###### A SYSTEMS APPROACH TO HOUSING DELIVERY IN THE FEDERAL CAPITAL TERRITORY (FCT) ABUJA, NIGERIA

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###### UNIVERSITY OF JOS

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###### DECLARATION

I hereby declare that this work is the product of my own research efforts, undertaken under the supervision of Professor Zanzan Akaka Uji and has not been presented elsewhere for the award of a degree or certificate. All sources have been duly distinguished and appropriately acknowledged.

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###### CERTIFICATION

This is to certify that this research work for this thesis and the subsequent preparation of this progress report by Dachollom Dalyop Jambol, (UJ/2012/PGEV/0258) was carried out under my supervision.

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###### LIST OF ACCRONYMS AND ABBREVIATIONS

|  |  |
| --- | --- |
| AGM/C | Annual general meeting/conference |
| ANOVA | Analysis of variance |
| APA | American Psychological Association |
| BUMPAN | Building materials producers' association of Nigeria |
| FCC | Federal capital city |
| FCDA | Federal capital development authority |
| FCT | Federal capital territory |
| FCTA | Federal capital territory administration |
| FGN | Federal government of Nigeria |
| FRN | Federal Republic of Nigeria |
| GDP | Gross domestic product |
| GRA | Government reserved area |
| ILO | International Labour Organisation |
| MDGs | Millennium development goals |
| NGO | Non governmental organisation |
| NHP | National housing policy |
| NIOB | Nigerian Institute of Building |
| NLC | Nigerian labour congress |
| REDAN | Real estates development association of Nigeria |
| SDGs | Sustainable development goals |
| SPSS | Statistical packages for social sciences |
| UNCHS | United Nations Conference on Human Settlements |

**ABSTRACT**

Housing has been described as an unstructured, complex, multi-dimensional phenomenon and its delivery as an important social policy issue. However, housing delivery in Nigeria is enmeshed in a myriad of perennial problems: huge housing deficits; acute shortages; overcrowding; high costs of building, renting and maintenance of houses. These are the outcomes of the extant policy driven persistently by the provisions approach frameworks that largely depend on implementation theory and political will, as such are not adequate, inefficient or unsustainable. The aim of this study therefore, was to develop an alternative delivery and management framework which would be more effective than the existing policy approaches in the Federal Capital Territory (FCT), Abuja. The objectives of the study were to examine the status of housing delivery in the FCT; examine the policy frameworks of the extant Nigerian National Policy of 1991; evaluate the policy influence on the stakeholders' participation and performance in housing delivery in the FCT; develop a framework for housing delivery and management in the FCT based on a Systems Approach and validate the framework predicatively for adoption. The study adopted a pragmatic philosophy and deductive approach to enquiry and a macro-view of the systems approach. Primary data were collected from a pilot survey and structured questionnaires. Secondary data were also collected from relevant documented literature. Data were collated, processed and analysed using the Statistical Packages for Social Sciences Version

21. The analysis of variance, was used for relationships and t-test was used for associations of relationships of the variables of the components of housing delivery. The study revealed that the perennial housing problems in the FCT, Abuja have had an inadequate (hollow) policy driven by ad-hoc housing provisions framework, lacking in understanding of the complex phenomenon of housing and its delivery, with no systemic links, no inclusiveness of stakeholders and without management of the frameworks of components of housing hence, affirming that delivery is not adequate, inefficient and unsustainable. A systemic

housing delivery framework, modified from the Innorisk Framework and the van Wyk Development Management Process concept was developed, the Systems Approach PICHparadigm framework and was validated. It recommended that the framework be adopted and implemented in the FCT, Abuja and by extension, Nigeria. The study also recommended that a stand-alone Ministry of Housing; National Housing Council; a Housing Construction Industry Development Board, a platform for practice; and a national data bank for housing information management, research and development be established without delay.

###### CHAPTER ONE INTRODUCTION

###### 1.1. BACKGROUND TO THE STUDY

The Nigerian National Housing Policy postulated that housing is the process of providing functional shelter in a proper setting in a neighbourhood supported by maintenance of the built environment for the day-to-day living and activities of individuals and families within the community (FRN,2006(a)). Housing has also been defined as an "object, a product, a process, a resource, an environment, a symbol or even a state of mind" (Steggell et al., 2001) or a "complex phenomenon" (Chattopadhyay, 2009). Provision approach to housing has failed to house Nigerians as Nigerians have been described as "houseless," (NHP,1991). Nigeria became independent in 1960. It has a population of over 160million according to the 2006 Population and Housing Census (NPC, 2010), and growing at an annual rate of 3.2 percent, with more than five million children born annually.

The Federal Republic of Nigeria is blessed with abundant human and natural resources, prominent amongst which are abundant oil and gas resources, largely untapped solid minerals and huge agricultural resources. Nigeria has great potentials to develop other untapped resources such as those in tourism and hydro and solar energy, and has great potentials for a robust housing market as well as benefits from housing in contributions to the society and economy in social, economic and physical developments as is in capital formation and the GDP. However, Nigeria has failed to provide or deliver adequate, accessible and affordable housing for its citizens. It has a huge housing deficit of about 17million units, 30% - 40% of total population is living in the urban areas, with an average household population of 5 – 6 persons, occupancy ratio of houses is 6 persons per room of 20m2; 60% are without adequate shelter (under-housed and/or no housing),

residential home ownership is about 68.5% (NPC, 2006). International benchmark is 75%. These are some of the low points of the housing situation from the Housing 2006 Census.

It is appreciated that global shortages of housing vary with the level of development and nature of state policy of nations. In many developed countries, housing is provided for or delivered through social and economic mechanisms, such as subsidies, grants, mortgages and other state apparatuses. In some social democratic countries, like Singapore, housing is accorded such recognition as to attract direct state assistance to its citizens to acquire. For less developed economies, housing is largely produced through individual efforts and capacity. In Nigeria, housing is essentially acquired through personal savings and self help (Uji, 2000), which unfortunately has received little formal government attention, principally because efforts of the building industry and governments (federal, state and local) have failed to put in place a sustainable housing delivery framework, viewing housing as purely an economic issue of "provision" of dwelling units.

The Habitat Agenda (1996) at Paragraph 21 provided a global call to action on a framework of goals, principles and commitments to a positive vision of sustainable settlements – where all citizens have a right to adequate shelter, healthy and safe environment, basic services, productive and freely chosen employment. Nigeria is a signatory to this declaration.

Nigeria is a signatory to the United Nation, 1948 Universal Declaration of Human Rights which at Article 17 provides that: "Everyone has the right to own property alone as well as in association with others." Furthermore, Article 25 states that

Everyone has the right to a standard of living adequate for health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

These provisions make housing delivery a necessity for a person's physical, environmental, psychological, social and economic well being, and this is a fundamental human right. It is a matter of concern therefore, that the housing situation in most Nigerian cities is characterised by high demand, low quality and inadequate supply of dwelling units, high cost of rents and exorbitant cost of production of houses, far beyond the reach of the majority low and medium income groups, who are poor and said to be over 90% of the country's population (Federal Republic of Nigeria, (FRN), 2006(a). The cities are increasingly threatened by growing slums, overcrowding, disease and crime from housing inadequacy and inefficient delivery. The problems have been worsened in Nigeria by growing population, increasing rural-urban migration, industrialisation, urbanisation, globalisation, emergence of commercial and mega cities, climate change, natural disasters such as global warming, famine, drought, floods, war and earthquakes (Gbadeyemi, 2011), and lately, collapse of residential buildings.

The housing delivery problems in Abuja, Nigeria’s new Federal Capital City (FCC) and the Federal Capital Territory (FCT), are not any different, its status notwithstanding. The problems are multidimensional and have serious consequences for the welfare and security of the residents of the city and beyond in view of its strategic status. Dimensions of the problems include inadequate distribution and access, non-availability in quantity and quality, and high production and maintenance costs of housing and related infrastructure (Okunfilure,1994). The critical components of the problems are the inadequacy and inefficiency of supply, poor maintenance practices and affordability of houses in the territory. Indeed, one of the key reasons that compelled Nigeria to relocate its capital from Lagos to Abuja in 1987 was inadequate and unaffordable housing situation for residence and government business (FRN, 1979). This situation has not improved as Akeju (2007) has affirmed. Furthermore, the inability of government to properly define its role, ascertain the real housing needs of the populace, the lack of “political will” to tackle these hydra-

headed housing problems and the persistence in employing the provisions approach has persistently failed, have been worrisome (Okunfulure, 1994).

The phenomenon of housing can however be considered from the delivery approach. Here consideration is for housing as an issue of sustainable developments for living environments. The whole process of housing delivery then becomes a systemic issue for all the components from its planning, through production to management of the product for its impacts and values.

This study is therefore examining housing delivery approach in the FCT, Abuja with a view to developing a framework for effective and sustainable housing delivery and management. The study is exploring the potentials of the systems thinking and theory in tackling housing delivery problems within the FCT, Abuja and by extension, Nigeria. Housing problems are better understood in the context of "wicked problems." The deployment of the Systems Approach is necessitated by the persistence of housing problems that have defied the existing provisions approach for housing since 1991.

###### STATEMENT OF THE PROBLEM

The outcome of efforts towards housing delivery in Nigeria summarised in Appendix B1, are that housing is not adequate, adaptable, accessible, available and affordable, (5As), and therefore not efficient or sustainable. These raise issues demanding solutions to a situation describing the people as “houseless” (FRN, 1991). The delivery efforts have been described as a “catastrophic failure” (Okunfulure, 1994). Laudable efforts shown in Table 1, such as the 4th National Development Plan, 1975 – 1980, produced 20% success, the Shagari Housing Programme in 1983 produced 15% and the National Housing Programme of the Obasanjo Administration, 2006 did not even take off. The ‘Yar’Addua/Jonathan administration struggled with what concept or policy of housing delivery to adopt. The National dailies contain stories of concerted efforts by various states

government and government agencies such as the Nigerian Army, Nigeria Police, Customs and Excise, Nigerian Labour Congress and the Federal Housing Authority at providing houses to their personnel and clients. The private sector, principally represented by the Real Estates Development Association of Nigeria (REDAN) and individuals using self help (Uji, 2000) are also contributing in making efforts, but the outcomes are not sufficient and inadequate.

This confirms the public notion in the USA as Erickson (2009) said that

...the idea of government subsiding housing conjures up thoughts of a hopelessly inefficient Department of Housing and Urban Development...where it does not build much housing other than small projects for senior citizens and people living in rural areas.

Highlight of past performances of government efforts at providing housing as studied by Jambol, Molwus and Daniel (2013) showed a very poor outcome of the various efforts. This has been highlighted in Table 1.

Therefore, it is understandable that housing and its subsequent delivery requires not just a borrowed technology driven concept of providing dwelling units, but as Medrano and Recaman (2006) put it, it requires a local, cultural architecture driven by 'self criticism' away from a techno-bureaucratic experimentation based on financial plans, tending more to the Realtors' and construction industry's interests. These only lead to social exclusion in housing environments as was the case with the Brazilian experiment in the 1960s and the case with the FCT, Abuja now (Kalgo and Olatubosun, 2001). Abuja housing programmes are characterised by segregation. The rich and high government officials are housed in choice Government Residential Areas (GRAs), a colonial inheritance, in the city centre, while the mega low cost housing complexes (estates) are constructed in the city outskirts/fringes without adequate infrastructure and any sense of urbanity and holistic citizenship (FRN,1979). This situation has persisted as confirmed in

the Review of the Abuja Masterplan in 2001, by the Ministry of the Federal Capital Territory, (Kalgo and Olatubosun, 2001).

Housing that is adequate provides both dwelling units as well as solves social problems such as poverty, ghettos, violence, real estate speculations. To solve these, housing in the FCT, Abuja needs to learn from the Sao Paulo (Brazil) mistakes corrected in the 'Habitasampa Contest' of the 90s which show that housing is heterogeneous, defined by real state situations that do not discriminate public administration or depend on speculations of market forces only. Brazil is making progress because it understood the nature of housing and is therefore able to develop appropriate management strategies for it. Adequate housing delivery according to Denaldi (1997) meets the goals (performance outcomes) of empowered and capacitated communities, improved and sustainable living environments such that housing programmes and projects have a balance between physical developments and human, social, economic and institutional developments. Denaldi (1997) further submitted that building units or plots delivered are only a means to a more comprehensive goal of capacity building and improvements of living conditions. Ukoha and Beamish (1997) reinforced this adding that simply providing housing units does not measure the success of housing programs in either developed or developing countries. The suitability of the living environment to the needs of the residents is essential for housing programmes to be judged successful. It can therefore be deduced that housing and its delivery is an important component of sustainable development, a process requiring management of delivery frameworks for delivery and not just projects/programmes providing dwelling units. It must be re-stated clearly that housing provision (delivery) in the FCT, Abuja has failed and a solution is required. This is the

housing problem of the FCT, Abuja (Kalgo and Olatubosun, 2001).

Nigeria's housing problems seem to stem from a lack of clear description of housing in the 1991 National Housing Policy. It lacked the understanding of the complex

nature of housing, subjecting its delivery to a framework based on provisions approach and implementation theory that are not efficient, adequate or sustainable to deliver housing (Mullins and Rhodes, 2007). Thus the need to examine the extant National Housing Policy's (NHP,1991) thrust and delivery frameworks.

The statement of the problem can therefore be summed up as follows:

* + 1. Housing is a complex phenomenon, its problems are described as wicked. Delivery problems in the FCT, Abuja and Nigeria have been persistent, huge and growing. The complex nature of housing is seen in Figure 1.
    2. Housing delivery efforts under the 1991 NHP, driven by Provisions Approach, Implementation Theory and “Political Will” have failed, are not adequate, inefficient and unsustainable. This is in Table 1 and Figure 2.
    3. The situation requires a re-think to the delivery approach. Successful delivery is the outcome of integration of the issues and variables of constructability and sustainability properly implemented and managed (Figure 2). The System Approach principle to housing delivery is considered as an appropriate alternative to the provisions approach.

In summary, the housing delivery framework in its present form and practice is not adequate, inefficient and unsustainable to deliver housing.This study therefore proposes a systems approach framework for its potential efficacy to deliver constructible houses effectively, efficiently and sustainably to meet the housing needs, demands and supply, and develop a housing management framework with appropriate strategies for sustainable housing delivery for the FCT, Abuja, Nigeria. It will address the delivery issues of constructability and sustainability through an effective approach framework based on systems thinking (theory).

###### RESEARCH QUESTIONS

1. What theoretical assumption(s) informed the formulation of the Nigerian National Housing Policy, 1991 and the subsequent status of housing in Nigeria and the FCT, Abuja?
2. To what extent do the provisions of the provisions approach delivery frameworks of the extant National Housing Policy address the complexity of housing to drive the processes of efficient and sustainable housing delivery in the FCT?
3. To what extent can the performance of the stakeholders in housing delivery influence the delivery processes of housing policy?
4. How can the Systems Approach concept be developed into a framework for housing delivery in the FCT?
5. How can the Systems Approach delivery framework be validated?

###### AIM AND OBJECTIVES OF THE STUDY

The aim of this study is to develop a systems approach framework for effective housing delivery and management in the FCT, Abuja, and Nigeria with a view to solving the perennial housing problems in the study area. The objectives of the study are:

1. To evaluate the efficacy of the provisions of the extant Nigerian National Housing Policy for housing delivery.
2. To examine the effectiveness of the provisions approach framework of the extant National Housing Policy for performance and management in the FCT, Abuja.
3. To evaluate the National Housing Policy's influence on the stakeholders' performance in housing delivery in the FCT, Abuja.
4. To develop an effective framework for housing delivery and management for the FCT, Abuja.
5. To predicatively validate the framework by the stakeholders for National adoption.

###### JUSTIFICATION OF THE STUDY

This work is a reflective research on the failure (performance) of the National Housing Policy (NHP) of 1991 and its delivery frameworks for housing in the Federal Capital Territory (FCT) Abuja, Nigeria, for a period of twenty (20) years; from 1991 to 2011. The 1991 National Housing Policy and its subsequent reviews have not shown any material shift in policy thrusts, institutional frameworks or delivery approach. It has persistently held on to the Provisions approach, viewing housing as an issue of dwelling units to be provided only. Housing phenomenon is much too complex to be viewed as an issue of provisions of dwelling units only with catastrophic outcomes (Steggell et al, 2003; Chattopadhyay, 2009). Housing and its delivery can also be considered from a delivery approach. Thus, the need to examine the provisions of the policy is therefore compelling.

Abuja, the Federal Capital Territory of Nigeria, was comprehensively conceived, planned and designed with all the required professional, administrative and financial feasibilities and thought out plans for its production in the "Masterplan for Abuja, the New Federal Capital of Nigeria" by the Federal Republic of Nigeria (FRN, 1979). Three decades after its construction was embarked upon, housing delivery and management status in the FCT, Abuja is no different from that of Lagos. Housing problems of shortages, affordability, overcrowding, slums development, including building collapses are evident and persisting. Problems that made Lagos an unpleasant place to live in and work, such as water shortages, inadequate electricity supply, traffic congestion and high cost of housing (rentals, construction, purchasing, leasing) as well as cost of land, labour, building materials, and technology are persisting and growing. Abuja was designed to be the pride and home to all Nigerians, and above all a display of Nigeria’s cultural diversity in architecture (FRN,1979). Furthermore, the FCT, Abuja, centrally located in Nigeria, was designed and planned to function as the new Federal Capital Territory and City of Nigeria, that will be secure, ethnically neutral, but inclusive, accessible, comfortable and

healthful, with adequate, efficient and sustainable housing, (The Abuja Master Plan (FRN, 1979) in Section 10. However, what obtains is a fast developing architectural experimental plot of a city, where any and every design is produced. Abuja, Nigeria's new federal capital city, when compared to contemporary new capital cities like Putrajaya (Malaysia) and Brasilia (Brazil), the state of housing, makes the FCT, Abuja, a compelling study especially as Nigeria desires to be among the world’s 20 most developed economies by the year 2020. As a capital city, Abuja has roles and responsibilities in providing social, economic and environmental development for its people, security for its surroundings, history and sustaining systems. These are basic needs and desires a city should provide. Housing, a matter of fundamental human rights and basic needs, has for over 30 years (1978 -2011), been a mirage in the FCT, Abuja.

This study therefore proposed that a suitable approach to housing delivery and management be developed and applied that will efficiently, effectively and sustainably deliver and manage houses on a sustainable basis. A systems approach framework based on Systems Thinking, Futures Research concept and methodology and employing Political, Economic, Social, Technological and Ecological (PESTE) frameworks (Leppimaki and Laitinen, 2007) was opted for. This considered management challenges (opportunities and risks) and development impulses driven on the platform of the building industry.

The potentials of the systems approach framework, working with a building industry platform, have the capacity to learn, so as to be self sustaining. It is understood from management knowledge that any organization’s capacity to learn is not just to maintain constancy at doing what it is able to do well, in terms of effectiveness or more efficiency (Single – Loop Learning); but to be able to plan, design, create, innovate, produce products and services and manage changes to enhance growth and development from past experiences of divergent comparative approaches and tacit knowledge. An organisation can also use such experience(s) and knowledge to find out what lessons there

are to be learnt, from which new strategies (second order learning), can evolve. Subsequently, it should able to evaluate and generalise what they have produced and these become the new organisational norms. In other words, the members of the organisation act as 'Learning agents' for the organisation as they respond to changes in their internal and external environments, by detecting and correcting errors in their operations and utilising such knowledge to greater advantage for the organisation (Petit, 1967). It is expected that the systems approach framework to be developed would enhance innovativeness, management of innovations and productivity in the industry .

Indeed, it enables industry practitioners thrieve (perform) in economic, political and technology environments, which are predictably unstable and require that organisational learning should not be an occasional, sporadic phenomenon but continuous and endemic, which enhances solutions to problems, housing inclusive. Practitioners are subjected to organisational learning and not merely individual learning, through the experiences and actions of individuals (Petit,1967). All such learning must be systematised into a form that promotes creativity and innovations for productivity (products and services) for the service of the individuals, society and environment. The provisions approach which operates on a separation principle, could not promote learning for productivity, resulting in housing delivery failure. The justification for the systems approach is that the industry can learn to integrate practice by the various professionals and their regulatory bodies, until the powers to innovate rests more with the industry, less with the individuals, and driven by innovations in products and services. The industry then resists being driven as an instrument of power brokerage or by government machinery for political gains on "political will," but must take the advantage of Networking (Systems Thinking) (Ashworth, 2006).

Thus, the systems approach framework focus is on delivery and management of houses, as the structures, processes and functions of the framework drive the components

of housing (planning, designs, production and product management) and requisite innovations to support and sustain growth and development as advocated by Egan (2009) in his "Re-thinking Construction." Innovations become as much as possible home grown or adapted from suitable sources; pay attention to productivity, service delivery and profitability and satisfying sustainability criteria for social, economic and environmental key performance indicators (KPIs) e.g. value, impact and satisfaction. The industry therefore promotes networking, engagement, integration and best practices (Ashworth, 2006).

The issues influencing housing project implementation and housing provision advanced by Jambol, et al (2013) in Tables 1 and 2 are those of persistent failure of performance of provision and poor organisational framework, followed by inadequate procurement regulations and land management issues. Jambol (2004) and Jambol (2005) had suggested the possibility of systematising housing delivery and the need for viewing housing production and management in the context of sustainable developments. These justify the employment of the systems approach to housing delivery.

###### SCOPE OF THE STUDY

The geographical area of study is the FCT, Abuja. The scope of investigation covered the extant National Housing Policy of 1991 and its efficacy to solve the myriad of housing delivery problems in the FCT, Abuja. This was done in the light of the huge resources committed and other provisions made by the federal government in the FCT, Abuja, encapsulated in the Abuja Master Plan of 1979 and NHP, 1991 and its subsequent reviews for a robust housing development. The period of study is 1991 to 2011, a period of twenty (20) years, considered matured for testing the performance of the policy.

The scope is further limited largely, but not exclusive to government activities, government, being the greatest investor in the building industry and employer of the

industry’s labour – directly or indirectly. Others considered are the private sector providers and key industry role players. The study adopted the macro view of the systems approach principle in view of the complex and varied issues of housing related to the present 1991 National Housing Policy.

###### OPERATIONAL DEFINITION OF TERMS

For this study, the operational meanings adopted by key words/terms are as follows:

**1.7.1 Housing:** is a complex phenomenon and systemic process of delivery of dwelling units (adequate, accessible, available, affordable and adequate), and appropriate facilities and services that support the production and developments of sustainable living environment*.* It is both a noun and a verb.

**1.8.2**. **Housing delivery:** Housing delivery is a systemic and dynamic process of managing the complex phenomenon of housing into sustainable living environments within the provisions of an articulated housing policy - a social public policy.

* + 1. **Housing management**. Housing management adopted from van Wyk (2006), is the art, science and profession of coordinating the role players, protecting the interests of households and communities and managing housing processes; using appropriate policies, strategies, systems and resources; with due cognisance of all the contextual circumstances (natural, social, cultural, economic, political and technological); to contribute to households community development and to optimum housing sector performance; towards new and improved human living environments.
    2. **The Systems approach for housing** is an all inclusive (holistic) management concept which incorporates various global management approaches and principles to solving the complex (wicked) problem of housing delivery through public-private participation, urban re-adaptation and flexible housing delivery best practices and management. That:
       1. Coordinates the roles of key housing players: government agencies, financiers, developers, housing consumers, corporate employers, social housing institutions, NGOs, donors, professional bodies and professionals rendering relevant services;
       2. Protects housing consumers against exploitation, intimidation, victimisation, corruption and other unprofessional practices, (van Wyk, 2006); and
       3. Provides efficient/effective management of policies, strategies, processes, systems and resources. It alongside, seeks to provide a delivery platform that monitors and evaluates the constructability management such as a construction industry development board (CIDB) (Woudhuysen and Abley, 2004; Egan, 1998). It is expected that such a system would:
          1. Produce households and communities that have constructible frameworks for housing that are qualitative, adequate, accessible, available, affordable and adaptable, and sustainable communities with improved wellness, social, economic, political and physical institutional developments;
          2. Have a housing management organisation that can sustain optimum investment, employment and promote housing performance; and
          3. Enhance the development of a better society that is stable, has less crime, has productive employees, living in peace and harmony, i.e. a sustainable living/liveable environment. (Chattopadhyay, 2009; UNCHs (Habitat) ILO, 1997; Le Roux, 2011)
          4. Be pragmatic, operating/developing with paradigms concepts (Leppimaki and Laitinen, 2007).

This is conceptualised in Figure 1.

* + 1. **Wicked problem:** A wicked problem is one that:

1. is unstructured in nature, multi-dimensional, all encompassing, inclusive;
2. is ill-defined, ambiguous and associated with strong moral, political and professional issues;
3. cannot be successfully treated with traditional analytical approaches (Ritchey, 2005);
4. fights back when you try to solve it (Henry,2006).

These describe housing problems very well. For example in the attempt to increase accommodation spaces in units of the low-cost housing estates, Matthew (2007) found that it increased congestion and associated social problems in the housing estates in Kaduna and other areas covered in the study.

###### CHAPTER TWO LITERATURE REVIEW

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###### HOUSING

This chapter examines from literature what is known on housing: its delivery and delivery frameworks, status in Nigeria and the FCT, Abuja. This is with a view to identifying and reflecting on the problems of housing delivery, in the light of available housing delivery knowledge and resources to solve the housing delivery problems in the FCT, Abuja.

###### General Overview

The concept, definition, characteristics and usage of housing have very diverse and complex ramifications far beyond the provisions of shelter to man. These vary from country to country and peoples primarily due to the differences in culture, education, technological advancements, development concepts, social, political, economical, and environmental dispositions. Housing is affected by several factors, namely: the theory supporting its paradigm, concept and processes of decision making and planning, design and production, distribution, usage, influence of governance, environmental impact, management, socio-cultural activities, demographic factors, impacts on society and delivery frameworks. Housing delivery has several determinants ranging from anthropological, social, economic, human and natural resources, technology, ownership structure, land tenure and security systems, networking/connectivity and communication, stakeholders (users, promoters, producers, dealers, etc) and the environment. The efficiency of decision making and the factors of planning, design, production, provision and delivery affect the totality of its constructability and sustainability (life-cycle period and performance).

These and other relevant factors of delivery are essentially the product of the type, quality and efficacy of policy formulated (theory, concept, information and implementation

strategy), the processes of production (concepts, plans, designs, production, technology, resources, programmes, implementation strategies) and management of the delivery frameworks to produce dwelling units (houses) for the wards, villages, towns, cities or settlements. These make up the environment – natural and/or built and bring to the fore the issues of resources, lands, materials, men, money and technology, methods and management to produce and deliver housing. Housing is a complex phenomenon.

These factors are crucial and their mix is essential in ensuring that housing exists in the required quantity and quality. The status and standing of housing situation therefore are found in the efficiency and adequacy (constructability and sustainability) of the delivery frameworks, largely drawn from the policy provisions for the components of planning, design, production, delivery and management.

The management of housing is complex and crucial. The status and standing of any city, and indeed the environment, epitomises the level of success of housing delivery and management. It is for above that housing has been accepted as man’s second most important and essential need, next only to food, (Abrams, 1964) and a fundamental human right. It has great impacts on the health, welfare and productivity of individuals, communities and organisations. In its ramifications, housing is more than mere shelter (a structure or dwelling unit/house), but a system of intricate relationships – economic, social, political, cultural, and environmental (Bourne, 1981; UNCHS (Habitat) ILO, 1997; Agboola, 2005).

For housing therefore to serve its purpose, houses must be delivered efficiently in adequate quantity and quality, be accessible, available, affordable and adaptable on a sustainable basis and managed. Policy is therefore crucial for successful housing delivery.

###### Definitions of Housing

Housing is a Fundamental Human Right. The Nigerian Constitution, 1999 (as amended in 2011) strongly supports this as provided at Sections 15.3 (b), 16.3 (d) and 20.

Housing delivery in Nigeria is driven by the National Housing Policy, 1991. This 1991 policy failed to define what housing is, but provided in Sections 2.2 the goal of the policy. Section 2.3 and 2.4 provided the policy's objectives and strategies which are to be driven by a strong “political will" through the instrumentation of government's bureaucracy. In it, housing included sustainability attributes of energy efficiency and resource conservation for improved quality of life. The policy’s main thrust was and has consistently been, to ensure that all Nigerians "own or have access to decent, safe and healthy housing accommodation at affordable cost."

Housing, however, as has been defined severally, has various parameters. Maslow’s (1943) theory of human motivation, Abrams (1964) and several authors have generally and severally considered housing (shelter) as man’s second most important basic (essential) need, next only to food and a fundamental human right. It is considered as a bundle of services such as parks and gardens, schools, markets, etc. It has been said to be more than shelter or lodging of a given community (Borne, 1981). Gbadeyemi (2011) and Ademiluyi (2010) described housing as “a proven economic growth driver” and a “pre- requisite for the survival of man” (Agboola, 2005). A house provides shelter, refuge, comfort, security and dignity. It can be a stimulus to national economy. In the African setting; it is a “greatly cherished” material property, providing protection to family, ancestral values, among others.

The UNCHS (Habitat) (2000) has housing as not only a “social commodity but as a productive investment that stimulates economic activity and creates conditions conducive to the attainment of important goals in health and sanitation”. When properly turned out and it booms, it reflects a strong economy, when it drops, it points to recession. The recent 2007 American recession experience affirms this. Yu (2004) sees the desire to own property (house) as having the dual role of shelter and investment. The Asian culture has it that housing is an item of “inheritance” to be passed on to subsequent generations. To

Yu(2004), housing is an enterprise to be promoted and supported by governments. To Okunfulure (1994) housing is a “peoples’ activity to be promoted by government as an enabler, promoter, facilitator through the creation of legislative and institutional frameworks as well as conducive delivery system (mechanisms) to individuals and cooperative efforts, easing access to developed land, credit, etc.

