. This is also an indication that the variables selected can be considered to be fairly correlated. Therefore, based on the above

evidence and the context of the present research, it can be concluded that the way housing adequacy was conceived of and the variables selected in this study were reasonably good.

Another important issue examined was how related is housing adequacy to other well known concepts such as residential or housing satisfaction as used in this research. The current study supports the notion that housing adequacy and residential satisfaction are well related and can be considered to be the same. This assertion is based on evidence in the study which shows that almost the same proportion of the respondents who felt that their housing was inadequate claimed that they were not satisfied with the housing environment in public housing estates surveyed. Also, the way the respondents construed adequate housing is related to how they construed residential satisfaction. Moreover, similar independent variables were found to have contributed significantly as predictors of both housing adequacy and residential satisfaction, but at different levels. Again, the categorical regression analysis (R^2 = 1.000, F=718909256; P=0.000) shows that adequate housing (Beta=1.000, F=528886811; P=0.000) was the strongest predictor of residential satisfaction and very closely related to it among 15 independent variables used. However, the study found that residential satisfaction (Beta=0.399, F=74.434, P=0.000) made stronger contribution in predicting satisfaction with life than housing adequacy (Beta=0.196, F= 16.485, P=0.000). This particularly goes to suggest that residential satisfaction has a stronger influence on satisfaction with life than housing adequacy. This notwithstanding, the foregoing evidence is considered adequate to conclude that housing adequacy and residential satisfaction are closely related concepts, and thus, one can be used as a substitute for the other in the evaluation of housing.

On the whole, it is evident in this study that housing adequacy made significant contribution in predicting satisfaction with life. Specifically, housing adequacy was the next strongest predictor of satisfaction with life after residential satisfaction and tenure status. Although, the levels of housing adequacy and residential satisfaction did not translate to similar level of satisfaction with life as perceived by the respondents, but within the context of this research, there are conclusive evidence linking housing adequacy with satisfaction with life (quality of life) in the study area. The findings show that the four housing delivery strategies used in public housing provided housing of different adequacy and residential satisfaction levels as perceived by the different socio-economic groups. This resulted to majority of the residents perceiving satisfaction with life in public housing estates. Therefore, it could be concluded that the underlying assumption (programme theory) in public housing in Ogun State which link the provision of adequate

housing with quality of life of residents is supported by this research. This implies that the underlying programme theory in public housing in the State is plausible.

12.4 Implications of Study Findings

There is no doubt that findings of this study have vast policy and practice implications that are interest. This section attempts to highlight possible implications of findings of this study in addressing increasing housing challenge in Nigeria in general and Ogun State in particular. First, one of the key challenges of public housing in Nigeria is faltering institutions. Bana (1991) and Emerole (2002) linked this to inadequate capacity of public housing agencies to deliver on their housing mandate. In this study public housing agencies in Ogun State were found to be better in management than resource capacity. Without prejudice to the importance of good management capacity in the efficiency of organizations, it is widely believed that availability of funds, human and material resources as well as highly motivated staff is critical in achieving improved organizational efficiency. Moreover, the view that staff members of public housing agencies in the study area were found to be lowly motivated while public housing projects were not adequately funded, suggests that capacity building through increased resource availability and better management practices is required in the public housing agencies sampled. It is therefore suggested that partnerships between the agencies and private organizations and individuals be further encouraged. This is based on findings of this study which shows that Public-Private Partnership strategy provided housing that was highly rated in terms of adequacy and satisfaction with life by the residents. On management practices, adequate attention should be given to staff motivation, incentives, reward system and development, while methods of funding housing projects should be more responsive to the peculiar needs of projects. Also public housing agencies must strive to be more profit-oriented, so that they can remain in the business of public housing provisioning in the study area.

Findings also show that public housing provision in Ogun State tended towards market–driven delivery strategies, with reasonable proportion of cost of housing provision borne by end users rather than by the government. This appears to be consistent with current trend in public housing, which places emphasis on market-friendly policies and strategies aimed at enhancing private sector participation as well as reduction in government's direct involvement in housing provision (World Bank, 1993; UNCHS, 2000), but this has implications for housing low-income earners. Although, the adoption of the incremental (Core) housing strategy and the mortgage housing

acquisition system are strategies aimed at ensuring housing affordability among low-income earners; these initiatives were targeted at public sector workers only. The implication of this is that private sector workers are excluded from this form of housing assistance from the government. It is also evident that the State Government represented by the public housing agencies was playing the role of a facilitator of housing provision by allowing home buyers to be responsible for the cost of housing provision while the government provide, land, title documents, community facilities, architectural and engineering services. This contradicts what is obtainable in India for instance, where Sengupta (2004) indicated that the government was playing a dual role as both the provider and enabler of the housing process. This appears to be in line with the submission by Ong and Lenard (2002) and UN-HABITAT (2006a) that the changing role of government from direct provider to enabler of housing does not necessarily mean reduction in government's social responsibility in providing housing for its citizens. Based on the above, public housing in Ogun State as found in this study appears to be inconsistent with the foregoing position. Therefore, urgent policy attention is required in this regard to enable government acts as both provider and enabler of housing for the benefit of majority of the citizens across all sectors of the society.

Mukhija (2004) noted that there is little or no consensus on the strategies and approaches government should follow in addressing the housing need of it citizens. For this reason, several authors have observed that engagement of dysfunctional housing delivery strategies was the bane of public housing provisions in Nigeria (Emerole, 2002; Oladapo, 2002; AMCUD, 2005). Of the four different housing delivery strategies in public housing in the study area, Core housing strategy provided the most highly rated housing on adequate and satisfactory scales, as well as the least expensive housing with secured tenure to low income people. This goes to suggest that this housing delivery strategy has great potentials in addressing the housing need of a majority of low-income urban dwellers in Nigeria. In view of this, there is need for policy adjustment with respect to integrating incremental housing as a key aspect of public housing provision for low-income people and ensuring that every public housing programme has element of incremental (Core) housing. Public housing policies should also encourage the involvement of intended users in the production of housing to ensure adequacy and satisfaction.

In the built environment, access to basic infrastructural services constitutes basic requirements for sound human settlement, good health and appropriate and decent living conditions (Ndulu et al, 2005; Ayogu, 2006); thus access to basic infrastructure has been adopted as one of the key

criteria for assessing the quality of housing (Onibokun and Faniran, 1995; Ayogu, 2006; Coker et al., 2007). This study however found out that the key source of housing inadequacy and dissatisfaction among residents of public housing in Ogun State was lack of access to basic infrastructural services. In fact some basic social infrastructure like schools, health, recreational and shopping facilities were virtually non-existent in most of the public housing estates surveyed. This is considered a key factor accounting for mounting criticism on the failure of public housing in Nigeria to provide quality housing to targeted population (Mbamali and Okoli, 2002; Bello and Bello, 2006; UN-HABITAT, 2006d). The implication of the above is that housing provided in public housing in Ogun State can be considered as of low quality. In addition to this, one may as well associate the large number of completed and unoccupied housing units in some of the housing estates to poor provision of social infrastructure and locational inappropriateness. Most especially, the location of the PPP housing estate at the outskirt of metropolitan Lagos may be considered as one of the key reasons why most of the completed housing units were not occupied at the time of the survey. This implies that public housing agencies should put in place adequate and efficient framework for the provision of basic amenities and services in public housing estates and also consider the location of public housing schemes proximity to neighbourhood facilities in order to improve the habitability of such housing estates. Also, public housing providers should ensure that completed and acquired housing units were fully occupied by placing a demand on home buyers to ensure that the houses were occupied within a specified period after acquisition as a key condition for tenure security.

Apart from the issue of lack of social infrastructure, the housing units were found to be spatially deficient in terms of number of bedrooms, conveniences and spaces for shop. They were also deficient in fire protection measures. The policy implication of this finding is that in future public housing schemes, architectural features of housing units should be upgraded by engaging better housing design principles. In this respect, architects and related professionals should give more attention to security of life and property, protection against noise, dampness, fire and dangerous insects in the design and planning of public housing. This is necessary if residential environment in public housing estates must contribute significantly to the enhancement of the quality of life of residents.

Also, based on the socio-economic and demographic characteristics of the respondents in the housing units surveyed and the observation that most respondents evaluated their housing as affordable, one can infer that public housing in Ogun State has reasonably met housing

affordability and social equity criteria which is fundamental in good public housing delivery system.

Arguably, the high rating of Core housing strategy on both adequacy and satisfaction scales by residents can be attributed to the fact that the characteristics of the residents (mostly civil servants) were known to the developer and thus, the scheme was designed and executed based on these attributes. This implies that characteristics of housing users are vital input in housing policy formulation and programme design, as well as evaluation of the performance of public housing schemes. For this reason, it is suggested that public housing policy makers and programme designers should have adequate knowledge on the attributes and personalities of target population to ensure the success of future housing policies and schemes.

On research implication of findings of this study, it is evident that one of the key research implications of this study bothers on the use of housing adequacy and residential satisfaction in the evaluation of residential or housing environment. It is obvious from the study that the trend in residents' evaluation of housing adequacy and residential satisfaction shows that the two concepts are closely related, and as such one can be used as a substitute of the other. This means that the evaluation of housing environment using either of these two concepts can produce similar result as observed in this study. Also, the revelation that adequate housing and high level of residential satisfaction do not necessarily translate to proportionate perception of quality of life implies that the strong influence of factors outside housing environment such as income, employment, social ties and others on the quality of life has not been undermined by findings of the current research.

Finally, the notion that the underlying theory in public housing in Ogun State is supported by this research has the basic implication that the assumption and belief by public sector professionals that the provision of adequate housing in different strategies will meet the housing need of different categories of people and improve their quality of life is reasonably valid.

12.5 Areas for Further Study

Due to the wide scope of the subject of public housing, it was not possible to cover all areas of public housing provisions in Ogun State in this study. Therefore, the following areas are recommended for further research:

(i)   The impact of context (socio-cultural, economic, political, technological) factors on the conception, design, execution and outcome of public housing in Ogun State during the administration of Otunba Gbenga Daniel (May 2003-May 2011).

(ii)   Assessment of the different planning approaches adopted and architectural designs of housing typologies in public housing provision in the study area.

(iii)   Exploration of how related the concept of housing adequacy and housing quality.

(iv)   Similar study can also be conducted in other States in Nigeria for the purpose of identifying similarities or differences. This can help in developing theories in public housing provision in the country.

12.6 Concluding Remarks.

This study has demonstrated that appropriate housing delivery strategy supported by adequate organizational capacity will provide tangible result in the provision of access to adequate and satisfactory housing. Each of the four housing delivery strategies adopted in public housing in Ogun State has different characteristic outcomes which all offer a certain degree of potential merits in housing provision for different socio-economic groups. However, the Core housing strategy appears to be the most effective strategy for housing provision for majority of citizens who are low-income earners in the study area. It is obvious from this study that security of life and property, protection against noise, dampness, fire and harmful insect and animals as well as provision and maintenance of housing services and neighbourhood facilities require critical attention in order to improve on the adequacy and satisfaction levels in public housing in Ogun State.

In conclusion, this study which is based on programme theory evaluation approach attempted at providing tangible evidence in support of the underlying assumption and beliefs in public housing in Ogun State. It has shown that the adoption of different housing delivery strategies by different government agencies in housing provision can result in the provision of adequate housing for different categories of people, which will in turn lead to improved quality of life among residents of public housing.

REFERENCES

Adams, F. (1949)Housing and Health: the Planned Community. *American Journal of Public Health* 39: 467-470

Adedeji, Y.M.D. (2005) Sustainable Low-Cost Housing Technology Cities: Accelerated Constructions Initiative Option. *Journal of land Use and Development Studies*, (1) 1

Adedipe, B.O. and Lasisi, A.L. (2006). The Challenges of Sustainable Provision of Urban Housing in Nigeria: A Case Study of Ilaro, Ogun State in A.I. Okewole et al (eds.) *The Built Environment: Innovation Policy and Sustainable Development.* Ota- Nigeria: Department of   Architecture, Covenant University, Pp. 385-391

Ademiluyi, A.I., and Raji, B.A (2008).Public and Private Developers as Agents in Urban Housing Delivery in Sub-Saharan Africa: The Situation in Lagos State. *Humanity & Social Sciences Journal 3 (2) 143-150*

Adriaanse, C.C.M. (2007). Measuring Residential Satisfaction: A residential environmental Satisfaction Scale (RESS). *Journal of Housing and Built Environment* 22: 287-304. Springer Science + Business Media

African Ministerial Council in Urban Development, AMCHUD (2008) Report of the Second Biennial Ministerial Conference for the African Ministerial Conference on Housing and Urban Development (AMCHUD II) 28 – 31 July 2008, Abuja -Nigeria. Available Online from: http://www.housing.gov.za/amchud/. [Accessed 10 March 2009]

Ajanlekoko, K.S. (2001).Sustainable Housing Development in Nigeria-The Financial and Infrastructural Implication. Paper Presented at the International Conference on Spatial Information for Sustainable Development in Nairobi, Kenya, 2-5 October 2001. Available online http://www.fig.net/pub/proceeding/nairobi/ajanlekoko. Retrieved on July 13, 2007.

Ajanlekoko, K.S. (2002). Appraisal of the National Housing Policy. *Housing Today* 1 (6)13-20

Akinmoladun, O.I., Oluwoye, J., (2007). An Assessment of Why the Problems of Housing Shortages Persist in Developing Countries: A case of Study of Lagos Metropolis, Nigeria *Pakistan Journal of Social Science* 4(4) 589-598.

Akinola, S.R. (2007) Coping with Infrastructural Deprivation through Collective Action among Rural People in Nigeria. Nordic Journal of African Studies, 16(1): 30–46

Ali, I. (1996). The National Housing Programme-The Way Forward. *Housing Today- The Journal of the Association of Housing Corporations of Nigeria* 11 (2)16-19

Aliu, I.R. and Adebayo, A. (2010) Evaluating the Influence of Housing Quality on Urban Residents' Wellbeing: The Case of Lagos, Nigeria. *International Journal of Academic Reserach,* 2(6)401-410

Aluko, B. T. and Amidu, A.R. (2006) Urban Low Income Settlements, Land Deregulation and Sustainable Development in Nigeria. Paper Presented on issues on Urban Growth: Customary Title and Informal Settlement the 5th FIG Regional Conference in Promoting Land Administration and Good Governance in Accra Ghana March8-11

American Public Housing Association (1964). Committee on the Hygiene of Housing-Basic Principle of Healthful Housing (2nd edition) Pp.2-4 Cited in Onibokun (ed.) (1985)

American Society of Landscape Architects (2001) Housing. Available Online at [www. asla.org]. Accessed in November 3, 2009

Amerigo, M., and Aragones, J. (1990) Residential Satisfaction in council housing. *Journal of Environmental Psychology*, *10*: 313-325.

Amole, D. (2008) Exploring the Relationship between Typology and Quality in the Context of Students' Residential Facilities. *Global Built Environment Review* 6(3) 34-53.

Anderson, J. (1990) Public Policy Making: An Introduction, Boston: Houghton Mifflin African

Andrew, R. and Boyne, G.A. (2005) Representative Bureaucracy, Organisational Strategy and Public Service Performance: An Empirical Analysis of English Local Government. *Journal of Public Administration Research and Theory* 15(4)489-504

Apparicio, P. and Seguin, A. (2006). Measuring the Accessibility of Services and Facilities for Residents of Public Housing in Montreal. *Urban Studies* 43(1) 187-211.

Argyris, C. (1982). *Reasoning, Learning and Action: Individual and Organizational.* San Francisco: Jossey-Bass

Aribigbola, A. (2008). Housing Policy Formulation in Developing Countries: Evidences of Programme Implementation from Akure, Ondo State Nigeria. *Journal of Human Ecology 23*(2)125-134.

Arimah, B. C. (1999) Housing policy outcomes in global perspective: an application of

discriminant analysis, *Netherlands Journal of Housing and the Built Environment*, 12: 257– 280.

Arimah, B.C. (2000) Housing Sector Performance in Global Perspective: A Cross-City Investigation. *Urban Studies* 37(13) 2551-2579.

Atkinson, T., Cantillon, B., Marlier, E. and Nolan, B., (2002) *Social indicators – the EU and social inclusion*,Oxford: Oxford University Press.

Atlas, R. (1999) .*Designing Against Terror: Site Security Planning and Design Criteria. Architectural Graphics Standard*, New York: McGraw-Hill

Austin, D.M., Furr, L.A. and Spine, M. (2002).The Effects of Neighborhood Conditions on Perceptions of Safety'. *Journal of Criminal Justice*, (30)417–427.

Awotona, A.A. (1982).Environmental Health Aspects of Housing Nigerians: A systematic Analysis of Research Needs. *Nigerian Institute of Architects Journal* 1 (4)13-17

Awotona, A. (1983) A Selected Bibliography on Indigenous Architecture and Housing in Sub-Saharan Africa: 1860-1983. *Bibliography of Architecture Material* Vol.1. University of Jos: Department of Architecture

Awotona, A. (1987) Housing Policy in Nigeria: Government Policies for Housing Nigeria's Urban Poor and the Working Class, Laudable Great Expectation, Colossal Failure. *Habitat International* 11(2)89-103.

Awotona, A. (1990) .Nigerian Government Participation in Housing: 1970- 1980. *Habitat International* 14 (10)17-40

Ayogu, M. (2006) Infrastructure Development in Africa: Prospect and challenges. Paper on Economic Development in the Millennium AERC-AfDB Project on Africa's development, Tunis 22–24 November 2006

Bailey, D. and Spendolini, M.J (1977) A Search for Performance Evaluation in Public Services: Education, Housing and Health. UCI-ITS-77-11. Institute of Transport Studies, University Of California, Irvine. Downloaded from http://www.its.uci.edu on May, 15, 2009.

Baker, E. (2002) Public Housing Tenant Relocation – Residential Mobility, Satisfaction and the Development of a Tenant's Spatial Decision Support system. Unpublished Doctor of Philosophy thesis, Australia: The University of Adelaide. Cited in Mohit et al, (2010).

Balchin, P.R; Isaac D. and Chen, J. (2000) *Urban Economics: A Global Perspective*. New York: Palgrave.

Bamberger, M., Rugh, J and Mabry, L (2006) *Real World Evaluation: Working Under Budget, Time, Data, and Political Constraints*, Thousand Oaks, London, New Delhi: Sage Publication Inc.

Bamisile, A. and Zubairu, S.N. (1997) Building Regulations, Bye-Laws & Codes in Nigeria. *Housing Today-The Journal of the Association of Housing Corporation of Nigeria* 2(2)27-31

Bana, P.M. (1991). Housing the Urban Poor in Nigeria. *The Nigerian Institute of Architects Journal 6(1)22-25.*

Bashir, S.A. (2002) Home is Where the Harm is: Inadequate Housing as a Public health Crisis. *American Journal of Public Health* 92 (5) 733-738.

Bassey, E.E (1988) Toward Low-Cost Approach to Housing Needs- Hope for the Future. *The Nigerian Institute of Architects Journal* 4(4)18-19

Basolo, V. and Strong, D. (2002) Understanding the Neighbourhood: From residents' Perceptions and Needs to Action', *Housing Policy Debate*.13 (1)83–105.

Bello, M.O and Bello, V.A. (2006) Sustainable Investment in Nigerian Housing Sector: What Went Wrong? in A.I. Okewole et al (eds.) *The Built Environment: Innovation Policy and Sustainable Development.* Ota- Nigeria: Department of Architecture, Covenant University, Pp: 356-364

Bennett, J. (2003) *Evaluation Methods in Research*, London: Continuum

Bernardini, S. (1997) Improving the Quality of Life in Low-income Nieghbourhood Occupied by Tenants. *Environment & Urbanization* 9(2)81-99

Bingham, R.D. and Fellbinger, C.L. (1989) *Evaluation in Practice: A Methodological Approach*. New York: Longman

Boehm, T.P. and   Schlottmann, A.M. (2001) Housing and Wealth Accumulation: International Impact **Low**-*income Home ownership Working Paper Series*, Harvard: Joint Centre for Housing Studies, Harvard University.

Bonnefoy, X. (2007) Inadequate Housing and Health: and Overview. *International Journal Environment and Pollution* 30(3/4) 411-429

Bovaird, T. and Loffler, E. (2003) Evaluating the Quality of Public Governance: Indicators, Models and Methodologies. *International Review of Administrative Science* 69 (3) 313-328.

Boyne, G.A and Walker, R.M. (1999) .Social Housing Reforms in England and Wales: a Public Choice Evaluation. *Urban Studies* 36 (13) 2237-2262

Boyode, A.O. (2008) Towards the Involvement of Youths in Housing Provision in Nigeria. *International NGO Journal* 3(6)104-107

Bratt, R.G. (1986) Community-Based Housing Programs: Assessment and Agenda for the Future. *Journal of Planning Education and Research* 5: 164-177

Bratt, R.G (2008) Nonprofit and For-Profit Developers of Subsidized Rental Housing: Comperative Attributes and Collaborative Opportunities. *Housing Debate* 19 (2)232-365

Braubach, M. (2007) Residential Conditions and their Impact on Residential Environment Satisfaction and Health: Result of the WHO large Analysis and Review of European housing and Health Status(LARES) study. *International Journal Environment and Pollution* 3(3/4) 384- 403

Bredenoord, J. and Verkoren, O. (2010) Between Self help- and Institutional Housing: A bird's eye view of Mexico's Housing Production for low and (lower) middle-income groups. *Habitat International*. 34:359-365.

Brickmayer, J.D. and Weiss, C.H. (2000) Theory-based Evaluation in Practice: What do we Learn?*Evaluation Review* 24(2000)407-431.

Brousselle, A. and Champagne, F. (2010) Program Theory Evaluation: Logic Analysis. *Evaluation and Program Planning*. 34(1) 69-78.

Canter, D. (1983). The purposive evaluation of places: A facet approach. *Environment and Behavior*, *15*(6) 659-699.

Canter D and Rees, K (1982) A Multivariate Model of Housing Satisfaction. *International Review of Applied Psychology* 31:185 cited in Ilesanmi (2005).

Carson, D.H., Carson, F., and Margulis, S.T (1980) Post Occupancy Housing Evaluation: A Practical Strategy for Obtaining Control Groups. *Environment and Behavior* 12 (4) 541-550

Carter, T. (1997) Current Practices for Procuring Affordable Housing: The Context. *Housing Policy Debate* 8(3) 593-631.

Chan, A.P.C; Wong, F.K.W and Lam, Patrick, T.I. (2006) Assessing Quality Relationships in Public Housing: An Empirical Study. *International Journal of Quality & Reliability Management*. 23(8)909-927.

Chance, Tom (2009) Towards Sustainable Residential Communities; the Beddington zero Energy Development (Bed ZED) and Beyond*, Environment & Urbanization*. 21 (2):527-544

Chen, H.T. (2005) *Practical Programme Evaluation: Assessing and Improving Planning, Implementation and Effectiveness*. Oaks, CA: Sage

Chukwujekwu, I.E, (2005) The Role of Housing Corporations in Housing Delivery: A case Study of Kogi Investment and Properties Ltd. *Housing Today* 1(9) 6-9

Cohen, R. (2007) The Positive Impacts of Affordable Housing on Health: A Research Summary; Washington, D.C: Centre for Housing Policy. Downloaded from www.nhc.org on 7th July, 2009.

Coker, A.O.; Awokola, O.S.; Olomolaiye, P.O. and Booth, C.A. (2007) Challenges of Urban Housing Quality and Association with Neighbourhood environments: Insights and Experiences in Ibadan City, Nigeria. JEHR- *Journal of Environmental Health* (7)1. Available Online at http://www.Cieh.org/JEHR/challenges_urban_housing.htm. Accessed on February 4, 2008.

Colebatch, H.K..(2002 (2nd Ed) *Policy,* Philadelphia: Open University Press.

Cook, C.C. and Bruin (1994) Determinants of Housing Quality: A Comparison of White African-American and Hispanic Single-Parent Women. *Journal of Family and Economic Issues*. 15(4)329-347.

Cotton, A. P. and Tayler, W. K. (1994) Community management of Urban infrastructure in Developing Countries Paper 10648. In Proceedings of the Institute Civil Engineer Municipal Engineering Vol. 103, pp. 215–225.

Daniere, A. (1994) Estimating the willingness-to-pay for housing attributes: An application to

Cairo and Manila. *Regional Science and Urban Economics* 24: 577-599.

Daramola, S.A (2006) Affordable and Functional Housing in a Developing Economy: A case Study of Nigeria. *Journal of Land Use and Development Studies* 2 (1)

Davies, P. (2003) What *is Policy Evaluation? The Magenta Book*. London: Cabinet Office Strategy Unit

Denscombe, M. (1998) *The Good Research Guide for Small-scale social research projects*, Buckingham: Open University Press.

De Salvo, J.S. (1974) Neighborhood Upgrading Effects of Middle-Income Housing Projects in New York City. *Urban Economics* 1 (3) 267-277.

Djebarni, R. and Al-Abed, A. (2000) Satisfaction Level with Nieghbourhood in Low-income Public Housing in Yemen. *Journal of Construction Management* 18 (4) 230-242

Djebarni, R. and Al-Abed, A. (1998) Housing Adequacy in Yemen: An Investigation into Physical Quality. *Property Management* 16 (10) 16-23

Domanski, H., Ostrowska, A.; Przybysz, D.; Romanluk, A. And Krieger, H. (2006) *First European Quality of Life Survey: Social dimensions of Housin*g, Ireland: European Foundation for the Improvement of Living and Working Conditions

Dunn, J.R. (2007) Housing and Inequalities in Health: A Study of Socioeconomic Dimensions of Housing and Self Report Health from a survey Vancouver Residents. *Journal Epidemiol Community Health* (56) 671-681.

Dye, T. R. (1992) (7th Ed.) *Understanding Public Policy*. New York: Prentice Hall.

Edgar, O., and Barton, D.M. (1983)The benefits and Costs of Public Housing in New York City. *Journal of Public Economics* 20, 299-332.

Elsinga, M., and Hockstra, J. (2005) Homeownership and Housing Satisfaction. *Journal of Housing and the Built Environment*, 20: 301-324

Emerole, C.G. (2002) Restructuring Housing Development and Financing in Nigeria: The Role of Partnership and Collaboration Strategies. *Housing Today- The Journal of the Association of Housing Corporations of Nigeria (AHCN)* 1(5) 26-29

Erdogan, N., Akyol, A., Ataman, B., and Dokmeci, V. (2007) Comparison of Urban Housing Satisfaction in Modern and Traditional Neighborhood in Edirne, Turkey. *Social Indicators Research* 81 (1) 127-148.

Erguden, S. (2001) Low-Cost Housing: Policies and Constraints in Developing Countries. Paper presented at the International Conference on Spatial Information for Sustainable Development, Nairobi Kenya, 2-5 October, 2001.Available online at www.unchs.org. Retrieved 22nd June, 2008.

Fadda, G. and Jiron P. (1999) Quality of life and Gender: a Methodology for Urban Research. *Environment & Urbanization* 11(2) 261-270

Fatoye, E.O and Odusami, K.T. (2009) Occupants' Satisfaction Approach to Housing Performance Evaluation: The case of Nigeria. Paper Presented at the RICS COBRA Research Conference held at the University of Cape Town, 10-11th September, 2009. Downloaded from www.rics.org/cobra on 22nd February 2010

Fawcett J. T. (1989) Networks, Linkages and Migration Systems. *International Migration Review*, 23(3), Special Silver Anniversary Issue: International Migration an Assessment for the 90's (Autumn) 671-680.

Fay, J.J. (1993) (Ed) Encyclopedia of security Management. Crime Prevention Through Environmental Design: Defensible and Offensible Space, PP.200-202. Boston: Butterworth-Heinemann, Cited in Lipnickey, C. (2004).

Federal Republic of Nigeria (1991) *National Housing Policy*, Lagos: Federal Government Press

Federal Republic of Nigeria (2007) Official Gazette on the breakdown of the National and State Provisional Totals 2006 census, S.I N0 23 of 2007, N0.24, Vol.94 Lagos 15th May

Ferrell, M.; Kelley, E.A. and Bertrand, A.L. (1977) Consumer Preferences and Selected Socioeconomic Variables Related to Physical Adequacy of Housing. *Family and Consumer Sciences Research Journal*, 5(4) 232-243

Fernandez-Maldonado, A.M. and Bredenoord, J. (2010) Progressive Housing Approaches in the current Peruvian Policies. *Habitat International.* Doi:10.1016/j.habitatint.2009.11.018

Fiadzo, E.D, Houston, J.E. and Godwin, D.D (2001) Estimating Housing Quality for Poverty and Development Policy Analysis:CWIQ in Ghana. *Social Indicators Research.*.53(2)137-162

Filfil, M. (1999) *The Housing Environment and Women's Health: The Case Study of Ramallah al Tahta, Birzeit , Palestine*. Institute of Community and Public Health/ Environmental health Unit Birziet University

Formoso, C.T. and Jobim, S.S.M. (2006) Challenges in Improving Customer Focus in Small-sized House-Building Companies in Brazil. *Journal of Construction in Developing Countries* 11(2)77-101 Penerbit Universiti Sains Malaysia

Flippen, C.A (2004) Unequal returns to housing investments? A study of real housing appreciation among black, white and Hispanic households. *Social Forces*, 82, (4) 1523-1552 University of North Carolina Press,

Freeman, Lance (2002) America's Affordable Housing Crisis: A Contract Unfulfilled. *American Journal of Public Health* 92 (5) 709-712

Fried, M. (1982) Residential Attachment: Sources of Residential and Community Satisfaction. *Journal of Social Issues*, 38(3), 107–119.

Galster, G.C. (1985) Evaluating Indicators for Housing Policy: Residential Satisfaction Vs Marginal Improvement Priorities. *Social Indicators Research*, 16 (4)415-448.

Galster, G.C. (1987) Identifying the Correlates of Dwelling Satisfaction: An Empirical Critique. *Environment and Behavior*. 19(5) 537-568

Galster, G. C. and Hesser, G.W. (1981) Residential Satisfaction: Compositional and Contextual Correlates. Environmental and Behaviour 13(6) 735-758.

Gana, M.A. (2002) Towards Effective Private Sector Participation in Housing Development in Nigeria: The FCT Experiment. *Housing Today*-The Journal of the Association of Housing Corporation of Nigeria, 1(6)6-10.

Gao, X. and Asami, Y. (2001) The External Effects of Local Attributes on Living Environment in Detached Residential Blocks in Tokyo. *Urban Studies* 38(3) 487-505

Gateway City Development Company Limited (2008) Our Vision and Mission Statement. Available online: http://www.gatewaycitydc.org/home.html . Downloaded on 25th April, 2008.

Gilderbloom, J., Brazley, D. Pan, Z. (2005) HOPE VI: A Study of Housing and Neighborhood Satisfaction" Sustain: *A Journal of Environmental and Sustainability Issues* 11(Fall/Winter)

Giulietta, F. and Jiron, P. (1999) Quality of Life and Gender: A Methodology for Urban Research. Environment and Urbanization 11(2) 261-270

Golland, A. (1998) Systems of Housing and Housing Production. *Journal of Housing and the Built Environment (*15) 103–106.

Greene, M. and Rojas, E. (2008) Incremental Construction: A Strategy to Facilitate Access to
Housing. *Environment & Urbanization* 20(1) 89-108.

Groenhart, L.E. (2007) A Cost-Benefit Approach for Evaluating Urban Public Housing Policy.
Research Paper, City Future Research Centre, Faculty of Built Environment, University
Of New South Wales, Sydney, Australia. Available Online at
http://www.fbe.unsw.edu.au Downloaded on April, 15, 2009.

Ha, S-K (2008) Social Housing Estates and Sustainable Community Development in South
Korea'*Habitat International*, 32: 349-363.

Habib, R.R, Mahfoud, Z.; Fawaz, M.; Basma, S.H.; Yeretzian, J.S. (2009) Housing Quality and
ill health in a disadvantaged urban Community. *Public Health* 123: 174-181

Hanson, G., Lloyd, R., and Lorimer, B. (2004) *Evaluation of the Social Housing Programme*
Yukon: Yukon Housing Corporation

Hanson, J. (2006) The Housing and Support Needs of People Aged 18-55 with Sight Loss.
Occasional Papers. London: Thomas Pocklington Trust, Number 7 February.

Hartry, H.P. (1980) Performance Measurement and Techniques: An Overview for Local
Government" *Public Productivity Review* 4(4) 312-339.

Haramoto, E., Moyano,E., Kliwadenko, K.,. Sepulveda, R., Campos, M.A., and Chiang, P.
(1991) La calidad residencial del entronoinmediato de la vivienda social" in INVI, II
Jornada de Vivienda Social, Santiago, pages 161-172. Cited in Fadda, G. and Jiron P.
(1999).

Hashim, A.H. (2003) Residential Satisfaction and Social Integration in Public Low Cost Housing
in Malaysia. *Pertanika Journal of Social Science and Humanity* 11(1) 1-10.

Hsieh, H.R. (2008) Issues and Proposed Improvements Regarding Condominium Management in
Taiwan. *Habitat International* 33(2009) 73-80.

Hood, E. (2005) Dwelling Disparities: How Poor Housing Leads to Poor Health. Environmental
Health Perspectives 113(5)310-317.

Housing Support Unit (2000) A Decent Home: The definition and Guidance for Measurement,
Housing Support Unit, DTLR, London. Available online at http://www.dltr.gov./uk
Downloaded on June 23, 2009.

Ibem, E.O. (2009) Community –Led Infrastructure Provision in Low-Income Urban
Communities in Developing Countries: A Study on Ohafia, Nigeria. *Cities* 26 (3) 125-132

Idemudia, C. (1980) Government Housing Project and Assessment- The case of government
        Estate at Oregbni Ikpoba Hill and Ogbowo. Dissertation for the award of Bachelor of
        Science degree in the department of Geography and Regional, University of Benin

Ilesanmi, A.O. (2005) An Evaluation of Selected Public Housing Schemes of Lagos State
        Development and Property Corporation, Lagos Nigeria. Unpublished PhD Thesis
        Submitted to the School of Postgraduate Studies, Obafemi Awolowo University (OAU)
        Ile-Ife, Nigeria

Irani, K. (2010) Types of Organisational Structure. Available Online
        at:http://www.buzzle.com/articles/types-of-organisational structure.ht. Accessed on 30th
        August, 2010.

Jaafar, M., Hasan, N.L., Mahamad, O., and Ramayah, T. (2006) The Determinants of Housing
        Satiafaction Level: A Study on Residential Development Project by PENANG
        Development Coporation(PDC).
        http://www.fppsm.utm.my/jurnal/JK6D06_MASTURAJAAR.pdf . Downloaded on May
        15, 2008

Jacobs, D.E., Kelly, T., and Sobolewski (2007) Linking Public Health, Housing and Indoor
        Environment Policy: Successes and Challenges at Local and Federal agencies in the United
        States. *Environmental Health Perspective* 115(6)976-982.

Jiboye, A . (2004).The Socio-Cultural Responsiveness of Household Size on Housing Quality
        in Osogbo, Nigeria.*Anthropologist.* 6(3) 169-174

Jiboye, A.D. (2009) Evaluating Tenant's satisfaction with Public Housing in Lagos, Nigeria"
        Town Planning and Architecture 33(4) 239-247.

Jiboye, A.D (2010) Correlates of Public Housing in Lagos, Nigeria. *Journal of Geography and
        Regional Planning* 3(2) 017-028

Jiminez E. and Kieare H.(1993)Progressive Development and Affordability in the Design o
        Urban Shelter Programme. *World Bank Working paper 560*. Pp. 83

Kaitilla, S. (1993) .Satisfaction with Public Housing in Papua New Guinea: The Case of West
        Taraka Housing Scheme. *Environment and Behavior*, 25(4) 514-545

Kahana, E., Lovegreen, L., and Kahana, B. (2003) Person, Environment and Person-

Environment Fit as Influences on Residential Satisfaction of Elders" *Environment and Behavior* 35(3) 434-453

Kahlmeier, S., Schinder, C.,Grize, L., and Braun-Fahrlander, C. (2001) Perceived Environmental Housing Quality and wellbeing of Movers. *Journal of Epidemiol Community Health* (55) 708-715

Kabir, K. O. (2004) Low-cost Technology and Mass Housing System in Nigerian Housing. *Journal of Applied Sciences,* 4(4): 565-567.

Kaplan, S. and Kaplan, R. (2003) Health, Supportive Environments, and the Reasonable Person Model. *American Journal of Public Health* 93(9)1484–1489.

Kasl, S.V. (1990) Quality of the Residential Environment: Health and Well-Being. *Bull. N.Y .Acad. Med* 66 (5) 479-490.

Kantrowitz, M. and Nordhaus, R. (1980) The Impact of Post Occupancy Evaluation Research: A Case Study. *Environment and Behavior* 12 (4) 508-519.

Kawash, S. (2000) Safe Housing? Body, Building and the Question of Security. *Cultural Critique* (45)185-221

Kellogg, W.K (2004) Logic Model Development Guide. Battle Creek Michigan. Downloaded from www.wkk.org in October 20, 2009.