UNCHS (Habitat) ILO (1997) and World Bank (1993) consider housing as a service matter. Its successful delivery becomes a positive index of good governance (Mabogunje, 2001). Housing has links with issues of poverty reduction, employment generation and social (re)generation. The Abuja Master Plan (FGN, 1979) posits that housing “represents the most basic of human needs with profound impact on the health, welfare and productivity of individuals." It is the closet point of contact between the city residents and the city; the largest consumer of land, the major element of the overall cost of the city. The dynamics of its organization, provision and management are investments in other sections because construction is an important buyer of goods and services (Basin – News, June 2001). Steggell et al (2001&2003) gave a comprehensive definition/description of housing. To them, housing “may be seen as an object, a product, a process, a resource, an environment, a symbol or even a state of mind” needing a theory(ies) to guide its study and understanding to be beneficial.

For Kulshrestha (Chattopadhyay, 2009) housing is not merely a matter of number of dwelling units and physical structures. It is a "mutually inclusive" complex discipline that cuts across the boundaries of planning, architecture, civil engineering, sociology, psychology, legislation and even economics, to create and sustain a living environment.

The reviews of the National Housing Policy (NHP) from 1991 to 2012, came to terms with the ramifications, enormity and complexity of housing and related problems, and in the absence of a standing national housing definition, described housing at Section

1.2.2 as follows:

Housing is the process of providing functional shelter in a proper setting in a neighbourhood supported by maintenance of the built environment for the day-to-day living and activities of individual and families within the community (FRN,2006(a).

The NHP, 2006 was reviewed in 2011/2012. It described housing as

the process of providing safe, comfortable, attractive, functional, affordable and identifiable shelter in a proper setting within a neighbourhood, supported by continuous maintenance of the built environment for the daily living activities of individuals and families within the community while reflecting their socio-economic cultural aspirations and preferences (FRN, 2012(a).

This was finally modified to

the process of simultaneous production (building) to target prices of large number of decent, safe, sanitary and affordable residential buildings with secured; on a continuous and permanent basis, with adequate physical infrastructure, amenities and social services in a planned, healthy and liveable environment to meet the basic and special needs of the population, and reflecting their socio-economic status, cultural aspirations and preferences. (FRN, 2012(a).

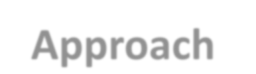
The NHP again asserts that housing includes the sustainability attributes of energy efficiency and resource conservation for improved quality of life. From a synthesis of the above and other descriptions, it can be seen that the definition of housing is inadequate. This study views housing as 'a complex and systemic process of delivery of dwelling units, (adequate, accessible, available, affordable and adaptable) and appropriate facilities and services that support the production and development of sustainable living environment.'

It is important to note that housing descriptions in the reviews of the National Housing policy have not materially changed nor introduced any new thinking in concepts or theory. They have concertedly maintained that housing is a matter of provision of residential buildings (dwelling units) and largely dependent on government's direct provision, enablement or facilitation. These affirm and support the "political will" posture

and understanding of housing by governments. Therefore, this study is a (based on the) reflection of the 1991 National Housing Policy.

The nature and realities (imperatives) of housing shows that it is a combination of services – living spaces (indoor and outdoor), land utilities, location situations (work and community services), and relationships to neighbourhoods, family members and friends. It embraces all the social services and utilities of life that go to make a community or neighbourhood a “liveable environment” (NHP, 1991 & 2006(a); FRN, 1979).

Housing has multiple dimensions (UN-Habitat, 2010) and different levels and components (van Wky, 2006). These are shown in Figures 1, 2 and 3. It can be deduced that housing, when successfully delivered, yields mutually inclusive benefits to all its stakeholders, while failure can be a source of multiple difficulties and complications – social vices, slums, overcrowding, disease, crime, evictions (SERAC, 2007). The figures1, 2 and 3 show that the components of housing can be understood as sub-systems of a system of delivery and management from an understanding of van Wky's(2006) housing management process concept. The levels of housing can similarly be extended to local levels such as the Municipal Area Councils or local government areas in the Nigerian administrative structure. Housing can therefore be viewed from two approaches from the above understanding as in Figure 5.



**Systems**

**Approach**

**The systems approach seeks to:**

1. coordinate the roles and responsibilities of key players through participation,
2. protect consumers from exploitation and incompetence; ensuring performance and value,
3. provide efficient/effective management of policies, processes and resources, and
4. Incorporate inclusiveness based on **Systems Thinking and Futures Studies/Research** (Chattopadhyay, 2009, UNCHS (Habitat) ILO, 1997).

**Systems approach**

1. supports sustainable development concepts and policies based on systems thinking, (systems and ecological theories);
2. is end-user friendly products;
3. is integrated, flexible, inclusive , industry based, i.e. participatory;
4. Has capacity to learn, create, innovate; and
5. has ability to manage changes (futuristic), enhancing sustainable management of innovations (le Roux, 2011; Venter, 2010; Chattopadhyay, 2009; Leppimaki & Laitinen, 2007; van Wyk, 2006; Steggell et al, 2001; Habitat Agenda, 1996; Onigbokun, 1985, Bourne, 1981).

An all-inclusive (holistic) management concept that incorporates various global management approaches and principles to solving a complex (wicked) problem of housing delivery through public-private participation, urban re- adaptation and flexible housing delivery best practices and management (Adapted from: Chattopadhyay, 2009)

**Outcomes of this system promises to be :**

1. Well adapted and suitable for housing; supports community development;
2. appropriate for self sustaining housing developments that provide investment and employment opportunities; and
3. supportive of better society with stable, productive employees, social harmony, less crime and

disease. Examples are in Buenos Aires, Argentina; Lima, Peru and South Africa (le Roux, 2011).

###### Figure 1: Systems Approach Concept to Housing Delivery Source: Author

**Table 1: Federal Government Housing Budget and Milestones**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Year** | **Budget Amount (N)** | **No. Houses Projected** | **Outcome (units)** |
| 1st NDP | 1962-68 | - | 24,000 | 500 (2.08%) (1) |
| 2nd NDP | 1970-74 | 2,634,000 | 54,000 | - (2) |
| 3rd NDP | 1975-80 | 1,830,000,000 | 66,000 | 15,378 (23.3%) (3) |
| 4th NDP | 1982-86 | 2,686,000,000 | 440,000 | 58,520 (13.3%) (4) |
| 5th NDP | 1987-89 | Projects suspended due to economic recession and government’s focus on the implementation of Structural Adjustment Programme (SAP) (5) | | |
| 1st NRP | 1990-92 |
| 2nd NRP | 1991-93 | Consolidating on SAP and dealing with macroeconomic issues (5) | | |
| 3rd NRP | 1993-95 |
| 4th NRP | 1994-96 | 2,000,000,000 | 121,000 units | 2,000 (1.65%)(5) |
| 5th NRP | 1997-99 | - | - | - (5) |
| 6th NRP | 1999-01 | - | - | - (5) |

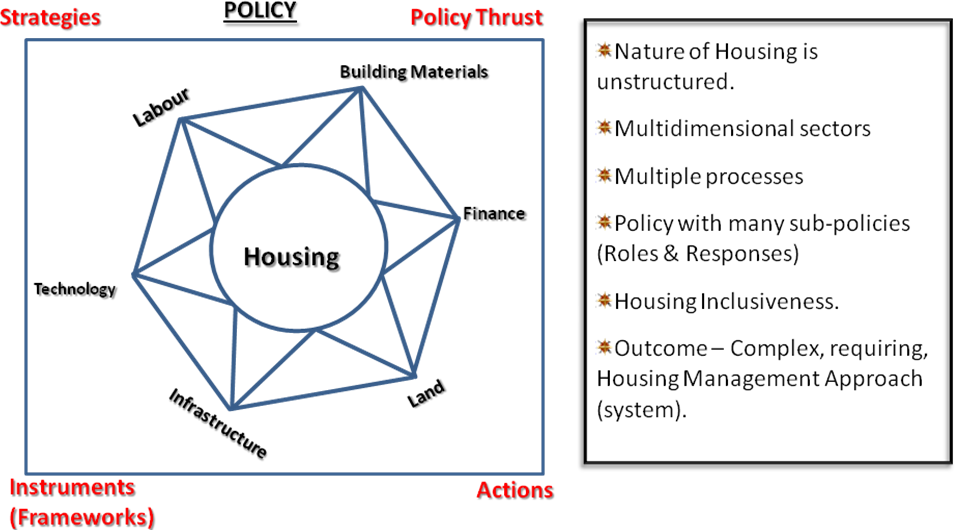
FGN (1962) (1); Ekundare (1971) (2); Lewis (1977) (3); UNDP (1982) (4); Ademiluyi (2010) (5)

Source: Jambol. Molwus and Daniel (2013)

###### Table 2: Key variables influencing housing project implementation

|  |  |  |
| --- | --- | --- |
| Key variables | Manifestation of problems | Effects |
| Poor organisational framework | Use of top-down model of design and  implementation of projects | Over-centralisation of roles in few agencies, lack of probity, accountability, transparency and failures |
| Monopoly over the administration of project  implementation by Federal Government agencies |
| Small group of individuals became too powerful and exerted considerable influences over the  implementation process |
| Volume of projects to implement at certain times outweigh the administrative capacity of  implementation agencies |
| Local Government Agencies, Community Based  Organisation and Non-Governmental Organisations were left out |
| Inadequate procurement regulation | A lack of uniform procurement regulation and  permanent arrangement for control and surveillance | Bribery, corruption, contract collusion, 'ghost contracts', 'ghost contractors', inflations of contract cost and  kickbacks |
| Proliferation of Tender Boards which have limited mandate and power to decide contract *de facto*  resting with politicians and bureaucrats |
| Procurement process was handled by officers that lacked relevant skills and knowledge |
| Land acquisition issues | The land tenure tries to take away land ownership  from individuals and kinship groups | Delays over land acquisition process, inadequate compensation payment to dispossessed land owners and reluctance (of kinship groups and individuals) to sell land to government and private  investors. |
| The land tenure gave too much power to Governors  to grant statutory rights on land to give consent transfer of landed properties |
| Land ownership tussles between kinship groups and governments causes delay in land acquisition for  housing development |
| Seeking consent from Governor before carrying transactions created delay for investors. |

**Sources: Jambol, Molwus and Daniel (2013).**



**Figure 2: Multidimensional View of Housing Phenomenon Source: Adapted and Modified from UN-HABITAT (2010)**

#### Policy Frameworks & Strategies: Plan, Design & Produce

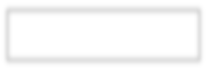
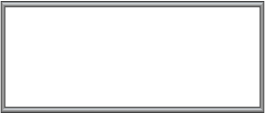
**Adequate**

**Available**

**Accessible Housing**

#### Housing Delivery

**Issues/Variables**



**Sustainability View**

**Implementation**

**Constructability View**

Finance

Land Admin/Magt Building Material Technology Infrastructure Urban Dev.

Planning Building Regulations/codes

#### Manage Performance KPIs

**Social**

#### Housing

**Adaptable**

**Demographics**

**Affordable**

Market Labour

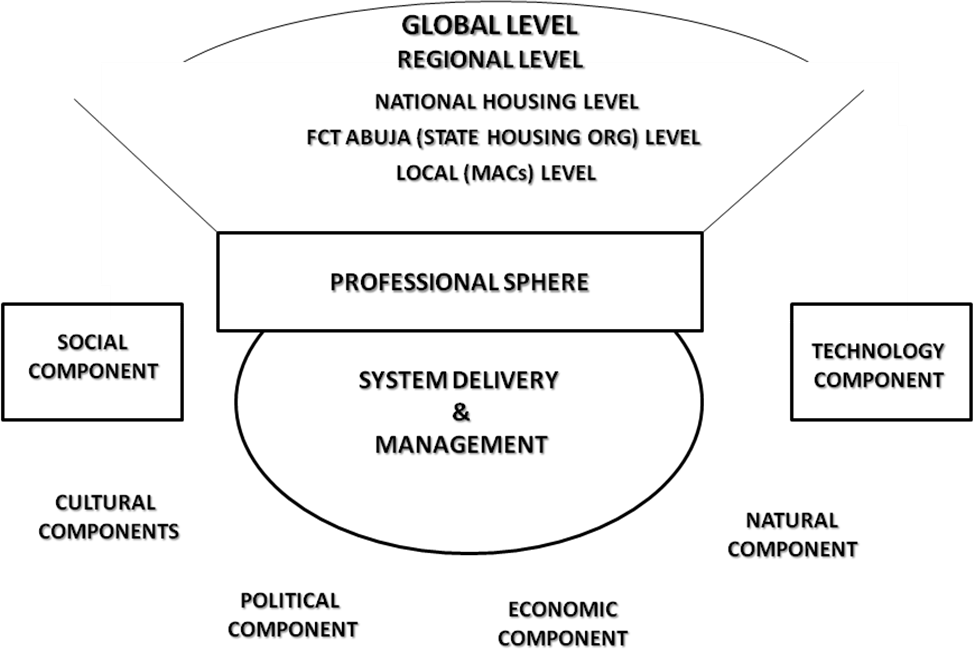
Building Industry

**Environment Economic**

**End Users**

**Figure 3:Housing Delivery Imperatives: Problem Definition**

***Source : Author***



**Figure 4: Levels and Components of Housing Phenomenon Source: Modified from van Wky (2006)**

### Housing

###### Provision

Ad-hoc, economic consideration only

Operates on separation principles



Dependent on demand/supply and market forces Project management for products

**This is supported by Implementation**

**Theory and Provisions Approach (Noun)**

Sustainable, management driven concept/principles Participatory, holistic, systemic Frameworks/approach uitable policy approach & Management strategies



**Delivery**

S

Sustainable development paradigms

**This suggests a Systems Approach/Pragmatism, Supported by Systems Theory (Noun and verb)**

**Figure 5. Housing Approaches**

###### Housing Provision

Housing provision is an activity principally propelled by economic motives for physical production of dwelling units, based on demand and supply, dependent on market forces. It is also a government social welfare programme based on "political will"(NHP,1991), for the well-being of its citizens, a social responsibility. These are ad-hoc and may not be sustainable. Provision experience fails to specifically place houses (deliver) in the hands of the end users on a sustainable basis. Economic constraints usually gravitate to constraints of affordability, adequacy, availability and accessibility, among others (Denaldi,1997; Ukoha and Beamish,1997; &Medrano and Recaman, 2006). This probably explains why it has failed to provide appropriate (adequate) types of houses needed by the "homeless/houseless persons" in Nigeria and the FCT, Abuja, even when the FCT, Abuja is observed to having so many unoccupied housing estates.

###### Housing Delivery Overview

In the NHP of 1991 and its subsequent reviews, housing delivery has never been defined. Only policy thrusts were always made which were and still are to "provide" homes or "access" at "affordable cost and driven by "political will." This is very significant and instructive.

Housing delivery as shown in Section 1.8.2 of chapter one, is a process that shifts away from the mechanical input-output activities of provisions of dwelling units to management paradigms of housing delivery and managing its complex and "wicked problems." In pragmatism, it seeks to proactively produce, provide and place in the hands of the end-users, new and improved sustainable residential accommodation and living environments. The process allows for management inclusiveness, flexibility and changes to promote learning from the implementation experience of the inadequacy and inefficiency of provisions programs and projects in producing dwelling units; analysis of relationships and contextual elements; to dealing with the elements of resources (such as

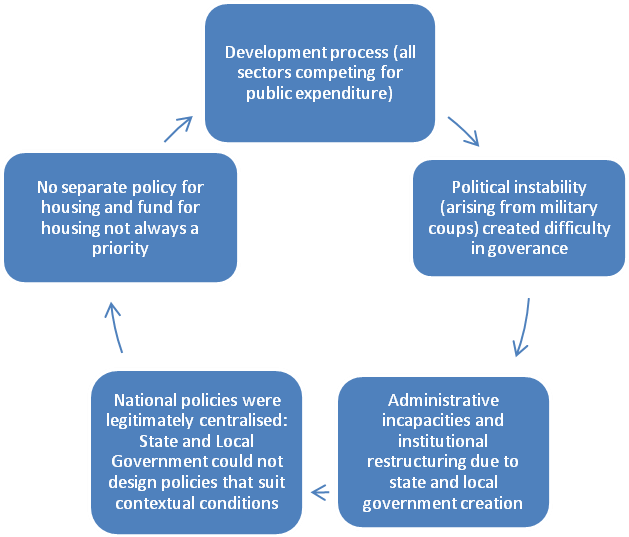
finance, technology, manpower, building material) and the dynamic, unpredictable and even idiosyncratic elements/issues in development programs/processes, allowing for environmental, political, social and economic changes on long term basis.

Housing delivery is therefore a management process of comprehensively dealing with the complex phenomenon of housing and sustainable living environments.

Housing delivery for this study can therefore be considered to be 'a systemic (dynamic) process of managing the complex phenomenon of housing into a sustainable living environment within the provisions of an articulated housing policy-a social public policy.'

It is appreciated that global housing delivery practices vary with the level of development and nature of state policy of nations. In Nigeria, housing is essentially acquired through personal savings and self help (Uji, 2000), though having many interactive supply issues as asserted by Jambol et al (2013) in Figure 6.

This is principally because efforts of the building industry and governments have failed to put in place sustainable housing delivery frameworks, that will not only view housing purely as an economic issue of provision of dwelling units. For instance, while the mortgage institution has been depended on to solve the issues of housing finance. Atsiya (2012) confirmed that this has failed as a result of the difficulty to develop a “vibrant mortgage market.” Public housing finance has been poor, showing neither passion, commitment or adequate funding, because housing finance is not a short term, ad- hoc issue.



###### Figure 6: Interactive issues influencing the supply of housing Source: Jambol, Molwus and Daniel (2013)

Furthermore, direct government efforts in provision through interventions, facilitation and enablement to produce mass housing have had very limited impacts in meeting the needs of the low and medium income groups, (Akeju, 2007; Ademuluyi, 2010; Gbadeyemi, 2011; Atsiya, 2012). From pre-independence period up to 1960, government provided housing only for workers in the government reserved areas (GRAs), mainly for expatriate and selected indigenous staff. There were intervention efforts through the Lagos Executive Development Board (LEDB) in 1928 that metamorphosed into the Nigerian Building Society in 1956 which is today, the Federal Mortgage Bank. Others were the regional governments’ Housing Corporations, which formed the basis of Low Cost Housing (Public housing).

Both intervention and facilitations of housing access and/or ownership have been ineffective as they were not adequate, available and affordable to the low and medium in- come earners and inadequate in quantity and quality. Various studies have concluded that the housing delivery strategies in Nigeria were poorly implemented and not sustainable. Ademuluyi (2010) called government’s delivery strategy “a classical example of politics of many words, but little action,” principally as a result of “lack of political will” to formulate and proactively implement the policies that are “end user” driven, addressing demographic factors such as population growth rate (3.2%); rapid urbanization rate (over 5%); natural disasters, political upheavals and persistent poverty. Gbadeyemi (2011) described government's housing programmes as unsustainable because “most were frustrated by corruption, politicisation, insufficiency of technical staff and lack of infrastructure.” Atsiya (2012) described the mortgage finance framework as having failed to play the “pivotal or critical role" necessary for successful implementation of the policy of mass housing for Nigerians as envisaged in the National Housing Policy of 1991. Much therefore is needed to turn this around, if only to efficiently supply adequate and affordable dwelling units. Housing is however, much more than shelter provision.

It is observed that new houses are built yearly, but 70 percent “live under subhuman conditions” because they “cannot afford decent housing” despite government promises and efforts over the years to provide housing for all (Ola, 2012). An accurate assessment of the housing situation is difficult because of the absence of accurate/reliable data on housing stock. A compilation of the housing situation (past policies and programmes) from 1990 - 2011 is in Appendix B1).

Various sources portray the situation in Nigeria as at 2008 (ERSO Expert Meeting, Stockholm, 2008) as follows:

* + - 1. Population is 140 million, now estimated at over 160million (NPC,2010).
      2. 30% - 40% of total population live in the urban areas, with an average household population of 5 – 6 persons
      3. The occupancy ratio of houses in Nigeria is 6 persons per room of 20 sq. m.
      4. About 60% of Nigerians are without adequate shelter (under-housed and no housing)
      5. Residential home ownership is about 68.5% (Census, 2006). International benchmark is 75%.

Housing needs and deficit estimates as at 2008 were as follows:

* + - * 1. 14 – 16 million housing units deficit; 16 - 18 million (2012).
        2. Estimated cost is put at US $150 – 200 billion or N58-77 trillion.
        3. Need to provide 500,000 units per annum for the next 40 years.
        4. An average developer cannot deliver more than 2,000 housing units in 12 months.
        5. Housing issues to remain a primary social area of focus in Nigeria for the next 20 years or more.

In terms of quality of housing conditions, availability and adequacy of facilities and utilities, these have not improved significantly. Since 1980, toilet facilities have more pit

construction than better and more ideal provisions (NPC, 2010). This is same for electricity, water supply, road construction and sewage. Reviews of the situation from 1990 to 2000 (Appendix B2) show a declining pattern of provision of improved facilities in the face of increased urbanization and increasing population. Statistics from the Federal Office of Statistics, (now Bureau of Statistics) confirm that there is no significant improvement in the quality of toilet facilities, water supply and electricity supply as seen in Tables 34-38.

Findings as contained in Appendix B2 and Appendix B3, show that efforts made over the past three decades by successive governments in Nigeria failed to meet the shelter needs of its citizens. Supply has been inadequate and not affordable, and existing stock deteriorating. The policy’s thrust, goals and implementation strategies and their subsequent plans and programmes seemed to have been introduced without adequate comprehension of the complex nature and ramifications of housing and its imperatives such as assessment and analysis of the needs; predetermined parameters and subsequent monitoring and evaluation of the efficacies of the frameworks driving them (Okunfulure, 1994). Subsequently, failure was not for lack of efforts but for lack of understanding of the problems of housing delivery.

These have been attributed to:

1. The Provisions Top-Down policy that:
   1. lacked the "political will" to effect and sustain implementation strategies.
   2. lacked capacity to sufficiently guarantee successful performance as it was based on traditional linear and analytical approach management style.
   3. persistently experienced policy somersaults and development changes that had no concretely established bases to support, promote or sustain them, particularly when the country's socio-economic development concepts and

policies changed from national development plans regime to the IMF/World Bank influenced Structural Adjustment Plan (SAP).

* 1. opened the country to the so called free "market forces" economy based on western economic theories (Venter, 2010) and IMF/World Bank neo-liberal economic development policy/concepts without appropriate checks and balances suitable to promote, support and sustain Nigeria's housing developments based on home grown socio-economic theories, concepts and policies for sustainable developments;

1. Failure to understand and evolve appropriate management concepts and strategies to manage the "wicked," unstructured and complex nature of housing delivery problems.

These failures of housing delivery account for the fact that scarcity of housing in Nigeria and in the FCT, Abuja is real and acute, because the various housing provision approaches employed were not sustainable. The reasons for their persistence demand a rethink in the light of understanding housing delivery problems (le Roux, 2011). This is the focus of this work. It examined the nature and complexity of housing delivery in the context of policy and performance for sustainable housing, considering its constructability and sustainability in Abuja, the Federal Capital Territory over a period of two decades, 1992 to 2011. This study proposes the SYSTEMS APPROACH to housing delivery, and a macro-view.

The housing situation in the FCT, Abuja, is worrisome because of its special status. Two documents present the scenario: The Review of the Abuja Master Plan and the 2006 Housing Census conducted by the National Population Commission (NPC,2010). The summary of these are as follows:

###### Review of the Abuja Master Plan, 2001 (FGN, 2001).

The FCT, Abuja was conceptualised to answer the clamour of the country for a "restructured polity" with seven key philosophical principles of "equal access, equal

citizenship, environmental conservation, the city beautiful, functional city, effective regional development and rapid national economic growth," (Kalgo and Olatubosun,2001). An assessment of this expectation (promise) was adjudged a failure consequent upon:

* 1. Faulty concept of development by exclusion with respect to the indigenous inhabitants of the FCT, a manifestation of the separation principle of practice.
  2. The execution of the Master plan suffered from many distortions mainly from several administrative instabilities as a result of military interventions. High points of the distortions were in the "building plot allocations." This changed from allocations based on "equitable basis of federal character" to politically induced motives that addressed no purpose, to primordial biases/favouritisms and corruption. The military regimes were the worst with "functionaries of government owning multiple plots, sometimes all on one street." Many functionaries and officers were corruptly enriched.
  3. There were clear manifestations of inadequate feasibility studies and interactive planning which led to several reviews, reversals and changes in policies in the implementation of the Master plan.. These have continued to date.
  4. Consequent upon (c) above, there was the decision to rush the movement to Abuja by shifting it forward to 1982/83 which resulted in the emergence of shanty, unplanned, overcrowded developments, lacking in basic amenities and infrastructure to accommodate workers prominently in Karu/Nyanya, Karmo and Gwagwa.
  5. Land administration became, and is still a problem of the FCT to date despite numerous reforms. Land speculation has virtually been entrenched into the system with its resultant problems, prominently, corruption. It would appear that the bureaucrats of the FCT/FCDA are enjoying it.
  6. As a result of (e) above, the private sector's real estate developers failed to deliver.

Estates are being produced, but not fully occupied because they are not affordable. The curious question seeking for an answer is the elasticity of investors in tying down such huge capital for such long periods.

* 1. Government organisation structure for administrating the FCT was also faulty. It was combining the roles of producer and overseer of standards for the implementation of the Master plan, hampering orderly developments and promoting distortions. This scenario is compounded by creating and imposing the Ministry of the Federal Capital Territory, FCT on the Federal Capital Development Authority, FCDA, which board was scrapped by the General Buhari's military administration, that is yet to be reconstituted to this date.

Subsequently, housing development has suffered the most. The Master plan had proposed development in phases. Housing was allocated 12,486 hects. or 48.97% of the land in the land use plan for Phases I and II. In the Review report, housing statistics has the following:

1. There was no specified number of houses that could be reported as an achievement. It reported that "Housing stock in Abuja could be placed at over hundreds of thousand units as at today. The figure is for both public and private development." This is vague and disappointing for the quantum of investment by government for housing. Majority of the population are tenants: usually in one and two storey rooming houses, with densities as high as 2000 dwelling units/hectare. A room houses between 5 and 8 persons.
2. 50-70% of households in one room sharing inadequate or intermittent services.
3. Tenants pay rents which exceed 70% of their official income.
4. Satisfactory housing is either self provided by upper income groups (small percentage of the population) or wholly or partially subsidised by employers to senior personnel in public service or private corporations.
5. Neither the public nor private sector has made substantial in roads to solve the housing problems of the low income group, who constitute 70% of the population.
6. Large public projects (infrastructure) occupy the allocation of large private construction sector, consuming most of the available building materials. This compounds the housing delivery problems in the area of costs of materials, production and maintenance.
7. Units of housing meant for low income group, those in the public service have been taken over by seniors due to shortages and their inability to pay for them.
8. Targets for production of houses by the public sector were "overly ambitious for the methods available" and therefore not achieved.
9. Government policy of monetisation has further impoverished the low income group as the attractions from the rich to resist disposing their smaller units in the city centre for cheaper ones in the fringes of the city is too tempting.

A summary of the issues emanating from the Review of the Abuja Masterplan include:

* 1. failure to mobilise available financial resources for housing;
  2. setting of unrealistic standards of housing quality, and not matched by experience, desires and capabilities of end-users;
  3. failure to provide adequate access to credit for both producer and consumer;
  4. inaccessibility to serviced land title and tenure to prospective house builders - groups or individuals and registration;
  5. pre-occupation with building technology rather than delivery of affordable housing; and
  6. short coming of the building industry occasioned by the domination and highly priced foreign contractors and imported materials as against inexperienced small-scale local builders with uncertain supply of indigenous materials.

###### Findings of the 2006 Population and Housing Census, (NPC, 2010)

The findings of National Population Commission was not any different from that of the Review of the Abuja Master plan highlighted above.

What has become clear is that the present delivery frameworks under the NHP, 1991 and the implementation of the Master plan require a re-think**.** This is discussed further in the following sections.

###### Concept, Dimensions, Imperatives and Nature of Housing

The concept of housing has been appreciated as a varied and complex phenomenon. The American concept of housing has it as an item of aspiration and expectation that every family regardless of income and status aspires to have the opportunity to live in decent housing in a suitable neighbourhood. The American housing concept is that of a place to “live in.” This presupposes the existence of an established, efficient and sustainable framework (delivery system) of provision and delivery of dwelling units with a defined ownership structure that allows for choice of tenure, location, house type, financing options, management as well as quality, comfort and security of a house to live in. Such provides for all aspects of living (social, economic, political and environmental) and working together to promote suitable living neighbourhoods and environment.

The system/process of delivery is therefore all encompassing (inclusive) integrated, systematised and sustainable. The concept, according to Steggell et al (2001) is the product of an adequately articulated theory of housing and policy, defined frameworks

of delivery and key performance indices (KPIs) of sustainability influencing the social, economic, political and environmental fabrics of the society (communities). The issues of the concept of housing are political, technological, social, economic and environmental and therefore expected to influence the policy formation with respect to constructability, liveability and sustainability. These are essentially factors of housing delivery.