Keats, R., Knight, A., and Hoxley, M. (2008) A Conceptual Analysis of Social Housing: Camouflaging the Divisions

Kellecki , O.L.,and Berkoz, L.(2002) Mass Housing: User Satisfaction in Housing and its Environment in Istanbul, Turkey. European Journal of Housing Policy 6(1) 77-99

Krieger, J. and Higgins, D.L. (2002) Housing and Health: Time Again for Public Health Action. *American Journal of Public Health* 92(5) 758-768

Kutty, N.K. (1999) Determinants of Structural Adequacy of Dwellings. *Journal of Housing Reserach* 10(1) 27-43.

Lall, S. (2002) An Evaluation of A Public Sector Low-Income Housing Project in Alwar, India. Working Paper 6 at Society for Development Studies in New Delhi-India prepared for the DFID. Downloaded from http://practicalaction.org/docs/shelter/uhd_wp6_evaluation_on 19th May,2009.

Lasisi, A.L. and Adedipe, B.O. (2006) Government Policy as a Disincentive to Housing
  Innovation in Ogun Sate, Nigeria in A.I. Okewole et al (eds.) *The Built Environment:*
  Innovation Policy and Sustainable Development. Ota- Nigeria: Department of
  Architecture, Covenant University, Pp:392-396.

Lasswell, H. (1979) *The Politics and Economics of Public Policy*, Homewood, IL: Dorsey Press

Lawrence, R. J. (1995) Housing Quality: An Agenda for Research. *Urban Studies.* 32(10) 1655-
  1664

Lee, A. and Zami, M.S. (2010) Misunderstanding of Housing and its Influence on the Success of
  Low Cost Housing Projects- State of the Art Review. The Built & Human Environment
  Review (3) 1-11.

Lew, S. and Park, H. (1998) Economic Development, Housing Standards and Quality of Life in
  South Korea. *Development and Society* 27(2) 51-66

Lipnickey, C. (2004) CPTED on College Campuses: A Guideline for Implementation. Available
  online at http://www.cpted.net downloaded on November 17, 2005.

Liu, A.M. (2003) "There is Quality After all: Residential Post Occupancy Evaluation in Housing
  Projects in Hong Long' Paper for the CIBTG International Conference, October, Hong
  Kong. Downloaded from http://www.irbdirekt.de/daten/iconda/CIB9152.pdf on 19th
  May, 2009.

Lowi, T.J (1964) American Business, Public Policy, Case Studies, and Political Theory. World
  Politics 16 (July) 677-715.Cited in Stewart et al. (2008).

Lusthaus, C., Anderson, G., and Murphy, E. (1995) *Institutional Assessment: A framework for*
  Strengthening Organizational Capacity for IDRC's Research Partners. Canada:
  International Development Research Centre (IDRC).

Lusthaus , C., Marie-Helene, A., Anderson, G., Carden, F., and Montalvin, G.P. (2002)
  Organizational Assessment A Framework for Improving Performance, Canada:
  International Development Research Centre (IDRC).

Lu, M. (2002) Determinants of Residential Satisfaction: Ordered Logit vs. Regression Models.
  Growth and Change 30(2) 264-287.

Lux, M. (2005) On Housing Satisfaction among Czech Citizens. *Sociologicky Casopis-Czech*
  Sociological Review 41 (2) 227-252.

Lux, M. (2004) Quasi-Normative Approach to Housing Affordability. Housing Research

    Group, Discussion Paper N0 1 April, University of Glasgow.

Magutu, J., (1997) An Appraisal of Chaani Low-Income Housing Programme in Kenya.

    Environment and Urbanization 9(2) 307-320.

Mallo, D.M and Anigbogu, N.A (2009) Housing Quality Between Residential Neighbourhoods

    in Jos , Nigeria. Paper Presented at the ISA International Housing Conference held at the

    University of Glasgow September 1-4, 2009

Marans, R., and Rodgers, S. (1975). Toward an Understanding of Community Satisfaction. In A.

    Hawley & V. Rock (Eds.) *Metropolitan America in contemporary perspective*. New

    York: Halsted

Marcano, L. and Ruprah, I. (2008) An Impact Evaluation of Chile's progressive Housing

    Programme> Inter-American Development Bank, Office of Evaluation and Oversight

    Working Paper: OVE/WP-06/08 June. Downloaded from

    http://www.iadb.org/ove/defaultNoCache.aspx?Action on June 22, 2009.

Margulis, S.T. (1975) A Comparison of the Opinions of Operation Breakthrough Occupants

    And Conventional Housing Occupants about their Housing. *Industrialization Forum* 6(1)

    21-26, cited in Carson, D.H, Carson, F. and Margulis, S.T (1980).

Massey, D. S. and Kanaiaupuni,   S.M. (1993) Public Housing and the Concentration of Poverty.

    Social Science Quarterly 74:109-22.

Mba, H.C. (1992) The Dilemmas of Housing Programmes in Nigeria in H. C. Mba, J.U.Ogbazi

    & K. O. Efobi (Eds.) *Principles and Practice of Urban and Regional Planning in Nigeria*,

    Awka: Mekslink Publishers Nigeria, 52-62.

Mbamali, I. and Okoli, O.G (2002) Affordable Housing for Low Income Group in Nigeria: A

    Redefinition of the basic Parameters. *Housing Today- A Journal of the Association of

    Housing Corporations of Nigeria* 1(5)15-21

McCray, J.W. and Day, S.S (1977) Housing Values, Aspirations and satisfaction as Indicators of

    Housing Needs. *Home Economics*, 5(4) 244-254.

McNulty, T.L. and Holloway, D. R. (2000) Race, Crime and Public Housing in Atlanta: Testing

    A Conditional Effect Hypothesis. *Social Forces* 79(2) 707-729

Menahem, G. and S. Spiro (1989) Urban Neighbourhoods and the quest for Community: Implications for policy and practice. *Community Development Joumal 24(1) 29-40*

Meng, G. and Hall, G.B (2006) Assessing Housing Quality in Metropolitan Lima, Peru. *Journal of Housing and the Built Environment* 21:413-439.

Midgley, M. (2003) *The Myths We Live By*. London/New York: Routledge

Milbrath, L.W. (1979) Indicators of Environmental Quality in UNESCO Indicators of Environmental Quality and quality of life Reports and Papers in Social Science N0 38:3-56

Mitchell, R.E. (1976).Cultural and Health Influences on Building, Housing and Community Standards: Cost Implications for the Human Habitat. *Human Ecology* 4(4)297-330

Mitlin, D. (2008) Finance for Housing Livehoods and Basic Services. *Environment & Urbanization 20(1)*3-163

Mitlin, D. (2007) Finance for low-income housing and Community Development *Environment & Urbanization* 19(2)33-483.

Mohit, M.A, Ibrahim, M. and Rashid, Y.R.(2010) Assessment of Residential Satisfaction in Newly Designed Public Low-Cost Housing in Kuala Lumpur, Malaysia. *Habitat International* (34) 18-27.

Morris, E.W., Crull, S.R. and Winter, M. (1976) Housing Norms, Housing Satisfaction and the Propensity to Move. *Journal of Marriage and the Family* 38 (2) 309-320.

Mowen, J.C. (1995) *Consumer Behaviour*. Englewood Cliffs: Prentice-Hall.

Mukhija,V. (2004) The Contradictions in Enabling Private Developer of Affordable Housing: a Cautionary Case from India. *Urban Studies*. 4(11) 2231-2244.

Mullins, P. J., Western, & Broadbent, B. (2001) The links between housing and nine key socio cultural factors: a review of evidence. Position Paper. Australia: Australian Housing and Urban Research Institute (AHURI).

Muoghalu, L.N. (1991) Measuring Housing Environmental Quality as Indicator of Quality of Urban Life: A case Study of Traditional City of Benin Nigeria. *Social Indicators Research* 25(1) 63-98

Muritala, A.M (1980) Housing the low-income Earners in Nigeria: Case of Ikulende Housing Estate IIorin Kwara State; Unpublished Dissertation for the award of HND in Town and Regional Planning submitted to the Kwara College of Technology.

Mustapha, F., Al-Abed, A. and Wild, S. (1995) A model for Assessing the Effectiveness of
Public Housing. *Journal of Construction Management & Economics* 13 (16) 457-465

Mustapha, I. (2002) Overview of Housing and Urban Development Programme Since
Independence. *Housing Today-Journal of the Association of Housing Corporations of
Nigeria,* 1 (6)28-30.

National Economic Empowerment and Development Strategy (2004) Federal Republic of
Nigeria. Abuja: National Planning Commission

Nasar, J. (1994) Urban Design Aesthetics-The Evaluation Qualities of Building Exteriors.
Environment and Behavior 26(3) 377-401.

Ndulu, B. et al. (2005) Infrastructure, regional integration and growth in sub-Saharan Africa
Africa in the World Economy – The national, regional and international challenge (pp.
101–121). The Hague: Fondad. Available online: <www.fondad.org>.

Nelson, K.P. (1994) Whose Shortage of Affordable Housing? *Housing Policy   Debate* 5 (4)
401-442

Nordhaus, R. and Kantrowitz, M (1980) The Impact of Post –Occupancy Evaluation Research: A
Case Study, *Environment and Behaviour* 12(508) 508-519

Nubi, T.O. (2000) Financing Urban Housing. Being a paper delivered in a workshop Organized
by   the Nigerian Building and Road Research Institute (NBRRI) cited in Adedeji (2005)

Nubi, T.O. (2001) "Housing Finance in Nigeria-Need for Re-Engineering" Available online
http://www.housingfinance.org/pdfstorage/Africa. Accessed on 15th April, 2008.

Nwaka, G.I. (2005) The urban Informal sector in Nigeria: Towards Economic Development,
Environmental Health and Social Harmony. *Global Urban Development Magazine*,
1(1). Available Online at http://www.globalurban.org/issue 1PImag05/Nwakaarticle.htm.
Accessed on March 26,

Obashoro-John, O. (2002) Programme Evaluation in Nigeria: Challenges and Prospects.
Department of Adult Education University of Lagos, Lagos

Obeng-Odoom, F. (2009) Has the Habitat for Humanity Housing Scheme Achieved its Goal? A
Ghanaian Case Study. *Journal Housing and the Built Environment* 24: 67-84

Ogu, V. I. (1999) Housing Enablement in a Developing World City: The Case Study of Benin

City, Nigeria. *Habitat International*, 23 (2) 231-248

Ogu, V.I., and Ogbuozobe, J.E. (2001*)* Housing Policy in Nigeria: Towards Enablement of
Private Housing Development. *Habitat International,* 25 (4) 473-492.

Ogu, V.I. (2002).Urban Residential Satisfaction and the Planning Implications in a Developing
World Context: The Example of Benin City, Nigeria. *International Planning Studies* 7(1)
37-53

Ogun State Regional Plan (OSRP), 2003.

Ogun State Ministry of Housing, (2008). Housing Delivery in Ogun State

Ogun State Housing Corporation, (2008a) Ogun State Housing Corporation; Our Vision and
Mission. Abeokuta: Ogun State Housing Corporation

Ogun State Housing Corporation, (2008b) Ogun State Housing Corporation: Our Services and
Housing Schemes .Abeokuta: Ogun State Housing Corporation.

Ogun State Property Investment Company (2008) Company Brochure

Ogunpola, G.A. (1969)The Functioning of A Statutory Corporation-The Case of Western
Nigeria Housing Corporation, 1958-1966. *The Quarterly Journal of Administration,*
October, Vol.14

Oh, L.S. (2000) Housing satisfaction of middle income households in Bandar Baru Bangi,
Selangor. Dissertation, Universiti Pertanian Malaysia Cited im Mohit et al (2010)

Olayinka, A.I., Taiwo, V.O., Raji-Oyelade, A., Farai, I.P. (eds) (2006) *Methodology of   Basic*
and Applied Research (2nd Ed.). Ibadan: The Postgraduate School, University of   Ibadan.

Oladapo, M. A (2002) Procurement Systems and Project Organization Model for Low Cost
Housing. *Housing Today*. 1(6)32-36.

Oladapo, A.A (2006) A Study on Tenant's Maintenance Awareness, Responsibility and
Satisfaction in Institutional Housing in Nigeria. International Journal of Strategic Property
Management. Downloaded on 3rd April, 2010 from
http://findarticles.com/p/articles/mi_qa5397/

Olatubara, C.O. and Fatoye, E.O. (2007) Evaluation of the Satisfaction of Occupants of the

Abesan Public Low-Cost Housing Estate in Lagos State, Nigeria. The Nigerian journal of Economic and Social Studies 49 (1).

Olawuni, P.O.; Adeyinka, S.A.; and Abegunde, A.A (2007) Intra-Urban Variation in Housing Quality : The Nigerian Experience. Journal of Land Use and Development 3 (1) 69-78

Oliver, R.L. (1981) Measurement and Evaluation of Satisfaction Process in Retail Setting.

Journal of Retailing, 57 (Fall) 25-48

Olotuah, A.O. (2000) Housing *Low-income Civil Servants in an Emergent State Capital- The Case Study of Ado Ekiti.* An Unpublished PhD Thesis submitted to the School of Postgraduate Studies, Federal University of Technology, Akure, Nigeria, July, 2000.

Oloyo, R.A. (2001) *Fundamentals of Research Methodology for Social and Applied Sciences,* Ilaro: ROA Educational Press.

Okewole, I.A and Aribigbola.A. (2006)Innovations and sustainability in Housing Policy Conception and Implementation in Nigeria. In Okewole I. A. et al (eds.) *The Built Environment: Innovation Policy and Sustainable Development.* Covenant   University, Ota, Ogun State, Nigeria. Pp.414 – 420.

Omole, F.K. (2001**)** *Basic Issues in Housing Development,* Ondo: FemoBless Publishers

Ong, H.C. and Lenard, D. (2002) Partnerships between Stakeholders in the Provision of and Access to Affordable Housing in Malaysia. Paper presented at FIG XXII   International Congress held at Washington, D.C., USA, April 19-22, 2002.

Onibokun, A.G. (1974) Evaluating Consumers' Satisfaction with Housing: An Application of a Systems Approach. *Journal of the American Planning Association* 40 (3) 189-200.

Onibokun, A.G. (1976) Social System Correlates of Residential Satisfaction" *Environment and Behavior* 8(3) 323-344.

Onibokun, A.G. (1977) Environmental Issues in Housing Habitability. *Environment and Planning* (5) 461-476.

Onibokun, A.G. (1985) *Housing in Nigeria*, Ibadan: Nigerian Institute for Social and Economic Research (NISER).

Onibokun, G. and Faniran, A. (1995) Community based organizations in Nigerian Urban centers

Critical Evaluation of their Achievements and Potentials as Agents of Development, Centre for African Settlement Studies and Development (CASSAD) Monograph Series 7. Ibadan: CASSAD.

Onyike, J.A (2007) An Assessment of the Affordability of Housing by Public Servants in Owerri, Nigeria. *Journal of Land Use and Development Studies,* 3(1)21-34

Opara, F.E. (2003) Development of Locally Sourced Building Materials in Nigeria. *Housing Today* 1 (7) 16-23.

Ornstein, S.H. (1997)Post Occupancy Evaluation Performed in Elementary and High Schools of Greater Sao Paulo, Brazil: The Occupants and the Quality of the School. *Environment and Behavior 29(2) 236-263*

Ornstein, S.H. (1999) A Post Occupancy Evaluation of Workplaces in Sao Paulo, Brazil. *Environment and Behavior* 31(4) 435-462.

Ornstein, S.H. (2005) Post Occupancy Evaluation in Brazil, Evaluating Quality in Educational Facilities, School of Architecture and Urbanism, University of Sao Paulo, Brazil.

Oruwari, Y. (2006) Lest We Forget: The Poor People Need Housing in the Urban Areas in Nigeria too-A reflection of Low-income housing provision. in A.I. Okewole et al (Eds.) The *Built Environment: Innovation Policy and Sustainable Development.* Ota- Nigeria: Department of Architecture, Covenant University, Pp 2-9.,

Oruwari, Y. (1993) Affordability of Urban Housing in Nigeria. *The Nigerian Institute of Architects Journal* 8(1&2) 26-30

Osasona, C.O. (1991) Optimum Housing For Low/ Middle –Income Groups: The Extendible House. *NIAJ-A Journal of the Nigerian Institute of Architects* 6(1) 26-44.

Osuala, E.C. (2001) *Introduction to Research Methodology (3rd Edition)*, Onitsha: Africana-FEP Publishers Limited

Owei, O. (2007) Distortions of the Urban Land Markets in Nigerian Cities and the Implications for Urban growth patterns; the case of Abuja and Port Harcourt. Paper Presented at the Fourth Urban Research Symposium. Available Online: www.worldbank.org. Retrieved 22nd June 2008.

Pan, Z. (2004) Housing Quality of Communist Party Members in Urban China: a comparative

Study. *Housing Studies.* 19(2)193-205.

Patton, M.O. (2002) *Qualitative Research and Evaluation Methods*. London: Sage

Paris D.E. and Kangari, R. (2005) Multifamily Affordable Housing: Residential Satisfaction. *Journal Performance Construction Facility* 19(2) 138-145

Park, H. (2006) Housing Welfare Indicators for the Quality of Life in Korea. *Housing Studies Review* 14(1) 5-26

Parker, C.N., Stewart-Brown, S. and Fowle, S.E (1994) Damp Housing and Adult Health: Results from Lifestyle Study in Worcester England. *Journal of Epidemiology and Community Health* (48)555-559

Parker , C. and Mathews, B.P.(2001) Customer Satisfaction: Contrasting Academic and Consumers' Interpretations. Marketing Intelligence & Planning, 19 (1) 38-46

Pawson, R. and Tilley, W. (1997) *Realistic Evaluation*. London: Sage

Pomeroy, S. (2001) *Toward a Comprehensive Affordable Housing Strategy for Canada*. Caledon: Institute of Social Policy

Potter, J. and Cantarero, R. (2003) How does Increasing Population and Diversity Affect Resident Satisfaction? A Small Community Case Study. *Environment and Behavior* 35(3) 434-453

Preiser, W. E.E . (2002) Continuous Quality Improvement through Post Occupancy Evaluation Feed Back. Journal of Corporate Real Estate 5 (1) 42-56.

Purdon, S., Lessof, C., Woodfield, K., and Bryson, C. (2001) Research Methods for Policy Evaluation. Department for Works and Pensions, Research working Paper N0.27. Downloaded from www.apsw.ox.ac.uk/staff/academic/profile/details/smith.html. on February 10, 2009.