The Nigerian concept, according to the National Housing Policy, 1991, seeks to provide decent, safe and sanitary housing accommodation for all to either “own or have access to at affordable cost” and its thrust, is “home ownership.” The concept of provision for access or ownership is to all intents and purposes, interim and contingent on the provision of a large number of residential buildings produced by a political will at affordable cost. Inherent in this is the contradiction on the social and economic consideration of the technological, political and economic environments that will promote sustainability of provisions. It is caught between economic issues of supply and demand and welfare issues of needs (Housing for all). There are too many dependable variables in this concept (Ibem and Azuh, 2011), while a group of discussants described a Rights- Based Approach to Housing as "unsustainable," (UN-Habitat, 2010).

This concept of housing is subject to the dynamics of economics of demand and supply which depend on the earning capacity and status of individuals or groups. It has inherent problems of affordability especially to the poor, unemployed and low-income earning groups because of inequality in earnings, and inhibits equal access to same quality of housing especially in a capitalist economy such as Nigeria and can easily promote social segregation in the environment. Realisation of the concept therefore depends on extant macro-economic factors like inflation, cost of living and the ability of the providers of buildings to adequately produce them at affordable costs. A lot therefore depends on the political will to promote and sustain good governance and a productive/efficient housing sector. The UN Habitat (2010) graphically demonstrated the complex nature of housing in

its presentation of the multi-dimensional view of the housing sector, as adapted and modified in Figure 2. From above, the nature of housing is, among others:

1. Unstructured Nature
2. Multidimensional (sector)
3. Multi-processes and Multi disciplinary
4. Policy with many sub-policies
5. Complex outcomes requiring management
6. Inclusive, has imperatives

The concept therefore calls for an appropriate management approach(es) to a complex phenomenon, not simple traditional linear, analytical approaches. To further understand the concept of housing, there is need to consider its imperatives:

1. It has important roles and functions (essence) in the lives of the citizens in social, political, economic and environmental aspects of any nation. It is a fundamental human right, an issue of universal application and therefore needs to be adequate, accessible, available, affordable and adaptable.
2. Its production and delivery frameworks should address the decision making and planning concept, design and production processes, including materials and technology/techniques (Figure 7 and Figure 8)



### Figure 7: The Imperatives of Design in Housing Delivery Source: Author

###### a. The Imperative of Design in Housing Delivery

It has been asserted that wicked problems demand interdisciplinary collaborations and most importantly patience and perseverance as in climate change. This is required to aid the processes of “mitigating” the problems as they cannot be “fixed.” Mitigation takes place in new and more desirable directions put in place by designers who are experts in the knowledge of science, economics, technology, politics, etc; of space management of buildings and housing. The imperatives focus on the design concepts and their consequences, design production management and management of products, keeping inevitable change in view and proactively providing anticipated solution to design problems as they all occur in the future (Uji, 2002).

###### Design concepts

Design concepts in their ramifications are ideally the product of all relevant stakeholders. Practice however, has shown that not much of that holds sway. Realities of developments, especially with the advent of concepts of sustainable developments and environments, drive designers to collaborate, partner and even learn from other disciplines to produce quality and functional designs.

Key among the factors that promote this thinking are the management of design differentiations and innovations. General practice particularly as observed in estate developments in the FCT, Abuja, show that most of the designs display constant and extravagant, but meaningless change – mainly fuelling the ego of advertisers to cash in on 'money bags' into paying so much for differentiations (e.g. aesthetics in roofs and decorations) instead of innovations in the science and technology of buildings. There are very little incremental changes that may affect real value of the structures e.g. energy savings, green building developments in material quality, serviceability and costs and security.

When these are brought into the equation of mass production for mass housing, the problems of conveniences, efficiencies, sustainable satisfaction and the well being and culture of the end- users become important questions (problems) to be answered by the designs and designers. It is generally accepted that a good design should provide adequate and pleasant features, functions and aesthetics. The adequacy or otherwise of these are found in the consequences of designs.

###### Consequences of designs

Designs have broadly, two consequences – diffused and selection.

1. Diffused Consequences

When a design is modified culturally, it has consequences of perception, reception and/or acceptability. These could be positive or negative. The importance of the change is that it has potentials to shape culture, change behaviour and advance a set of values and priorities. It could also shape trends, movements or settlement patterns, as well as paradigms in a slow, but pervasive way that culture “eggs or flows.” Thus, housing and neighbourhood designs – sizes, shapes, forms and configurations have significant consequences on the way the people live and are an important imperative in housing development. Stakeholders, especially end-users are therefore critical in design decisions from the point of conception for sustainable developments. They need to know and be involved in the design decisions.

1. Selection Consequences

Selection of designs have consequences in directing the way development trends or settlement patterns do change with respect to mass production of houses. The influence levels of involvement of stakeholders in the selection of design (house) types, layout patterns and mix influence acceptability and ownership, and therefore, cooperation, partnership, participation and collaboration or the degree of apathy and non-challance to crucial liveability factors such as security, harmony, maintenance.

It can therefore be seen that based on design consequences, (diffused and selection), industry is crucial in making adequate design decisions, especially for mass production. There are decisions as to the real needs, demands and supply of the houses in view of the need to balance the competition between long-term values of houses, changing appetites of users, collective responses/reactions to cultural shifts, proximity to work, worship and market places, leisure and service facilities, etc.

Designers have the problems of those to work with (employment) because of the generational systemic movements of younger designers and complexity of design firms. For instance, younger designers can only work sustainably where/when career or life-paths offers them jobs with social and cultural depth and meaning (livelihood issues). Change management for designers becomes doubly important for the designers and end-users. The ability to retain experienced and quality designers with robust tacit knowledge is crucial to successful designs. Policy formulation and implementation must consider not only the supply side, but also the need and demand side when considering design issues and designers if housing designs are to meet the requirements for the fundamental human right and needs status of housing.

Entrepreneurs in housing delivery should see design problems from the lenses of policy and socio-economic perspectives if they are to solve the housing problems from a given policy or business model, as well as appropriate supplementary laws for management. Considerations for Non-profit or NGOs organisations with commensurate government support to influence change are imperative. It therefore becomes necessary to have an interactive planning approach to designs. That involves one-on-one interactions with people involved for a Bottom-Up approach to ensure inclusiveness, participation, ownership and lobby efforts and from policy makers for a Top – Down approach to ensure that all arms of society are involved for sustainability of delivery. For instance, this will take care of the lack of capacity of Non-Profits/NGO organisation for organisational and

financial capacity e.g. the use of sweat equity in place of cash, land ownership as collaterals. This is the case for pragmatism.

###### Other problems of designs

* 1. Problems with Project Designs: Designers often fail to gain or utilise deep, tacit knowledge from the experiences of other participants in project delivery (which is required) from past projects for an understanding of the unstated, implicit qualities of the problem space which holds critical truths and assumptions about the behaviour, policies, norms and values of end-users. Tacit knowledge comes from experience which is usually not written because design approaches are short-term based and hardly repeated, and therefore not prone to in-depth studies. Tacit knowledge is thus hardly utilised, its benefits often lost, though necessary, and indeed, an imperative.
  2. Designers often fail to gain meaningful trust and relationship with many stakeholders. They do not build mutual trust, rather, they tend to lord it over stakeholders because of skewed ego thinking of their ‘expertise,’ as well as taking advantage of the illiteracy status of most clients.
  3. Many designers lack accountability after the project is over. Often, when the project is executed, they disappear, earning the name: 'BAD = Build and Disappear**.'** End-users are therefore frustrated over this attitude of designers. The negative effects of this on sustainable developments are significant. Design activities need to change from “Design for them" to “Our design” with no claim to monopoly of knowledge and wisdom for the project. This is informed from current trends in buildability and constructability studies and the Green Building revolution and sustainable development knowledge (Graham, 2003; Kibert, 2008).
  4. Designers often assume unrealistic expectations from borrowed (foreign) standards and specifications. These come from designers' training. It is an observed practice

that students are fed with the attitude of project-based learning, boxed in short-time of project design mainly in studio as is contained in the Architects students' information booklets. This is observed from students' architects attitudes during Students Industrial Work Experience Scheme (SIWES) periods. It ultimately gets ingrained into the minds of the trainees that projects are short-term issues, thus denying them appropriate perspectives of learning and acquiring patience for longer engagements with projects. Project Management principles reinforce this thinking when its success factors (triangle) of cost, time and quality are taken to the extremes to the detriment of other issues of production management such as participation and collaborations at inception stages of projects.

For housing problems, solution is not a quick fix definite response as for an engineering problem, but requires longer engagement, allowing users become designers and designers become empathetic with users, suitable in dealing with social problems such as housing. They find new frameworks to operate within social entrepreneurship principles where the focus is not starting and finishing a project only, but on projects living their life-cycles (materials, product and value), meeting livelihood requirements of sustainability. Housing delivery designs/designers must therefore conceptualise their participation from the point of social entrepreneurship.

* 1. The problem of scale: Design education ideally encompasses knowledge of civil engagement, economic development and education of social and environmental requirements for sustainable developments and environment. Designers address the depth of impact over breadth of scale focusing on the mysterious “fuzzy front end” rather than the mechanisation and mass dissemination of a solution, recognising cultural differences as being critical to success (le Roux, 2011). It must be

understood that tackling a wicked problem is not just to fix or solve the problem, but to mitigate it, to make a sustainable difference. Thus the imperatives of designs.

###### b. The Imperatives of Housing Production, Provision and Delivery

Housing, as understood, is not just a commodity or a pure consumer good. It is a complex phenomenon involving various disciplines and stakeholders, complex production processes, management and usage with many implications for the social, cultural, political, economic and environmental wellbeing of any community or state. The delivery framework for housing cannot therefore be left to any of the components of its wellbeing alone.

Chattopadhyay (2009) alluded to the fact that well researched and documented evidence agree that housing should ideally promote "user participation" for greater sense of belonging. He further conceded to the fact that housing is not a commodity that should be a function of "people's ability to pay." Yet, the issues of technological advancements in materials and construction techniques and technology, production processes and management, the need for efficiency, affordability, quality and the ever changing user requirements and the impact of globalisation call for adaptation of components of housing demanding that delivery must include key components of standardisation and industrialisation of housing components and units. This is the essence of innovations and entrepreneurship.

This challenge demands flexibility in housing delivery. Mechanisms must shift to accommodate changing family systems e.g. from the extended to nuclear family systems, households with working and single parents; those with elderly people to migrants; and those that consider family life cycles e.g. child sensitive housing.

Delivery mechanisms must also adopt mass production technologies for efficiency, while considering the technological, social, cultural and environmental requirements. This becomes an area for research and development.

Chattopadhyay (2009) opted for flexible housing in view of above and considering the possibility of changes, transformation and modifications right at the conception stage. This approach is very suitable to developed countries that have in place a vibrant housing economic development and market such as a mortgage system. It can also work for developing economies as is the case in India. It however, has to be contextualised in climes like Nigeria to consider socio-cultural, climatic conditions, economic factors, technology and resource availability to any community and the delivery frameworks. These are a function of the housing concepts/planning, construction methods, technology and housing form and typology (designs).

Some of the popular types are the industrialised housing systems (IBS) (popular in the USA, Singapore, Malaysia); Panelised Housing; Concept (model) Type popularised in Sweden; Traditional method; Self-Help Housing; Housing-for-Profit; Non-Profit (NGO) housing; Proto-Type housing, etc. Concepts include Inclusive, Flexible (Australia by Sidney Building Information Centre and in Germany by Hanover Expo in 2000 and 2001).

The understanding of the type and concept of housing make the imperatives of production and management important considerations for successful delivery. These are demonstrated in Figure7.

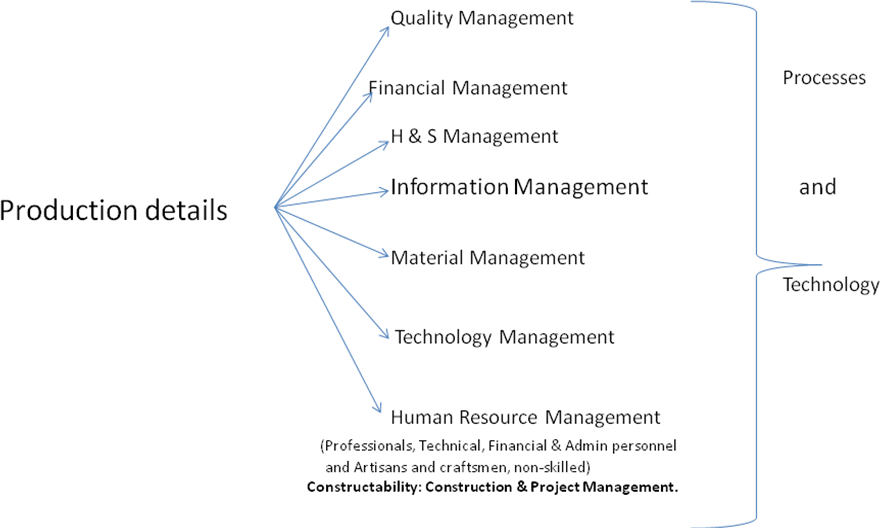
In retrospect, the efforts and failure of Nigerian governments in housing and human settlement developments (housing delivery), confirm research findings that government emphasis was on one-sided-approach- the supply side (push) and not enough on the demand side (pull), hence the persistent adherence to the Provisions Approach of the NHP,1991 (Chattopadhyay, 2009). This can be seen from service delivery, housing finance efforts of Banking institutions and even policy thrust. It is to the detriment of the poor whose needs and realities are not fully/sufficiently understood. The policy has been on a ‘Top-Down’ approach, promoting a separation principle by industry practitioners instead of an integrated, collaborative and cooperative building industry. The works of

Khan and Ambert (2003) and the NHP of 1991 thrusts of the Nigerian government underscores the above. The supply of housing is seen as a government agenda that is conditioned and circumscribed by the nature of socio-institutional and political regimes that regulate state development and economic components that define access to land, credit, services, income and welfare. These further go on to regulate the relationships as well as physical development policy thrust. In Nigeria, and particularly in the FCT, Abuja, housing has been in the hands of political players, between land owners and landless, (indigenisation issues), money lenders and borrowers, workers and bosses, employed and unemployed, homeless and landlords, etc. A case of many actors with none to hold to account for lack of coordination. These explain the effectiveness or otherwise of outcomes of development interventions as well as define the identity and direction of political actions with respect to poverty (eradication/alleviation/amelioration), economic development policy, governance and the responses to the international market forces.

Government housing policy and practices are a good indication to the prevailing direction of development architecture and political dispensation of any nation. The over emphasis on the supply side (push) does not make room for “sufficient engagement” with the end-users with respect to their needs and realities (livelihood). Adequate delivery requires livelihood strategies that are based on and derived from individuals and households as “active agents,” not mere “beneficiaries negotiating their survival." The poor are therefore not meant to be identified by poor housing as seen in the nature, quality and location where they live. In the view of Khan and Ambert (2003), this influences who seeks clarification on "how resilient or vulnerable a household may be in its ceaseless geometric bundling, unbundling and re-bundling of assets and capabilities.” Thus, the demand and need sides of housing delivery must be equally considered for a sustainable situation as is the supply side.

The Demand Side require:

1. The intangible aspects of housing and living environment – access to land, secure tenure, appropriate infrastructure and services, strengthening and reinforcing of social capital, civil empowerment, deepening the access of the poor to the circuits of bureaucratic and political power, a maximum of choice and opportunities and active measures to counteract discrimination against vulnerable groups (Khan and Ambert, 2003). These in essence spell the need for good governance as advocated by Mabogunje ( 2001).
2. That housing be characterised by quality and quantity (adequacy) i.e. housing units need to address quantity and diversity, complexity and informality of the end-users (le Roux, 2011) so that interventions can be accommodated as they arise and not on a “one size fits all” approach as has been the Nigerian experience since independence (Shagari Low-Cost Housing programme, Proto-type Housing, etc.).
3. Housing is therefore not just a matter of “bricks and mortar.” It is a very complex issue informed by various factors influenced by the individuals, governments and those outside of these, such as the environment, global economy, technology, etc.; requiring not just solution (s) but also management.



###### Figure 8: Production Imperatives of Housing Delivery Source: Author.

**c. Management Imperatives of Housing Delivery**

One of the objectives of the NHP of 1991 is to ensure “liveable environments/neighbourhoods" are achieved through an efficient and sustainable housing delivery approach. This is an imperative of housing management. van Wyk (2006) said that the need for good housing management concept and practice is to promote community development, social improvement, proper maintenance and upkeep of estates, sound financial arrangements for repaying loans and collecting and carrying charges. This calls for management of development needs and global housing crisis. MacKay (2000) has observed that “. . . professionalised housing management has been outside the main stream of academic research and debate.” Yet, its importance cannot be overlooked/ignored.

The key issues in housing management include the performance of the products (physical), commercial activities related to them (economics), welfare services provisions from housing (social and environmental), political will to implement policy requirements and technology to drive the processes of the frameworks. The social components: government's social responsibility to its citizens are important issues of government as they concern the distribution patterns and allocation of resources. Great lessons were learnt from Chikwanha's (2006) work on the "Politics of Housing Delivery" in South Africa and Zimbabwe. Chikwanha (2006) found out that the political organisation and cultures, norms and values of the people with respect to housing delivery, distribution patterns and allocation of resources were coloured by the government's concept of citizenship, notwithstanding the existence of a housing policy. Political considerations and undertones cannot therefore be ignored in housing delivery processes. These are in recognition of the fact that housing is a major component of social, physical and economic developments.

The following are imperatives to be considered:

###### Housing and macro-economy.

* 1. Housing in economic policy of state touches on budgetary provisions and diligence in implementation, growth of real per capita incomes and savings. This is an issue of concern to state macro-economic policy.
  2. There are questions of who the beneficiaries of the policy are between the employed and income policy (Public/Private sectors) and the unemployed. It raises the subsidy question, which ultimately leads to the livelihood issue and what management strategies are provided. The Nigerian experiences in public housing testifies to this - low cost housing, proto-type housing, sites and services, owner - occupier schemes, etc.
  3. Above bear on the resources and assets management and the value on such – whether non-marketable and/or intangible resources, labour and human capital, productive assets, household relations, social capital, other relevant natural assets and financial assets. (le Roux, 2011) is of the view that the management of assets is required to address the definition of livelihood, the capabilities, assets/resources (material and social) and activities required for a means of living. A livelihood is considered sustainable "when it can cope with and recover from the stresses and shocks and maintains or enhances its capabilities and assets both now and in the future" (Le Roux, 2011). The consideration then is for assets vulnerability so that households do not place inappropriate emphasis on supposed value of housing assets but address the variables to ensure inclusive, integrated developments to avoid overall poverty, apathy and other social issues such as social segregation, overcrowding and homelessness, as is now the case in the FCT, Abuja.

###### Housing finance

Various options have been documented internationally and in the FCT, Abuja for housing finance. The mortgage system in the FCT, Abuja, and indeed Nigeria seems to receive the most attention. Other popular options are subsidy, housing cooperatives, savings and housing credit. Others in developing countries are sweat-equity and family/community based modalities.

le Roux (2011) is of the opinion that whatever system is considered, it must address two key problems:

1. How to improve the efficiency of the market by removing obstacles that prevent the private sector from increasing the supply of affordable housing or the public from buying or renting units produced by the private sector; and
2. How to ensure that those who do not have the means to buy or rent housing produced by the private sector are housed satisfactorily. Housing finance/funding, distribution and resource management are crucial to successful housing management.

###### Land and services

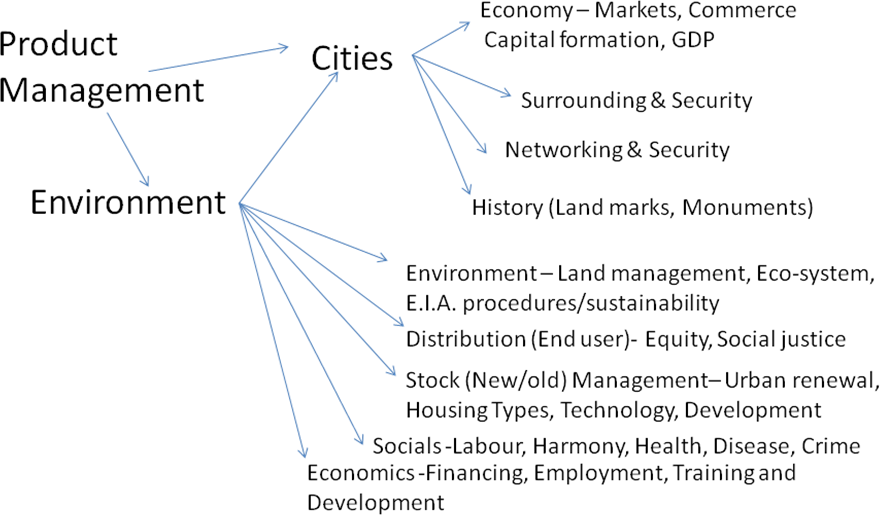
Government remains the custodians of land at all levels in the country as provided by the Land Use Act, (FGN,1990). This implies that land for all purposes including housing of the citizens reside in the appropriation of government management. Issues from this are:

1. The politics of land and services provisions against land market (economic and social): issues of tenure and security; acquisition/entitlements; rates, service fees, etc. These raise the issues of ability to pay and willingness to pay, as well as accessibility- land allocation, distribution and management.
2. Reforms addressing above issues to enhance transformation of the urban market to solve the problem/issue of ability to pay and willingness to pay,

demand that government takes responsibility to provide a counter to ensure inclusiveness in policy of land adequacy, availability, access, affordability for all classes of citizens to douse the segregation that emerges from urban/rural property market. Government’s unwillingness to take responsibility hinders development processes that include the poor and therefore excludes them from the urban fabric. The case of development by exclusion (compensation) of the Gbagi’s of the FCT, has been on the burner for the administration, the current land swap policy reform of the FCT, notwithstanding.

1. The financial consideration (especially availability of funds to the poor) further constraints the ability and willingness to pay for urban land, restricting them (poor) to peripheral developments with the attendant risks of failing to meet urban development control regulations and standards, and subsequent eviction as was the case in Abuja in 2006 (SERAC, 2007). Government must therefore be ready to assume considerable political and economic risks (responsibility) associated with all aspects of development processes, incorporate this in Macro-economic decisions and contextualise (juxtapose) them in the housing policy. Land is the only resource (input) component of housing that cannot be grown, is a constant and depleting because of continuous consumption/demand.

Figure 9 demonstrates the issues of the imperatives of management of housing delivery.



###### Figure 9: Product and Environmental Management Imperatives of Housing Delivery Source: Author

A summary of the issues of the imperatives of housing delivery in the context of delivery approaches and their requirements for success, demonstrated in Figure 2, clearly demands the knowledge and understanding of the concept of housing and its delivery imperatives. These are pre-requisite for:

1. The concepts of human settlement and housing developments.
2. Theoretical considerations/basis for policy formulation.
3. Design of appropriate policy frameworks for delivery approach to housing and its management, with their structures, processes and functions and within sustainable development context. A pragmatic approach, such as the systems approach, seems to be more suitable for housing delivery for its inclusiveness, collaborations, holism and its participatory relationships, and most importantly, its openness to evaluations of the impact of the approach. Issues of decision making and planning are also critical.

The next section of this study examines housing delivery within the context of the extant National Housing Policy context in Nigeria, with emphasis on the FCT, Abuja.

###### HOUSING DELIVERY POLICY

The review of literature on housing delivery and policy become relevant as it:

1. provided the basis for the conceptual and theoretical clarifications on policy formulation, theories and subsequent systems of housing delivery frameworks to identify relevant theories to be employed for the policy. The Systems theory, Maslow's theory of needs, (housing being man's second most important need and a fundamental human need); social needs theory befitting "wicked" problems as in housing, Network theory dealing with problems that are multi-dimensional, multi- disciplinary; and Implementation theory for provisions approach, among others, were examined against the extant NHP of 1991;
2. examined the place of institutional frameworks for delivery of products, housing in this case;
3. evaluated the performance of the extant NHP of 1991, and the approach adopted in the FCT;
4. examined the efficacy of the Nigerian building construction industry for its capacity, scope and relevance in driving the processes of housing delivery in the FCT, Abuja; the frameworks of the NHP for housing delivery; and
5. examined/evaluated the outcomes of housing in the FCT, Abuja for their standing and status.

This situation presents a concern worthy of research. The issues relevant for this study are:

* 1. The mere size of the housing deficit and its cost implication are astronomical and too heavy for any government to ignore or bear alone. The only identified and relatively sustainable source of housing finance is deductions from the salaries of workers at 2½% of basic salary (NHF, 2004). This is unreliable, inadequate and rife with problems of collection. Most Nigerians needing housing are either unemployed, underemployed or unemployable. These groups spend as much as 80% of their income paying rents only (NHP, 2006), in the absence of functional robust mortgage market (institution) for housing finance. Housing requires long term and sustainable investible funding. A random survey conducted by this researcher in April, 2016 of Newspapers and magazines for rents for a two- bedroom apartment was averaging N1.5million per annum in the estates within the Abuja city centre.
  2. Housing nature, concept and imperatives show that it is a complex phenomenon. Its production is an inter-disciplinary product of the services of various professions, intricately interwoven – socially, economically, politically, technologically, culturally and environmentally. It is a productive investment and consumptive

expenditure, requiring a blend of several resources to stimulate and sustain economic growth and development over a long period of time, and requiring an enabling appropriate strategy such as a systems approach for its management (Uji, 2002). It therefore requires a re-orientation of mindsets for its imperatives to be known, understood, appreciated and applied.

The NHP (1991) objectives and strategies have been driven by a "political will" for implementation, employing direct interventions, facilitations and "conducive" enabling environments. These have failed for the absence of sustainable good governance and an integrated management approach (Okunfulure, 1994; UNCHS, 2000; Mabogunje, 2001; Uji, 2002). The review of the policy in

2012 affirmed this.

Development concepts that deal with social, economic, technological and environmental factors failed to adequately respond to ‘change**’** for being inappropriate and inadequate. Studies have confirmed that Housing delivery is dynamic requiring flexibility and inclusiveness to be sustainable. It requires a mindset paradigm shift from viewing housing as an exclusive activity of producing and providing dwelling units, to an all inclusive complex system involving land management, architecture, civil engineering, building production management, psychology, sociology, legislation and all other stakeholders (Chattopadhyay, 2009). Failure can then be attributed to inadequate knowledge of its ramifications.

Housing development in the FCT Abuja also failed to provide character, history and a culture that evolve from the citizens and relate to the existing traditions- indigenous patterns of urban organisation and adaptation (FRN, 1978) to create a liveable/living environment for all. These include the ways in which people live in their ancient cities and roots, and how they relate to new towns created from other civilisations, seeking to "preserve and build on that which is unique and

valuable” in the country’s economy and urban cultural traditions. Abuja seem to be a case of development by exclusion, and every one to himself.

Studies have confirmed that housing delivery policy for cities in a plural and cultural country like Nigeria must simultaneously accommodate the different segments of the population, manifesting some degree of continuity with their socio- cultural traditions and appropriate amalgamation of imported urban traditions and life styles in their development of new cities. This, requires a deliberate understanding and inclusion of the relationships of the benefitting inhabitants as well as between social and physical aspects for the city’s developments, identifying the social, economic and physical characteristics of the city for the design of the overall urban form, role of central public spaces and organisation of residential areas. These require the inputs of all the stakeholders for ‘inclusiveness,’ which are lacking in the FCT Abuja, notwithstanding the Abuja Masterplan (FRN, 1978; Chattopadhyay, 2009). Abuja appears to be an experimental plot of architectural designs. Furthermore, housing delivery needs comprehensive understanding from an environmental point of view for the dynamic factors of production, technology, distribution and usage, maintenance and total life-cycle management so as to realise the physical, social and economic values and services of housing (Seeley, 1978; Chudley & Greeno, 2001). These go a long way to guarantee efficient, effective and affordable delivery in the wake of Green Building Revolution and sustainability of the environment (Graham, 2003; FRN, 2006(c); Kalgo and Olatubosun, 2001).

* 1. There is the dearth of efficient economic indices and appropriate technology developed in Nigeria to drive the production processes of housing. Most building materials and components, plants and equipment, technology and even man-power employed are imported or partially adapted. Funding for housing is contingent on macro and micro

economic indices: several production factors and development concepts, technology and technological developments, inflation, exchange rate regimes and other economic indices. These are outside the control of most indigenous small scale builders. The housing producers produce houses that lack character, identity, standards, defined forms, shapes or sizes that are indigenous or Nigerian or technologically driven. Consequently, it is difficult for manufacturers to standardize products, elements and units and utilize the instrumentation of economies of scale for mass production of materials and continuous production of houses. This has negatively impacted on production and productivity of craftsmen and artisans and their training, appropriate technology developments and innovations. This hampers sustainable housing delivery.

* 1. The building industry appears not to be in a position of continuous production of houses. The industry’s nature and current structure hinders productivity and development, negates social consciousness and responsibility, and professionalism and begs for restructuring to make it responsive to its roles and responsibilities. It has been described as fragmented, uncoordinated, an all-comers industry and underperforming. There is a near absence of professionalism in practice (FRN, 2006(a)). Professionals work on a separation principle in production; acting independent of each other (Ashworth, 2006). There is less cooperation and healthy competition between practitioners; no system of accountability to clients/end-users as demonstrated in the management of building collapse. No professional or owner has been called to account. Projects quality can hardly be guaranteed. Building production management appears to be more concerned with technological developments, economic and political gains than the social services to be rendered, hence negating social responsibilities, values and “social consciousness” of the industry (Calvert et al, 2003). This probably informed Uji (2002) calling for a systems approach methodology for the production of buildings. Furthermore, the absence of an industry driven platform for housing production such as a construction industry development board (CIDB) makes

supply and consequent affordability precarious. Critical issues are those of designs (quality, ability, experience and knowledge), production management (skills, knowledge, technology, experience and ability), R and D by the industry and its professionals and the organisation of procurements.

* 1. There is a dearth of standards to guide designs, production, usage and management of houses (FRN, 2006(c)). This is compounded by the lack of adequate and reliable housing data (data bank) to allow for any meaningful research and development. Presently, there is only one standard document, the National Building Code, 2006, to regulate the practice of professionals on a scientific and sustainable basis. This code has not been adequately and diligently implemented, yet there are calls for its review. Standards Organisation of Nigeria (SON) has bits and pieces of standards that have not been properly organised and/or enforced because of the way they evolved. Most standards and Codes of Practice are adopted from bodies like the British Standard Institutes (BSI Codes) because of the absence of a Nigerian building research and development outfit comparable to the British Research Establishment (BRE) of the UK, Nigerian Building and Roads Research Institute (NBRRI) notwithstanding. This is a critical input for sustainable housing delivery.
  2. The issues of the performance of housing need to be appreciated. These include:
     1. A house as an economic investment asset; its value appreciates with time.
     2. Housing's presence impacts on the environment, political, cultural, social and economic developments (GDP and capital formation). Its absence or inadequacy results in serious consequences of crime, disease, homelessness, squalor, unemployment, slums and environmental degradation.
     3. The value of a house is principally shaped by the attitudes of the prime actors in the delivery system and processes from the time of concept, planning, designs, production, usage and management.
     4. Issues of affordability must be contained in the policy thrust for delivery decisions and planning (top-down, bottom-up or interactive). They include the classification of value of houses (use value and market value), these being mutually exclusive; and the translation of value to housing satisfaction in the context of environmental considerations (e.g. climatic conditions).
     5. The housing markets need to be organised to ensure that issues of inflation, building material markets, building industry and the like are adequately tackled. It brings to the fore the importance of flexibility in housing delivery which requires appropriate policy responses with provisions that adequately address issues of access, availability and technology for production and supply; affordability for distribution, poverty, equity, subsidies, grants, politics; and adaptability for maintenance, stock management and renewals. These are constructability issues to be addressed.
     6. Policy must also address the socio-economic, political, and environmental divide of housing delivery, i.e. sustainability, requiring appropriate management solution to a complex problem. Housing finance is indeed an area of concern.
  3. The NHP of 1991 describes housing as a "product of the processes of design and production" but did not say what delivery is. Consequently, the strategies for the implementation of the policy skewed to issues of funding for production, equating production and provision to delivery of dwelling units to meet demands. These fail to meet important constructability components for delivery: adequacy and affordability (demands and needs); housing market and maintainability. Others are availability; accessibility and adaptability (distribution and management). These constitute crucial sustainability and constructability constraints or barriers to delivery approaches to the National Housing Policy for efficient mass housing delivery. This perhaps more than anything, explains the presence of so many unoccupied housing estates, some for over a decade. Housing delivery

is truly a wicked phenomenon. There is therefore the need to examine the policy for housing.

###### Policy

Policy has been defined variously. It connotes among other things a plan of action, statement of ideas, proposed or adopted by a system, government, political party, business organisation or a community; an appropriate principle for people to operate with and/or live by. It has been described as consciously acknowledged rules and principles that guide administrative thinking, decisions and actions. It is further defined as a “set of interrelated decisions by an actor or group of actors concerning the selection of goals and the means of achieving them within a specified situation where those decisions in principle are within the powers of those actors to achieve” (Egonmwan, 2004). Policy is the expression in the attempt to realise a theory and concept of a phenomenon. These understanding:

* + - 1. recognise that the decisions and actions taken by actors on specific situations/issues are essential policy elements,
      2. presuppose that those responsible for policy formulation are fully aware of their choice goals (objectives), required resources, methods and management, and
      3. therefore indicate areas of plans and programmes and implementation strategies to achieve them.

These require relevant information and contemplation (thinking), forward looking, initiatives, proactive imagination and innovativeness as well as situational analysis for qualitative, effective and sustainable policy options. The knowledge and understanding of required resources and management process(es) to be employed in the attainment of the policy objectives of specific problems (e.g. housing delivery) is a pre-requisite. From the foregoing, policy plays a central role in solving developmental problems such as housing delivery. Housing is a social public policy issue` (Erickson, 2009).

Egonmwan (2004) suggests that policy consists of:

1. The concept which is a guide to thinking of the most appropriate course of action from a pool of options to solving a given problem. It defines the aim and objectives from data analysis and formulates the policy strategic plans and programmes of action to tackle the given problem. These constitutes policy design.
2. Policy implementation framework(s) defines the structures, processes, functions and key performance indicators (KPIs). It provides strategies for diligent monitoring, evaluation and remedial actions from the point of knowledge of theory, analyses of relevant and adequate data and information. They require Research and Development (R & D) support, monitoring and evaluation of outcomes (policy success) as well as promoting innovations/innovativeness. Policy formulation requires a theoretical support base to thrieve.

Any policy that fails to provide these is like a traveller without a destination, covering long distances without knowing his location / whereabouts, nor how far he has gone. A properly designed policy based on appropriate theory should easily be reducible to a framework(s*)* for implementation.

It is a criterion that a well formulated policy must be related to the resources (domestic, local capabilities) of the group, organisation or country, and should not commit the user to total exhaustion of available capabilities, which can lead to importation and/or dependency. It must have key performance indicators that are measureable for its monitoring and evaluation, as policy implementation contributes to development. Good policy choices, effectively implemented, drive the development process and could yield results far in excess of normal expectations. The Singapore housing delivery system, driven by policies of transparent housing allocation, reducing housing costs and easing access to owner-occupancy in assistance, including the innovative buyers Central Provident Fund (CPF) savings, has increased the ability of householders to accelerate their purchase of housing. This is wrapped up in a policy of “from slum to quality living”

(Innovation: key to sustainable urban development in Singapore, 2012). The success of the Asian tigers – the fabled high-performing Asian economies (HPAE) enjoyed rapid and sustained growth rates as a result of fundamentally sound (appropriate) development policy supported by effective Macro-economic management – low inflation, competitive exchange rates, as framework for private sector participation (World Bank,1993). The National Housing Policy, 1991 therefore requires examination in this context.

Reflecting on the body of knowledge on policy, housing policy is hinged on three basic issues:

* 1. The creation of rules to govern the composition in housing stakeholders– its citizens/consumers (end-users), municipalities and regions; key players of the construction industry (professionals/experts, construction companies and developers, estate agencies); and financial institutions. Provision of legal frameworks to adequately regulate directly issues of ownership, tenure, security and management of properties, as well as economic, environmental and social aspects of housing. These would require sustainable housing management principles.
  2. The creation of adequate economic environment and support systems, i.e. sustainable housing market, with regulatory instruments that bring about a suitable equilibrium of demand and supply of housing, with the broadest possible availability of quality housing that are accessible, available and affordable for ownership for a pluralistic society like Nigeria.
  3. The creation and presence of social doctrine with measures focusing on citizens who need assistance for standard quality or dignified accommodation – where direct state intervention (social benefits) are required such as access to affordable rented housing and social services to cater for those who cannot afford to own houses, but require access to safe, decent...houses as provided by the policy thrust

(FRN, 1991). Governments have social responsibility to their citizens, Nigeria’s poverty rating notwithstanding.

These are issues the NHP of 1991 and the housing delivery system need to address. Housing is a life-time part of every human being requiring life-time society participation that includes inputs from the person(s) by way of investments and outputs (value) in the form of benefits from the system e.g. sustainable comfort. It is a fundamental human need and right. This symbiotic interplay is the essence of policy design to deliver housing to satisfy man’s second most important need for living (Maslow, 1943; Abrams, 1964). Thus, the relevance of policy in this research work.

###### The Imperatives of Policy

Housing is a need, and the policy for its production is pertinent. Policy delivery framework(s) should be adequately formulated, designed for diligent implementation, planned monitoring and evaluation for its efficacies: efficiency and effectiveness. Policy provides both the barometer and compass to evaluation of its intended outcomes and subsequent performance. It gives essence and relevance to any desire to provide goods or services, such as housing. It is therefore an important tool for development.

Housing is an issue of social public policy design. Its provisions are determined among others, by political decisions involving governments (all levels) representing a "consensus of values" (Cochran and Malone, 2005) because housing consumes a large variety and quantity of resources that provide basic acceptable standards of living. The society is hardly in a position to adequately meet everyone's desire. The following issues become pertinent for policy consideration:

1. Opportunity costs of housing;
2. Social choices;
3. Social justices in distribution/provision; and
4. Politics and economics.

Above issues point clearly to government's relevance in policy formulation and implementation. Government necessarily must intervene in cases of powerful monopolies or the cost of externalities during production and management of housing.

Housing delivery imperatives consider such issues as subsidies, grants, contracts and their administration, regulations and legislation for building production management, environmental management, wealth creation (goods and services) and distribution involving fiscal and monetary techniques required for public and private goods. Other issues are the market, equity and security of market mechanisms and the allocation of resources and the wellbeing of society. These, according to Birkland (2005:) call for appropriate policy considerations by government to

create appropriate laws, rules, goals and standards that determine what it should do or not do to create resources, benefits, costs and burdens...focusing upon those decisions made or implicitly accepted by government and non-governmental actors to address a problem that a significant number of people or groups consider important and in need of a solution such as housing delivery.

Public policy formulation and implementation therefore influence problem solving processes through individuals, groups, organisational or governmental activities. The outcomes influence/affect lives positively or negatively. Thus the variables for any policy must lend themselves to appropriate approaches to drive the processes of success of the policy implementation framework(s).

###### Choice of 1991 National Housing Policy

It is important to place on record that Nigeria promulgated and introduced to the public its first National Housing Policy in February, 1991( FRN,1991). This was thirty-one

1. years after independence. The Policy was reviewed in 2002, 2004, 2006 and 2012.

The driving forces in any policy are the theory, policy thrust (from its aim and objectives) and the frameworks of delivery supported by strategies designed to ensure successful implementation, monitoring and evaluations as well as research and development support for management of the policy so as to adapt and/or accommodate changes.

This study is based on the 1991 National Housing Policy for the following reasons:

* 1. The 1991 Policy was the First Policy after *31 years* of independence and of Nigeria's experience in managing housing issues. The considered policy thrust was captured in Section 2.2 and it states that "the ultimate goal of the National Housing Policy shall be to ensure that all Nigerians own or have access to decent housing accommodation at affordable cost by the year 2000 A.D."
  2. The "goal" was to be pursued mainly by government's efforts in encouraging and promoting participation by all its tiers and institutions within its system in response to housing demands. The strategies adopted were a mix grill of anything that was considered useful to comply to government's bureaucratic dispensations in realising its provisions approach to housing.
  3. In essence, the framework of housing was the provisions approach. Government then made plans and programmes to provide proposed quantities, based on "predetermined" demands, usually based on the deficits of estimated dwelling units. Budgetary proposals were then made. In 1991, it had a deficit of 8 million units for the urban and rural areas to meet by the Year 2000. This, reflecting the United Nation's resolution for shelter for all by the Year 2000, translated to 700,000 units annually. In 2006, the programme targeted 40,000 housing units per annum for the federation, with at least 1,000 units in each state. These have been the trends, all based on implementations theory, using plans and programmes, but grossly unsuccessful.
  4. In all the reviews of the National Housing Policy, there has been no deviation from this position in all material substance. Rather, this stance has been reinforced where provisions continued to be dependent on government's "Political will" with emphases either on direct provisions, interventions, facilitation or enablement to the various provision modes, even where the private sector was to play a significant

role. These were consequent upon political calculations, changing fortunes of government and influence of neo-liberal monetary /economic policies both locally and internationally. The evidence for this was in the change from Development Plan to the Structural Adjustment Plan regimes. In all these, there has been: no Housing Data Bank so far; persistent failure of the implementation; inadequate/lack of monitoring and evaluation process as well as research and development support.

* 1. Thus, this work is based on the 1991 National Housing Policy. The 2012 policy is not yet in the public parley for any credible appraisal.

The next section considers policy design principles and application to housing delivery.

###### THEORY OF HOUSING DELIVERY

###### The Role of Theory

Theories are useful tools for development because their applications are open to examination and reviews to confirm, expand, modify, challenge, recognise and develop new applications and new theories from the existing. This can be done by scientific methods and conceptual frameworks that allow for information gathering, learning and knowing in addition to common sense, traditions, authority and experiences of researchers. Scientific methods have the characteristic advantage of being objective, accurate and systematic, built on rationality and observation, seeking the most reliable information and organisation into a meaningful body of knowledge. It further relates to fundamental processes of scientific activities: theory, research method and data analysis (Steggell et al, 2001).

Theory is the systemic view of phenomena. It specifies relations among variables of a phenomenon as in conceptual frameworks, paradigms, typologies and models. For housing, theory must relate to aspects of economic, aesthetic, environment and human behaviour for sustainability. For Nigeria, a plural society, with various and serious social,

cultural and economic problems of poverty and corruption, a suitable theory(ies) of housing delivery is a necessity to support the choice of policy/delivery framework.

Housing delivery policy design can be understood on the basis of theory and research. Theory, according to Steggell et.al (2001), has an essential role in guiding research questions, their design, methodology and the interpretation of results. Theory further enhances understanding of phenomena and advancement of knowledge. Theory is a set of related statements that presents a systematic and systemic view of a phenomenon or set of phenomena like housing. Housing has been described as an object, a product, a process, a resource, an environment, a symbol or even a state of mind (Steggell et.al, 2001). The problems of housing management are described as "wicked problems" (le Roux, 2011). Theory should provide underlying explanations to understanding the phenomenon of housing and its problems.

Bernard (2000) pointed out that theory has four basic elements – questions, assumptions, methods and evidence. There are variations of categorizations of these,

but there is general agreement that a complete theory must define what (variables), how (relationships), why (underlying dynamics that provide rationale) and who-when-where (conditions that set the boundaries of the theory) (Stegell et al., 2001). Theories can be grouped into Macro-theories i.e. those that define perspectives or large social institutions and Micro-theories i.e. more specific with respect to small period of time, space or number of people (Steggell et al., 2001). In between is an array of middle range theories. It is important to note that useful theories (broad and narrow) must be compatible with existing knowledge either proven with empirical observations to support it, or offering the most accurate picture of the world situation or phenomenon as we currently understand it (Touliatos and Compton, 1988).

Other related concepts of theories are paradigms, typologies and models. These lead to the development of full theories or are incorporated within them. A paradigm is

simply a set of beliefs that guides action, whether of everyday garden variety or one taken in connection with a discipline’s inquiry (Guba, 1990). They are used to organize worldview and indicate where to look for answers to explain issues (Babbie, 1992). They can be used to control worldview of phenomena / issues. For example, Wiesenfeld (1997) used the social constructionist paradigm to study meanings residents hold in their houses, neighbourhood and ways of life. She found out that the meanings at each stage correspond to individual family and group experiences in relation to housing and the community. Such can be applied in designing housing concepts: typology (clusters, condominiums, etc), settlement patterns, cultural values, historical artefacts, symbols, etc.

Typology is a classification referred to particular phenomena e.g. the “Typology of Elderly Migration” developed in housing by Wiseman and Roseman (1979) out of Migration Theory. They used the decision of “to move” from that of “where to move” – which produced a typology (classification) of the Elderly migration based on similar migration motives, socio-economic and household characteristics, search patterns and household outcomes. This can be used to develop theory. In this work, it can be used to explore the most appropriate concept and policy framework of housing delivery e.g. household sizes, neighbourhood choice.

A model is an aid to theoretical activities directing attention to concepts or variables and their relationships. It is developed to simplify phenomena, as an aid to conceptualization and explanation (Marshall, 1996). They could be expressed mathematically or diagrammatically. Models are analogies and can tolerate some facts that are or may be at variance with the real life phenomenon. Theory describes the facts and relationships of the phenomenon so that any fact incompatible with theory invalidates it. Some have argued that “models are judged by their usefulness and theories by their truthfulness”. Thus models are only tools and aids used as a basis for formal and rigorous theoretical construction (Touliatos and Compton, 1988) e.g. the Ownership Model (White

and Scholaret, 1993) which considered linkages between home ownership, neighbourhood satisfaction and cognitive well being. The model had it that home ownership, neighbourhood satisfaction and cognitive well being produce a sense of permanency, leading to psychological and economic investments in the neighbourhood, which in turn increases residential stability that produces greater concern for the overall environment and increases involvement in informal neighbourhood interaction networks.

In retrospect, literature has affirmed that the National Housing Policy of 1991 with its home ownership thrust, seems not to have been rooted in any clearly defined theory paradigm or typology of housing pattern or model on which the delivery was based. This lacuna in the policy formulation seems to account for its "catastrophic failure” (Okunfulure, 1994.

The institutional and organisational frameworks of the building industry are highly fragmented and politicised, practices are based on a separation principle, disorganised delivery platform/vehicle without defined theoretical bases for delivery. There is inadequate housing data – bank to aid any meaningful research management or development. This work will therefore seek for appropriate theory, paradigm(s), typology and model suitable for Nigerian housing delivery approach

Other issues of housing policy relating to the concept, nature and imperatives of housing responsible for their efficient delivery are the appropriateness and adequacy of development concepts and their social, economic, technology and environmental factors. These also require adequate theoretical bases to support them respond to ‘change' appropriately**.** Knowledge of management of housing delivery demand that it be flexible and inclusive to be sustainable. Theoretical bases are therefore required to support a paradigm shift in mindset. This underscores the role of theory in housing policy.

In the absence of a clear theory(ies) of housing that influenced the formulation of the 1991 NHP, deductive thinking indicated that the provisions approach adopted by

government strongly leans to the implementation theory. This views housing as an economic activity of demand and supply, leaning towards the neo-liberal Marxist theory. Its influence became obvious when the IMF/World Bank influenced Nigeria to buy into its Structural Adjustment Programme (SAP) in the late 80s. The SAP threw all transactions irrespective of their role/status of development plans to the so called free market economy, even for issues that demand social responsibility of government such as housing. Housing provision saw their lowest levels of performance then as it received the least attention. (See Table 1).

The work of Venter (2010) on the South African situation with exporting western housing theories and their relevance in the context of developing countries have lessons that are germane to Nigeria's situation. The 1991 NHP of Nigeria seemed to have been greatly influenced by the Western Welfare Theories and Path Dependency Theories that were driven by a political economy (neo-liberal) framework of the IMF/World Bank. Venter (2010) found that theoretical developments in housing studies that have come to the foreground in Western Europe since the 1990s, have gone largely unnoticed to the housing academic in developing countries; ascertaining that "theoretical writings in housing policy in developing countries tend to be restricted to either focusing on empirical policy studies or analysing housing policies from a political economy perspective, mostly focusing on neo-liberal and Marxist perspectives." This is in tune with traditional linear analytical approaches to problem solving.

Venter (2010) concluded that "Western housing theories can be relevant in developing countries" provided that they serve to provide theoretical foundations for housing policy analysis. Policy must incorporate such frameworks like the divergence approach in comparative research path dependency concepts and welfare state regime theories, or historical perspectives as these will open up new directions for theoretical

discusses and debates that could enrich and encourage scholarship on housing policy. This is to be kept in view as policies are reviewed for their appropriateness.

However, the 1991 NHP stock to its provisions approach, a bureaucratic 'top - down' thinking of power and control as the implementation theory provides. It used direct interventions and facilitations of programmes, plans and projects, driven by “political will” for delivery. This has shown itself insufficient for sustainable housing delivery. Implementation theory and provisions approach failed to satisfy the assumptions for housing delivery, as they are not sufficient to drive the processes for efficient and sustainable housing delivery (Mullins and Rhodes, 2007).

Furthermore, government lacked or failed to exercise its "political will" to implement what is a "top-down" bureaucratic phenomenon of the provisions approach to provide houses adequately, efficiently and sustainably. Therefore, the theoretical frameworks of the extant policy need examination for perspectives of performance evaluation for sustainable housing delivery. For this study, the systems approach to housing delivery is proposed.

###### Examples of Relevant Theories of Housing.

1. **The Theory of Housing Adjustment** (Morris and Winter, 1975 & 1978). This theory deals with how households think and behave in deciding the performance of their housing behaviour. It examines the complex processes by which American families make decisions about their housing and the ways in which the structure of American Society determines how families are housed, the consequences of housing for families and the decisions families make (Morris & Winter, 1978). This was developed from a systemic functional model from a sociological perspective, focusing on “Micro-sociology of households and housing similar to Nigeria’s traditional (cultural) settings where people seek respect for self and housing (see imperatives of housing). Housing is a status symbol and households make adjustments depending on this. The theory defines/utilises housing norms, values and

considers cultural background; shapes housing preferences and satisfaction; anticipates, removes and mitigates constraints affecting households’ ability to act as well as household decisions and behaviour and other issues of delivery such as housing deficits.

Tackling deficits could lead to:

* 1. Housing adjustment e.g. moving to a different dwelling or altering current house design.
  2. Housing adaptation-when household itself effects changes e.g. reducing needs, removing constraints or re-allocating current resources.
  3. Regeneration- including the disintegration and reorganization of the household or on a larger scale, reorganization of the society.

Thus, Housing Adjustment Theory makes housing development a matter of relationships among the various housing variables (social, economic and environmental) leading to choices of delivery frameworks (models). This agrees with systems thinking, but does not fit the Nigerian situation because of its plural nature, poverty and levels of development.

1. **Diffusion of Innovation Theory.** This is suitable for a society that can afford new and changing technology. It allows for the development of a model or adapting another country’s model for buildings, since responses to innovations depend on individual or group’s (potential adopters) factors of levels of knowledge, interests, affordability and attitudes. The lack of understanding and inappropriate application of a theory such as this explains the issues of delivery of government rental housing, proto- type housing, sites and services, owner-occupier schemes and the Shagari Low-Cost Housing. An appraisal of the Shagari scheme’s performance conducted by Matthew (2007) found the estates in a state of disarray, and therefore, inadequate.

A policy based on such a theory of housing, requires considerable knowledge of the innovations, with appropriate level of development, interests and attitudes and a culture of the management of innovations. For housing, these translate to participation by all relevant stakeholders at all stages of policy formulation, design and subsequent implementation. It prepares end-users for subsequent developments including management of change in structure, designs and technology (techniques) and how these impact their housing needs in areas of control of taste, decisions and understanding of the economics, social and political implications of the use of the technology or any innovation introduced for housing. Not very suitable for Nigeria's dwindling economy and levels of development.

1. **Maslow’s Theory of Human Motivation.** This is a motivational theory that can be used to stimulate active participation in housing delivery. Its assumption is that man is a rational being that works to meet his needs in a hierarchical manner, starting from the basic physiological need of food and shelter (security) and graduating upwards to higher levels of self actualisation. Maslow believed that once one can control where he/she lives and determines the setting, the appearance of the dwelling can enhance self esteem and self actualisation. The absence of these decrease self worth and increases alienation among the community. The quality of housing to a large extent is determined by the desirability of the community in a given location e.g. the kind of services and health of environment (Cochran and Malone, 2005).

This seems to have been considered in formulating the NHP of 1991 and subsequent implementation strategies e.g. the low-cost housing estates, sites and services schemes and proto-type housing schemes. However, on close examination, the policy failed to appropriately apply the theory’s main thrust to housing delivery. While the NHP of 1991 provides for home ownership or access to housing at affordable cost as its thrust, it failed to take to account the theory’s philosophy of human beings as

rational beings that will seek to fulfil their quests (needs) for housing based on their capabilities and abilities and not just desires/demands. Human beings have their needs arranged in a hierarchical form (from the lowest (basic) physiological level to higher and more creative ones) which are to be met incrementally. The theory’s success is hinged on the necessity to adequately satisfy needs on lower hierarchy before focussing on higher levels.

This theory can be adapted for housing delivery if properly contextualised. Government would need to adequately provide the enabling environment for inclusive, equitable/participatory delivery; an environment for meaningful understanding of relationships between costs (earning capacity) and satisfaction by the low and middle - class groups, the elderly and the unemployed; address the disparity existing in housing quality for the poor and rich, and promote stakeholder participation at all levels of development. The delivery processes must be flexible, but productive and performance measurable on a sustainable basis. This will be difficult to achieve for housing in developing economies.

1. **Ownership Model (White and Schollaert, 1993)** is a model of delivery that considers the overall well-being in homeownership. This model determines designs, construction methodology, maintenance and distribution, considering and providing “a sense of permanency, promoting psychological and economic investment in neighbourhood, residential stability and greater concern for overall residential environment and involvement in informal neighbourhood interaction networks i.e. integration, participation and flexibility. This is difficult for multi-cultural societies.
2. **Causal Model of Barriers and Incentives to Affordable Housing** which considers barriers to affordable housing as independent variables- demographic, economic, attitudinal and service characteristics of households and communities; while housing stock characteristics (dependent variables) are affordability, quality and

diversity and the interaction or combination of these variables may influence housing stock in a community and hence their choices.

1. Steggell, et.al, (2001) identified other theories that designs may further utilise such as Preference Theory or Differences Model of Affective Experience for house types; Social Construction Paradigm; Social Comparison Theory; Attribution Theory; Social Identity Theory; Role Theory; Social Perception Theory; Settlement Identity Theory or a combination of these for what may be the most appropriate choice(s). These provide options for typologies and/or models communities or settlements could opt for.
2. **Ecological Theory:** The environment would be guaranteed sustainability if the design and production utilises the Ecological Theory by Bronfenbrenner, 1979 and these theories strongly advocate a participation as in Eco-system Theory (General Systems Theory) and management approach (principle) for all stakeholders to development as those left out easily become part of the problem of efficient delivery

e.g. tenants/end-users. Their participation provides inputs and insights into developmental problems, needs and concerns, notwithstanding their self interests. Bronfenbrenner (1989) said “every human quality is inextricably embedded, and finds both its meaning and fullest expression in particular environmental settings...There is always interplay between the psychological characteristics of the person and the situation of a specific environment; the one cannot be defined without reference to the other.”This is a stakeholder friendly theory, where holism is central.

The above theories of housing point to the relevance of theory in formulating housing policy. These are usually supported by relevant/appropriate socio- economic/political frameworks and relevant policies that give essence to developments as can be found in theoretical trends related to housing policy of nations. It confirms the difficulty and dangers of sticking to any one single theory to deliver housing to a large and complex nation like Nigeria.

###### Theoretical Explanations to Housing Delivery

1. **Historical perspective**

The Review of the Abuja Masterplan (Kalgo and Olatubosun,2001) established that housing delivery problems in Nigeria and its Federal Capital Territory have persisted in spite of the periodic interventions of the federal authorities and agencies and the historical antecedents that brought about the creation of the FCT, Abuja (FRN, 1978). This section of the study, explored some theoretical explanations to the nature of the complexity in housing in order to propose a framework for addressing the problem in the FCT.

It is important to stress that housing is a complex phenomenon and its delivery involves a complex arrangement which cannot be actualised with a single theoretical explanation (Mullins and Rhodes, 2007). It has indeed been described as a "wicked problem" (le Roux, 2011), lacking a theory in its own right (Clapham,2009) and defying traditional linear analytical approaches to solving its problems (Ritchey, 2005). For the purpose of this study, relevant explanations were sought from Implementation, Network and Systems Theories.

###### Implementation theories and housing delivery

Attempts at housing delivery in Nigeria were based on periodic government interventions of plans and programmes designed for implementation at the FCT and other states of the Federation mostly on a top-down approach. Research attributed the early popularisation of top-down policy implementation theorists (Sabatier, 1986; Hjern and Porter Matland, 1995; O’Toole Jnr, 2000 Chand, 2011). They argued that any policy and programme that is designed for implementation on the basis of the top-down approach should assume that the policy and programme is independent with a starting point and a benchmark; actually and conceptually distinct – designed at the top for implementation at the bottom; has passive agents or potential impediments; is relatively narrow; immediate focus is effectiveness – which could be measured by the extent at which goals are met;

stand point is the top policy makers and the central government; broad aim is to improve performance; and lastly, dominant theme is hierarchy, control and compliance.

The implementation of previous housing policy/programmes in the FCT and other locations across Nigeria fell short of the above assumptions for a number of reasons:

* 1. housing delivery is dependent upon the interaction of multiple actors/agencies such as the Federal Capital Development Authority (FCDA), the Federal Ministry of Lands, Housing and Urban Development, the FCT Area Councils, the Federal Mortgage Bank of Nigeria, private developers such as real estate developer association of Nigeria (REDAN), Self-help providers (Uji, 2000), among others;, thus not independent;
  2. housing policy is not actually and conceptually distinct in the sense that the decisions made within some of the implementation agencies as well as the contextual conditions within the implementation arena could influence long term housing policy outcomes typical of wicked problems – this implies that there are potential and perpetual policy innovators or problem shooters;
  3. housing policy and programmes are broad in nature – they encompass aspects of land, finance, building materials, labour, planning and development controls. The officials involved in the implementation of these sub-policies can influence outcomes of housing delivery in the implementation arena and differently too if not coordinated; and,
  4. these arguments have been well documented by the critiques of top-down approach (Matland, 1995 and Mullins & Rhodes, 2007), which further substantiates the complexity in housing and its delivery imperatives. Therefore, Implementation Theory of top-down policy approach cannot be sufficient for housing delivery as

most actions are dependent on transient 'political will' considerations. This explains the failure of housing in the FCT, Abuja (Kalgo and Olatubosun,2001).