Quigley, J.M and Raphael, S. (2004) Is Housing Unaffordable? Why isn't it more affordable? *The Journal of Economic Perspectives,* 18(1) 191-214.

Quillian, L. (2005).Public Housing and Spatial Concentration of Poverty: New National Estimates. Paper for Presentation at the Meetings of the Population Association of America.

Ralid, R.C.B. (1999) Post Occupancy Evaluation as a Tool for Better Quality Low-Income Housing : The Federal District Villa Technologica Project Brazil. Downloaded from

http://www.hdm.lth.se/fileadm/hdm/alumni/papers/ad1999/ad1999-01.pdf on 20the May, 2009

Rapoport, A. (1977) *Human aspects of urban form*: Towards a Man-Environment Approach Urban Form and Design Oxford, UK: Pergamon.

Rauh, V.A, Chew, G.L. and Garfinkel, R.S. (2002) Deteriorated Housing Contributes to High Cockroach Allergen Levels in Inner –City Households. *Environment and Health Perspectives* 11(2)323-327.

Reilly, K. (2008) Decent Housing Standards- Is there a Need for Certificate of Fitness for Rental Accommodation in New Zealand? Paper for the Australian Housing Institute Rental Affordability Symposium in Waitakare, July 22

Rodgers, W. (1980) Residential Satisfaction in Relationship to Size of Place. *Social Psychology Quarterly* 43 (4) 436-441.

Rondinelli, D.A (1990) Housing the Urban poor in Developing Countries: Other policy options for National shelter strategies Are Examined since Conventional one are Inadequate. *American Journal of Economics and Sociology*, 49 (3)257-269. Available online [http://www.jstor.org] Retrieved February 24, 2007

Rossi, P.H, Lipsey, M.W. and Freeman, H.E. (2004) (7th Ed) *Evaluation: A Systematic Approach*, London: Sage Publications

Rowe, G. And Frewer, L.J. (2004) Evaluating Public Participation Exercises: A Research Agenda. Science, Technology & Human Values 29(autumn) 512-557

Ruprah, I. J. and Marcano, L.T (2007) A Meta-Impact Evaluation of Social Housing Programs: The Chilean Case. *Working Paper* OVE/WP-02/07 Office of Evaluation and Oversight http://ove/oveIntranet/DefaultNoCache.aspx?Action .   Accessed on June 15, 2009

Rysin, G.G (1996) The Impact of Resident Management on Residents' Satisfaction with Public Housing: A Process Analysis of Quasi-Experimental Data. Evaluation Review 20(4) 485-506.

Salama, A.M. (2006) A Life Style Theories Approach for Affordable Housing Research in Saudi Arabia. *Emirates Journal for Engineering Research* 11(1) 67-76

Salleh, A.G. (2008) Relationship between landscape Structure and Neighbourhood satisfaction

in Urbanized areas. *Habitat International* (32) 485-493

Sampson, A. (2007) Developing Robust Approaches to Evaluating Social Programmes. *Evaluation* 13(3) 477-493.

Sanusi, J.O. (2003) Mortgage Financing in Nigeria: Issues and Challenges. *Housing Today*. 1(7) 41-44.

Sciven, M. (2001) An Overview of Evaluation Theories. *Evaluation Journal of Australia* New Series (2) 27-29

Sengupta, U. and Ganesan, S. (2004) The States role in Popular Housing Programmes in Shanghai: From provider to enabler to facilitator. *Forum*. 6(1) 52-57

Sengupta, U. (2005) Government Intervention and Public-Private-Partnerships in Housing Delivery in Kolkata, India. Habitat *International*, Article in Print. Available Online: www.elsevier.com/locate/habitatint. Retrieved on November 15, 2008.

Sengupta, U. and Tipple, A.G. (2007) The Performance of Public –Sector Housing in Kolkata, India in the Post –Reform Milieu. *Urban Studies* 44(10) 2009-2027.

Sengupta, U. and Sharma, S. (2008) No Longer Sukumbasis: Challenges in Grassroots –Led Squatter Resettlement Programme in Kathmandu with special reference to Kirtipur Housing Project. *Habitat International* 33 (2009)34-44

Shannon, S., Lloyd, B., Roos, J. and Kohlmeyer, J. (2003) Impact of Housing on Health in Dunedin, New Zealand. Available Online at http://www.physics.otago.ac.nz/eman/reserch/Dunedin_Housing_Report Downloaded on 7 July, 2009

Shaw, J. (1994)Transits-Based Housing and Residential Satisfaction: Review of Literature and Methodological Approach. *Transportation Research Record* (1400) 82-89

Simion, N.T. (2007) *Namibia National Housing Programme-Build Together: Assessment of the Effectiveness of the Programme*. Downloaded on 19th May, 2009 from http://www.lth.selfileadmin/hdm/alumini/papers/SDD_2007_242a/Naomi_Simion_Namibia.pdf

Spain, D. (1990) The effect of Residential Mobility and Household Composition on Housing Quality. *Urban Affairs Quarterly* 25(4) 659-683

Stame, N. (2004)Theory-Based Evaluation and Types of Complexity. *Evaluation* 10(1) 58-76

Stam,J. and Ruut, V.(2007) (ed.) Quality of Life and Happiness of People in Japan and the Netherlands. *Encounter Series* Vol.1. Amsterdam in Cooperation with NIOD: KIT

Publishers.Pp16-31

Stevenson, F. (2008) *Post Occupancy Evaluation of Housing*, Paper for CSR Conference at

      Oxford Institute of Sustainable Development, Architecture Unit on 15th January.

Stein, A. and Vance, A. (2008) The Role of Housing Finance in Addressing the Needs of the

      Urban Poor: Lessons from Central America. *Environment & Urbanization* 20(1) 13-20

Stewart, J., Hedge, D.M. and Lester, J.P (2001) (3rd Ed.) *Public Policy*, Boston: Thomas

      Wadsworth

Stufflebeam, D.L. (1999) Using Professional Standards to legally and ethically release

      evaluation findings. *Studies in Educational Evaluation.* 25(4) 325-334

Stufflebeam, D.L. (2001) *Evaluation Models- New Direction for Evaluations.* New York: John

      Wiley & Sons Inc.

Stufflebeam, D.L (2003) Context, Input, Process and Product Evaluation (CIPP) the CIPP Model

      for Evaluation. Paper presented at the 2003 Annual Conference of the Oregon

      Programme Evaluators Network (OPEN) held on Portland Oregon on 10th March 2003

Stewart, J., Hedge, D.M. and Lester, J.P (2001) (3rd Ed.) *Public Policy*, Boston: Thomas

      Wadsworth.

Swedish International Development Cooperation Agency (SIDA) (1997) New Models for Aid

      Agencies Seeking to Improve Housing for The Low-Income Groups: Sida's Initiatives in

      Costa Rica, Chile and Nicaragua. *Environment and Urbanization*, 9(2) 213-231.

Taher, N. (2001) In the shadow of Politics: US AID-government of Egypt Relations and Urban

      Housing Intervention. *Environment and Urbanization.* 13 (1) 61-76

Terri, C. and Joseph, S.M. (2002) How Neighbourhood Features Affect Quality of Life. *Social*

      Indicators: 59: 79-114

Thiele, B. (2002)The Human Right to Adequate Housing: A Tool for Promoting and Protecting

      Individual and Community Health. American Journal of Public Health 92 (5) 712-715

Tipple, A. G. (1994) The need for new Urban housing in Sub-Saharan Africa: Problem or

      Opportunity .*African Affairs*, 93(373)587–608. Available online: http://www.jstor.org.

Tipple, A.G. (2006) Ways Forward for Housing Supply in Developing Countries: An Oblique View, in A.I. Okewole et al (eds.) *The Built Environment: Innovation   Policy and Sustainable Development.* Ota- Nigeria: Department of Architecture, Covenant University, pp 348-354.

Uji, Z. (1988) Public Housing in Nigeria and the Low-income/Low-Cost Factor. *The Nigerian Institute of Architects Journal 4(4)31-43.*

Ukoha, O.M. and Beamish, J.O (1997) Assessment of Residents Satisfaction with Public Housing in Abuja, Nigeria. *Habitat International* 21(4) 445-460.

United Nations Population Funds (UNFPA) (2007) *State of the World Population 2007* New York: The United Nations. Available online [http://www.unfpa.org] Retrieved November 28, 2008.

United Nations Centre for Human Settlements (UNCHS), 2000) *Summary: Global Strategy For Shelter to the Year 2000*, Kenya: UNHABITAT.

UN-HABITAT (2002) Regional Housing Issues Profile: Implementing Housing Rights in South East Europe.Paper Presented to the Regional Consultation on Working Cities Inclusive in Belgrade, 25-26 February by Scott Leckie.

UNCHS (1992) *Global Strategy to the Year 2000*, Nairobi: UNCHS.

UN-HABITAT (2006a) *Shelter for All: The Potential of Housing Policy in the Implementation of the Habitat Agenda*, Nairobi: UN-HABITAT Information Services , Online [http:// www.unhabitat.org/

UN-HABITAT (2006b) *Public-Private Partnerships in Enabling Shelter Strategies*, Nairobi: United Nations HABITAT information Services Section, Available Online at [http://www.unhabitat.org/]

UN-HABITAT (2006c) *National Trends in Housing –Production Practices Volume 4: Nigeria,* Ibid

UN-HABITAT (2006d) *National Experiences with Shelter Delivery for the poorest Groups*. Ibid

UN-HABITAT (2006e) *Enabling Shelter Strategies –Review of Experience From Two Decades of implementation* Nairobi: UNCHS.

Valenca, M.M., (2007) Poor Politics-Poor Housing Policy under the Collor Government in Brazil (1990-1992). *Environment and Urbanization* 19(2) 391-408.

van Kamp, I., Leidelmeijer, K., Marsmann, G. and de Hollander, A. (2003) Urban Environmental Quality and Human Well-being. Towards a Conceptual Framework and Demarcation of Concepts; A Literature Study. *Landscape and Urban Planning*, (65)5–18.

Wachira, E. (2009) Organizational capacity Audit Tool. Global e-Schools and Communities Initiative. http://www.gesci.org/assets/files/organizational%20Capacity%20Audit%20Tool.pdf. Downloaded on 11 November, 2009

Weiss, C.H. (1997) How Can Theory-Based Evaluation make Greater Headway? *Evaluation Review* 21(4) 501-524.

Weiss, C. (1995) Nothing as Practical as Good Theory: Exploring Theory-based Evaluation for Comprehensive Community Initiatives for Children and Families, in J. P. Connell, A. C. Kubisch, L. B. Schorr and C. H. Weiss (eds) *New Approaches to Evaluating Community Initiatives: Volume 1, Concepts, Methods, and Contexts.* Washington, DC: The Aspen Institute.

Westaway, M.S. (2006) A longitudinal Investigation of Satisfaction with personal and environmental quality of life in an informal South African Housing Settlement. Doornkop, Soteto. *Habitat International* 30:175-180

Wilkinson, D. (1999) *Poor Housing and ill Health: A Summary of Research Evidence*, Housing Research Branch, the Scottish Office, Central Research Unit, Glasgow.

Wiesenfeld, E. (1992) Public Housing Evaluation in Venezuela: A Case Study. *Journal of Environmental Psychology* 12 (3) 213-223.

World Health Organization (1992) *Our Planet, Our Health.* Report of the Commission on Health and Environment. Geneva, World Health Organization.

World Health Organization (2004) Tuberculosis Fact Sheet. Available online at http://www.who.int/mediacentre/factshees/fs104/en/ Downloaded on 5th May, 2009

World Bank (2003) Infrastructure and environment, World Bank Research Development group, March. Washington DC: World Bank

World Bank (1993) *Housing: Enabling Markets to Work*, Washington, DC: The World Bank

World Bank (1993) *Housing: Enabling markets to work with Technical Supplement*.

Washington D.C.: The World Bank.

Wu, F. (1996) Changes in the Structure of Public Housing Provision in Urban China. *Urban Studies* 33(9) 1601-1627

Yeun, B., Yeh, A., Stephen, J.A., Earl, G., Ting, J., and Kwee, L.K (2006) High-rise Living Singapore Public Housing. *Urban Studies* 42(3) 583-600.

Yiping, F. (2006) Residential Satisfaction, Moving Intention and Moving Behaviors: A Study of Redeveloped Neighbourhoods in Inner-City Beijing. *Housing Studies* 21(5) 671-694.

Young, T.K. and Mollins, C.J. (1996) The Impact of Housing on Health: An Ecologic Study from the Canadian Arctic. *Arctic Medical Research* 55(2) 52-61

Yusof, N.A; Shafiei, M.W.M; Yahya,S. and Ridzuan (2010) Strategies to Implement the 'Build then Sell' Housing Delivery System in Malaysia. *Habitat International*,(34)53-58

Yust, B.L., Hadjiyanni, T. And Ponce, L.B. (1997) Exploring Housing Quality Measures in a Rural Area of the Philippines. *Housing and Society,*24(1)60-74.

Zami, M.S. and Lee, A. (2010) Misunderstanding of Housing and its Influence on the Success of Low Cost Housing Projects-State of the Art Review. *The Built & Human Environment Review*, 3:1-11.

Zey-Ferrell, M., Kelly, E.A. and Betrand, A.L. (1977) Consumer Preferences and Selected Socio-economic Variables Related tpo Physical Adequacy of Housing. *Family and Consumer Sciences Reserach Journal*. 5(4), 232-243

Zimring, C.M., Wineman, J. and Carpman, J., (1988) The New Demand-Driven Post Occupancy Evaluation. *Journal of Architectural and Planning Research*, 5 (4) 280-283

Zollner, Ernst (2003) *Planning with Numbers*, Auckland: University of Auckland

Zubairu, S.N. (2002) Housing Concept and Design in a Developing Economy: The Nigerian Housing Problem. *Housing Today- Journal of the Association of Housing Corporations of Nigeria* 1(5)37.

APPENDICES

Appendix 1

Ogun State in the context of Nigeria
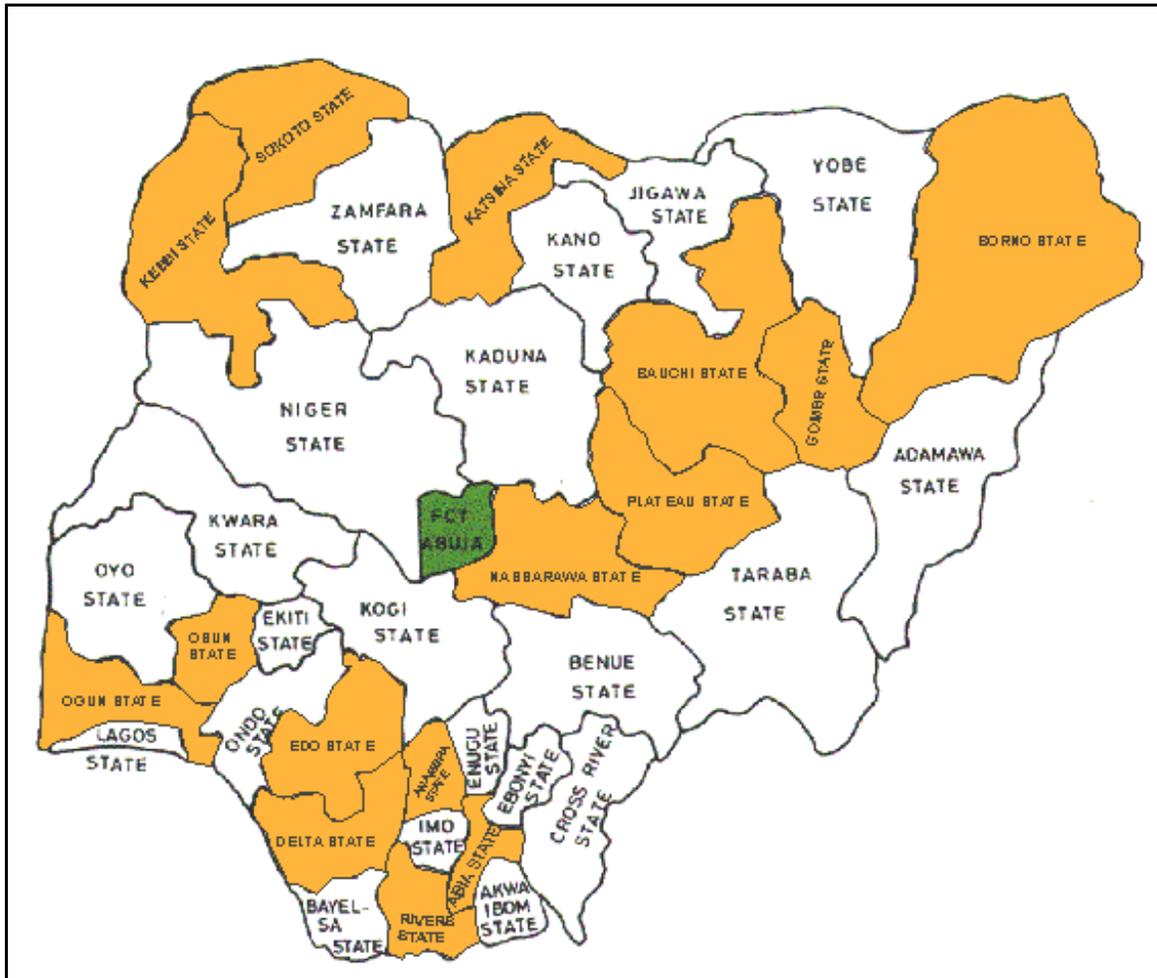
Source: UNFPA (2007)

Appendix 2
Floor Plans of Core Housing Units
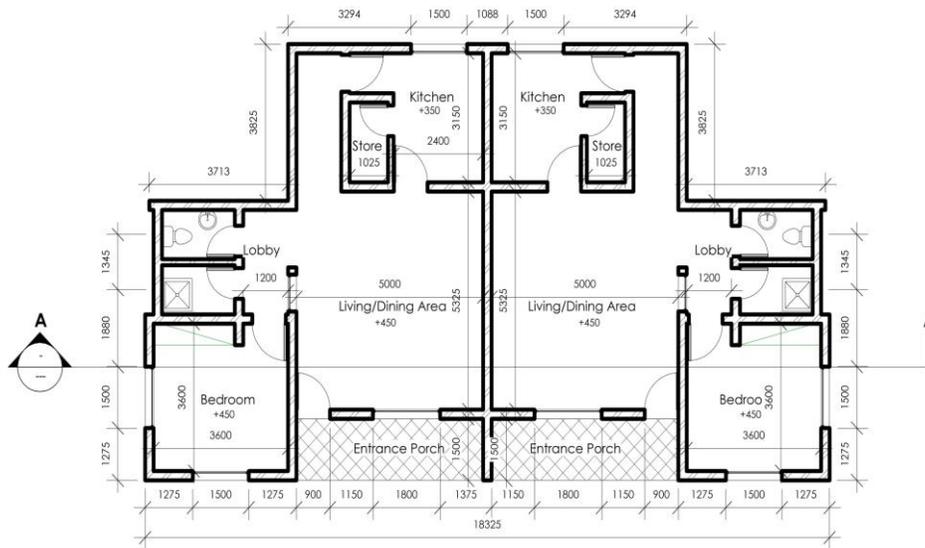
Appendix 3
Floor Plan of a typical 3-Bed room Bungalow in the Presidential Mandate Housing Estate in Olokuta, Abeokuta (Turnkey Housing Strategy)
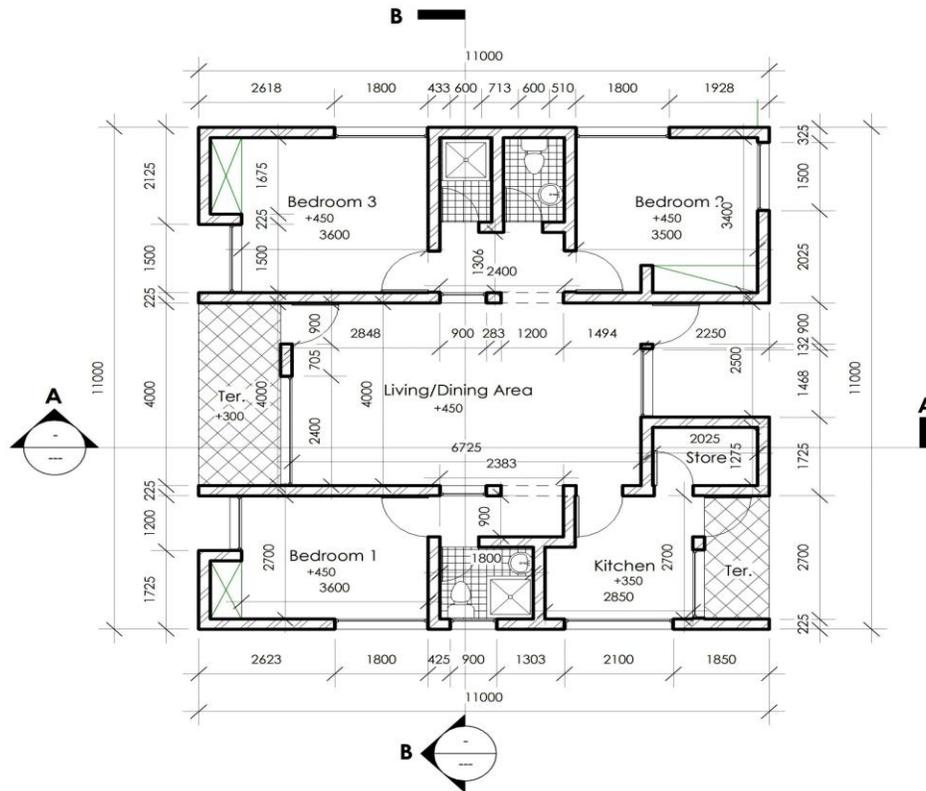
Floor Plan of a typical detached 3-bedroom Bungalow in the OGD-Sparklight Estate
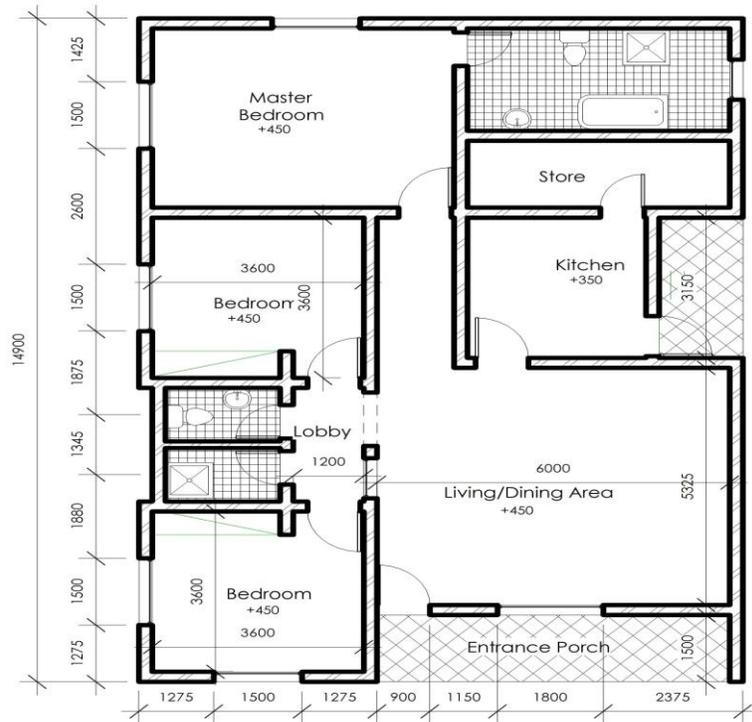
Appendix 5

Floor Plan of a typical detached 3-bedroom Bungalow in the Shell Housing Strategy
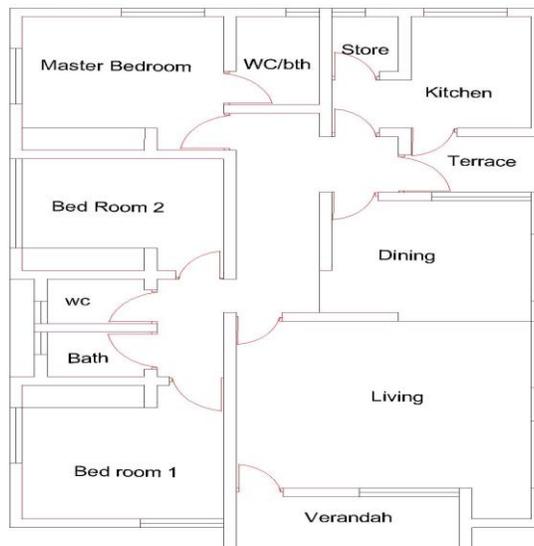
Appendix 6

Variables for Assessing Management Capacity of Public Housing Agencies

S/N	Management Capacity Components
1	Leadership Style
2	Methods of role assignment to staff
3	Housing project process management and monitoring strategies
4	Information Management strategies
5	Level of innovation in public housing delivery process
6	Institutional capacity building process
7	Staff development programmes
8	Staff performance appraisal procedures
9	Level of Staff motivation
10	Staff incentives and reward system
11	Methods of fund disbursement for housing projects
12	Communication channel
13	Clarity of organizational goal in public housing delivery

Variables for Assessing Resource Capacity of Public Housing Agencies

S/N	Resources Capacity
1	Human resource capacity
2	Staff morale and attitude to work
3	Work Environment
4	Operational Equipments and Vehicles
5	Level of technological know-how in housing delivery
6	Funding for Housing Projects
7	Office spaces and furniture

Appendix 7: **Housing Attributes**

Housing Unit Attributes

S/N	Housing Attribute
1	Residence Type
2	Size of Residence (number of rooms)
3	Mode of Ownership Acquisition
4	Process of Housing Acquisition
5	Cost of Housing
6	Walling Materials
7	Wall Finishes
8	Window Types
9	Door Types
10	Floor Finish
11	Ceiling Materials
12	Roofing Sheets
13	State of Repair of Residence
14	Presence of Nets on Windows and Openings
15	Burglary Proof on Windows
16	Perimeter Fencing of the unit
17	Spaces Required but not Provided in the unit

Housing Services and Infrastructure

S/N	Housing Services and infrastructure
1	Mode of Water Supply to the housing unit
2	Main Source of power supply to housing unit s
3	Mode of refuse collection and disposal
4	Access roads to the estate
5	Characteristics of roads within the estates
6	Presence of Walkways in the Estate
7	Street Lights in the estate

Neighbourhood facilities

S/N	Neighbourhood Facilities
1	Security Post at entrances to the Housing Estate
2	Shopping Facilities in the Housing Estate
3	Educational Facilities in the Housing Estate
4	Recreational/ Sporting facilities in Housing Estate
5	Play Ground for Children in Housing Estate
6	Parking Spaces provided in Housing Estate
7	Open Spaces and Green Areas
8	Medical and Health Care facilities in Estate
9	Perimeter fence on the estate
10	Places of worship within the estate

Appendix 8

Housing Adequacy Variables

Variables Measuring Adequacy of Housing Unit Attributes

S/N	Housing Unit Adequacy Variables
1	Adequacy of Sizes of Living and Dining Spaces
2	Adequacy of Sizes of Bedrooms
3	Adequacy of Number of Bedrooms
4	Adequacy of Sizes of Cooking and Storage Spaces
5	Adequacy of Natural Lighting in Living/Dining Spaces
6	Adequacy of Natural Lighting in Bedrooms
7	Adequacy of Natural Lighting in Kitchen
8	Adequacy of Circulation of Fresh air in Living/ Dining rooms
9	Adequacy of fresh air in Bedrooms
10	Level of Thermal Comfort the apartment
11	Adequacy of Protection against Noise Pollution
12	Adequacy of Protection against Dampness in the house
13	Adequacy of Protection against insects and dangerous animals
14	Adequacy of Security Measures in the House
15	Adequacy of Fire Safety measures in House
16	Adequacy of Privacy in the House

Variables measuring Adequacy of Housing Services and Infrastructure

S/N	Housing Services and Infrastructure Adequacy Variables
1	Adequacy of electricity supply in the house
2	Adequacy of portable water supply in the house
3	Adequacy of sanitary/ drainage facilities
4	Adequacy of refuse disposal facilities
5	Adequacy of external lighting in the estate
6	Adequacy of road network within the estate

Variables for measuring Adequacy of Estate Management

	Management of Estate Adequacy Variables
1	Adequacy of Communal Activities
2	Adequacy of management and maintenance of facilities in the estate

Variables for measuring Adequacy of Neighbourhood Facilities

S/N	Neighbourhood Facilities Adequacy Variables
1	Adequacy of Shopping Facilities in the Housing Estate
2	Adequacy of Educational Facilities in the Housing Estate
3	Adequacy of Recreational/ Sporting facilities in Housing Estate
4	Adequacy of Play Ground for Children in Housing Estate
5	Adequacy of Parking Spaces provided in Housing Estate
6	Adequacy of Open Spaces and Green Areas in Housing Estate
7	Adequacy of Medical and Health care facilities in Estate
8	Adequacy of Access to Public Transport Service
9	Adequacy of Places of Worship in Housing Estate

Appendix 9

Residential Satisfaction and Satisfaction with Life Variables

Variables for measuring Satisfaction with Housing Services

	Housing Services and infrastructures Satisfaction Variables
1	Satisfaction with water supply and sanitary services in the house
2	Satisfaction with electrical services in the house

Variables for Measuring Satisfaction with Location of Facilities

S/N	Location of Facilities Satisfaction Variables
1	Satisfaction with nearness of house to Recreation / Sporting facilities
2	Satisfaction with nearness of house to Public infrastructure and urban Services
3	Satisfaction with nearness of house to Shopping Facilities
4	Satisfaction with nearness of house to Health care facilities
5	Satisfaction with nearness of house to Children's School
6	Satisfaction with nearness of house to the nearest Market

Variables for measuring satisfaction with Housing Unit Attributes

S/N	Housing Unit Attributes Satisfaction Variables
1	Satisfaction with the Sizes of Living & Dining Spaces
2	Satisfaction with Sizes of Bedrooms in the residence
3	Satisfaction with the Number of Bedrooms in the Residence
4	Satisfaction with the Sizes of Cooking and Storage Spaces
5	Satisfaction with the Type of Residence
6	Satisfaction with Bath and Toilet facilities in the Residence
7	Satisfaction with the Type of Building Materials Used
8	Satisfaction with the Location of Residence
9	Satisfaction with External Appearance of Residence
10	Satisfaction with Natural Lighting and air circulation in Living and Bed rooms
11	Satisfaction with the Level of Privacy in the Residence
12	Satisfaction with the Cost of Housing

Variables for Measuring Satisfaction with Socio-economic Environment

S/N	Socio-economic Environment Satisfaction Variables
1	Satisfaction with nearness of house to place of work
2	Satisfaction with the Prices of goods and services in the housing estate
3	Satisfaction with Business/Job opportunities within and around the estate
4	Satisfaction with the Level of crime and anti-social activities in the housing Estate
5	Satisfaction with the level of Communal Activities in the housing estates
6	Satisfaction with the residence in relation to your culture
7	Satisfaction with the level of Noise in the Housing Estate

Variables for measuring satisfaction with Estate Management

S/N	Estate Management and Maintenance Satisfaction Variables
1	Satisfaction with general cleanliness of the housing estate
2	Satisfaction with rules and regulations regarding residency in the housing estate
3	Satisfaction with the management and maintenance of facilities the in housing estate
4	Satisfaction with general security of life and property in the housing estate

Variable for measuring Satisfaction with Life

	Satisfaction with Life Variable
1	General Satisfaction with Life in the housing estate

Questionnaire for staff of Public Housing Agencies

CU/DA/FW09/QN0---------------------------

Dear Respondent,

This questionnaire is designed to elicit responses on issues relating to the public housing programme in Ogun State between 2003 and 2009. It is mainly an instrument for gathering data for an on-going research on public housing provision. All information provided will be treated confidentially, and used purely for academic purpose.

Thanks for providing responses to the questions

Arc Eziyi O. Ibem

Department Of Architecture

Covenant University, Ota, Ogun State.

INSTRUCTION: Please **tick (√) or fill** as appropriate

SECTION A: **BASIC INFORMATION**

 Name of Organization---

1. Sex   (i) Male ( )   (ii) Female ( )

2. How old are you? (i) 18-30years ( ) (ii) 31-45 years (   ) (iii) 46-50years ( ) (iv) 51- 60years (   )

3. Marital status: (i) Single ( )   (ii) Divorced ( )   (iii) Married ( )   (iv) Widowed ( )

4. What is the level of your educational attainment? (i) OND ( ) (ii) NCE ( ) (ii) HND ( ) (iv) Bachelor degree ( ) (v) Masters degree ( ) (vi) PhD ( )

  (vii) Others, please specify---

 5. What is the range of your average monthly income? (i) Below₦ 13, 000 ( ) (ii) ₦14, 000- ₦ 37,000 ( ) (iii) ₦ 38,000-₦ 44,000 (   ) (iv) ₦45- ₦ 71,000 ( ) (v) ₦ 72,000- ₦ 145,000 ( )

  (vi) above ₦ 145,000 (   )

6. What is your department? ---

7. What is your area of specialization? ---

8. How long have you been working in the public service?

 (i) Less than 10years (   ) (ii) 10-15years (   ) (iii) 15-25 years (   ) (iv) More than 25 years (   )

9. How long have you been working in this establishment?

 (i) Less than 10years (   ) (ii) 10-15years (   ) (iii) 15-25 years (   ) (iv) More than 25 years (   )

10. What is your designation? (i) Director (   ) (ii) Deputy Director (   ) (iii) Head of Department (   )
(iv) Senior Technical staff (   ) (v) Management staff (   ) (vi) Administrative staff (   )

 (vii) others, please specify-----------------------

11. Which of these incentives are available to you as a staff of this organization?

 (i) Financial incentive (   ) (ii) Good working environment (   ) (iii) Flexible working hours (   )

 (iv) Recognition for hard work (   ) (v) Free access to internet facilities (   ) (vi) Staff development

 Programme (   ) (viii) others, please specify--

SECTION B: **ORGANIZATIONAL CAPACITY**

How would you rate the following in terms of adequacy or inadequacy in supporting your organization's mandate in public housing provision in Ogun State? Please kindly tick **(√)**.

S/N		Very Inadequate	Inadequate	Fair	Adequate	Very Adequate
1	Leadership style					
2	Organizational structure					
3	Communication channels					
4	Clarity of organization's goal in public housing delivery					
5	Definition and assignment of roles to staff					
6	Project process management and					

	monitoring strategies					
7	Information management strategies					
8	Availability of funds for housing projects					
9	Methods of disbursement of funds for the projects					
10	Level of innovation in housing delivery strategies					
11	Available operational equipment and vehicles					
12	Available technology and know how					
13	Available office spaces and furniture					
14	Available human resource capacity					
15	Staff attitude to work and morale					
16	Level of Staff motivation					
17	Staff incentive and reward system					
18	Staff performance appraisal procedure					
19	Staff development programme					
20	General working environment for staff members					
21	General institutional capacity building process					

Apendix 11

Interview Guide

Name of Organization--

Location---

Designation of the interviewees ---

1. What is the staff strength of your organization?

2. How best can you describe your organizational structure?

 3. What exactly is your organization's mandate in public housing provision under the present

   administration in Ogun State?

4. What human resource capacity is available in your organization to realise this housing mandate?

5. How will you rate your staff morale and attitude to work?

6. Is the level of physical infrastructure in your organization adequate to support your housing mandate?

7. Is there an adequate budgetary allocation from the government for your housing projects?

8. How is the disbursement of the funds carried out?

9. Apart from allocation from the government how else do you source funding for your housing projects?

10. What housing strategies do you adopt in the implementation of your housing programmes?

11. What are the rationales for adopting these housing delivery strategies?

12. Who are the participants in these housing delivery strategies?

13. What process management practices exist in your organization in the public housing delivery strategies?

14. What are the administrative and legal systems that affect the execution of your housing projects?

15. What are the policies in other ministries and parasatals that have influence on the execution of

   your   housing schemes?

16. Is the political and economic environment in the state conducive for realizing your housing

  mandate?

   16. What steps are you taking to increase your organizational capacity to provide adequate
       housing in the State?

Appendix 12

Questionnaire for residents of public Housing estates

CU/DA/FW09/QN0---------------------------

Dear Respondent,

This questionnaire is designed to elicit responses on issues relating to the public housing programmes in Ogun State between 2003 and 2009. It is mainly an instrument for gathering data for an on-going research on public housing. All information provided will be treated confidentially, and used purely for academic purpose.