###### Systems and Network Theories and Housing Delivery

The thought of housing as a complex phenomenon raises important implication for a delivery framework. For example, the changes in social housing systems among the European countries have necessitated the replacement of hierarchical relationships among actors with market and/or network relationships (Mullins and Rhodes, 2007). Accordingly, the last three decades have seen housing researchers becoming increasingly interested in housing delivery frameworks that are associated with network and systems thinking (Mullins and Rhodes, 2007).

Network concepts are applicable in natural and social science disciplines. However, theoretical models used in this study find their root in social network, with particular reference to organisational networks. Social networks first appeared in sociology literature over 50 years ago and Barnes (1954) credited to its coining (Mullins and Rhodes 2007). The theoretical footing of social network is founded on the assumption that social interactions result in complex systems, and the relationships among actors within such complex systems have causal implication for outcomes (O’tool Jnr, 2000). In housing, it is theoretically assumed (Mullin and Rhodes, 2007) that frameworks that are based on network and systems thinking are more efficient in addressing the complex issues of coordination, communication, conflict resolution, flexibility and decision making for housing delivery. Network Theory however, fails to adequately reflect the influence of the environmental factors (e.g. global warming/greening) in housing delivery that make it look like a sectoral development concept. Housing delivery is more of an integrated and sustainable development concept (Ritchey, 2005). This fits more with the Systems Theory.

Research works of Mullins and Rhodes (2007) has further identified five main strands of thinking about systems and network theory. These are:

1. Policy Network: employs a number of concepts - policy making, resource dependencies, power and network structure in seeking to understand the networks that could influence housing policy formulation at various scale levels.
2. Network governance: employs a number of concepts (such as policy and implementation, relationships among agents, agents perceptions/knowledge, and network ‘steering’) in attempting to understand the co-production of housing services, and the application of network management tools to improve the delivery of housing services.
3. Supply network/chains: key concepts include product/service delivery, core competencies, organisation’s role in the value chain and network management. These concepts could help in the design of framework for housing organisations to manage their own networks of suppliers and partners and to develop their competencies to manage these relationships.
4. Organisation: key concepts in organisational fields include areas of ‘institutional life,’ resource dependence, identities/beliefs/culture, rational myths and power. These concepts could be employed to design a structured description and comparison of housing systems, which incorporates the key drivers of organisational behaviour. The concepts can also help in the design of framework for understanding organisational adaptation to changes in field environment
5. Complex systems: use concepts such as physical/social systems, agents interactions/feedback, performance landscape and adaptation, to provide a structured description of housing systems incorporating private and social housing providers, and policy-makers and supporting organisations. The concepts could also be used in designing frameworks for understanding the interactions of agency and structure and co-adaptation.

The five strands of thinking about systems and network theories raise some important considerations when designing a framework that could address the complex system of housing delivery. These are that:

* 1. relationships between organisations affect the behaviour of individual organisations;
  2. the shape and structure of the fields or networks within which organisations operate can have significant implications for policy making and implementation;
  3. policy intervention should be structured in the context of network governance;
  4. organisations should be able to respond to changes in the field and equally adapt to changes where necessary;
  5. there are important issues concerning network/system boundaries and the scale of operation – apparently, the degree of permeability of boundaries and the extent to which network cross-over scale level affects the ability to explain outcome.

The theoretical explanations presented in this section have reinforced the need for a systems’ framework that could address the complexity of housing delivery in the FCT. It further supports knowledge that housing delivery phenomenon fits well with Futures Methodology studies for long term solution to its problems which can be adapted based on systems thinking. The tasks address the problem for solutions that are "possible, probable and preferred" from imagination, analysis and participation for outcomes (Leppimaki and Laitinen, 2007) to contain with the "wicked" nature of housing problems. The deliverables of this research therefore, explores the opportunity of coming up with a systems framework and related relevant theories for housing delivery in the FCT.

This work proposes a micro-view of the systems approach to housing delivery to shape the policy that will meet the housing needs of the FCT, Abuja and indeed, the plural nature of Nigerian cities. The works of Chikwanha (2006) and le Roux (2011) greatly motivated this school of thought. The Systems Approach is examined in the next section.

###### General Systems Theory

von Bertalanffy (1950), referred to as the father of systems theory, has shown that the general systems theory provides a basis for “understanding and integrating knowledge" from a wide variety of highly specialised fields. Knowledge therefore becomes a means of “continual evolution toward a parallelism of ideas". This parallelism provides an opportunity to formulate and develop principles which hold for systems in general. Kast and Rosenzweig (1981) adduced that general systems theory provides the broad macro view from which to look at all types of systems in an attempt to develop scientific principles to aid in the struggle with dynamic systems with highly interacting parts.

von Bertalanffy (1952) therefore concluded that if the various fields of modern science are surveyed, a dynamic and amazing evolution is noticed. Similar conceptions and principles have arisen in quite different realms, although this parallelism of ideas is the result of independent developments, and the workers in the individual fields are hardly aware of the common trend. Thus, the principles of wholeness of organizations and of the dynamic conception of reality becomes apparent in all fields of science. This is fundamental to this study.

###### Lessons from Social Sciences

There are broadly two types of systems: open and closed. Physical and mechanical systems are considered close in relationship to their environment. Biological and social systems are open as they are in constant interaction with their environment.

Systems recognise the fact that various scientific fields do become “highly differentiated and specialised.” Such specialisations are mainly analytical, fact-finding and experimental approaches in highly specialised areas, which are useful in helping to develop knowledge and to understand details of ‘specific’ but limited subjects. These, however, at some stage must be synthesised, reconciled and integrated so that the “analytical and fact- finding elements are unified into broader, multi-dimensional theories”. This is true of every

field of human knowledge – that it passes alternately through phases of analysis and fact finding to periods of synthesis and integration (Eddington, 1958).

This need for systems and integration has made it possible for the various scientific specialists to communicate better and effectively. This has further been developed by social scientists into a concept of “functionalism” across the boundaries of special social science disciplines with both theoretical and methodological dimensions aiding integration from psychology through sociology, political science, economics and anthropology to geography, jurisprudence and linguistics.

Functionalism connotes several things/meanings. For housing delivery, the emphasis is on systems of relationships and the integration of key role players/stakeholders and subsystems into a functional whole. In this case, functionalism looks at (social) systems in terms of structures, processes, and functions and attempts to understand the relationship between these components emphasising that each has a function in the broader system, and underscores the fact that society (city) can best be understood as an interconnected system.

Works of sociologists such as Talcott Parsons, on the concept of functionalism and the general systems led to the development of social system framework (structures). In the field of psychology, the systems approach had led to the development of Gestalt psychology. Gestalt is German word for configuration or pattern. Interpersonal theory of psychology (relating personality to the socio-cultural system), etc. provide lessons for the adaptation of the systems theory for housing delivery.

From social psychology, equilibrium concepts in economics were also developed from systems approach: static – dynamic equilibrium considerations which is equivalent to the closed-open systems. Works on the ‘input-output’ analysis of any national economy, can be considered as a system of mutually interrelated industries and interdependent economic activities, where the interrelation of the various steady flow (streams) of goods

and services directly or indirectly link all the sectors of the economy to each other (Wassily et al, 1953).

Similarly, the disciplines of cybernetics is based on systems approach. Cybernetics was formerly a physical system mechanical engineering problem (closed systems). Its model of feedback, control and regulation has been greatly applied for biological and social systems as well as control in management principles.

Next to the functionalism concept from systems theory is the concept of holism. This views that all systems – physical, biological and social are composed of interrelated sub-systems. The whole is not just the sum of the parts, but the system itself can be explained only as a totality. Holism is the opposite of elementarism which views the whole as the sum of its individual parts (Kast and Rosenzweig, 1981).

Holism is basic (fundamental) to the systems approach. It contrasts to the traditional organizational theory and studies of the sciences. The concept emphasizes that it is not possible to study the sub-systems individually, but put them together to form the whole system. Here, the starting point is the total system.

###### Systems Theory

The production of a house has been described as both a process and technology (Foster, 1975). As a process, it is concerned with the rational and economic use of resources – men, materials, machines, money, methods and time – to produce a building in the “quickest and most economical manner.” Taking this further, it understandably requires a craft-based industry concerned with designs and construction (assembly). This promotes a separation principle of operations and concerns are with the economics of production and subsequent profits. In the production of a building, there are distinctly discernible structural, functional and procedural stages, compartmentalising the professionals into groups such as architects, builders, engineers, surveyors, contract realtors, facility managers who handle the various functions and processes at stages of design,

construction/assembly and management of buildings separately; yet all end up producing one building unit (structure): a house, an office complex, school classroom or factory.

Pulter (2007) succinctly said that the design, construction and management of buildings suffer the most fragmented decision-making process. He added that the separation of architecture, architectural engineering and engineering of the built environment is “counterproductive.” Pulter (2007) points out that “though architectural and engineering designers deal with buildings, they each think very differently about the same subject matter and neither professional often even cares to make an effort to understand each other.” The professionals have formed their own terminology and modes of operation, amplifying the consequences of the fragmentation. The complex nature of housing demands a different approach.

Pulter (2007) further asserts that not only is the problem of fragmentation with the professionals, some of them have “lost all sense of purpose” in their profession. Papanek (1994), said

Dwellings and buildings are meant to be lived in, to be enjoyed, to provide enchantment and psychic wellness for their users…Yet, mainstream architecture seems propelled by ...ideas awkwardly adapted from literary criticism such as post-modern, deconstructivist, retro-nostalgic, neo-classic and post-structuralist…new approaches to making shelters and buildings …appear not of real needs and social shifts, from self-serving statements or gestures by celebrity- architects.

This argument was supported by qt. Cuff (1989) where he said that the architects assume absolute knowledge, reducing architecture to “mindless convenience.” It is this type of thinking that promotes the separation principle bedevilling the building industry and hindering it from efficient production and delivery of houses, hence the need for an alternative that is integrative and sustainable such as the systems approach.

Chandler (1994) on engineering, protested that the engineer’s knowledge base of a building is only reduced to the areas of “science, technology and mathematics,” leaving out essential components of building production management such as the “concept of buildability and maintainability, cost, time, quality and the employment of resources required to achieve the desired structure.” Others include maintenance management, the end-user, environment and essential social components of sustainability. The consideration above exposes the inclusiveness imperatives of housing and supports the "holism" concept of the systems thinking to housing delivery.

When a building is considered as a technology, production management shifts from craft-based to scientific knowledge-based mechanisms. Here, concern is more with the building’s production management, its use (performance) and the value of investment. It demands that scientific methods of investigation and research for planning, design decisions, material specifications and choice(s) of technology be engaged. Ultimately, the function of the building determines its design; buildability and maintainability analysis, dictates material selection, technology, standards, management and even users and beneficiaries (consumers). In view of this, Foster (1975) concluded that a building is

“no longer limited to a number of standardised techniques based on the use of a few well known materials, but involves an understanding of the properties and characteristics of an increasing number of materials, of structural principles and of building economics so that existing techniques may be used more efficiently and new forms of constructions may be developed for the solution of environmental and structural problems.”

In consideration of above, it can be deduced that the production of buildings must be carefully coordinated and integrated – if buildings and indeed construction is to be sustained. These cannot be done by mere pronouncements. It is a practical matter involving a mix of various stakeholders ranging from designers and producers to owners/consumers, managers, users, the environment hosting the buildings, infrastructure, services and beneficiaries (citizens). It was Aristotle that said “in practical matters the end is not mere

speculative knowledge of what is to be done, but rather the doing of it. It is not enough to know about a virtue, but we must endeavour to possess it and to use it.”

Housing and its delivery then becomes a matter that goes beyond mere knowledge of the designs and production of buildings (provisions) by any one professional or method(s). It is as the National Construction Policy, 1991 puts it, a means of bringing the much needed specialisations of the “interrelated fields” of architecture, engineering, planning, building, quantity surveying, management, etc, and their related/allied craftsmen and artisans to produce and deliver sustainably. It is an issue of holistic housing management requiring managers who possess the knowledge and expertise to ensure that the special services, basic and special needs of the population are delivered in/to a planned, decent, safe and sanitary neighbourhood. Housing delivery therefore requires a multi- disciplinary, integrated and systematised approach to produce and deliver.

###### Systems Thinking

Systems thinking can be described as the process of understanding how things regarded as systems, influence one another within a whole e.g. the eco-system, where air and water movements, plants and animals work together to survive or perish (von Bertalanffy,1953).

Systems thinking can be appreciated also as an approach to problem solving by viewing problems as parts of an overall system, rather than reacting to specific parts, outcomes or events and potentially contributing to further development of unintended consequences. It further asserts that systems thinking is not “one thing” but a set of habits or practices within a framework based on the belief that the component parts of a system can best be understood in the context of relationships with each other and with other systems and not in isolation. It focuses on “cyclical rather than linear cause and effect,”

i.e. on the whole (Kast and Rosenzweig, 1981).

Systems philosophy seeks to understand a situation by examining the linkages and interactions between the elements that compose the entirety of the system. It further promotes organizational communication at all levels in order to avoid the ‘silo effect.’ It may be used to study any kind of system: natural, scientific, engineering, human or conceptual.

The concept of a system can therefore be described as:

* 1. Composed of parts e.g. a buildings as in housing, or a roof in a building.
  2. Having all parts related (directly or indirectly), yet they are distinct matters e.g. stakeholders of the built environment or buildings and infrastructural facilities.
  3. Encapsulated, but with a boundary of design and production. The boundary is a decision made by an observer or a group of observers.
  4. Nested inside another system (sub-systems) or overlap with another system (relationships)
  5. Bounded by time and space, though parts are not necessarily co-located.
  6. A recipient of input from and sends output into the wider environment through a medium of communication and processing.
  7. Consisting of processes that transform inputs into outputs (components, elements, units into a building).

The description appears to fit issues of housing delivery and management processes in the quest to sustainably produce and manage the environment, built and natural. There are basically two types of systems open and closed.

###### Systems Approach and Organisation Theory

Traditional organisational theory operates basically a closed-system, while modern theory is ‘open-system approach.’ Scott (1967) said that the distinctive qualities of modern organisation theory are its conceptual – analytical base, its reliance on empirical research

data, and, above all, its synthesising, integrating nature. These qualities are framed in a philosophy which accepts the premise that the only meaningful way to study organisation is as a system.

Chester (1938) who saw an organisation as a complex system of decision-making processes, came to the conclusion that the only way to integrate the inter-disciplinary knowledge of the component parts is in a systems approach. This is being used more and more to refer to methods of scientific analysis that are particularly adapted to the unravelling of complexity. This view to organization has been supported by Churchman and his associates (1957) who view systems an inter-connected complex of functionally related components.

George Homan (1950) used systems to view an organisation as comprising of an external environmental system and an internal system of relationships which are mutually inter-dependent.” He added that there are three elements in a social system:

1. Activities, being the tasks the people perform, (function);
2. Interactions-occurrences between the people performing the tasks, (process); and
3. Sentiments which develop between the people, (structure).

All these three are interrelated.

Philip(DNA) utilized structural functional analysis and the systems approach to study organisations. He sees an organisation as a dynamic system, constantly changing and adapting to internal and external pressures, and is in a continual process of evolution. The organisation is a formal system influenced by the internal social structure and subject to the pressure of an institutional environment. In his view, the institutional leader is therefore concerned with the adaptation of the organisation to its external systems.” Philip(DNA) further posited that cooperative systems are constituted of individuals (sub-systems)

interacting as wholes in relation to a formal system of coordination. The concrete structure is therefore an outcome of the reciprocal influence of the formal and informal aspects of organisation and the structure is itself in "totality, an adaptive organism” reacting to influences upon it from external environment. These concepts have remained 'evergreen.'

The systems approach has been used by many students of organisational theory in the USA and other countries, prominent of which is the Tavistock Institute of Human Relations in London, who are the strongest proponents of the open-systems approach to organisations and have developed the concept of the “socio-technical system,” stressing that the organisation is an open-system in interaction with its environment. Prominent supporters of the Tavistock group are Katz and Kahn (1966) in their theory of organisations.

Other uses of the systems approach are at operational levels, e.g. developments in “automation.” This suggests a self-contained system with inputs, outputs, and a mechanism of control. The automation of information flow is the greatest example. This has also found use in the defence and space programmes in the USA. Similarly, it is utilised in programme management, which is geared to changing managerial requirements in research, development, procurement and utilisation. Government projects which require the integration of many agencies and activities also utilise the systems approach, e.g. pollution control, urban renewal and transportation problems.

The complex problems of organisations, private and public, and the yet more difficult problems of society as a whole, are so obviously multi-faceted and contain so many connections that it is “obvious” that we must somehow embrace the whole problem in seeking to solve it, lest improvements in one area produce effects elsewhere which are inimical to the whole (Checkland, 1976).

This study is a reflective research work on a perennial problem of housing delivery that appears to defy all rational solutions to it in Nigeria. It is an organisational theory

thinking in construction management being developed for housing delivery using the systems approach. It is done in full realisation that it is an attempt to put organisation theory thinking in the context of general systems theory borrowing from its concepts of holism and functionalism. The study allows for a growing community of interests and understanding from the proponents (stakeholders) of housing developments and particularly the components of housing delivery in the housing/building industry, and their diverse disciplines. It appreciates that housing delivery is an unstructured public social policy problem requiring an organisational management concept.

This is the case for the systems approach to housing delivery problems described as "wicked problems."

###### THE SYSTEMS APPROACH

This is an organisational management concept, from systems theory and system thinking, which incorporates project management, development management, business management and quality management into a pragmatic blend of various global management approaches to produce and manage the delivery of housing. It includes relevant concepts of affordable social housing; inclusive housing through public participation; cooperative housing through urban re-adaptation and flexible housing (UNCHs (Habitat) ILO, 1997; Chattopadhyay, 2009; le Roux, 2011) to a system of housing delivery that:

1. Coordinates the roles of key housing players: government agencies, financiers, developers, housing consumers, corporate employers, social housing institutions, NGOs, donors, profit and no-profit house providers, professional bodies and various professionals rendering relevant services.
2. Protects housing consumers against exploitation, intimidation, victimisation, corruption and other unprofessional practices, (van Wyk, 2006); and
3. Decides, sponsors/provides and uses efficient/effective management of policies, strategies, processes, systems and resources. It alongside seeks to provide a delivery platform that monitors and evaluates management such as a construction industry development board (CIDB). It is expected that such a system would:
   1. Produce households and communities whose housing is adequate, accessible, available, affordable and adaptable, and communities with improved wellness, social, economic, political and physical institutional developments;
   2. Have a housing organisation (system) that can sustain optimum investment, value, support employment and promote housing performance; and
   3. Enhance the development of a better society that is stable, has less crime, productive employees, etc; i.e. sustainable living environments.

###### Why Systems Approach

The choice of systems approach to solving the housing delivery problem runs the risk of being subsumed under the generality of claims made, where it could be a matter of systems analysis rather than the systems approach. This is because the systems approach will require determined persistent efforts both to define what a systems approach consists of and what it takes to use it to solve real world problems.

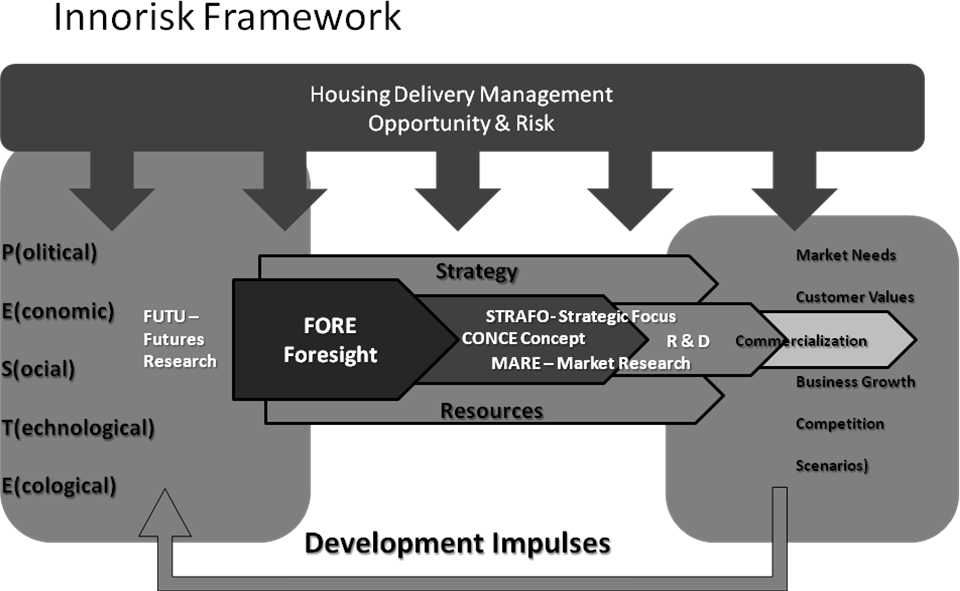
Checkland (1976) said, it is not helpful to make claims for an approach unless it is possible to detail the concept sufficiently for interested persons to grasp it and use it in tackling problems of their own. He added that if the approach is to become more than an easily accepted, but somewhat initiating concept, then there is a need for expressions of it which eliminate any difference between what it is and how it may be used. The need is for accounts of systems-based methodologies which describe a systems approach as a way of analysing and hence trying to solve real-world problems. The challenge therefore is for developing “methodologies appropriate across the spectrum that will handle hard systems characterised by easy-to-define objectives, clearly defined decision-taking procedures and

quantitative measures of performance to soft-systems in which objectives are hard to define, decision-taking is uncertain, measures of performance are at best qualitative and human behaviour is irrational. This is typical of the unstructured and fragmented building industry that is expected to produce and deliver housing, described as a "wicked problem."

Housing delivery therefore requires a general methodology which uses systems thinking and ideas to find a structure in apparently unstructured ‘soft’ problems such as overcrowding leading to actions to eliminate, alleviate or mitigate the problem(s) or provide an orderly way of tackling ‘hard’ problems such as waste disposal, climate change or urban renewal on a sustainable basis.

There is the need for ways of using systems ideas which are at once precise ideas that can actually be used to initiate and guide action; but utilising methodologies that must not be seen as, nor become techniques. In other words, methodologies that are versatile and pragmatic, yet flexible, inclusive, integrated and responsive.

This work, adopted Futures Methodologies, using the Political, Economic, Social, Technological and Ecological (PESTE) Components to proffer solutions that address the "possible, probable and preferred" outcomes based on "imagination, analysis and participation" (Leppimaki & Laitinen, 2007) to contain with the "wicked" nature of housing problems. This research therefore, explore the opportunity of coming up with a systems approach framework for housing delivery and management in the FCT, Abuja following the principles of Leppimaki and Laitenen (2007) in Figure 10.



###### Figure 10: Innorisk Framework

**Source: Sami Leppimaki & Jukka Laitinen (2007).**

###### The Systems Movement

The systems movement is concerned ultimately with the concept of systematic wholeness – an attempt to be holistic and to find out the consequences of being holistic in any area of endeavour. It attempts to use the systems paradigm, which is an achievement or set of achievements a scientific community acknowledges as supplying the foundation for its further practice. This attracts an enduring gap of adherences away from competing modes of scientific activity, and are sufficiently open-ended to leave all sorts of problems for the redefined group of practitioners to resolve, analyse, elucidate and help to solve, such as the housing delivery problem – a real-world problem.

The systems movement is therefore a pragmatic philosophy of tackling complex social problems such as housing delivery. This work is therefore concerned with the problems of organisational management for housing delivery in the broad sense where human activity involves planning, doing and monitoring so much so that aspects of what is seen as a problem are likely to be a mismatch between intention or expectation, and outcome. In other words, concern may not be absolutely with the individual roles but the collective roles of the component parts in purposefully solving the problem of housing delivery which is social, physical and economic development management problem, a social public policy issue. Accordingly, solutions are a matter of "imagination, analysis and participation" for the "possible, probable and preferable" respectively (Leppimaki & Laitinen, 2007). It thus, supports Futures Research issues.

###### Methodologies for using Systems Ideas

There are two schools of thoughts from von Bertalanffy’s General Systems Theory (GST) and the Systems Analysis Approach: – exactitudes with the influence of computers in solving technological problems or a process approach management. Using GST concepts to provide a methodological approach to a practical problem, is a case of building a bridge between theory and practice. The problem in this case is that of improving public

policy making by making use of behavioural science. Fig. 11 shows a model of thinking for a systems approach policy for solving social problems such as housing delivery.

Values/Resources/Stimuli



Interaction

Behavioural Science (A discipline)

The Scientific Establishment

Public Policy Making System

Health

Waste management Transportation Public order Housing Delivery Infrastructure Energy/environment

Social Sub-systems

###### Figure 11. A Picture Version of Dror’s GST Model of Policy Making and Behavioural Science

**Source: Checkland (1977)**

###### Factors of organisational systems

In addition to the sub-systems interacting in an organisation, other factors/characteristics that add to make for the holistic and functional framework of a system approach are:

1. **Continued systems** – These are the product of social organisation which are not like (physical) mechanical or biological systems. They have structures that are dependent on the prevailing events rather than the physical components, and are inseparable from the processes of the system. These can be established for an infinite variety of objectives, do not follow the same life-cycle pattern of birth, maturity and death as biological system.

Katz and Kahn (1966) said “social structures are essentially contrived systems. They are made of men and are imperfect systems. They can come apart of the seams overnight, but they can also outlast by centuries the biological organisms which originally created them. The cement which holds them together is essentially psychological rather than biological. Social systems are anchored in the attitudes, perceptions, beliefs, motivations, habits and expectations of human beings. This is a necessary precaution against making an exact analogy between a social organisation and physical and biological systems.

1. **Boundaries** – Studies by Likert (1961) show that:
   1. When an organisation is viewed as an open socio-technical system, it has boundaries separating the organisation from the environment.
   2. This concept of boundaries enables the understanding of the distinction between open and closed systems. The closed system has rigid, impenetrable boundaries between itself and a broader sub-system.
   3. Boundaries are the demarcation lines or regions for the definition of appropriate system activity, admission of members into the system, and for other imports into the system.
   4. It constitutes a barrier for many types of interactions between people on the inside and people on the outside, but it includes some facilitating devices for the particular types of transactions necessary for organisational functioning. In this case boundaries set the ‘domain’ of the organisation’s activities.
   5. In a physical mechanical or biological system boundaries can be identified, but not so easily with the social systems.
   6. In social organisations boundaries are:
      1. Determined by the functions and activities of the organisation.
      2. Characterised by rather vaguely formed, highly permeable barriers.
      3. Drawing boundaries are a matter of convenience, experience and strategy.
      4. They are often flexible and changeable over time, depending upon its activities and functions
   7. Boundary regulations is a key function within any organisation
   8. Management serves as a linking pin or boundary agent between the various sub-systems to ensure integration, collaboration and cooperation; as well as between the organisation and the environmental sub-systems
   9. The concept of interface is useful in understanding boundary relationships.

An interface may be defined as the area of contact between one system and another. A business organisation, for example, has many interfaces with other systems – suppliers of materials, the local community, prospective employees, unions, customers and state, local

and federal government agencies. In this work, the stakeholders in the building industry provide the functional boundaries for housing delivery.

1. **Hierarchy of systems** – Generally, all systems – physical, biological and social can be considered in a hierarchical sense. Any system consists of sub-systems of a lower level/order and is/may also be a part of a sub-system. This implies that the components in a system are in a hierarchy.

In a large organization, people are organised into groups, groups into departments, departments into divisions, divisions into companies, and companies into industries and the economy. These hierarchical relationships are paramount in all types of systems and this is not peculiar to human organizations, it is common to all complex systems known. Simon (1964) had very strong reasons to believe that any system of "sufficient complexity would have to have the rooms – within – rooms structure" observed in actual human organisations, because the need for hierarchy go far beyond the need for "unity of command" or other considerations relating to authority. This is because the hierarchical structure is related to *‘levels’* and is based on the need for more inclusive clustering or combination of sub-systems on a broader system in order to coordinate activities and processes. In complex organisations, there is a hierarchy of processes as well as structure. These point to the need for flexibility and contingency provision in the structure of organizations. Systems thinking recognises this in its considerations.

1. **Negative entropy** – Closed systems are characterised by the force of entropy which is always positive. This grows until the system is dead as a result of disorder and complete lack of resource transformation. The open system provide mechanism of arresting the growth of entropy through a process of "more complete organisation and ability to transform resources." This is possible because in open systems, resources are attracted from the environment. von Bertalanffy (1956) said that "living systems, maintaining

themselves in a steady state, can avoid the increase in entropy, and may develop towards states of increased order and organisation." This may be subject to the longevity of the social/biological systems, however, an organisation can offset entropy by continually importing materials, energy and information in one form or another, transforming them, and redistributing resources to the environment through innovations and infractions with the environment. This is the case for flexibility and functionalism in the systems approach. It provides for managing change.