Thanks for providing responses to the questions

Arc Eziyi O. Ibem

Department Of Architecture

Covenant University, Ota, Ogun State

INSTRUCTION: Please **tick (√) or fill** as appropriate

SECTION A: **BASIC INFORMATION**

 Name of Housing Estate--

1. Sex   (i) Male (   )   (ii) Female (   )

2. How old are you? (i) 18-30years (   ) (ii) 31-45 years (   ) (iii) 46-59years (   ) (iv) 60years and above (   )

3. Marital status: (i) Single (   )   (ii) Divorced (   )   (iii) Married (   )   (iv) Widowed (   )

4. What is the highest level of your educational attainment? (i) First School Leaving Certificate (   )

 (ii) WASC O'Level (   ) (iii) OND (   ) (iv) NCE (   ) (v) HND (   ) (vi) Bachelor Degree (   ) (vii)

   Masters Degree (   ) (viii) PhD (   )   (ix) Others---

5. What is your occupation? --

 6. What is the range of your average monthly income? (i) Below ₦ 13, 000 ( ) (ii) ₦14, 000- ₦

   37,000 (   )   (iii) ₦ 38,000-₦ 44,000 (   ) (iv) ₦45- ₦ 71,000 (   )   (v) ₦ 72,000- ₦ 145,000 (   )

   (vi) Above ₦ 146,000 (   )

7. How long have you been living in this Housing Estate?

 (i) Less than 1year (   ) (ii) 1-3years (   )   (iii) 4-5 years (   )   (iv) More than 5 years (   )

SECTION B: **HOUSING CHARACTERISTICS**

1. How many bed rooms do you have in your apartment?

        (i) 1 (   )   (ii) 2 (   )   (iii) 3 (   )   (iv) 4 (   )   (v) More than 5 bed rooms (   ).

3. How many persons live in this apartment?

     (i) 1 (   )   (ii) 2 (   )   (iii) 3 (   )   (iv) 4 (   )   (v) More than4 (   ).

4. Where is your kitchen located?

    (i) Within the building (   ) (ii) Detached from the building   (iii) No Kitchen (   )

5. How is the use of kitchen? (i) Exclusively used by your family (   )   (ii) Shared with other families (   )

6. Indentify as many spaces as you require that are not provided in your apartment?

   (i) Space for Shop (   ) (ii) Storage spaces (   ) (iii) Visitors' toilet (   )   (iv) Guest room (   )

   (v) Laundry (   ) (vi) Outdoor cooking space (   ) (ix) Others, please specify-------------------------------

7. What is the type of tenure of the house you are occupying?

   (i) Privately rented (   )   (ii) Family owned (   ) (iii) Owner occupied   (iv) Official quarters (   )

   (v) Free Occupation (   ) (vi) Others, Please specify---

8. If owner occupied, how did you acquire the ownership of the house?

   (i) Bought directly from the developers (   ) (ii) Bought from previous owner (s) (   )

   (iii) Government Allocation (   )   (iv) Inheritance (   ) (iv) Mortgage arrangement (   )

   (v) Gift (   )   (vi) Others, please specify---

9. In your opinion, the conditions for acquiring/ and or rentage of the house are

   (i) Very Stringent (   )   (ii) Stringent (   )   (iii) Less stringent (   )   (iv) Not stringent (   )

10. In your opinion, the cost of acquiring or renting this house can best be described as

   (i) Highly Unaffordable (   ) (ii) Unaffordable (   )   (iii) Affordable (   ) (iv) Highly affordable (   )

11. What is the predominant source of water supply in your apartment?

   (i) Water vendors (   )   (ii) Wells outside the building (   ) (iii) Borehole within the estate (   )

   (iv) Public water supply system (   ) (v) Others, Please specify---

12. What is the main source of power supply in your apartment? (i) Personal Power Generating sets (   )

(ii) Power Generating Plant in the estate (   ) (iii) Solar Panels (   ) (iii) Public Power supply (   )

 (iv) None (   ) (v) others, please specify--

I3. Refuse disposal in the housing estate you are living in is usually done by the

   (i) Residents (   ) (ii) Contractors (   ) (iii) Estate Managers (   ) (iv) Government agencies (   )

14. Who maintains the facilities in the housing estate you live in?

   (i) Individual residents (   ) (ii) Estate Agents (   )   (iii) Tenants' Association (   )

   (iv) Owners of the estate (   )   (v) Government agency (   ) (vi) others, please specify----------------

SECTION C: HOUSING ADEQUACY

 How would you rate the house and estate where you live in terms of the following? Please tick (√)

S/N	Attributes	Very Inadequate	Inadequate	Fair	Adequate	Very Adequate
1	Sizes of Living & Dining Spaces in your house					
2	Sizes of bedrooms					
3	Number of bed rooms					
4	Size of cooking and storage spaces					
5	Natural lighting in Living/ Dining rooms					
6	Natural lighting in bedrooms					
7	Natural lighting in Kitchen					

8	Circulation of fresh air in Living/dining rooms					
9	Circulation of fresh air in bed rooms					
10	Level of thermal comfort in your apartment					
11	Protection against noise pollution					
12	Protection against dampness in your house					
13	Protection against insects and dangerous animals					
14	Security measures in your house					
15	Fire safety measures in your house					
16	Level of privacy in your house					
17	Electricity supply in your house					
18	Portable water supply in your house					
19	Provision of Sanitary/ drainage facilities					
20	Provision of refuse disposal facilities					
21	Provision of shopping facilities in the estate					
22	Provision of educational facilities in the estate					
23	Provision of recreational/sport facilities					
24	Provision of Playground for children					
25	Provision of parking spaces in the estate					
26	Availability of open spaces/green areas					
27	Accessibility to medical and health care services					
28	Accessibility to Public transport service					
29	Accessibility to place of worship					
30	External lighting in the housing Estate					

S/N						
31	Road network within the estate					
32	Communal activities in the estate					
33	Management and maintenance of facilities in the housing estate					

SECTION D: SATISFACTION WITH HOUSING & SATISFACTION WITH LIFE IN THE

RESIDENCE

How satisfied or dissatisfied are you with the house and housing estate where you live in terms of the following? Please **tick (√)**

S/N	Attributes	Very Dissatisfied	Dissatisfied	Fair	Satisfied	Very Dissatisfied
1	Sizes of Living & Dining spaces					
2	Sizes of bedrooms					
3	Number of bed rooms					
4	Sizes of cooking and storage spaces					
5	Type of house you live in					
6	Bathroom/Toilets facilities in your house					
7	Types of building materials used in your house					
8	Location of your apartment					
9	External appearance of the house you live in					
10	Natural lighting and circulation of fresh air in your living and bed rooms					
11	Noise level in your house and the housing estate					
12	Water supply and sanitary services in your house					
13	Electrical services in your house					
14	Level of privacy in your house					
15	Cost of acquiring/ rentage of your house					
16	Nearness of your house to recreational/sport facilities					

17	Nearness of the housing estate to public infrastructure and urban services					
18	Nearness to shopping facilities within the estate					
19	Nearness of your house to place of work					
20	Nearness of your house to health care facilities					
21	Nearness of your house to your children's school					
22	Nearness of your house to the nearest market					
23	Prices of goods and services in the housing estate					
24	Job/ business opportunities within and around the housing estate					
25	Level of crime and anti- social activities in the housing estate where you live					
26	Communal activities in your housing estate					
27	Suitability of where you live to your natural way of life					
28	Rules and regulations regarding residency in the housing estate you live in					
29	Management and Maintenance of facilities in the housing estate					
30	General cleanliness of the housing estate					
31	General security of life and property in the estate					
32	General level of satisfaction with life in the estate					

Appendix 13

Observation Schedule

Name and Location of Housing Estate: --

House Number: ---

1 Housing Typology (i) Single-Family Bungalow [   ]   (ii) Semi detached Bungalow [   ]

                (iii) Detached stored [   ] (iv) Semi-detached stored building (Block of flats) [   ]

                (v) Duplex [   ] (vi) Others---

2. Walling material of your house?

                (i) Sun dried burnt bricks [ ] (ii) Compressed Stabilized Laterite [   ]

                (iii) Sancerre Cement Blocks [   ] (iv) Others---

3. Wall finishing (i) Cement sand plastering [   ] (ii) Painted [   ] (iii) Others---------------------------------

4. Type of windows used in the house (i) Timber [ ] (ii) Glazed louvers [   ] (iii) glazed aluminium [   ]

5. The type doors used in the house (i) Plywood flushed [ ] (ii) Panelled timber [ ]

                (iii) Aluminium Glazed [   ] (iv) Panelled Steel [   ] (v) others------------------------------

6. Presence of mosquitoes net on windows   (i) Yes [ ]   (ii) No [   ]

7. Burglary proof on windows and external doors (i) Yes [ ]   (ii) No [   ]

8.   Type of floor finish   (i) Cement screed [   ] (ii) PVC Tiles [   ] (iii) Ceramic Tiles [   ]

                (iv) Terrazzo [   ] (v) Marble [   ] (vi) Others---

9. Ceiling Material(s) (i) Asbestos [   ]   (ii) Mineral Fibre [   ]   (iii) Acoustic ceiling [   ]

                (iv) PVC strips [   ] (v) Polished timber [   ] (vi) Plaster of Plaster (POP) [   ]

10. Type of Roofing material

                (i) Galvanized iron [   ] (ii) Asbestos [   ]   (iii) Aluminium long span [   ]

                (iv) Villa tiles [   ] (v) others, specify--

11. State of repair of the building?

                (i) Dilapidated [   ] (ii) Major repairs [   ] (iii) Minor repairs [   ] (iv) Sound [   ]

12 .Mode of discharge of waste water from the buildings

(i) Central Waste treatment facilities [   ] (ii) Septic tank/soak away pits [   ]

(iii) Outside drains [   ] (iv) Surface discharge [   ]

13. The layout of the housing estate

(i) Crowded [   ] (ii) Haphazard [   ] (iii) Spacious [   ] (iii) properly planned [   ]

14. The characteristics of roads and walkways in the housing estate

(i) Untarred but in good condition [   ] (ii) untarred and dilapidated [   ] (iii) Tarred but in disrepair [   ]

(iv)Tarred without drainage [   ]   (v) Tarred with drainage [   ] (vi) No walkways [   ]

15. Perimeter fencing (i) Nonexistent [   ] (ii) Major repairs [   ] (iii) Minor repairs [   ] (iv) Sound [   ]

16. Kiosks for retail shops (i) Nonexistent [   ] (ii) Present [   ]

17. Security post at entrance(s) to the estate (i) Nonexistent [   ] (ii) Present [   ]

18. General state of cleanliness of the estate (i) Very poor [   ] (ii) poor [   ] (iii) Fair [   ] (iv) Good [   ]

(v) Very good [   ] (vi) Excellent [   ]

Appendix 14

Reliability Test of Scale of Measurement Test for Organizational Capacity

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Adequacy of Staff Knowledge of Organizations' goal in Housing Delivery	66.37	124.347	.490	.893
Adequacy of Methods of role assignment to Staff	66.62	121.361	.639	.888
Adequacy of Project Process Management and Monitoring Strategies	66.52	122.859	.525	.892
Adequacy of Information Management Strategies	66.86	124.058	.494	.892
Adequacy of Level of Innovation in Housing Delivery	66.59	126.380	.435	.894
Adequacy of Fund for Housing Projects	67.14	126.282	.358	.897
Adequacy of operational equipment and vehicles	67.06	126.165	.434	.894
Adequacy of adoption of ICT	66.76	127.063	.464	.893
Adequacy of Office spaces and furniture	66.77	120.428	.559	.891
Adequacy of Human Resource Capacity	66.76	124.322	.431	.894
Adequacy of Staff morale and attitude to work	66.78	121.006	.643	.888
Adequacy of Staff Motivation	67.23	125.687	.449	.894
Adequacy of Staff Incentives and Reward System	67.18	123.249	.607	.890
Adequacy of Staff Performance Appraisal Procedure	66.96	128.268	.377	.895
Adequacy of Staff Development Programme	67.12	125.524	.459	.893
Adequacy of Working Environment for Staff	66.62	124.035	.565	.891
Adequacy of Institutional Capacity Building Process	66.80	123.218	.597	.890
Adequacy of Leadership Style	66.23	122.810	.568	.890
Adequacy of Organizational Structure	66.48	121.264	.616	.889
Adequacy of Communication Channel	66.60	125.658	.457	.893
Adequacy of Method of Fund Disbursement	66.57	120.338	.591	.890

Appendix15

Reliability Test of Scale of Measurement for Housing Adequacy

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Adequacy of Sizes of Living/ Dining Spaces	88.75	193.533	.299	.890
Adequacy of Sizes of Bedrooms	88.52	195.521	.276	.890
Adequacy of Number of Bedrooms	89.33	190.218	.363	.889
Adequacy of Sizes of Cooking and Storage Spaces	88.96	193.369	.249	.891
Adequacy of Natural Lighting in Living/Dining Spaces	88.85	190.135	.484	.887
Adequacy of Natural Lighting in Bedrooms	88.72	191.245	.475	.887
Adequacy of Natural Lighting in Kitchen	88.68	191.643	.408	.888
Adequacy of Fresh air in Living/ Dining rooms	88.82	190.585	.510	.886
Adequacy of fresh air in bedrooms	88.74	191.834	.433	.887
Level of Thermal Comfort in the Residence	89.12	193.552	.292	.890
Adequacy of Protection against Noise Pollution	89.02	191.035	.386	.888
Adequacy of Protection against Dampness in the Building	89.19	191.999	.330	.889
Adequacy of Protection against insects and dangerous animals	89.28	191.314	.442	.887
Adequacy of Security Measures in the Residence	89.31	189.413	.501	.886
Adequacy of Fire Safety measures in the Residence	89.64	188.343	.483	.886
Adequacy of Privacy in the Residence	88.44	196.312	.167	.892
Adequacy of Power Supply	89.91	187.632	.531	.886
Adequacy of Portable Water Supply	90.08	187.123	.539	.885
Adequacy of Sanitary/ Drainage Facilities in the Residence	89.48	190.905	.362	.889
Adequacy of Refuse Disposal facilities in the Estate	90.28	182.223	.564	.884
Adequacy of Shopping Facilities in the Housing Estate	90.71	190.063	.460	.887
Adequacy of Educational Facilities in the Housing Estate	90.71	192.961	.332	.889
Adequacy of Recreational/ Sporting facilities in the Housing Estate	90.85	191.628	.477	.887
Adequacy of Play Ground for Children in the Estate	90.47	189.141	.426	.887
Adequacy of Parking Spaces provided in the Estate	89.65	187.196	.478	.886
Adequacy of Open Spaces and Green Areas	90.17	186.724	.506	.886
Adequacy of Medical and Health Care facilities in the Estate	90.63	187.385	.534	.885
Adequacy of Accessibility to Public Transport Service	89.52	189.320	.409	.888
Adequacy of Places of Worship in the Estate	89.55	191.988	.316	.890
Adequacy of External Lighting in the Housing Estate	89.72	188.232	.451	.887
Adequacy of Road Network within the Estate	89.63	184.392	.566	.885
Adequacy of Communal Activities within the Estate	89.67	192.024	.305	.890
Adequacy of Management and Maintenance of Facilities in the Estate	89.91	184.814	.589	.884

Appendix 16

Reliability Test of Scale of Measurement for Residential Satisfaction and Satisfaction   with Life

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Satisfaction with the Sizes of Living and Dining Spaces	90.26	185.066	.303	.890
Satisfaction with Sizes of Bedrooms in the house	90.11	185.541	.311	.889
Satisfaction with the Number of Bedrooms	90.90	179.767	.419	.888
Satisfaction with the Sizes of Cooking and Storage Spaces	90.52	183.191	.295	.890
Satisfaction with the Type of Residence	90.52	180.980	.542	.886
Satisfaction with bathroom and Toilet facilities	90.68	179.763	.518	.886
Satisfaction with the Type of Building Materials Used	90.88	182.637	.385	.888
Satisfaction with the Location of Residence	90.48	182.932	.422	.888
Satisfaction with External Appearance of Residence	90.66	181.575	.472	.887
Satisfaction with Natural Lighting and air circulation in Living and bed rooms	90.58	181.570	.591	.885
Satisfaction with the level of Noise in the Housing Estate	90.46	183.896	.394	.888
Satisfaction with Water Supply and Sanitary Services in the residence	91.47	179.226	.542	.885
Satisfaction with Electrical Services in the Residence	91.45	179.299	.516	.886
Satisfaction with the Level of Privacy in the Residence	90.01	187.318	.211	.891
Satisfaction with the Cost of housing	90.54	183.512	.353	.889
Satisfaction with Distance to Recreation / Sporting Facilities	91.99	180.765	.434	.887
Satisfaction nearness of House to Public Infrastructure and Urban Services	91.32	180.341	.480	.886
Satisfaction with nearness of house to Shopping Facilities from Residence	92.05	180.144	.459	.887
Satisfaction with the Distance to Place of Work	90.77	177.801	.444	.887
Satisfaction with the Distance to Medical and Health Care Facilities from Residence	91.91	178.278	.497	.886
Satisfaction with nearness of house to Children's School	91.50	181.298	.334	.890
Satisfaction with nearness of house to the nearest Market	91.79	177.559	.501	.886
Satisfaction with the Prices of goods and services in the Housing Estate	92.00	178.588	.493	.886
Satisfaction with Business and Job opportunities within and around the Estate	91.91	181.240	.368	.889
Satisfaction with the Level of crime and anti-social activities in the Housing Estate	90.49	187.650	.192	.892
Satisfaction with the level of Communal Activities in the Housing Estates	91.19	183.545	.281	.891
Satisfaction with the Residence in relation to your Culture	90.72	181.410	.518	.886
Satisfaction with Rules and Regulations within the Housing Estate	90.62	182.345	.508	.886
Satisfaction with Management and Maintenance framework in Housing Estate	91.37	176.297	.599	.884
Satisfaction with the state of Cleanliness of the Housing Estate	91.01	179.480	.540	.885
Satisfaction with general Security of life and Property in the Housing Estate	90.53	182.830	.445	.887
Satisfaction with life in the Estate	90.29	183.961	.446	.887

Appendix 17

Number of persons per room

Number of Persons Per Room	Housing Delivery Strategies				Total
	Core Housing	**Turnkey**	**PPP**	**Shell Housing**	
0.2	22(11.76)	1(0.34)	0(0.0)	0(0.0)	23(4.48)
0.25	26(13.90)	0(0.0)	0(0.0)	0(0.0)	26(5.07)
0.33	24(12.83)	0(0.0)	0(0.0)	1(10.0)	25(4.87)
0.4	9(4.81)	29(9.86)	1(4.55)	0(0.0)	39(7.60)
0.5	19(10.16)	58(19.73)	2(9.09)	0(0.0)	79(15.40)
0.6	39(20.86)	81(27.55)	3(13.64)	7(70.0)	130(25.34)
0.67	6(3.21)	29(9.86)	3(13.64)	0(0.0)	38(7.41)
0.75	19(10.16)	30(10.20)	5(22.72)	2(20.0)	56(10.92)
0.8	0(0.0)	9(3.06)	0(0.0)	0(0.0)	9(1.75)
1.0	19(10.16)	44(14.97)	7(31.82)	0(0.0)	70(13.65)
1.33	0(0.0)	4(1.36)	0(0.0)	0(0.0)	4(0.78)
1.5	2(1.07)	4(1.36)	1(4.55)	0(0.0)	7(1.37)
1.67	0(0.0)	1(0.34)	0(0.0)	0(0.0)	1(0.20)
2.0	1(0.54)	2(0.68)	0(0.0)	0(0.0)	3(0.59)
2.5	1(0.54)	0(0.0)	0(0.0)	0(0.0)	1(0.20)
3.0	0(0.0)	2(0.68)	0(0.0)	0(0.0)	2(0.39)
Total	187(100.0)	294(100.0)	22(100.0)	10(100.0)	513(100.0)

Appendix 18

Layouts of Public Housing Estates

APPENDIX 19
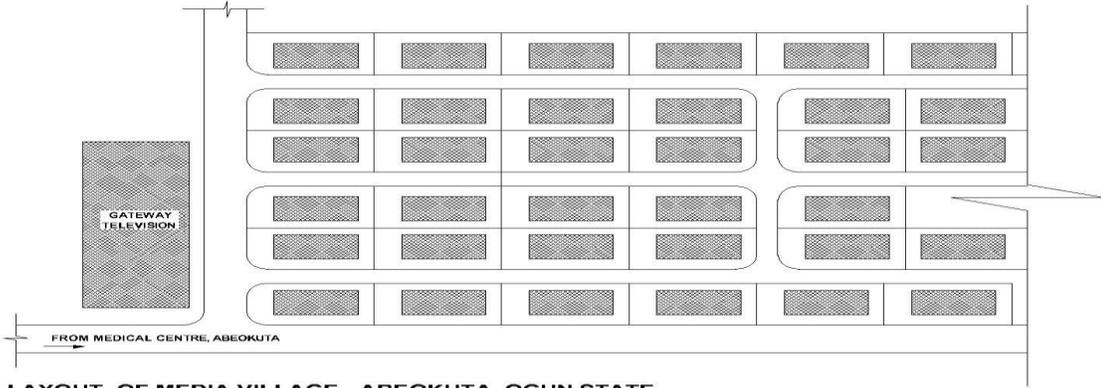
LAYOUT OF MEDIA VILLAGE - ABEOKUTA, OGUN STATE.