1. **The steady state or dynamic equilibrium** – Emery and Trust (1965) suggested that in contradistinction to physical objects, any living entity survives by importing into itself certain types of material from its environment, transforming these in accordance with its own system characteristics, and with the environment. By this process, the organism obtains additional energy that renders it ‘negentropic,’ it becomes capable of attaining stability of adaptability to environmental variance. The steady state for the open system holds when the organisation is able to maintain its functions and perform effectively. This is when it is able to adapt to changes in its environment and maintain a continual steady state, e.g. the human body being able to maintain a steady body temperature in the midst of changing weather situation. This does have limits, e.g. the case of massive environmental changes too great for the system to handle, such as a natural disaster. However, a state of dynamic or moving equilibrium is achieveable. In a state of "continual adjustment" to environmental and internal forces, the social organisation attempts to accumulate a certain ‘stack’ of resources to help it maintain its equilibrium and to mitigate some of the possible variations in the inflow and environment requirements. The systems approach therefore should have standards that are researched based, that can be specified for every site (a case for standardisation of components, specifications, etc) to sustain delivery.
2. **Feedback mechanisms** – The work of the theory of cybernetics underscores the necessity for feedback mechanism that is characterised by:
   1. being very important for maintaining dynamic equilibrium.
   2. having a system that continuously receives information from its environment that helps it adjust.
   3. Feedback which can be both true and false. False feedback indicates deviation from the prescribed course and should make for readjustment to a new steady state.
   4. ensuring that management receives feedback continually from its system and sub-systems and environment, which it must interpret and take appropriate corrective measures. It is a vital part of the organisational control function.

###### Adaptive and Maintenance Mechanism

* 1. Every system that must be in a dynamic equilibrium must have a maintenance mechanism that ensures that the various sub-systems are in balance and that the total system is in accord with its environment – one that is steady with time.
  2. It must also have adaptive mechanisms necessary to provide a dynamic equilibrium

– one that adapts to changes over time.

The above imply that a system that will serve its purpose must have the adaptive mechanisms that allows it to respond to changing internal and external requirements for effective operations and maintenance.

These opposing forces that compel the system to move towards maintenance and others to adaptation tend to create tensions, stresses and conflicts which are natural

according to Chin (1961). Katz and Kahn (1966) emphasised on the need to maintain a balance. They said that if the system is to survive, maintenance substructures must be elaborated to hold the walls of the social maze in place. However, these would not suffice to insure organisational survival. The organisation exists in a changing and demanding environment, and it must adapt constantly to the changing environmental demands. Adaptive structures develop in organisations to create appropriate responses to external and adverse conditions.

1. **Growth Through internal elaboration** –clearly identified as a primary characteristic of the living, as opposed to inanimate nature (von Bertalanffy, 1950), is the tendency of open systems to move in the direction of greater differentiation and higher level of organisation. Often this tends to overblown sizes and conflicts as experienced in organisation's expansionist tendencies or diversifications, mergers, differentiations and specialisation. It can also be as a result of product innovation and/or technological breakthroughs that provide opportunities for the organisations to extend their boundaries with new areas, or an imbalance of managerial and technical skills seeking outlets for their activities and creativity. These often come as a result of excess capacity or resources which create a continual pressure towards growth. This is far from what we have in the building industry today because of fragmentation in organisation, but needs correction.
2. **Equifinality of open system** – The concept of equifinality has it that ‘final results may be achieved with different initial conditions and in different ways,’ suggesting that a social organisation can accomplish its objectives with varying inputs and internal activities, i.e., not restrained by the simple cause and effect relationship of the closed system. Thus:
3. There is no one-best way of doing things like is the case with closed systems. This makes for versatility and flexibility by the manager of the open system; and
4. Management function is not necessarily one of seeking a rigid optimal solution but one of having available a variety of satisfactory solutions to decide on any problem. This is the case for innovativeness and innovations.

###### Managerial Systems

Parsons (1960) has it that there are three managerial levels in the hierarchical structure of complex organisations, i.e.

1. The technical or production level,
2. The organizational level (managerial level), and
3. The institutional/community level.

###### The technical system level

Involves the actual task performance in the organisation such as actual productions and distribution of products or services (task performance activities of the organisation),

i.e. physical work, and many other technical activities utilising knowledge such as Research and Development, operations research, accounting functions and technical systems. These range from the highly technical tasks performed by engineers to skilled/semi-skilled tasks by craftsmen/artisans and labourers. These are the levels of the professionals, technologists/technicians and craftsmen, in housing designs, production management and maintenance works.

###### Organizational level.

Coordinates/integrates the task performance of the technical system. Primary functions of management at this level is to integrate the input of material, energy and information (resources) to the technical level. This is the level for managers – project, facilities, etc.

###### Institutional level

Relates activities of organisation to its environmental system. Organisations must continually receive information (supporting input) from the environment/society in order to carry on its transformation activities. The markets, consumers, beneficiaries, etc. constitute this level.

In essence, the managerial systems cut across the entire organisation by directing technology, organising people and other resources and relating the organisation to its environment.

###### Basic differences in orientation of the levels

The technical level is concerned primarily with economic and technical rationality by trying to create ‘certainty’ by closing the technical core to many variables. Petit (1967) says under norms of rationality, organisations seek to seal off their core technologies from environmental influences. Since complete closure is impossible, they seek to buffer environmental influences by surrounding their technical cores with input and output components. The technical (professional) core operates a fairly 'closed system’ in an organisation.

The institutional level faces the greatest degree of uncertainty from its exposure to inputs from its environment, with little or no control over. Management at this level is an open-system concentrating on ‘adaptive and/or innovative’ strategies. This is the area of policy.

The organisational manager therefore operates between the technical core and institutional levels and serves to mediate and coordinate the two. Here, the uncertainty of the environment is transformed into the economic/technical rationality necessary for input into the technical core (Figure 12). It can be deduced that:

* 1. The technical level has a high degree of closure, even though not completely sealed from the environment. In the business organisation, it represents the level of employees that carry out the technical tasks
  2. The organisational level has less closure and consequently more susceptible to the intrusions of the outside forces. This represents the level of the upper and middle management of a company (Managing Director/Directors) which deals with organizational matters.
  3. The institutional level is the highly permeable boundary that is strongly affected by uncontrollable and unpredictable elements of the environment. This represents the level of the Board of Directors which relates the institution to its environment – policy formulation.

Inputs into the organisation from the environment are processed at the technical sub-systems and transposed into outputs and disposed of in the environment. In summary, the managerial system according to Kast and Rosenzweig (1981), involves three levels – the technical core activities, intra-organisational interactions, and their inter-institutional relationships” within a given environment. These roles may be theoretically separated, but in reality, this distinction is not clear-cut in any organisation.

Environment of the System

Institutional

Inputs into the System

Organizational

Technical

Outputs into the Environment

Boundaries

Intrusion of Environmental Forces

###### Figure 12: The Company as a Composite System Source: Petit (1967)

It is to be observed further that these levels perform “relatively independently” such that there is not a “continuous line-authority” picture of the formal organisation. Rather there is, at each linkage point, a range of possible different types of articulation (Parsons, 1960; van Wyk, 2005). This makes the case for the systems approach, a departure from the traditional closed system. For instance, there is a break between the organisational and technical level in the case of professional personnel in the construction firm. The Managing Director (MD) can be the site agent, if he is a professional, but where the Manager is not a professional personnel, he cannot exert absolute authority, because of his limited knowledge. The systems approach solves this problem through integration.

It is therefore necessary to develop means of articulation and adjustments at boundaries between these various levels which are provided by the sub-systems of the systems approach, allowing for overlaps. These levels become very clearly ‘interdependent’ (Kast and Rosenzweig, 1981), such that from each it is according to its ability and to each according to its needs. The institutional level must perform effectively for the organisation to receive necessary inputs for the technical level, which must in turn produce efficient outputs to ensure that the organisational level receives environmental support, ensuring self-sustenance.

###### Role of the Manager

The manager of a socio-technical system necessarily has different tasks as compared to that of a traditional (closed) system theory. The traditional system manager’s emphasis is on economic and technical rationality and suitable only for technical level of management but not for organizational and institutional. The human relations school brought into focus the psycho-social sub-system and neglected the technical, structural and environmental aspects. Management science school adopted the closed-system view focusing on techniques of managerial making. The open socio-technical (systems) approach creates a more difficult role for the management system.

It must deal with uncertainties and ambiguities of a changing environment it has little or no control over, i.e. dynamic, inherently uncertain and frequently ambiguous. It must be concerned with adapting the organisation to new and chancing requirements. Management therefore spans and links the various sub-systems of the organisation into a holistic and functional system – the Systems Approach.

Literature on administration has amply shown that the basic function of administration appears to be co-alignment, not merely of people (in condition) but of institutionalised action – of technology and task environment into a viable domain, and of organisational design and structure appropriate to it. Administration, when it works well, keeps the organisation at the nexus of the several necessary streams of action. Paradoxically, the administrative process must reduce uncertainty but at the same time search for flexibility.

Petit (1967) suggested a basis for classification of the types of managers in terms of tasks performed, point of view, technique employed, time horizon and decision making strategy (Table 3). A manager for housing delivery combines the attributes of the various types of managers as none of these alone is sufficient in view of the unstructured, complex and multi-dimensional nature of housing and its delivery. It thus requires attributes of the technical, organisational and institutional management.

###### Table 3: Classification of Manager

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of Manager** | **Task performed** | **View Point** | **Technique** | **Time Horizon** | **Decision Making Strategy** |
| Technical | Economic – technical rationality | Engineering (efficiency and technology) | Scientific management, operation research (closed- system) | Short run (task oriented) | Computational |
| Organisational | Coordination (integration) | Political (psycho-  social) | Mediation | Short run and  long run | Compromise |
| Institutional | Deal with uncertainty, relates organization to  environment | Conceptual and philosophical | Opportunistic surveillance, negotiate with environment | Long run | Judgmental |

**Source: Petit (1967)**

The systems approach view suggests that management faces a dynamic, inherently uncertain and frequently ambiguous situation where management is not in full control of all factors of production as in the traditional theory and strongly restrained by many environmental and internal forces from the technical, the psycho-social and the environmental systems.

The role of management under the systems approach is thus:

1. Not having neat, clearly defined boundaries, but contingent and flexible, requiring responsiveness, innovativeness and sound decision-making strategies;
2. Manager is placed in a network of mutually dependent relationships;
3. The enduring objective is the effort to build and maintain a predictable, reciprocating system of relationships, where behavioural patterns stay within reasonable physical limits. This implies seeking a moving (dynamic) equilibrium between evolving and changing division of labour and controls;
4. Manager therefore endeavours to introduce regularity in a world that will never allow him achieve the ideal (there is no ideal world anyway), i.e. dealing with realities and creating ideals. This underscores the philosophy of pragmatism.

Thus, the managers suitable for the open (socio-technical) systems are those who can deal with uncertainty, ambiguity and battles that are “never won but only fought well.” Critical to success is the decision making strategy, which in this case is contingent upon the levels of operation (technical, organizational or institutional).

The systems approach has the potentials to address such complex problems of housing delivery in a country like Nigeria with varying cultures, economic backgrounds,

education levels and development levels. Dominant factors of common relevance have to be identified for the system to be based on such as:

* + - 1. Urbanisation, cities development, land reforms, population growth/immigration management, economic changes, industrialization and their attendant social, economic and environmental repercussions and the management;
      2. The dilemma of the Nigerian nation state. A country that has too much of every needed resources, yet has too little to show for it. The net result for housing delivery as has been shown elsewhere in this work is that efforts made to house Nigerians ended up in catastrophic failure, leaving the situation with inadequate, inaccessible, unaffordable and unavailable housing situation. Thus, the need for a mechanism that will pull all these human and natural resources into an array of components (sub-systems) designed to accomplish the particular objective of housing delivery according to plan using the Systems Approach models/typologies in a paradigm concept.
      3. Housing finance support–needs to be properly developed and incorporated into the system. An efficient and effective mortgage systems/sub-systems designed to fit with adequate provisions for sources of funding and disbursement (management) is required. It provides subsidies, taxations or grants, to ensure effective contributions to the economy, maximising the gains of the industry to the economy, while meeting satisfactorily those of other stakeholders
      4. Production - pays due attention to the whole management processes: conception planning, designs and production, standards and technology ensuring adequate and sustainable participation by all the stakeholders (producers, users, marketers, customers, etc).
      5. Management of the products – buildings (stocks), distribution, usage, maintenance, data for policy and management improvements, management control functions and processes to ensure sustainability – efficient and effective products and performance.
      6. Research and development – training needs of interrelated disciplines, industrialization, education and institutional developments, form the bedrock for sustainability of the delivery mechanisms (systems).

The system must therefore be designed and developed to meet/address the specific purpose(s) and objectives of housing delivery with identified methodologies, resources and their allocation and anticipated outcomes in tandem with the general systems theory. The general systems theory, to be recalled, provides a basis for understanding and integrating knowledge from a wide variety of highly specialised fields. This provides an opportunity to formulate and develop principles which hold for systems in general. They also provide the broad macro-view with which other types of systems could be viewed.

###### THE BUILDING INDUSTRY

A common mistake that is often made even by the industry practitioners is to equate construction with housing industry. ILO (1999) has it that housing accounts for about a third of all construction activities. The other third is non-residential buildings (factories, offices, schools, hospitals, markets, hostels), while civil engineering and public works projects (roads, railways, ports, dams, power and water supplies and other infrastructure) account for the remainder.

Construction works, whether in housing or otherwise reside in the construction industry which could be broadly classified into two component parts: building (housing) and civil engineering and public works. These are engaged in new construction, renovations and maintenance as well as eventual deconstruction of existing structures.

The industry is involved in a wide variety of activities and has products that involve a diversity of stakeholders/agents in their production. These range from a “one-man” operation in a local community to multinational firms operating on a global scale using different factors of production, markets and operating in different environments/sectors of the economy.

A common feature of the industry in practice or market is that it is fragmented (segmented) between the sectors. This is a feature in the organisation forms between the formal and informal or capitalist and pre-capitalist. These are horizontal segmentations. The vertical disintegration exhibits itself in the organization forms of professional leanings, roles and management e.g. planning, design and production management. We have differentiations between contractors and consultants; designs and production; manufacturers and suppliers of building materials and components; production plant, machinery and equipment. Depending on the procurement method, we have contractors, sub-contractors with various lines of specialisation in the process, from engineering services to supply of labour.

ILO (1999) has it that these segmentations could also describe the types and functions of the firms and individuals involved in the building construction processes and management. However, two important stakeholders often erroneously left out in the process are the clients and end-users/beneficiaries.

An important fact that cannot be disputed is that it is not easy to draw the exact boundaries of the stakeholders and activities in the building construction industry. ILO (1999) suggested that because of the overlapping roles these “different components” seem to have, the industry could better be considered as a “loose agglomeration of agents and activities" which can be unpacked and packaged in different ways.

This view has been collaborated by Ashworth (2006) who sees the objectives of successful project management of cost, time and quality as “not mutually exclusive” no

matter the procurement method employed: design and build, turnkey, package deal, construction management or project management arrangements. These only “package and unpackage” the agents and activities involved in the production in different ways.

These segmentations / fragmentations of the industry have resulted in its being viewed differently. While Latham (1994) views it as “confrontational,” to Egan (1998) saw the disputes arising from the industry provide as the reason for its “underperforming” and suggested five key ‘drives’ for better construction productivity. These are “committed leadership, focus on the customer, integration of process and team around the project, a quality driven agenda and commitment to people” Wouldhuysen and Abley (2004). Joy (2008) collaborated this adding that construction business fail as a result of ignorance, inexperience and lack of competence. These are indicators that the industry is an industry comprising of sub-industries, sometimes referred to as an "industry of industries," and requires repositioning to work as a system.

###### 2.5.1. Nature and Structure of the Building Industry

1. The Building and indeed the Construction industry's activities are different from other industries. Each project (product or service) is unique in design, production, clientele and location (site). Production cannot easily take care of anticipated demand and thus, products (e.g. houses) cannot be stockpiled to take care of anticipated demand so as to “accommodate short term fluctuations in demand” (ILO, 1999). Therefore providing continuity of work (employment) is a problem. It is difficult to make business plans / projections ahead of projects. It is a complex industry.
2. Every project is “commissioned” with required arrangements for planning, designing, selection of constructors, material suppliers, etc., at an “agreed price” for the commissioned facility, before production starts and payments of approved work which is done by certification as the work progresses. This requires that the roles

and responsibilities of every participant (stakeholder) be “legally defined.” From this, it can be deduced that the industry’s modus operandi is unique to each project, site, country or state, with local resident professionals having (expected) the “upper hand” in bidding for works contracts, globalization notwithstanding

1. Designs are hardly repeated. This further reduces the chances of learning from a previous project and applying lessons learnt from issues for forward planning for mass production to a new one. It further complicates productivity improvements, growth and development of the industry.
2. Lansley (1980) reflecting on the import and impact of the fragmentation of the industry deduced that the industry is characterized by “considerable uncertainty” and “dependent upon the availability and cost of credit,” which in turn is dependent upon local conditions of supply and demand and other costs. This could further affect growth and development of the industry and subsequent productivity. The industry is saddled with a ‘wide variety of activities and products, yet operates with uncertainties of:
   1. availability of the right quality and quantity of required personnel (skills), continuous availability of resources and markets. That explains why in poor nations, production output (for instance housing and infrastructure) is poor though the need for them is great because finding a way to pay for them is “elusive” (ILO, 1999).
   2. operations depending on the expectations – of the state and market over the future (Lansley, 1980).
   3. a multiplicity of small firms which are not strong enough to withstand the long period of production or absence of work, the lags involved in the construction processes and availability and cost of credit and therefore difficult to plan for resources such as land.
   4. the uncertainty of the stability of interest rates. House building is vulnerable to cyclical movements of the economy as it requires long term funding that is continuous and sufficient. This is a significant constraint for sustainable developments in the industry.
3. The industry is a major contributor to a country’s capital formation (Joy, 2008). It is the industry solely responsible for development and rebuilding plans and their implementation and therefore a very important industry, with ample opportunities for entrepreneurship in every nation particularly developing nations. Yet, construction firms manage their businesses in a “disorganised manner, with methods of working and failure that do not even come into official records or statistics.” Consequently, it has one of the highest medium scales category, with serious business failures due to “ignorance, inexperience and lack of competence and therefore has the need to learn the business fast; manage it with care and prudence (diligence) and respect well – tried principles and practices i.e. best practices. Business must be guided by true knowledge of technology of construction as well as the rights and entitlements and vigilant management.

The industry is segmented / fragmented, relationships are poor. A contractor and sub-contractor "seldom volunteer to help” each other, as they try to outwit each other for maximum gains, while the project (building) suffers poor quality in not getting the best attention. Thus when the client discovers this, whoever is the culprit looses any opportunity of continuous future patronage. The industry therefore requires teaching / training in construction project and personnel management so as to teach the practical complex aspects of building production (construction). This is different from civil engineering and public works construction or project management. Critical to success is the management of information systems (Lucey, 2009).

1. The industry deals with a large number and mix of professionals, stakeholders and end-users. At the planning stages it deals with the client/owner/promoter/investor and the professional – Land surveyors, planners (country/city), architects, engineers (geo-technical, structural, mechanical and electrical), and depending on the size and complex nature of the project, civil engineers and builders. At the design and production stages, it deals with the professionals as well as contractors, sub- contractors and their executives, supervisors and general staff, bankers, auditing, income tax officials, the owners or their representatives, suppliers of materials to construction organisation and engineering and management students. Lastly, when the project is completed, it deals with maintenance professionals, the production stakeholders and the end-users. Ideally, the end-users and beneficiaries should have been engaged/involved right at the conception/planning/design stages so as to ensure that all the stakeholders are at home to the nuances of construction management practices, to ensure value for money through integrated planning and efficient project execution of the production activities for success in time, within cost and required quality. Nigeria operates a multifaceted industry that needs to be systemic.
2. The industry is labour intensive. Mechanisation for economies that can afford it is often the option in place of manual operations. However, there is a limit to the process of capital-labour substitution in construction from social responsibility point of view (employment) (Calvert, et al 2003). Productivity advances have not kept pace with those of manufacturing (ILO, 1999) and for the fact that building construction has significant need for skilled craftsmen for finishes/decorations (creativity) and for repair and maintenance. Thus it is a very significant employer of labour and one that offers work to the less skilled and less well educated. This makes the industry very important, special and all inclusive.

A problem here is in establishing stability of employment. This tasks the employer’s ability in seeking for a balance between the employer’s desire for flexibility and the workers needs for stability and continuity of work/employment. Various means of managing this problem are being employed by employers of labour and workers ranging from employing on ‘fixed-term contracts’, casual daily basis to various precarious employments to the practice of sub-contracting or outsourcing labour to avoid high social charges associated with direct/permanent employment (ILO, 1999). These problems involve factors of economies of scales, demographics, technological advancement, etc., that demand for more investment in construction activities and appropriate choices of technology that match with levels of development and local construction capabilities and capacity to prevent the benefit of increased investment from leaking out through increased imports.

Labour is also very ‘mobile’ because sites always change. Having migrant labour is a common feature of the industry with its attendant social, political and economic repercussions. The industry has the problem of being very hazardous and risky with one of the worst records of accidents in the world. It requires adequate codes of practice for health and safety and adequate labour policy for each firm. The management of personnel is imperative.

From the foregoing, the industry can be said to be multidimensional, unstructured in nature, multifaceted, has multiple processes, complex outcomes, highly inclusive, its policy requires many sub-policies (roles and responsibilities). The building industry therefore requires an organization and management style that bring these divergent issues, agents and activities into a ‘whole’ (holistic) system for productivity and sustainability such as a systems approach. The next section will deal with this.

###### 2.5.2 Organization and Management of the Building Industry

From the nature and structure of the building industry and its activities, products and services, knowing and understanding its organisation and management becomes imperative for productivity. From the industrial revolution period, industrial management concerns were those of application of mechanical power to produce goods and services. Efforts to improve management were concerned mainly with technical issues of production. Social conscience then did not enforce responsibility for personnel problems

e.g. the need to train skilled manpower.

However, Calvert et al (2003) have observed that construction industries “have been slow” to utilize management tools to secure higher productivity and greater efficiency as compared to the manufacturing and retail industries. The complex nature of the industry accounts for this.

A major factor responsible for this is the “human factor” in management. The building construction is labour-intensive, operating in very uncertain and difficult situations, different sites, unique projects, numerous professionals, techniques/technologies and fragmented/segmented. Subsequently, a key factor of concern is the leadership of persons of divergent skills, interests, roles and responsibilities collaborating towards a given goal, housing delivery(Calvert, et al, 2003).

Some of the potential areas of problems the construction industry has in organisation and management, include the problems of organisation structure, conflict management and cooperation, motivation, satisfaction and incentives, communication of ideas, orders and information management (authority, responsibility and accountability), management of technical and administrative changes and welfare of the organisation/environments in the presence of technical procedures and equipment. Key issues are those of organisation alternatives, influences on human interactions, satisfaction and morale in the building industrial organisations where jobs are repetitive with little

room for social interaction, tasking behaviour and attitudes. These constitute "wicked problems."

The studies of Woodward (1960) and Burns and Stalker (1961) long ago recommended a “flexible organic” organisation for rapidly changing objectives and technology and a “formal mechanical” organisation where objectives and technology are well established and stable (not giving to rapid changes). These and subsequent studies have suggested that the manager of the organisation be one with the ‘magic’ wand to solve the problems of industrial conflict, joint consultation and industrial participation, incentives and motivation, and technical and administrative change.

The management of the industry for productivity is critical. Three (3) theories have been considered in housing studies. The Network Theory, Implementation Theory and the Systems Theory based on Systems thinking. These were considered because of the multidimensional and complex nature of not only the industry but of the subject of this work, housing delivery from housing studies. The systems approach was chosen (O'Toole,2000; Mullins and Rhodes, 2007; Chand, 2011).

Four approaches to organisation and management emerge from studies of management theory and the systems approach.

1. **Closed system rational actor** which utilizes the works of Max Weber and F.W. Taylor represented by bureaucracy (Weber), and order by rule in his (Taylor's) scientific management side. These failed to address building construction and housing delivery issues for their rigidity for protocols and rules for sustainable production.
2. **Closed system – social actor** (Human factor) where the executive (manager) was expected to secure commitment of the workers in a bureaucracy as well as organisation achieving economic goals. This had the problem of organisational character, competence, institutional values and leaderships as threats/constraints,

requiring discipline. The closed system-social actor is difficult to enforce in a multidisciplinary, multifaceted setting as in housing. The problem of dealing with production workforce in different settings, labour combinations, technological situations make this a difficult problem.

1. **Open System – rational actor** – produced a more mechanical view of industrial man, with the firm being a part of the competitive market, open to external forces. This option which tested the efficacy of the organisation in the areas of strategy and structure studies by Alfred Chandler show that strong (great) companies like General Motors responded to changing pressures in the market place. Studies by Paul Lawrence and Jay Lorsch of Harvard University in 1967 (Organisation and Environment) show that the more stable business was characterised by functional organisation forms and simple control systems (flexible), while a fast moving business had a more decentralised organisation and more highly developed system than their less able competitor. This cannot fit the building construction industry with its uncertainties, erratic nature of patronage, demand for long term funding, etc., but suitable for industries like the IT.
2. **Open System – Social actor** – Everything is fast changing e.g. IT with a more complex human being (society) and business is also so affected by fast – changing external forces. Organisations are to run on self discipline as against any form of imposed discipline, embracing the benefit of an ‘open system’ which according to Calvert et.al (2003), advocated firm control and strong direction, took account of the human nature of employees, opened the system to take account of external factors and imbibed self discipline and humanity inclusive of the world of customers and society. This school of thought is supported by the many works of Professor Peter Drucker. This system of organisation and management comes close to addressing the various issues in the nature and structure of the building

construction industry. It further requires the inputs of the contingency theory that considers more specific variables of the leadership situation such as the task and/or work group and the position of the leader. The leadership of the firm/organisation therefore goes with the more demanding task such that a project that has more demanding structured components is led by a structural professional. The sub- systems of the systems approach can therefore be coordinated without conflicts of interests (equifinality) as they now cooperate for an overall goal e.g. housing delivery. This is referred to as the “Best fit” approach management, which has no “right style of leadership,” but an appropriate leader determined by the “requirements of the leader, the subordinates and the task fit together.” This is supported by Hersey and Blanchard (1977) situational leadership theory which says that successful leaders are those who can adapt their behaviour to meet the demands of their own unique situation.

From the above, the building construction industry in its present bureaucratic order- by-rule management/structural style where it practices on a separation principle and remains fragmented /segmented cannot deliver housing. There is the need for a rethink. This work proposes a systems approach to housing delivery where the management of the industry is an open system – social actor type reinforced by the ‘Best – fit’ management style and supported by the principles of situational leadership theory for the leadership of the organisations. This management style will influence the organisation structure, functions and processes, and procurement methods for projects, as well as project and construction managements suitable for housing delivery.

###### HOUSING DELIVERY

Over the years, various housing provisions (delivery) approaches have been tried out in Nigeria. These range from direct government provision (construction and

distribution) to that of being enablers and facilitators all under utilising the National Housing Policy of 1991 and its provisions.

Housing delivery covers what is done in the area of policy, strategy, capacity building, financing, land planning, physical development, administration and title, the construction industry system, marketing and pricing and management of the environment, among others to enhance housing supply. It is expected to meet the housing needs, demands and supply, amidst difficult and varying costs, prize and value equilibrium of housing production, distribution and management in a given settlement as demonstrated by the management of cities in their largest and most developed form. For the realization of this, housing delivery is the summation of all activities from the conceptual stage, planning, design and production to occupation, including the management of impacts on the society and environment of housing.

From above, housing delivery is simply the processes that place dwelling units in the control of the receivers, end-users or consumers. Delivery of housing contrasts significantly with provisions. In its ramification, provisions principle is merely the physical production of dwelling units principally by developers, that are ready to be delivered (consumed). These are subject to economic dynamics of demand and supply, not responsive to needs, dependent on 'market forces' and often carried out in an ad-hoc manner - depending on the forces behind the market. Vleit (2001) posited that no market is ever free, it is subject to the control of those behind it.

It can be further deduced that for housing to be delivered, it requires the processes of provision (physical production), distribution and management of its usage and users, directly and/or beneficiaries. Delivery is successful when the provision is accessible, available and affordable, as well as being adequate and adaptable (life-cycle management) to the various categories of end-users and beneficiaries on a sustainable basis. Furthermore, delivery requires that there ought to be all the support services that go to

make the dwelling environment, safe and healthy, making it a sustainable living and liveable environment.

Housing delivery therefore involves many actors: providers, receivers/consumers, beneficiaries, managers and markets. It involves complex delivery processes: partnerships, collaborations, and information sharing/management based on appropriately articulated housing policy, a public social policy, suitable delivery approach(es), and participation by relevant stakeholders with a strong will (political and otherwise) to drive the delivery processes i.e. a suitable housing management approach.

The imperatives of housing delivery point to management concepts that address a "wicked problem" demanding a systemic approach that is integrated, collaborative, inclusive (holistic), and flexible i.e. constructible and sustainable such as a systems approach based on systems thinking.

Housing delivery is a complex phenomenon (Ritchey, 2005), a systemic issue involving many component parts in a complicated mechanism of theories, concepts and processes of planning, designs, production, provisions, distribution and management. One such system is the concept and management of a city. A further understanding of this is necessary for housing delivery to be effective, efficient and sustainable.

Issues to be considered among others include:

1. An understanding of the policy concept, information bases, imperatives and the theory(ies) employed in addressing the dynamics of its formulation and implementation. Appropriate strategies must also be in place to ensure achievement of goals, aspirations, with suitable measuring and evaluation tools for the outcomes with their key performance indicators (KPIs). This requires management concepts that address housing delivery problems said to be "wicked."
2. The identification of social, economic, political and environmental success parameters of delivery in the context of sustainable developments, i.e. key performance

indicators (factors) of collaborations, partnerships, information sharing/management formats and organization incorporated in the policy frameworks: policy structure.

1. The stakeholders and their roles and responsibilities for effective, efficient and sustainable participatory partnership, delivery and management framework: policy functions and processes.

The above can be addressed successfully by any framework/system that has the ability/capacity to manage issues of sustainable productivity: participation, integration, cohesion, collaboration, inclusiveness/holism and flexibility. An approach based on systems thinking is suitable (Leppimaki and Laitenen, 2007).

###### Imperatives of Housing Delivery

A house, (residential dwelling unit), can be compared to an organization – each part playing a specific role and precise task(s), yet all working together toward a common purpose. This analogy compares well with the processes and activities of housing production. These start from the development of theories and concepts of physical developments to planning, designs, production, distribution, use and maintenance (management). It considers the life – cycle of components, units and elements used in the production (assembly), methods and technology of handling and resources application (products/services), as well as the issues of the economics of housing (demand and supply, and needs), the environment, social, cultural and political ramifications, and to issues of sustainable developments - product cycles.

It is therefore necessary to understand the imperatives of housing so as to contextualise its (housing) delivery. Some of these are:

1. That Housing is both an item in demand (economic), as well as need (social and environmental). It is man's second most important need and a fundamental human right. It is an investment good, yet in its totality, it goes beyond economics. It has tremendous essence in the totality of life, in science, arts, engineering, technology,

management, sociology, economics, governance and culture. It is an issue of a social public policy and sustainable development. Housing demands long term investment.

1. Housing generates various human activities involving people of all classes in diverse ways. In Nigeria, seven (7) key professionals of the built environment are involved in the processes of housing designs, production and management – namely, Architects, Builders, Engineers (Mechanical, Electrical, Structural, Geo- Technical, Services), Quantity Surveyors, Planners,(Town, Urban and Regional), Land Surveyors and Estate Surveyors and Valuers. This is in the National Building Code, (NBC) 2006. Lately, the areas of facilities and project managements are becoming part of the team. There are a large number of technicians, artisans and craftsmen both skilled and unskilled that work in the industry doing different things in their bit to plan, design, produce, use and maintain houses. Others are a host of manufacturers of building materials, plants, equipment and tools all being consumed by the industry and homes. Housing demands its own organisational arrangement (sector?) and industry to provide a platform for it to thrieve.
2. It influences the economy and governance in many ways in the life of a nation. It has socio-economic/political characteristics in demographics, crime, security, health, harmony and productivity. It has influence on the environment and ecology in particular and easily becomes the single most influential component of any settlement. It requires Good Urban Governance (Mabogunje, 2001).
3. It is often unstructured in its nature and organisation, and is itself the product of a highly unstructured, fragmented and unorganised industry, (NBC, 2006). Similarly, it has many stakeholders such as professionals, policy makers, producers, promoters, providers, users, managers, financiers and traders. It is a multi- disciplinary phenomenon which has been described as under-performing.

In summary, the imperatives of housing shown earlier in this study, have shown that housing is not just a commodity for cash and carry, provisions, as provided for by the NHP, 1991, but presents itself as a system of intricate inter-relationships – economics, science, social, political, cultural, environmental and technological. The delivery of housing is likened to the eco-system and therefore must be systemic, holistic. This has been captured by the UN-HABITAT (2010) and the Nigerian government (FMW &H, 2001).

Successful housing delivery yields mutually inclusive and symbiotic benefits to all its stakeholders. This singular outcome of successful housing delivery demands its management to be apt to serve its purposes of mutual economic well-being, social harmony and to promote productivity. The delivery can be enhanced when based on a strategic plan adequately conceptualised that ensures equity (FRN, 1978).

On the other hand, when the management is neither efficient nor equitable, it can be a source of social disharmony- insecurity, social vices, disease, slums developments, crime and ultimately, unsustainable environment. Forced evictions, slums and homelessness are often some of the consequences as was the case at Abuja (SERAC, 2007).

The state of housing estates, villages, towns and cities in Nigeria as at today show that:

1. There is presently a huge housing shortfall (deficit) of about 18m units required to adequately house Nigerians. Abuja is one of Nigeria's mega cities.
2. The Nigerian housing stock has no defined character or nature that aptly describes it. It seems to have a crisis of forms as against functions. There are design problems that expose an absence of originality, cultural relevance, history, environmental considerations, social values, etc. For instance, one can from mere observations, describe Abuja city as the melting point of architectural experimentation of the 21st Century. This probably explains why the building industry is called an “all comers’ industry.” Estates are more as a response to the

economic dictates of the "market forces" than to the imperatives of housing. Hence, there are several unoccupied estates.

1. There is a dearth of housing baseline data that can promote any meaningful research to assist housing delivery developments (Okunfulure, 1994; FRN, 1978). Academics in developing countries have also not done much in this area (Venter, 2010). Thus, the status and standing of housing in Nigeria is hardly known. It is as Poju (1985) calls it “speculative.” Such does not aid sustainable housing delivery. Thus, this study.

###### Challenges to Housing Delivery

An appraisal of housing delivery based on the provisions, performance and impact of the NHP (Table 1 and Appendix C) show the following:

###### Policy and delivery frameworks (constructability mechanisms)

Adequate financial, legal and institutional frameworks for policy and implementation are necessary for housing delivery. The situation of the NHP of 1991, is that its institutional frameworks and implementation have been inadequate and epileptic. The building construction industry is fragmented and unorganized, lacking in capacity, scope and ability, “an all comers” industry and operations are based on separation principle, serving parochial professional and political interests rather than the profession and industry (ILO, 1999; Lansley,1980). Furthermore, there is no defined platform of delivery such as an industry development board to regulate practice as is the case in developed world.

Housing delivery failure is not for lack of efforts, but policy failures and somersaults due to inconsistencies from government in implementation, giving rise to and often promoting political manipulations of the housing delivery mechanisms. Other challenges are in the areas of crime and disease control, promotion of peace and harmony, security, environmental sustainability, the provision of enabling operating environment, poverty and access, affordable, adequate and available decent housing. Thus, the

implementation of the NHP (1991) has been all “motion, no movement” as evidenced from poor performance (Atsiya, 2012), or applying "medicine without diagnosis."

###### Performance and Sustainability

Presently, housing inadequacy in Nigerian cities is promoting environmental degradation and failure (FMW&H, 2001). The failure to perform and provide adequate infrastructure, utilities, transportation, energy as a result of the massive overcrowding in cities give rise to slums developments, crime, and other such undesirables for sustainable development. These have compelled several state governments to consider the review of their master plans for urban renewals and redevelopments for optimum performance and sustainability. The FCT, Abuja is not an exception. Nigeria is an urbanising and globalising country with a rapidly growing population (NPC, 2010).

###### Purpose/effectiveness

The review of the Abuja Masterplan in 2001 (Kalgo and Olatubosun, 2001) show that there is an absence of organised ownership structure and market for many estates in the FCT, Abuja. Most African cities have no mayors, owners or administrators, Abuja is one that even its status is still a subject of debate between the Federal Capital Development Authority (FCDA) and Federal Capital Territory Administration (FCTA). Management is haphazard and caricatured, and therefore not sustainable. A typical example is the numerous land management policies, regulations and development control laws. This deficiency or challenge more than any other factor accounts for the poor performance (failure) of the FCT and subsequent degradations. Most estates in the FCT and other cities are not stratified, but a “one- man” show, even when the cities are managed by development authorities, subjected to excessive management bureaucracy. Thus, their purpose and effectiveness remain an illusion e.g. in providing liveable communities or sustainable environments.

###### Value and Satisfaction

The NHP of 1991 and its reviews have maintained that government participation in provision of housing to its citizens has not resulted in realising housing value to end users as a result of fundamental issues such as playing politics with housing delivery, corruption, poverty, the absence of sustainable housing finance, appropriate technology, an efficient industry, (un)organised market and lack of a management structure for the existing stock. This explains the disillusionment and policy failure coming from a situation of poor policy implementation driven by a weak “political will.”

In retrospect then, the concept, imperatives and challenges of NHP (1991) indicate the following constraints to effective, efficient and sustainable delivery:

1. The provisions of the NHP 1991 and its reviews to 2012, policy definitions, aim and objectives confront us with issues of understanding housing and its purposes,

e.g. equating housing provision to delivery**.** These have implications for understanding and determination of required framework and approaches of delivery.

1. The NHP views of housing as only an economic issue of provisions (demand and supply) of dwelling units is inadequate. Housing includes social and environmental issues of needs and sustainability. This probably explains why the funding and financing of housing has remained epileptic.
2. In Section 2 specifically at Sec. 2.2 - 2.4 of the NHP, 1991, government arrogates to itself the monopoly of meeting the housing needs of the country through its policy implementation approaches of direct provision, intervention, enablement and facilitation to the private sector through "enabling environment" and a "political will."

###### Policy Thrust

. The Nigerian policy thrust is for ownership or access at affordable cost for houses that are provided by a political will (NHP,1991). This contrasts for example with the American Housing Goal, which thrust is for all to have a home to live in, a distinction in policy thrust that is very crucial to adequate and sustainable housing delivery. The American housing goal makes everyone a stakeholder in the delivery mechanism through the National Housing Conference that brings in all the nationally known experts in every industry segments in affordable housing and housing finance. These include state and local officials, community development specialists, builders, bankers, investors, syndicates, insurers, owners, residents, labour leaders, lawyers, accountants, architects, planners and religious leaders. These come together, with a “united voice for housing,” form a broad non-partisan advocacy for national policies and legislation that promote suitable living housing in a safe, decent environment across the nation. Housing delivery can be seen to be inclusive, integrative, holistic and in all its ramifications, a systemic management approach process.

Housing is therefore delivered to each person according to their need and ability (affordability) to live in without losing self esteem, and without discrimination or segregation. Housing needs and demands are met equitably; policies and their reviews are articulated by the people and for the people i.e. democratically, and delivery is tailored to ensure decent, accessible, available and affordable housing for all to “live in” whether owned, leased or rented. This contrasts sharply with the Abuja and Nigerian policy of "home ownership or access" at "affordable cost”. The American housing goal ensures a nation’s long term growth, development, productivity and prosperity. It explains why housing issues are considered very serious socio-political, environmental as well as economic matters, where ineffective housing delivery mechanisms can and do result into housing and national crisis. When this is aggravated by poor governance, segregation and

discrimination, squalor, slums and overcrowding are the consequences as are evident in most Nigerian cities. The lessons of the practice of provisions approach to housing are the evictions of 2006 (SERAC, 2007) and the subsequent Abuja master plan restoration efforts under the el-Rufa'i administration as the Minister of the FCT (MFCT, 2001. Thus, the Policy provisions and delivery approaches need a re-think (Jambol et al., 2013).

To reverse the negative effects of this policy thrust, effective management of the interrelationships is required to forestall the adverse effects of the dynamics of the delivery processes of planning, design and production, resources, technology, product and maintenance management of housing delivery. Such a management approach would ensure:

**Sustainability,** the guarantee of equitable distribution and application of resources, effective and efficient management of housing stock and integrated participation of all stakeholders in delivery processes of housing that is satisfying, value yielding, integrative, self preserving, commanding loyalty and commitment to success; and

**Constructability** – where the frameworks of production are organised, efficient, qualitative and productive. "The elephant and the ant co-exist without war." The poor does not have to live in a poorly constructed and managed house, but in a decent and safe environment; houses are adequate, available, accessible, affordable and adaptable. The inputs for constructing any building are characteristically the same.

It is in view of the above that this work is considering housing delivery through a Systems Approach for Abuja, where housing is inclusive, flexible and holistic.

###### The Role of Cities in Housing (Product) Management

Housing has been acknowledged as a fundamental need for human beings. It represents an enormous social investment in most settlements of the world. Indeed, for most individuals, it is the largest single asset. The UN Habitat and the Nigerian Constitution (1999, as amended) recognise these.

Housing finds expression in an environment and in their clusters called settlements: wards, villages, towns or cities. In large segments, they are called capital or mega cities.

Housing delivery is a matter of public interest and accorded same attention as other items of governance and the environment for the people. The provision of transportation infrastructure, utilities, commerce, health, water works, electricity, education and other essential services are a matter of public concern, where everyone is a stakeholder and they work together. What determines the lines of action for effective delivery is policy.

Privatising totally the provision of any of these facilities brings in a dichotomy that can destroy the fabrics of their being and this possibly explains why they are collapsing for lack of sustainability. Public Private Partnerships (a.k.a Purchasing Power Parity) alone are not likely to succeed because the contributions of the partners do determine which way the priorities will swing to, depending on the sustainability of interests and profitability. Whether housing is considered as a commercial venture or social service may determine this. But from available knowledge, it is more than any of these. It includes social, economic, political and environmental considerations. The dispositions of cities attest to this.

Cities, the world over have worked because they have operated on a systems approach principle of management, where the owners of the cities, a mayor or equivalent, as the head, contribute their quota appropriately and sustainably. Cities development and management are an integrated/complex phenomenon.

The globalising and urbanising world requires that city policy makers understand the power of organising agents for physical developments which essentially, calls for the evaluation of urban conditions and trends so that policies and strategies articulation strengthen urban developments on sustainable basis. UN – Habitat therefore has severally

called for the integration of economic, social, and political objectives into a coherent overall framework for sustainable developments.

An urbanising and globalising world is characterised by neo-liberal economy - liberalised trade and finance, with cities as the focal points of investments, communication, commerce, production and consumption and the occupants of cities (residents and immigrants) are there seeking for better lives. The push-pull drives of urbanisation and the rapid population growth rates globally, have combined to make housing and its delivery a very important issue in the lives of any community/settlement, because cities, the tangible evidence of settlements find their expressions in housing e.g. housing character gives a city its character and identity as well we defining its stakeholders' roles and responsibilities.

Former United Nations Secretary General, Kofi Anan, on Habitat Day, (October 1997), underscoring the importance of cities, and by implication housing, described cities as ‘home to major problems, but… also the places where solutions to some of the world’s most complex and pressing questions are being worked out,’ and called for the improvement of the quality of life in all world’s cities. Similarly, United Nations Secretary General, Boutros-Boutros Ghali in 1996 said that ‘the world’s cities must become sustainable, productive, safe, healthy, humane and affordable.’ Someone has said that ‘in the welfare of the city, people will find their welfare, therefore, seek the good of the city.’

Toepfer (1996) highlighted the urbanising trends of cities to include urban population, which is experiencing unprecedented ‘urbanisation and poverty’ with about half of the population living in informal slum and squatter settlements that are neither legally recognized nor serviced by city authorities. The situation is worse in developing countries as city residents (urban poor) live in poor quality housing with inadequate provision of water, sanitation and drainage. Urban living has become more of a nightmare far removed from safety and prosperity thought to exist in cities. Cities must therefore provide security.

It stands to reason that cities are, and will remain centres of global finance, industry and communication, home to wealth, of cultural diversity and political dynamism, immensely productive, creative and innovative. Yet, cities could also be breeding grounds for pollution and congestion. Other problems of cities include unsustainable patterns of consumption. A knowledge of Abuja, Lagos or Port Harcourt, recognises the concentration of industries, intense economic activities, increased use of old and poorly maintained motor vehicles (which constitute air and noise pollution), and inefficient waste management that lead to major environmental problems. When poor urban governance and bad or none implementable policies are added to these, environmental degradation and deterioration in living conditions are exacerbated. This was one of the major reasons that led to the removal of the Federal Capital Territory of Nigeria from Lagos to Abuja as was contained in the Aguda Report in 1976 to General Murtala Mohammed before the movement to Abuja. Factors responsible for these, have been identified to include under- prepared and under-resource in anticipating, planning and preparing for an urbanising world. From the above, the decision taken by the United Nations (Habitat I and II, Istanbul I and II) can be appreciated if nations and their cities will be socially, economically, environmentally, and politically sustainable. The United Nations has identified that for this to occur, cities must be characterised by more holistic, inclusive and participatory policies, strategies and actions that make cities and their communities safe, healthy and equitable. To achieve this, cities’ administration/management require to include all stakeholders such as government and non-governmental organisations, the private sector, academia, residents, providers, producers, and all such partner groups that bring policies and good governance in a manner that is all inclusive (The Habitat Agenda, 1996).

Cities, in view of above, can be described as finished products of a process of economic development. Urban development as typified by cities therefore is an expression of economic development. Any act of unbalanced planning in any city may lead to serious

adverse repercussions, such as injustice to the environment. Slums for example, are considered as banks, where diseases are deposited, crime, and other such social vices are developed. The result of this injustice makes the case for the sustainability of cites or lack of it. Housing is critical to city's well being, growth and development. Successful housing delivery in Abuja, the capital city of Nigeria is desireable, and therefore a necessary study area.

Cities are characterised by their connectivity. This singular factor makes cities a key study issue for effective housing delivery, sustainable environment and indeed, sustainable developments. The connectivity of cities are with their:

1. **Surroundings** through Communications – roads, railways, seaways, airways (transportation); people who have been attracted to them from various places, and for various reasons; technology locally developed or acquired; economics; values and traditions of the people (indigenes, residents, immigrants) in house types, settlement pattern, cultural artefacts and decorations, shrines etc; industry; and various points of entry into the cities, movements.

All of the above factors have defined functions (roles) for the cities. The dominance of these factors give every city its definition and character. The designs and structures of a city display these. For example New York (USA) and New Delhi (India) are administrative cities; London (UK) is a political, economic and cultural city; Boston (USA) is a cultural city; Jerusalem (Israel), Rome (Italy) and Brazil are symbolic cities; while Lagos, Nigeria is a commercial city. Abuja designed to be the seat of power, is an administrative, political and cultural city. The respective housing forms are expected to contribute to the definition of the city's surrounding and its surrounding connectivity should show this (FRN, 1978).

1. **Past (History) of** Cities connect them through the concept of the life of the people which leads to structures (architecture and character of housing) and life; power

(administration); religion - institutions, monuments and practices; industrial status (wealth), economic disposition; wars, migration e.g. Singapore, Malaysia; key people (Chicago city); and the dynamics of dominant issues/systems e.g. Lagos has demand for residential accommodation and transportation as issues.

Above factors determine the image of a city, seen in the designs and funding of developments as in Dubai (UAE); services rendered or influenced as in Minna, and power and politics as in Abuja. These affect and are affected by housing developments.

1. **Systems** (within itself) is internally connected through systems of economics e.g. Lagos; education e.g. Zaria and employment e.g. Abuja, Singapore. These factors determine the patterns of housing (forms, sizes and shapes), transportation and economic activities. These are sometimes the major sources (causes) of slums development. Nigerian cities from their connectivity point of view can be described as theatres of inefficient and overstretched services, facilities and infrastructure due to rapid population growth (3.3% rural, 5% urban) and uneven regional socio-economic developments, among others (NHP, 2012).

The connectivity of cities makes the examination of the policy instruments for housing delivery of cities an imperative for sustainability and growth, development and prosperity of the city. The services provided by housing (products) should justify the quantum of investments in economic developments, while the value of investment in quantity and quality of houses should satisfy the social, political and environmental requirements for sustainability.

###### Housing in Nigeria

An accurate assessment of the housing situation is difficult because of the absence of accurate and reliable data on housing stock. An appraisal of past government efforts in housing in Nigeria since independence to date has been summarised in Appendix B1 while highlight of the housing situation from 1990 - 2011 are in Appendix B2 and B3. These show dismal performances by the provisions approach to housing in quantity and quality.

The importance of housing as a fundamental human right internationally is strengthened by the Habitat International Coalition (H.I.C) which in 1992, saw housing as an instrument for the promotion of justice, equality and peace; the expression of diverse cultures of self-determination of individuals and communities; fighting against discrimination, alienation and disorganization; and regeneration of ravaged environment and societies all over the world, within the perspective of the living as a home for all.

It is a matter of concern therefore, that Nigerian housing situation is characterized by high demand, low quality and inadequate supply of dwelling units, high cost of rents and exorbitant cost of production of houses, far beyond the reach of the majority low and medium income groups, who are poor and said to be over 90% of the country's population (NHP, 2006). The cities are increasingly threatened by growing slums, overcrowding, disease and crime from housing inadequacy and inefficient delivery. Abuja is not an exception. An appraisal of the Provisions Approach of the housing delivery embarked upon is discussed in the following section.

###### Outcomes of the Schemes and Agencies

* + - 1. Sites and Services Programs/Schemes

A total of 8,465 plots (as at 1993) were made available since the scheme was started in 1986. The actual cost of these plots was not exactly known but actual disbursement was N50.79million from a budgetary estimate and appropriation of N160m and N83.09m respectively. The short falls (Tables 4 and 6) clearly come from inadequate funding. Budget appropriations were often far short of estimated budgets, and actual disbursements, except for 1990 and 1991, were always far short of appropriated sums. Certainly this explains one of the key reasons for the failure of provision and delivery. It can also be seen that only State headquarters benefitted from the sites and services

residential plot allocations. This is for the purposes of affordability. Thus limiting the services to the rich.

The performances of the building and construction industry, manufacturing services, electricity, water and real estate reflected in Table 6-Average Growth Rate of Gross Domestic Product (GDP) tell the story of housing delivery when compared to Telecommunications. The poor housing performance is grossly inadequate and unimpressive.

For 1981 - 89 period, the low levels can be understood as there was no Housing Policy in place and the period was mainly under regimented military dictatorship and bureaucracy. But thereafter, the fall in sectoral growth rates from 5.7 to 4.0 (Building and Construction); 4.6 to 1.1 (Manufacturing Services), 11.2 to 3.1 (Water) and 1.9 to

* 1. (Real Estate) fell far short of Sectors like Telecommunications and Transport growing from 1.1 to 6.9 and 1.9 to 8.2 respectively. Clearly the case of inadequate funding could have majorly accounted for this situation.

###### TABLE 4. FEDERAL GOVERNMENT SITES AND SERVICES PROGRAMME BUDGET ESTIMATE AND ACTUAL DISBURSEMENT 1987 – 1992

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| YEAR | BUDGET ESTIMATE  (a) (N) | BUDGET APPRORIATION (b) (N)000,000.00 | ACTUAL DISBURSEMENT (c) (N) 000,000.00 | BUDGET SHORTFALL (N)  (a – c) (b – c)  Estimates Actual | |
| 1987 | 12m | 0.89m | 0.89m | 11.11m | - |
| 1988 | 50.4m | 18.5m | 7.1m | 43.3m | 11.4m |
| 1989 | 42.4m | 8m | 8m | 34.4 | - |
| 1990 | 12m | 12m | 12m | Nil | - |
| 1991 | 10m | 10m | 10m | Nil | - |
| 1992 | 10.7m | 10.7m | 2m | 8.7m as at  march 1992 | 8.7 |
| 1993 | 23m | 23m | 10.8m (1st & 2nd quarter) | Yet to be determined | 12.2m as At 2nd  qtrs. |
| Total | 160m | 83.09m | 50.79m |  | 32.5m |

**Source:**

###### Federal Government Approved Budget 1987 – 1993 (b)

1. **Federal Ministry of Works and Housing – Urban and Regional Development Division (a) & (c)**

###### TABLE 5. LAND ALLOCATIONS UNDER THE FEDERAL GOVERNMENT SITES AND SERVICES SCHEME: RESIDENTIAL PLOT ALLOCATION.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/NO. | STATE | SITE | NO OF PLOTS ALLOCATED | | | TOTAL ALLOCATION |
|  |  |  | HIGH | MEDIUM | LOW |  |
| 1. | IMO | OWERRI | 175 | 535 | - | 710 |
| 2. | ONDO | AKURE | 140 | 181 | - | 321 |
| 3. | KWARA | ILORIN | 33 | 13 | 44 | 90 |
| 4. | RIVERS | a) RUMUEME | 28 | 98 | 115 | 241 |
|  |  | b) WOJI | 20 | 148 | 46 | 214 |
|  |  |  | 48 | 246 | 161 | 455 |
| 5. | KANO | a) TUKUNTAWA | 14 | 126 | 56 | 196 |
|  |  | b) SHARADA | 73 | 23 | 41 | 137 |
|  |  |  | 87 | 149 | 97 | 333 |
| 6. | ANAMBRA | a) INDEPENDENCE | 22 | 26 | - | 48 |
|  |  | (ENUGU) |  |  |  |  |
|  |  | b) TRANS EKULU | - | 15 | 4 | 19 |
|  |  | (ENUGU) |  |  |  |  |
|  |  | c) TRANS – NKISI | 72 | 305 | 85 | 462 |
|  |  | ONITSHA |  |  |  |  |
| 7. | LAGOS | a) ISHERI OLOFIN | 248 | 1390 | 841 | 2479 |
|  |  | b) ABESHAN | 326 | 2049 | 572 | 2947 |
|  |  |  | 574 | 3439 | 1413 | 5426 |
|  | SATELITE TOWN | SITES A,B,C,E,F, & F  EXTENSION | - | 661 | - | 661 |
| 8. | ABUJA | GWAGWALADA |  |  |  |  |

**Source: i. Land Use and Allocation Committee, June, 1993**

###### ii. Federal Ministry of Works and Housing, June, 1993

Summary: Total number of plots allocated = 8,465 as at June 1993

###### Table 6: Average Sectoral Growth Rate of Gross Domestic Product (GDP) at 1990

|  |  |  |  |
| --- | --- | --- | --- |
| **Basic Prices (1982 - 2007)** |  | | |
| Sector/sub-sector | Avg 1981-89 | Avg 1990-99 | Avg 2000-07 |
| Agriculture | 3.5 | 5.5 | 3.2 |
| Industry | -0.8 | 6.8 | 0.4 |
| Building &Construction | -20.4 | 5.7 | 4.0 |
| Manufacturing Services | -2 | 4.6 | -1.1 |
| Transport | -6.9 | 1.9 | 8.2 |
| Telecommunications | -7.4 | 1.1 | 6.9 |
| Electricity | 6.4 | -2.4 | 1.7 |
| Water | -5.8 | 11.2 | 3.1 |
| Real Estate | 0.6 | 1.9 | 3.1 |

**Source: 5th National Development Plan (NPC, 2011)**

###### Extension Services to States and Local Governments

This has been in the area of making research findings and subsequent developments of local building materials available, notably from the Nigerian Building and Road Research Institute (NBRRI). Their impact has hardly been felt, not even with the proto-type units (mainly walling and roofing materials) attempted at Abuja in 1994. They seem to have worked more on materials for road works/construction.

###### National Prototype Housing (NPH) Scheme

The NPH scheme (FMW&H, 1987) was an elitist scheme. This explains why it has been adjudged successful. A detailed analysis show that it could not be used to house the majority medium and low-income group. These operated mainly in the urban areas (cities) of the country such as Abuja, Lagos and Port Harcourt.

###### The Industrial Development Fund (IDF) Scheme

This scheme was for the development of infrastructure – water supply, roads, drainages, solid waste management and sanitation, mainly for industrial, commercial and residential projects. 26 urban centres in Nigeria participated in projects valued at US

$24.7million. The scheme was a vital complement to the housing programs, but its impact has not been significantly felt, and not sustained.

###### Federal Housing Authority (FHA)

This has recorded some measure of success at very high cost. Details of their performances are rather sketchy and controversial, but available data/information show that they are a purely commercial outfit of government, and like any government outfit, bureaucracy always determines their level of performance (success). Lately, there have been allegations of corruption and a management that is not responsive to its mandate.

###### National Housing Planning

This is being contemplated again with plans to construct 3000 various housing units annually. In the past, it benefited very few people, mainly government civil servants.

Details are also very scanty. Most plans from such sources often end as government political gimmicks of ever 'willing and hardly doing.'

###### Civil Servants Home Ownership Scheme:

The decree establishing this scheme requires organisations employing more than 500 staff to provide housing for their employees. Federal Government has programmed 500 units annually for this scheme. Again it is yet take off since 1994. Though available information has it that some organisations (mainly government parastatals such as the Military, Police, NNPC and some Multinational companies like Julius Berger, Plc) have complied. They have mainly produced for middle and top management personnel of their organisations. The poor continue to suffer neglect. Some unions like the Nigerian Labour Congress,(NLC), Road Transport Union and Journalists (NUJ) are making efforts lately.

###### Establishment of Real Estate Development Companies (REDC) and Real Estate Development Association of Nigeria (REDAN)

These companies (REDC), since 1992, were expected to build residential units for sale with the assistance of the FCDA. There was no information about them as at the time of this presentation. Their private sector equivalent, the Real Estate Development Association of Nigeria (REDAN) established in 2002, has developments in a number of cities in Nigeria. Their contributions since inception as at 2005 are still dismal (Obasanjo Reforms, Housing Sector, 2005).

###### Establishment of the Urban Development Bank

Commissioned since 1992, was expected to provide resources for the development of housing and infrastructural facilities within urban centres in Nigeria to both the public and private sector. It was to engage in large-scale urban renewal for city beautification and area-wide rehabilitation of the urban housing stock. Not much is known about their operations in the housing development sector.

In summary, the frameworks and approaches for housing provisions (delivery) in Nigeria have been:

* + - * 1. Based on direct government intervention to provide housing through the use of:

Its agencies (structure) such as the Federal Housing authority (FHA), the Federal Ministry of Works, Housing, Urban Development and Environment, , and their State and Local Government counterparts where they exist, and the FCDA, for Abuja.

State Housing Corporations as parastatals of government. These are semi- autonomous government agencies that in practice are effectively under government supervision and therefore, government controlled.