APPENDIX 20
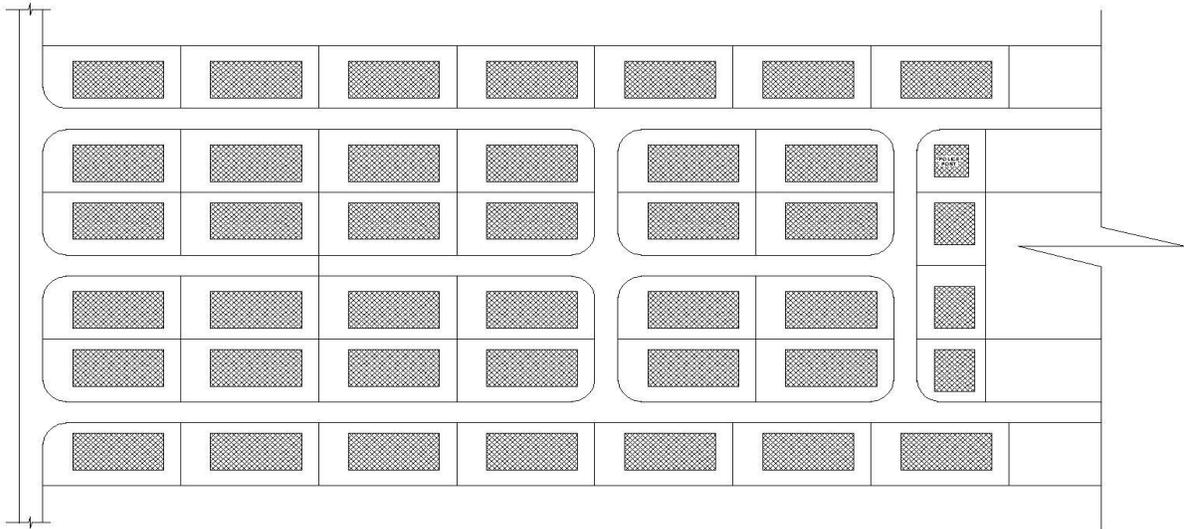
LAYOUT OF OGD HOUSING ESTATE, ASERO-ABEOKUTA, OGUN STATE.

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Categorical Principal Component Analysis of Dimensions of Housing Adequacy Evaluation in All the Housing Estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	Total (Eigenvalue)	% Variance
1	.981	38.215	28.951
2	.942	15.386	11.656
Total	.989(a)	53.601	40.607

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of Housing Adequacy in all the housing estates

	Dimension	
	1	2
Adequacy of Sizes of Living/ Dining Spaces	.278	.451
Adequacy of Sizes of Bedrooms	.273	.454
Adequacy of Number of Bedrooms	.409	.356
Adequacy of Sizes of Cooking and Storage Spaces	.147	.442
Adequacy of Natural Lighting in Living/Dining Spaces	.668	.417
Adequacy of Natural Lighting in Bedrooms	.635	.384
Adequacy of Natural Lighting in Kitchen	.494	.462
Adequacy of Circulation of Fresh air in Living/ Dining Spaces	.652	.399
Adequacy of fresh air in Bedrooms	.615	.364
Level of Thermal Comfort in the Residence	.581	.265
Adequacy of Protection against Noise Pollution	.457	.224
Adequacy of Protection against Dampness in the Building	.486	.247
Adequacy of Protection against insects and dangerous animals	.571	.176
Adequacy of Security Measures in the Residence	.666	.039
Adequacy of Fire Safety measures in the Residence	.609	-.052
Adequacy of Privacy in the Residence	.208	.425
Adequacy of Power Supply	.641	-.244
Adequacy of Portable Water Supply	.612	-.203
Adequacy of Sanitary/ Drainage Facilities in the Residence	.495	.044
Adequacy of Refuse Disposal facilities in the Estate	.640	-.336
Adequacy of Shopping Facilities in the Housing Estate	.479	-.590
Adequacy of Educational Facilities in the Housing Estate	.350	-.603
Adequacy of Recreational/ Sporting facilities in the Housing Estate	.489	-.582
Adequacy of Play Ground for Children in the Estate	.432	-.542
Adequacy of Parking Spaces provided in the Estate	.625	-.062
Adequacy of Open Spaces and Green Areas in the Housing Estate	.615	-.257
Adequacy of Medical and Health Care facilities in the Estate	.560	-.419
Adequacy of Accessibility to Public Transport Service	.496	-.107
Adequacy of Places of Worship in the Estate	.410	-.202
Adequacy of External Lighting in the Housing Estate	.639	-.053
Adequacy of Road Network within the Estate	.680	-.056
Adequacy of Communal Activities within the Estate	.498	-.025
Adequacy of Management and Maintenance of Facilities in the Estate	.718	-.163

Variable Principal Normalization

Categorical Principal Component Analysis of Dimensions of Housing Adequacy Evaluation in the Core Housing Estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	Total (Eigenvalue)	%Variance
1	.984	46.575	28.227
2	.949	17.536	10.628
Total	.990(a)	64.111	38.855

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of Housing Adequacy in the Core Housing Estate

	Dimension	
	1	2
Adequacy of Sizes of Living/ Dining Spaces	.436	-.196
Adequacy of Sizes of Bedrooms	.344	-.285
Adequacy of Number of Bedrooms	.573	.023
Adequacy of Sizes of Cooking and Storage Spaces	.504	.037
Adequacy of Natural Lighting in Living/Dining Spaces	.712	-.259
Adequacy of Natural Lighting in Bedrooms	.644	-.284
Adequacy of Natural Lighting in Kitchen	.568	-.362
Adequacy of Circulation of Fresh air in Living/ Dining Spaces	.619	-.316
Adequacy of fresh air in bedrooms	.548	-.397
Level of Thermal Comfort in the Residence	.526	-.195
Adequacy of Protection against Noise Pollution	.508	-.210
Adequacy of Protection against Dampness in the Building	.541	-.286
Adequacy of Protection against insects and dangerous animals	.598	-.248
Adequacy of Security Measures in the Residence	.660	-.140
Adequacy of Fire Safety measures in the Residence	.571	.139
Adequacy of Privacy in the Residence	.386	-.075
Adequacy of Power Supply	.572	.120
Adequacy of Portable Water Supply	.530	.237
Adequacy of Sanitary/ Drainage Facilities in the Residence	.562	.122
Adequacy of Refuse Disposal facilities in the Estate	.531	.054
Adequacy of Shopping Facilities in the Housing Estate	.309	.619
Adequacy of Educational Facilities in the Housing Estate	.401	.722
Adequacy of Recreational/ Sporting facilities in the Housing Estate	.428	.736
Adequacy of Play Ground for Children in the Estate	.411	.627
Adequacy of Parking Spaces provided in the Estate	.647	.349
Adequacy of Open Spaces and Green Areas in the Housing Estate	.482	.428
Adequacy of Medical and Health Care facilities in the Estate	.425	.475
Adequacy of Accessibility to Public Transport Service	.504	-.163
Adequacy of Places of Worship in the Estate	.403	.057
Adequacy of External Lighting in the Housing Estate	.538	-.041
Adequacy of Road Network within the Estate	.542	-.144
Adequacy of Communal Activities within the Estate	.547	-.264
Adequacy of Management and Maintenance of Facilities in the Estate	.674	.025

Variable Principal Normalization

Categorical Principal Component Analysis of dimensions of housing adequacy evaluation in the Turnkey housing estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigen value)	% of Variance	Total (Eigen value)
1	.979	36.597	22.180
2	.962	22.669	13.739
3	.934	14.012	8.492
4	.918	11.360	6.885
5	.905	9.972	6.044
Total	.995(a)	94.611	57.340

a Total Cronbach's Alpha is based on the total Eigen value.

Component Loading of Factors on the variables of housing adequacy in the Turnkey Housing estates

Variable	Dimension				
	1	2	3	4	5
Adequacy of Sizes of Living/ Dining Spaces	.270	-.455	.328	-.441	.279
Adequacy of Sizes of Bedrooms	.283	-.416	.194	-.555	.259
Adequacy of Number of Bedrooms	.523	-.323	.019	-.278	.261
Adequacy of Sizes of Cooking and Storage Spaces	.418	-.336	.212	-.286	.233
Adequacy of Natural Lighting in Living/Dining Spaces	.666	-.405	.066	-.123	-.337
Adequacy of Natural Lighting in Bedrooms	.665	-.363	-.043	-.146	-.349
Adequacy of Natural Lighting in Kitchen	.548	-.348	.118	-.164	-.264
Adequacy of Circulation of Fresh air in Living/ Dining rooms	.694	-.332	-.248	-.127	-.343
Adequacy of fresh air in bedrooms	.652	-.277	-.063	-.011	-.451
Level of Thermal Comfort in the Residence	.636	-.194	.063	.178	-.219
Adequacy of Protection against Noise Pollution	.197	-.130	.633	.350	-.101
Adequacy of Protection against Dampness in the Building	.154	-.206	.662	.267	.146
Adequacy of Protection against insects and dangerous animals	.369	-.147	.404	.201	.295
Adequacy of Security Measures in the Residence	.494	-.034	-.026	.478	.221
Adequacy of Fire Safety measures in the Residence	.499	.060	-.021	.339	.069
Adequacy of Privacy in the Residence	.251	-.469	.206	-.051	.132
Adequacy of Power Supply	.585	.339	-.061	.170	.155
Adequacy of Portable Water Supply	.629	.282	-.055	.306	.163
Adequacy of Sanitary/ Drainage Facilities in the Residence	.079	.027	.617	-.069	.326
Adequacy of Refuse Disposal facilities in the Estate	.514	.493	.154	.025	.176
Adequacy of Shopping Facilities in the Housing Estate	.356	.688	.157	-.242	-.066
Adequacy of Educational Facilities in the Housing Estate	.246	.729	.170	-.353	-.063
Adequacy of Recreational/ Sporting facilities in the Housing Estate	.358	.717	.225	-.284	-.099
Adequacy of Play Ground for Children in the Estate	.251	.680	.225	-.342	-.158
Adequacy of Parking Spaces provided in the Estate	.496	-.115	-.423	-.172	-.009
Adequacy of Open Spaces and Green Areas in the Housing Estate	.640	.198	-.250	.044	-.157
Adequacy of Medical and Health Care facilities in the Estate	.473	.580	.146	-.119	-.027
Adequacy of Accessibility to Public Transport Service	.139	.082	-.527	-.217	.434
Adequacy of Places of Worship in the Estate	.180	-.031	-.465	-.317	.500
Adequacy of External Lighting in the Housing Estate	.627	.035	-.304	.247	.140
Adequacy of Road Network within the Estate	.644	.054	-.209	.194	.317
Adequacy of Communal Activities within the Estate	-.116	.316	.108	-.113	-.193
Adequacy of Management and Maintenance of Facilities in the Estate	.571	.261	-.086	.324	.106

Variable Principal Normalization

Appendix 22

Categorical Principal Component Analysis of dimensions of housing adequacy evaluation in the PPP housing estate (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	% Total (Eigenvalue)	% of Variance
1	.987	53.025	33.141
2	.979	36.596	22.873
3	.953	18.750	11.719
4	.927	12.755	7.972
5	.902	9.686	6.054
Total	.999(a)	130.812	81.758

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of Housing Adequacy in the PPP housing estate

	Dimension				
Variable	1	2	3	4	5
Adequacy of Sizes of Living/ Dining Spaces	.511	.413	.006	.274	.473
Adequacy of Sizes of Bedrooms	-.002	.601	.765	-.127	-.165
Adequacy of Number of Bedrooms	.388	.275	.159	.565	.371
Adequacy of Sizes of Cooking and Storage Spaces	.011	.861	.175	.083	-.396
Adequacy of Natural Lighting in Living/Dining Spaces	-.002	.601	.765	-.127	-.165
Adequacy of Natural Lighting in Bedrooms	-.002	.601	.765	-.127	-.165
Adequacy of Natural Lighting in Kitchen	-.005	.865	.173	.087	-.387
Adequacy of Circulation of Fresh air in Living/ Dining rooms	-.374	.661	-.090	.065	.259
Adequacy of fresh air in bedrooms	-.281	.524	-.081	-.133	.429
Level of Thermal Comfort in the Residence	-.460	.693	-.042	-.133	.217
Adequacy of Protection against Noise Pollution	.984	.110	-.051	-.110	-.020
Adequacy of Protection against Dampness in the Building	.984	.110	-.051	-.110	-.020
Adequacy of Protection against insects and dangerous animals	.960	.219	-.129	-.076	-.076
Adequacy of Security Measures in the Residence	.001	.875	-.063	.126	.009
Adequacy of Fire Safety measures in the Residence	.984	.110	-.051	-.110	-.020
Adequacy of Privacy in the Residence	-.382	.098	-.204	.513	-.186
Adequacy of Power Supply	.555	-.513	-.202	.247	-.327
Adequacy of Portable Water Supply	.984	.110	-.051	-.110	-.020
Adequacy of Sanitary/ Drainage Facilities in the Residence	.972	.177	-.109	-.079	-.062
Adequacy of Refuse Disposal facilities in the Estate	-.006	.594	-.526	.247	-.370
Adequacy of Shopping Facilities in the Housing Estate	.253	-.366	.167	.676	-.130
Adequacy of Educational Facilities in the Housing Estate	.338	-.032	.494	.420	.475
Adequacy of Recreational/ Sporting facilities in the Housing Estate	.227	.427	.108	.728	.077
Adequacy of Play Ground for Children in the Estate	.984	.110	-.051	-.110	-.020
Adequacy of Parking Spaces provided in the Estate	-.992	-.024	.034	.103	.034
Adequacy of Open Spaces and Green Areas in the Housing Estate	-.984	-.107	.052	.112	.021
Adequacy of Medical and Health Care facilities in the Estate	.238	-.346	.031	.499	-.282
Adequacy of Accessibility to Public Transport Service	-.524	.251	-.397	.207	-.432
Adequacy of Places of Worship in the Estate	-.089	-.498	.649	.160	-.003
Adequacy of External Lighting in the Housing Estate	.022	-.639	.609	.030	-.239
Adequacy of Road Network within the Estate	-.041	.662	-.485	.176	.108
Adequacy of Communal Activities within the Estate	.281	-.413	.127	.215	.114

Variable Principal Normalization

Appendix 23

Categorical Principal Component Analysis of dimensions of housing adequacy evaluation in the Shell housing estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	Total(Eigenvalue	% of Variance
1	.994	84.755	51.367
2	.976	33.017	20.010
3	.954	19.352	11.728
4	.927	12.761	7.734
5	.866	7.156	4.337
Total	1.000(a)	157.041	95.176

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of housing adequacy in the Shell housing estate

	Dimension				
	2	3	4	5	1
Adequacy of Sizes of Living/ Dining Spaces	.659	.064	-.383	.435	-.374
Adequacy of Sizes of Bedrooms	.624	.288	-.284	.478	-.455
Adequacy of Number of Bedrooms	-.967	.049	.220	.016	-.077
Adequacy of Sizes of Cooking and Storage Spaces	-.967	.049	.220	.016	-.077
Adequacy of Natural Lighting in Living/Dining Spaces	-.959	.025	.240	.036	-.131
Adequacy of Natural Lighting in Bedrooms	-.630	-.090	.270	.344	-.384
Adequacy of Natural Lighting in Kitchen	.179	.978	.027	-.011	-.081
Adequacy of Circulation of Fresh air in Living/ Dining rooms	-.209	.333	.547	.165	.120
Adequacy of fresh air in bedrooms	.250	-.251	.177	.825	.212
Level of Thermal Comfort in the Residence	.133	.053	.953	.111	-.132
Adequacy of Protection against Noise Pollution	.962	-.024	-.245	-.031	.068
Adequacy of Protection against Dampness in the Building	.510	-.568	.390	-.285	-.308
Adequacy of Protection against insects and dangerous animals	.554	.770	.297	.027	-.084
Adequacy of Security Measures in the Residence	.179	.978	.027	-.011	-.081
Adequacy of Fire Safety measures in the Residence	.825	.047	.544	.115	-.059
Adequacy of Privacy in the Residence	-.156	.184	-.204	.854	.283
Adequacy of Power Supply	.603	-.638	.463	.069	.017
Adequacy of Portable Water Supply	.574	.813	-.073	-.016	-.035
Adequacy of Sanitary/ Drainage Facilities in the Residence	-.131	.967	-.183	-.037	-.087
Adequacy of Refuse Disposal facilities in the Estate	.288	.479	.262	-.640	.113
Adequacy of Shopping Facilities in the Housing Estate	.975	-.132	-.144	-.058	.024
Adequacy of Educational Facilities in the Housing Estate	.975	-.132	-.144	-.058	.024
Adequacy of Recreational/ Sporting facilities in the Housing Estate	.975	-.132	-.144	-.058	.024
Adequacy of Play Ground for Children in the Estate	.975	-.132	-.144	-.058	.024
Adequacy of Parking Spaces provided in the Estate	.969	-.130	-.190	.033	-.080
Adequacy of Open Spaces and Green Areas in the Housing Estate	.975	-.132	-.144	-.058	.024
Adequacy of Medical and Health Care facilities in the Estate	.982	-.042	-.156	-.050	.028
Adequacy of Accessibility to Public Transport Service	.179	.978	.027	-.011	-.081
Adequacy of Places of Worship in the Estate	.325	.403	.301	.139	.758
Adequacy of External Lighting in the Housing Estate	.825	.003	.550	.071	-.041
Adequacy of Road Network within the Estate	.825	.003	.550	.071	-.041
Adequacy of Communal Activities within the Estate	.822	-.034	.555	.033	-.075
Adequacy of Management and Maintenance of Facilities in the Estate	.967	-.049	-.220	-.016	.077

Variable Principal Normalization

Categorical Principal Component Analysis of dimensions of Residential Satisfaction in all the housing estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	Total (Eigenvalue	% of Variance
1	.985	45.903	29.615
2	.957	20.502	13.227
Total	.991(a)	66.405	42.842

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables Residential Satisfaction in all the housing estates

	Dimension	
Variable	1	2
Satisfaction with the Sizes of Living and Dining Spaces	.288	.630
Satisfaction with Sizes of Bedrooms in the house	.293	.610
Satisfaction with the Number of Bedrooms in the Residence	.426	.475
Satisfaction with the Sizes of Cooking and Storage Spaces	.248	.601
Satisfaction with the Type of Residence	.625	.351
Satisfaction with Bath and Toilet facilities in the Residence	.639	.327
Satisfaction with the Type of Building Materials Used	.504	.344
Satisfaction with the Location of Residence	.596	.215
Satisfaction with External Appearance of Residence	.625	.261
Satisfaction with Natural Lighting and air circulation in Living and Bed rooms	.728	.082
Satisfaction with the level of Noise in the Housing Estate	.487	.157
Satisfaction with Water Supply and Sanitary Services in the residence	.677	-.194
Satisfaction with Electrical Services in the Residence	.641	-.252
Satisfaction with the Level of Privacy in the Residence	.192	.545
Satisfaction with the Cost of Acquiring/ Rentage of Residence	.449	.374
Satisfaction with nearness of house to Recreation / Sporting Facilities	.609	-.362
Satisfaction with nearness of house to Public Infrastructure and Urban Services	.582	-.173
Satisfaction with nearness of house to Shopping Facilities from Residence	.506	-.484
Satisfaction with nearness of house to Place of Work	.522	-.001
Satisfaction with nearness of house to the nearest Health Care Facilities	.567	-.450
Satisfaction with the nearness of house to Children's School	.364	-.392
Satisfaction with the nearness of house from to the nearest Market	.585	-.527
Satisfaction with the Prices of goods and services in the Housing Estate	.608	-.499
Satisfaction with Business and Job opportunities within and around the Estate	.361	-.407
Satisfaction with the Level of crime and anti-social activities in the Housing Estate	.319	.393
Satisfaction with the level of Communal Activities in the Housing Estates	.525	-.074
Satisfaction with the Residence in relation to your Culture	.691	.006
Satisfaction with Rules and Regulations within the Housing Estate	.665	.060
Satisfaction with Management and Maintenance framework in Housing Estate	.729	-.217
Satisfaction with general cleanliness of the Housing Estate	.688	-.116
Satisfaction with Security of life and Property in the Housing Estate	.509	.212

Variable Principal Normalization.

Categorical Principal Component Analysis of Residential Satisfaction evaluation in the Shell housing estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	Total (Eigenvalue)	% of Variance
1	.986	49.861	32.169
2	.937	14.475	9.339
3	.921	11.783	7.602
Total	.993(a)	76.119	49.109

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of Residential Satisfaction in the Core housing estate

	Dimension		
	1	2	3
Satisfaction with the Sizes of Living and Dining Spaces	.531	-.260	.482
Satisfaction with Sizes of Bedrooms in the house	.456	-.142	.647
Satisfaction with the Number of Bedrooms in the Residence	.704	.084	.291
Satisfaction with the Sizes of Cooking and Storage Spaces	.567	-.009	.304
Satisfaction with the Type of Residence	.702	-.015	.259
Satisfaction with Bath and Toilet facilities in the Residence	.708	.016	.372
Satisfaction with the Type of Building Materials Used	.518	-.096	.332
Satisfaction with the Location of Residence	.630	.102	.121
Satisfaction with External Appearance of Residence	.620	-.013	.190
Satisfaction with Natural Lighting and air circulation in Living and Bed rooms	.728	-.070	.032
Satisfaction with the level of Noise in the Housing Estate	.612	-.198	-.135
Satisfaction with Water Supply and Sanitary Services in the residence	.641	.093	-.015
Satisfaction with Electrical Services in the Residence	.571	.113	-.109
Satisfaction with the Level of Privacy in the Residence	.388	-.315	.398
Satisfaction with the Cost of Acquiring/ Rentage of Residence	.523	-.050	.199
Satisfaction with Distance to Recreation / Sporting Facilities	.539	.445	-.154
Satisfaction with Proximity to House to Public Infrastructure and Urban Services	.502	.223	-.111
Satisfaction with proximity to Shopping Facilities from Residence	.490	.493	-.134
Satisfaction with the Distance to Place of Work	.416	-.222	-.107
Satisfaction with the Distance to Health Care Facilities from your House	.517	.517	-.197
Satisfaction with the Distance from Residence to Children's School	.569	.388	-.023
Satisfaction with the Distance from Residence to the nearest Market	.674	.481	-.159
Satisfaction with the Prices of goods and services in the Housing Estate	.600	.361	-.301
Satisfaction with Business and Job opportunities within and around the Estate	.416	.497	-.112
Satisfaction with the Level of crime and anti-social activities in the Housing Estate	.447	-.338	-.288
Satisfaction with the level of Communal Activities in the Housing Estates	.465	-.293	-.381
Satisfaction with the Residence in relation to your Culture	.560	-.341	-.291
Satisfaction with Rules and Regulations within the Housing Estate	.568	-.471	-.354
Satisfaction with Management and Maintenance framework in Housing Estate	.646	-.290	-.296
Satisfaction with the state of Cleanliness of the Housing Estate	.579	-.384	-.301
Satisfaction with Security of life and Property in the Housing Estate	.464	-.524	-.289

Variable Principal Normalization.

Appendix 26

Categorical Principal Component Analysis of dimensions of Residential Satisfaction evaluation in the Turnkey housing estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigen value)	Total (Eigen value)	% of Variance
1	.984	44.728	28.857
2	.964	23.651	15.259
3	.931	13.247	8.546
Total	.994(a)	81.626	52.662

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of Residential Satisfaction in the Turnkey housing Estates

	Dimension		
	1	2	3
Satisfaction with the Sizes of Living and Dining Spaces	.217	.615	-.361
Satisfaction with Sizes of Bedrooms in the house	.311	.566	-.345
Satisfaction with the Number of Bedrooms in the Residence	.283	.602	-.109
Satisfaction with the Sizes of Cooking and Storage Spaces	.377	.574	-.125
Satisfaction with the Type of Residence	.578	.472	.102
Satisfaction with Bath and Toilet facilities in the Residence	.617	.425	.032
Satisfaction with the Type of Building Materials Used	.492	.459	.227
Satisfaction with the Location of Residence	.504	.429	.185
Satisfaction with External Appearance of Residence	.523	.489	.182
Satisfaction with Natural Lighting and air circulation in Living and Bed rooms	.452	.433	.195
Satisfaction with the level of Noise in the Housing Estate	.239	.281	.218
Satisfaction with Water Supply and Sanitary Services in the residence	.322	.021	.595
Satisfaction with Electrical Services in the Residence	.337	.042	.609
Satisfaction with the Level of Privacy in the Residence	.097	.513	-.229
Satisfaction with the Cost of Acquiring/ Rentage of Residence	.243	.520	-.065
Satisfaction with Distance to Recreation / Sporting Facilities	.551	-.134	.431
Satisfaction with Proximity to House to Public Infrastructure and Urban Services	.747	-.248	.147
Satisfaction with proximity to Shopping Facilities from Residence	.713	-.341	.198
Satisfaction with the Distance to Place of Work	.456	.163	.057
Satisfaction with the Distance to Medical and Health Care Facilities from your House	.545	-.070	.525
Satisfaction with the Distance from Residence to Children's School	.605	-.286	.208
Satisfaction with the Distance from Residence to the nearest Market	.710	-.511	.013
Satisfaction with the Prices of goods and services in the Housing Estate	.706	-.505	-.021
Satisfaction with Business and Job opportunities within and around the Estate	.617	-.244	-.251
Satisfaction with the Level of crime and anti-social activities in the Housing Estate	.427	.277	-.350
Satisfaction with the level of Communal Activities in the Housing Estates	.743	-.461	-.219
Satisfaction with the Residence in relation to your Culture	.722	-.042	-.180
Satisfaction with Rules and Regulations within the Housing Estate	.686	-.165	-.371
Satisfaction with Management and Maintenance framework in Housing Estate	.667	-.455	-.344
Satisfaction with the state of Cleanliness of the Housing Estate	.609	-.294	-.437
Satisfaction with Security of life and Property in the Housing Estate	.619	-.049	-.303

Variable Principal Normalization

Categorical Principal Component Analysis of dimensions of residential Satisfaction evaluation in the PPP housing estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	Total (Eigenvalue	% of Variance
1	.983	42.164	27.202
2	.973	29.684	19.151
3	.967	25.637	16.540
4	.933	13.605	8.778
Total	.997(a)	111.090	71.671

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of Residential Satisfaction in the PPP housing estate

Variables	Dimension			
	1	2	3	4
Satisfaction with the Sizes of Living and Dining Spaces	.326	-.416	.581	-.437
Satisfaction with Sizes of Bedrooms in the house	.265	-.535	.575	.316
Satisfaction with the Number of Bedrooms in the Residence	.167	-.382	.145	-.681
Satisfaction with the Sizes of Cooking and Storage Spaces	.217	-.311	.313	.642
Satisfaction with the Type of Residence	.156	-.806	.464	.000
Satisfaction with Bath and Toilet facilities in the Residence	.939	-.153	-.260	-.077
Satisfaction with the Type of Building Materials Used	-.921	.141	.316	.050
Satisfaction with the Location of Residence	.944	-.136	-.275	-.036
Satisfaction with External Appearance of Residence	.940	-.095	-.293	-.039
Satisfaction with Natural Lighting and air circulation in Living and Bed rooms	.541	.610	.299	-.105
Satisfaction with the level of Noise in the Housing Estate	.528	.560	.216	-.074
Satisfaction with Water Supply and Sanitary Services in the residence	.199	.368	.813	-.138
Satisfaction with Electrical Services in the Residence	-.476	-.544	-.004	-.085
Satisfaction with the Level of Privacy in the Residence	.653	-.234	-.331	-.056
Satisfaction with the Cost of Acquiring/ Rentage of Residence	.673	-.308	-.090	.155
Satisfaction with Distance to Recreation / Sporting Facilities	.052	.439	.489	-.030
Satisfaction with Distance to House to Public Infrastructure and Urban Services	.162	.838	-.020	-.028
Satisfaction with proximity to Shopping Facilities from Residence	-.100	-.166	-.092	.538
Satisfaction with the Distance to Place of Work	.008	-.026	-.759	.161
Satisfaction with the Distance to Medical and Health Care Facilities from your House	-.054	.825	-.402	-.040
Satisfaction with the Distance from Residence to Children's School	.308	.354	.041	.690
Satisfaction with the Distance from Residence to the nearest Market	.076	.816	.304	-.130
Satisfaction with the Prices of goods and services in the Housing Estate	.361	-.014	.319	.346
Satisfaction with Business and Job opportunities within and around the Estate	-.347	.078	-.578	-.113
Satisfaction with the Level of crime and anti-social activities in the Housing Estate	.280	.327	.784	-.162
Satisfaction with the level of Communal Activities in the Housing Estates	-.123	.640	-.406	.196
Satisfaction with the Residence in relation to your Culture	.558	.498	-.200	-.160

Satisfaction with Rules and Regulations within the Housing Estate	.577	.163	.511	-.011
Satisfaction with Management and Maintenance framework in Housing Estate	.929	-.126	-.300	-.056
Satisfaction with the state of Cleanliness of the Housing Estate	.267	.119	.342	.659
Satisfaction with Security of life and Property in the Housing Estate	.933	-.151	-.283	-.035

Variable Principal Normalization.

Appendix 28

Categorical Principal Component Analysis of dimensions of Residential Satisfaction evaluation in the Shell housing estates (Model Summary)

Dimension	Cronbach's Alpha	Variance Accounted For	
	Total (Eigenvalue)	Total (Eigenvalue)	% of Variance
1	.985	46.741	30.155
2	.977	34.545	22.287
3	.969	26.835	17.313
4	.955	19.651	12.678
Total	.999(a)	127.772	82.433

a Total Cronbach's Alpha is based on the total Eigenvalue.

Component Loading of Factors on the variables of Residential satisfaction in the Shell housing estate

	Dimension			
	1	2	3	4
Satisfaction with the Sizes of Living and Dining Spaces	-.129	.307	.530	.613
Satisfaction with Sizes of Bedrooms in the house	.159	-.046	.956	-.193
Satisfaction with the Number of Bedrooms in the Residence	.556	-.574	.042	-.283
Satisfaction with the Sizes of Cooking and Storage Spaces	.229	.591	.585	-.489
Satisfaction with the Type of Residence	-.555	-.152	.728	-.346
Satisfaction with Bath and Toilet facilities in the Residence	.592	-.712	-.138	-.189
Satisfaction with the Type of Building Materials Used	-.040	.836	-.096	.107
Satisfaction with the Location of Residence	.129	-.307	-.530	-.613
Satisfaction with External Appearance of Residence	.260	-.345	-.437	-.360
Satisfaction with Natural Lighting and air circulation in Living and Bed rooms	.489	.209	.082	-.557
Satisfaction with the level of Noise in the Housing Estate	.055	.925	-.061	-.339
Satisfaction with Water Supply and Sanitary Services in the residence	.607	.021	.010	-.593
Satisfaction with Electrical Services in the Residence	.512	-.652	.056	-.159
Satisfaction with the Level of Privacy in the Residence	-.442	.317	-.499	-.290
Satisfaction with the Cost of Acquiring/ Rentage of Residence	-.585	-.006	.614	-.027
Satisfaction with Distance to Recreation / Sporting Facilities	.948	.053	-.093	.074
Satisfaction with Proximity to House to Public Infrastructure and Urban Services	.100	.921	-.094	-.278
Satisfaction with proximity to Shopping Facilities from Residence	-.205	.133	-.874	.374
Satisfaction with the Distance to Place of Work	.456	-.194	.428	.683
Satisfaction with the Distance to Medical and Health Care Facilities from your House	.454	.444	.408	.253
Satisfaction with the Distance from Residence to Children's School	.386	.469	-.151	.724
Satisfaction with the Distance from Residence to the nearest Market	.486	.303	.099	.048

Satisfaction with the Prices of goods and services in the Housing Estate	.978	-.116	-.030	.084
Satisfaction with Business and Job opportunities within and around the Estate	.943	.161	-.124	.146
Satisfaction with the Level of crime and anti-social activities in the Housing Estate	.100	.921	-.094	-.278
Satisfaction with the level of Communal Activities in the Housing Estates	.980	.018	-.087	-.027
Satisfaction with the Residence in relation to your Culture	.603	.259	.405	.245
Satisfaction with Rules and Regulations within the Housing Estate	.259	-.196	.877	-.317
Satisfaction with Management and Maintenance framework in Housing Estate	.945	.070	-.097	.087
Satisfaction with the state of Cleanliness of the Housing Estate	.945	.070	-.097	.087
Satisfaction with Security of life and Property in the Housing Estate	.100	.921	-.094	-.278

Variable Principal Normalization.

Appendix 29

Discriminant Analysis of Satisfaction with Life in Housings Estates

Log Determinants

Satisfaction with Life	Rank	Log Determinant
Neither Satisfied nor Dissatisfied with Life	8	6.940
Not Satisfied	8	6.772
Satisfied	8	7.631
Pooled within-groups	8	8.003

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.524(a)	87.5	87.5	.586
2	.075(a)	12.5	100.0	.264

a First 2 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.611	251.850	16	.000
2	.930	36.865	7	.000

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Length of Residency in the Housing Estate	-.076	.610
Tenure	.363	.346
State of Repair of Residence	.316	-.533
Total Satisfaction with Management Features	.622	.010
Total Residential Satisfaction of Housing Unit Features	.499	.461
Residential Satisfaction Index of Housing Unit Support Services	-.440	-.213
Relative Satisfaction Index Sociocultural and Economic Environment	.250	-.363
Housing delivery strategies	.305	.097

Structure Matrix

Discriminants	Function	
	1	2
Satisfaction with Management of Estate	.634	-.198
Residential Satisfaction with Housing Unit Attributes	.602	.296
Tenure	.393	.308
Satisfaction with Socio- economic environment	.349	-.347
State of Repair of Residence	.340	-.512
Length of Residency in the housing estate	-.147	.48
Satisfaction with housing services	.120	-.20
Housing delivery strategies	.029	.197

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant Functions Variables ordered by absolute size of correlation within function.

Standardized Canonical Discriminant Function Coefficients

	Function	
	1	2
Length of Residency in the Housing Estate (LR)	-.076	.610
Tenure (TEN)	.363	.346
State of Repair of Residence(SRR)	.316	-.533
Satisfaction with estate management (SEM)	.622	.010
Satisfaction with Housing Unit Attributes(SHUA)	.499	.461
Satisfaction with housing Services(SHS)	-.440	-.213
Satisfaction with soico-economic environment(SSE)	.250	-.363
Housing delivery strategies(HDS)	.305	.097

Functions at Group Centroids

Satisfaction with Life	Function	
	1	2
Neither Satisfied nor Dissatisfied with Life	-.660	-.265
Not Satisfied	-2.151	1.047
Satisfied	.542	.088

Unstandardized canonical discriminant functions evaluated at group means