* + - * 1. Based on facilitation and enablement where the private sector is encouraged to go into partnership with government in the principle of public-private partnership (PPP). Other versions of this include the Public-Public Partnership, the Private- Private Partnerships. Real Estate Developers Association of Nigeria (REDAN) is one of such outfit that has been established, among others.
        2. Relying on the informal sector, mainly Self Help providers (Uji, 2000), who are hardly recognised by government, but empirical evidence shows that over 80% of houses are produced by them.
        3. The management of the housing stock has remained much unorganised because of the lack of data collection and processing organization and structure to aid policy in anyway/form. Government has such agencies as the National Housing Council, the National Planning Commission, the Federal Bureau for Statistics and the National Housing Facilitation Council and National Housing Policy Council to organise these to aid quality policy management. Yet there is no housing data bank to date.
        4. The finance for housing has been from sources that are government dependent and have remained largely unorganised, inadequate and mainly short term, and

unsustainable. Subsequently, housing has remained unaffordable. The mortgage institution which began in 1956 has remained undeveloped because of the dearth of the requirements for investment in housing and sustainable long term loanable funds.

* + - * 1. There is virtually no organised housing market.
        2. The building construction industry has remained unorganised and fragmented. It indeed has become a veritable tool for political manipulations in the hands of politicians, providing no platform for production, and thus, contributing to the problems of housing delivery.
        3. Government has shown insensitivity to the housing subsector (other than for political expediency) by not including prominently the issues of housing in the Vision 2010, Vision 2020 and the 7-Point Agenda. The unstable status of the housing ministry in establishment positions of federal government institutions is quite worrisome. Housing was treated as a complimentary area for employment generation and/or complimentary/augmentation to the MDGs, now SDGs.

In essence then, the NHP (1991), was produced without much research and clearly defined/identified theory of housing. Its implementation over the years, has only utilised an uncoordinated provisions (production) approach that dissipated government’s efforts on housing interventions, enablement and facilitations with little to show for it as shown in Appendix B1, B2 and Table 1. This study seeks a *rethink* of this approach on the issue of housing delivery.

###### Housing Delivery Management: Production Key Performance Indicators (KPIs)

From the concept, definition and the appraisal of the performance of the policy on housing delivery, the NHP (1991) housing delivery management has proven to be

deficient. The factors affecting it (delivery) can be broadly classified into administrative and technical management. Administratively, they can be classified into three:

* + - 1. Concept, planning and decision making, design and production.
      2. Distribution/use.
      3. Management/performance: monitoring and evaluations; research and development.

These inform the constructability and sustainability issues earlier highlighted.

These factors can be viewed from social, economic and environmental imperatives based on the concepts of governance and sustainable developments. The concepts explain the collaborations and complementary roles these factors play in housing delivery, being mutually inclusive, used effectively in policy formulation and delivery strategies.

The technical factors required for delivery implementation frameworks include, but not limited to the following:

1. Land
2. Finance
3. The building construction industry
4. The housing market
5. The formal/informal sectors of the citizenry and other stakeholders (end-users)
6. The manufacturing industry (materials, technology)
7. The delivery sub-systems (policy implementation approaches/frameworks)

These factors (administrative and technical) of housing delivery constitute the components of the frameworks' structures, processes and functions. These are central and critical to the roles and responsibilities of the stakeholders, the processes for production of houses for housing. These have been highlighted in the imperatives of housing delivery and discussed in the conceptual framework and research design. When positively

employed, they constitute drivers to the process, otherwise, they are barriers. It is therefore important that these are examined for their efficiency and effectiveness.

Constructability, liveability and sustainability essentially deal with inputs, outputs and impacts. They are further examined in view of their influences on the frameworks of the components of housing delivery and subsequent management for:

1. The cost of delivery as against the value of delivery.
2. The role of the product as compared to its purpose when delivered.

Key factors (variables) for consideration are:

###### Land

The adequacy, accessibility, availability and affordability of land for housing have severally been blamed for the shortages of housing production. The principal reason has been attributed to the lacunas in the legal framework for managing the land as provided in the Land Use Act, CAP 202, LFN (2002). It can be conceded that some of the provisions of the Law are hard conditions seen as encumbrances to accessibility to land statutorily. However, it must be understood that:

* 1. Land is a constant and depleting resource, and therefore, its demand will always be in excess of supply, especially for a growing and urbanising nation. Cost will consequently, continue to increase.
  2. In spite of the decree (law), people are still able to access land on individual and corporate bases, and are still building houses. This shows that housing problems cannot be solely blamed on land shortages. The FCT, Abuja has 8,000 Hects. of land for its development
  3. The problem seemed to be that many large scale developers requiring land for housing, turned out to be land speculators as the case in Abuja has shown (Kalgo and Olatubosun, 2001). The requirements that go with the production of houses

make formal production mechanisms very exorbitant and self-help built housing more attractive.

In summary, the present practice has made land issues difficult to respond to the demand for housing. Inadequate housing finance, technology for production and absence of good governance further complicate the issues. It is therefore difficult to put the blame for housing deficiency and quality mainly on land, notwithstanding issues of security of tenure in urban areas. Land for housing should be available, accessible and adequate, suitably located, fully protected and secured (tenure and registration) and serviced for investment. In essence, land administration is a pre-requisite for sustainable housing development – appropriate land information system, technologies for land development, use and management, being important and necessary components.

###### Finance

All provisions of housing are tied to the management of the economy. Analyses of the productive sector of the economy of Nigeria show that:

* 1. There is a decline in the real income to the people, majority of who are poor (NHP, 2004).
  2. Nigeria largely operates a cash economy which fuels inflation.
  3. The cost of capital is very high. Interest rates are in two digits!
  4. The economy is based on doctrines without operating bases, e.g. we have the doctrine of commercialisation and privatisation that have no “human face.”

For housing, the Producer Price Index (PPI) for building materials was 157% in 1995 and is 167.4% (2007, Dec). Other factors that address the housing finance issues have been captured severally by many authors. Nubi (2007) attempted to answer the question, “why housing finance system has remained passive and irrelevant in the drive towards housing delivery,” in spite of the robust provisions of the National Housing Policy (1991

and 2004) for housing finance and the housing market. Akeju (2007) writing on the Challenges to Providing Affordable Housing in Nigeria, highlighted the issues of housing finance as critical especially when viewed against the cost of doing business in Nigeria. He identified issues with specific reference to registering property, dealing with licences and enforcing contracts, risk sharing, the absence of a National Credit Database, an unstable macroeconomic environment, poor knowledge gap of practitioners in the mortgage industry, taxes, high cost of building materials and infrastructure. (Akeju, 2007) concluded that there was the need for the country to model its housing delivery system after best practices from developed economies that have developed mortgage institutions to ensure macroeconomic stability, that kept inflation and interest rates down. Government should facilitate housing production incorporating adequate risk sharing mechanisms, as well as providing infrastructure through the capital market. Nubi (2007) however, holds that government cannot copy models from other nations blindly, but evolve workable models based on indigenous socio-cultural background in view of the current IMF/World Bank interests and influences in the development processes of developing countries.

Both views agree that the question of housing finance be addressed holistically starting with Nigerians earning a living wage to combat their poverty status. Government and governance be responsible and responsive to the socio-cultural, economic and environmental needs of its people by providing good governance on sustainable bases. The demographic data for households are very appalling as has been shown. Related factors include the competences and competitiveness of the industry and housing markets, poverty, illiteracy, technology. Thus the need for both the sponsors and providers for housing to both plan and decide together on what to do with respect to financing/funding housing.

###### The Building Construction Industry

The building industry has been discussed in Section 2.6.1. Critical issues to strengthen and give the industry the status and relevance it deserves are its legal framework. The legal framework is weak as there is no Building Act (Law) that regulates the practice. The only national document regulating the industry jointly is the National Building Code, 2006 which has been poorly implemented. Yet, every profession has professional and regulatory organisation and legislation.

Key issues about the industry with respect to housing delivery are:

* 1. The industry is responsible for production and largely, the management of houses.

The training and education of the practitioners (professionals), their ethics and standards, the planning and control methods of production, procurement systems and management and the sources of funding of projects are key considerations that must be harmonized and integrated for the processes to be effective and efficient, and thus, made sustainable.

To achieve this, the industry require some level of independence from government control. The provisions approach compels the industry to be so closely connected to and dependent on government and its policies that often, it is used by government as an instrument of economic or political manipulations/exigencies.

* 1. Building (housing) is increasingly becoming a specialist product with the advent of technological developments. The building information modelling (BIM), Intelligent buildings and industrialised building systems (IBS) are examples of specialisations of individual professions and organisations integrating for a single product – a house (building).

It therefore needs to coordinate the skills and expertise of the multiplicity of experts involved in production to productivity.

* 1. The industry has been described as an ‘all-comers’ industry involved with several stakeholders. The traditional key areas of the industry are design and supervision (architects/engineers), production management (builders and their artisans and craftsmen), Cost economics (quantity surveyors), Developmental control (town planners/land surveyors) and marketing (estate surveyors).

From the above, it is pertinent to put in place a system for these professionals and their practices to meet without disintegration. Such a system provides a meeting and melting point for all to perform, and strategies for the structures and processes of production management and delivery of housing, i.e. constructability. This is an issue of policy. Since government seems to be the strongest stakeholder of the industry, controlling the most important factors of production management, it is therefore expected to play the role of policy formulation and implementation since it has the muscle (political power) to enforce legislation and codes. The industry must however ensure its autonomy.

To retain its autonomy, it (industry) will require to create:

1. Its market (see Housing Market), and
2. Its character which defines its:
   1. Profile in business organisation classifications ranging from large public quoted companies/firms with multi-billion naira capital bases to self-employed individual craftsmen. Housing profile is important in defining and directing the processes of production and delivery.
   2. Specializations in various trades and areas of practices, promoting excellence and best practices.
   3. Contributions to the economy by outputs (products, values), employment records and contributions to the GNP, GDP and levels of investments and innovations in R and D, innovations and inventions.
   4. Structure and organisation, platform for practice and development such as an industry development board.
   5. Status as to whether it is a knowledge-based or technological (craftsmanship) based industry or both? Whether it is product producing or service providing industry or both, including its mode of operation: separated or integrated. The position of the industry sub-system in the framework of housing delivery is very important and must be seen as such.

###### The Housing Market

Housing worldwide affects lives. Its importance, relevance and worth to humanity cannot be over emphasised, (Abrams, 1964). During the second UN Conference on Human Settlements – the City Summit, (UN-Habitat II, 1996), housing was identified as an important part of the overall economy of any nation. It provides for 2 – 8% GNP; 10 – 30% Gross Capital Formation in developing countries; 5 – 10% GNP flow of services and 20 – 50% of reproductive wealth. These more than anything place housing in the front burner of discuss for the economic wellbeing of any urban economy. In Nigeria housing seems to have been reduced to mere social welfare service as evidenced from an inactive, government dependent mortgage market or playing an intervention role in housing delivery. This needs examining to bring into the equation, the housing market.

###### The Case for the Housing Market

* + 1. From a purely economic consideration, housing cannot be seen as only an issue of providing dwelling units (shelter/homes) or as an element of welfare policy for the citizens. It in fact, has a status and role of its own that demand comprehensive policy for its management.
    2. It is an important productive investment of the economy, the policies of which could have serious repercussions for the overall economic performance of the nation and not a drain on productive resources as has been the Nigerian experience (Shagari Housing Programme, Proto-Type Housing Schemes, Owner-Occupier Schemes, Sites and Services Schemes, etc).
    3. Housing delivery and management is an important economic activity in the urbanization processes. The demographic data speak for themselves. Since 1950, urban population has more than quadrupled in the world from 300 million to over 1.3 billion in 1990. In Nigeria, as at 2001, there were more than 18 cities with population in excess of 500,000. These people need to be housed. When the cost of production of buildings – land, building materials, technology, labour and finance – are put together, the need for a market becomes inevitable. The number and sizes of cities are increasing with urbanisation and globalisation.

With more of the urban poor being mainly rural immigrants to the urban areas in search of ‘greener’ pastures, shelter tend to be mainly temporary/transit in nature and of poor quality, building slums and squalor as the city develops. Population growth affects the environmental quality, putting pressure on governments for sustainable developments/environments. Someone has to pay for the sustainability of the environment. When the need and cost of providing infrastructure and social services are added, these social responsibilities to the citizens, combine to produce greater housing finance problems for government. This perhaps informed government’s wisdom in giving up direct involvement in the production of houses and opting for interventions or enablement or facilitation. It therefore opened the opportunity for investment in housing, thus creating the need for a housing market. The market dynamics is demonstrated schematically in Figure13.

Housing Demand

Housing Supply

(Consumers)

Housing Outcomes

(Producers)

Socio-economic impacts

Financial Institutions and Government

###### Figure 13: Housing Market Dynamics Source: Author

In classical economic theory, housing demand is determined by demographic conditions: rate of urbanization, new household formation, existing stock management, urban renewal, etc., while supply is determined by price and affordability and availability of resources, organization of the industry, availability of skilled and productive construction labour, degree of dependence on imports and technology. Furthermore, demand and supply are affected by regulatory, institutional and policy conditions. Housing policies therefore affect housing outcomes – stock, prices, and physical conditions of housing, levels of investments, tenure, choices of models or typology (cooperative, inclusive, social, self- help, incremental). These are the mix of the housing for the market.

The workings of the market depends on the housing consumers accessibility/affordability, housing typology/models availability/adequacy, producers and financial institutions. An in-depth analysis show that housing markets can and do contribute to shaping the housing policy.

In the present market situation in Nigeria, the urban poor in the population are assigned poor quality housing, called "low-cost housing," because of their unfortunate poverty (affordability) status. The National Housing Policy provides for ‘decent and safe’ housing in liveable environment at “affordable cost.” Therefore, the market has an important role to play in the delivery of the quantity, type and quality of housing the policy seeks to achieve bearing in mind that the delivery of housing cannot be left to ‘free market forces.’ There is no free market as Vleit (2001) has said; every market has some people behind it. The question of who is behind the Nigerian housing market becomes an important input into the system of delivery. This study proposes a system where the stakeholders, users and providers both decide on the model/typology of housing that suits them and decide on the production/provision and delivery.

###### The Formal/Informal Housing Sectors (Stakeholders)

The production of housing involves varied resources. One key resource is men (people) basically split into two sectors of the economy - the formal and informal. The formal sector is bureaucratic and static, while the informal is pragmatic and business like. By definition, these sectors are different, but in operation, their differences cannot be sustained for housing delivery. For while practice in the industry is characterised by defined boundaries of professionalism, the sectors need to evolve a better method of blending their differences to give value to the citizens in delivering houses adequate in quality and quantity as well as management for sustainable development and liveable environment. This makes the case for comprehensive policy formulation and frameworks, implementation and management strategies that integrate the structures, roles and functions of sectoral stakeholders for productivity.

These should adequately address the issues of:

* 1. The relationships between the private and public sectors with regards to consumption, patronage, participation and productivity.
  2. The legal, institutional and financial frameworks for housing delivery in terms of production, distribution and management (constructability).
  3. The conflicts inherent in the industry’s disposition as characterized by fragmentation and underperformance with respect to professionalism.
  4. Shaping the focus of practitioners to productivity (products and processes of production), standards, specialisations and service rather than profits with a practice platform that promotes excellence, best practices and service delivery (Ashworth, 2006; Woudhuysen and Abley, 2004).
  5. Participation of all stakeholders in an inclusive, collaborative and holistic paradigm in the housing delivery processes so that delivery is efficient and sustainable for all classes of users. A paradigm is simply a set of beliefs that guides action, whether of

everyday garden variety or one taken in connection with a discipline’s inquiry (Steggell et al, 2003). They are used to organize worldview and indicate where to look for answers to explain issues (Steggell et al, 2003). They can be used to control worldview of phenomena / issues.

It is therefore necessary to build mutually beneficial partnerships between the public sector, private sector and people groups (formal and informal), professionals and end-users with each concentrating on areas of their competences and comparative advantage, complementing each others’ efforts. A systems approach framework, with its structures, processes and functions and established integrated relationships (strategies) has potentials to support housing delivery. It requires from the formal sector a political will and the informal, a commitment to succeed in delivering the ideals of the products and services – housing. It also demands commensurate motivation (extrinsic and intrinsic) to enhance delivery through integration as proposed by Egan in his Rethinking Construction.

###### The Manufacturing Industry (Materials, Technology)

One of the key factors responsible for the failure to deliver houses in large quantities has been the high cost of building materials. Some authors have identified this (Akeju, 2007; Nubi, 2007). Key building materials are foreign, and technology unfamiliar. The combination of these factors have kept the country technologically dependent. The results are:

* 1. The costs of building materials of all classes are high and uncontrollable.
  2. There is the absence of functional building material market that produces material in standard forms that will promote mass production. The products have no guarantee of quality or competitiveness that can result into price stabilization and subsequent cost reduction from economies of scale. What seems available is a

market of imperfect monopoly with poorly produced local and imported goods (materials).

* 1. The dearth of research and development (R & D) outfits and outcomes have worsened this position. The only research outfit for housing is the Nigerian Building and Road Research Institute (NBRRI) which has mainly worked on walling and roofing materials. These were because all the structures of the policy for monitoring and evaluations were either not in place or dysfunctional.
  2. The dearth of innovations, inventions and standards for building materials from the lack of R & D further reduces hope for building material and technology growth and development.

The combination of (c) and (d) above opens the building materials market to importation of materials and technology for building production to traders of the world of all sorts. Most have no knowledge whatsoever of the processes of production management of buildings in Nigeria other than trade advertisements. This is the situation in Abuja city.

The concept and design of Abuja as contained in its Masterplan (FRN,1979), was based on the assumption that there was a primary and secondary building material market, construction equipment and energy sources established. The failure of the Masterplan, can largely be attributed to the challenge of building materials.

Consequently, Abuja is a city without character and therefore very difficult to live in and expensive to maintain. This was affirmed in the "Review of the Abuja Masterplan, 2001."

Another consequence is the lack of innovation/innovativeness in the housing development efforts. Building material quality cannot be easily improved upon as components/elements manufacture are and can only be produced successfully under thorough market research, acquired through experience, tacit knowledge, knowledge of

legislation, standards, regulations, codes of practice and practice procedures for building production. This is best achieved from within the industry and by its key practitioners and not from outside monopolistic/opportunistic traders/marketers. These require:

1. A building material market – both primary and secondary;
2. Manufacturers from within the industry: innovators, entrepreneurs and highly motivated researchers, practitioners and funding;
3. Establishment of a Building Research Institute (organisation) with the mandate to research and develop all items of materials, technology, standards and practice codes required for the Nigerian building industry, building material testing laboratory, and an industry development board, something similar to the British Research Establishment (BRE) of the CIOB and as practiced in the UK and Singapore, but contextualised to the Nigerian situation.

###### The Delivery Approaches: (Policy Implementation Frameworks and Strategies)

The present status of housing in the country failed primarily because of inadequate policy and delivery approaches. These are from faulty policy design – policy without adequate research, theoretical considerations for housing management, and failure to diligent implementation (Akindoyeni, 2004). Critical areas responsible are:

1. Policy definition/concept: The NHP,1991 provides for home ownership or access as the main policy thrust, equated the provision of houses with delivery and failed to understand the concepts and definition, imperatives of housing delivery and implications for constructability in areas of efficiency and sustainability.
2. Secondly, the actual delivery processes basically premised production on the economic theory of demand and supply, and not addressing the areas of *needs* which are affect social and environmental issues. The poverty status of the majority of the population, estimated at 90% (NHP, 2006), the absence of long term loanable

funds/finance for housing, the lack of organised market for houses, building materials and technology, a fragmented and underperforming building industry, rapid urbanisation rate, high population growth, globalisation and unemployment, all contribute to failure of housing development and delivery.

Indeed, it can be inferred that a faulty housing policy in concept and formulation used for housing delivery with unsustainable frameworks/approaches, cannot produce the desired outcomes. The processes of production have failed. This is why the potentials of the Systems Approach are being explored for housing in the FCT, Abuja.

###### Housing in the FCT, Abuja

Abuja the Federal Capital City of Nigeria is one city that its design, production and growth has the political goodwill and financial support to be a capital city that is the country’s pride. It came with the promise of a model city that would provide adequate and affordable housing for its citizens in a planned, safe and healthy environment. It had one of the best ever produced Masterplans for any city in Nigeria (FRN, 1978). The NHP (1991) and the Land Use Decree of 1978 were in place to drive its implementation, alongside the National Building Code, 2006 and other regulations, standards, laws and codes of practice for building production.

The provision of the Abuja Masterplan (FRN, 1978)) fully identified and understood the constraints to adequate housing delivery in Nigeria, and particularly the experiences of Lagos, the then Federal Capital City and provided remedies. These constraints include:

###### Finance

* 1. Failure to mobilize all available resources from the public and private sectors.
  2. Lack of access to credit (finance) to both consumers and producers.

###### Building Industry Standards

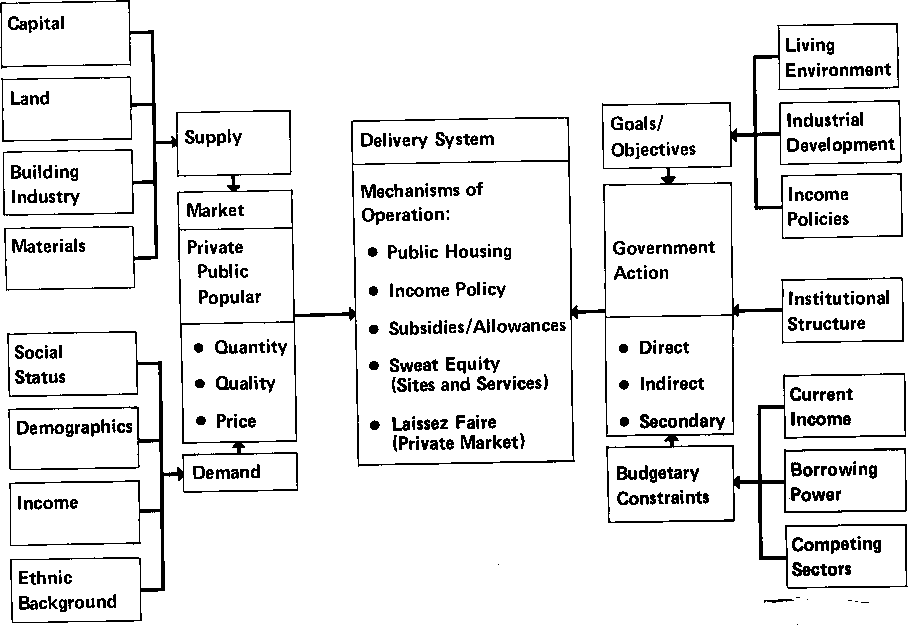
* 1. characterised by highly priced foreign contractors, materials, technology as against inexperienced small scale local builders and materials of uncertain quality and quantity.
  2. Setting unrealistic housing quality standards not matching the experiences, desires and capabilities of intended benefitting population.

###### Technology

Pre-occupation was with building technology (mostly foreign) rather than the delivery of affordable housing.

###### Land

The land situation was characterised by inadequate and inefficient use of land with respect to preservation, location, management and development. These were adequately addressed in the Abuja Masterplan, with clearly defined strategies, plans, programmes and targets for the development of Abuja. Housing delivery mechanisms were identified and a Housing Delivery System model designed, see Figure 14.



###### Figure 14: Housing Delivery System Model Source: FRN (1978)

To drive the model, the drivers and barriers to its success were identified and applied as follows:

1. The designers of the plan had a “comprehensive housing programme” for provision supported with the Land Use Decree, guidelines provided by the Rent Panel, Federal Housing Authority Standards, operations of the National Mortgage Bank, large Employer Scheme Requirements, and the proposed World Bank Sites and Services Programme.
2. They had “positive potentials” to be harnessed for successful housing delivery framework. These include available indigenous raw materials – sand, aggregate, cement, etc., an aggressive private sector, a willingness to “use” foreign expertise while building indigenous capability and available land and national capital

resources.

However, these provided Abuja a housing delivery system that had housing preconceptions and imported standards, did not meet the needs and health of all citizens, not responsive to the expressed cultural patterns found in Nigeria, and failed to provide a housing development approach with “an efficient and equitable housing delivery system for all income groups”(FRN,1979).

1. The model identified factors of the policy and constraints to be managed. These include:
   1. The challenge of affordability in quantity and quality against demands, needs and supply chain for realistic standards that will continue to improve the quality of life of the citizens.
   2. Cost reduction components of land, infrastructure, and shelter and construction management.
   3. Subsidies and subsidy policies based of programme options.
   4. Housing programme that consider the various options of housing types. These were for various ownership structure and access (rental / leasehold) arrangements.

###### Infrastructure

The Abuja Masterplan, 1978 provided a support infrastructure system designed to support the functioning of the new capital city – for water supply, waste water disposal, drainage, solid waste management, telecommunications, and power planned to “respond” to future population demands. Developments were to utilise Appropriate Technology to ensure a “secure and healthy” new capital city.

A fundamental flaw with this arrangement was the absence of a clearly formulated Framework that was able to organise the components of the approach: structures, processes and functions into a workable system. For instance the model was silent on strategies for decision making for the housing typology, the organisation for planning, design and production management and management of the housing products. It assumed an Implementation theory, Provisions Approach, project management delivery concept that failed to take into consideration the imperatives of housing delivery. This accounted for the dismal performance as shown in this study.

###### Housing in the Review of the Abuja Masterplan.

Further to the overview of the housing situation in Section 2.2 4, in 2001, Twenty

(20) years after (1979 – 2001) the Abuja Masterplan (FRN,1979) was approved, its implementation was reviewed for the first time to assess its success or otherwise. The review acknowledged that the Abuja Masterplan provided a general framework for orderly development of the city, coordination of land use, transportation systems, infrastructure, housing and other services in a manner that recognises their interrelationships, spatial requirements, and “long-time guidance” for the development of the city.

However, the outcomes of the implementation, according to the then Vice President, Atiku Abubakar, show that:

the development of Abuja that should have avoided the mistakes and negative experiences of Lagos has been dogged by serious flaws, anomalies and distortions largely due to the absence of an elaborate and coordinated implementation and monitoring programme. These produced not only a dysfunctional, but also physically deteriorating city (Kalgo and Olatubosun,2001).

The Hon. Minister of the Federal Capital Territory (FCT) (Mallam Nasiru el-Rufa'i) was of the view that Abuja was on its way to “rivalling Lagos (then) in planlessness, congestion and confusion” (Kalgo and Olatubosun ,2001). Appraisals of these show that housing production were done without adequate planning and research; did not provide sufficient inclusiveness of stakeholders; was not based on defined/identified theoretical bases: models, paradigms or typology; had unidentified key performance indices for monitoring and evaluations; and, was poorly implemented.

Further assessing the housing situation of Abuja, the 2006 Population and Housing Census conducted showed the following ownership status of “Regular Households by Tenure Status of Dwelling Unit” (Table 7). Housing and its delivery in the FCT, Abuja had therefore failed. It was inadequate in quantity and quality, with all the attendant social- economic, political and environmental problems associated with inadequate housing.

###### Table 7: Distribution of Regular Households by Tenure Status of Dwelling Unit in the FCT.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Owned | Owned but not yet paid  off | Rental | Occupied Rent-free | Squatting | Other |
| Nigeria | 28,197,085 | 19,316,441 | 655,503 | 6,407,257 | 1,525,320 | 214,361 | 78,203 |
| Lagos | 2,195,842 | 386,744  (17.61%) | 12,106  (0.55%) | 1,663,621  (75.76%) | 114,124  (5.20%) | 11,923  (0.54%) | 7,324  (0.33%) |
| FCT | 303,592 | 101,819  (33.54%) | 16,575  (5.46%) | 161,830  (53.31%) | 19,860  (6.54%) | 2,144  (0.71%) | 1,364  (0.45%) |
| Abaji | 10,142 | 7,133 | 213 | 1,957 | 798 | 29 | 12 |
| AMAC | 179,674 | 43,120 | 12,357 | 108,247 | 13,730 | 1,574 | 646 |
| Bwari | 50,109 | 15,322 | 2,740 | 28,268 | 3,160 | 244 | 375 |
| Gwagw  alada | 32,071 | 13,350 | 1,063 | 16,258 | 1,158 | 154 | 88 |
| Kuje | 17,092 | 11,814 | 96 | 4,473 | 607 | 88 | 14 |
| Kwali | 14,504 | 11,080 | 106 | 2,627 | 407 | 55 | 229 |

**Source: National Population Commission (2010)**

Tables 37-48 (Appendix B2) show an unacceptable status of housing both in quality and quantity. Abuja with an estimated population of five million inhabitants has only 303,592 dwelling units. Based on an average of six persons per dwelling unit, Abuja ought to have at least 833,333 dwelling units. The situation is same for the quality of housing shown in the Census outcomes for water supply, energy, waste disposal and construction materials. These have not shown appreciable improvements when compared to their status three decades ago.

###### Housing Delivery Problems, Wicked Problems

The needs of the individuals for adequate housing and its delivery are influenced by several factors: geography, health, education, social status, opportunities to grow and develop from basic to self-actualisation needs. These pose challenges that manifest differently for cities, peoples, individuals, administrations and economies at local, national and global levels especially when placed in the context of strategic partnerships, changes in perceptions, concepts and realities of those concern. The needs (problems) seem to grow endlessly.

Housing problems have been described as a social policy issue that is unstructured in nature. le Roux (2011) described the problem as a "wicked problem" based on its concept and characteristics. A wicked problem has been described by Rittel and Webber (1973) as:

1. one that cannot be successfully treated with traditional linear analytical approaches.
2. They are ill-defined, ambiguous and associated with strong moral, political and professional issues.
3. Wicked problems are perplexing because of their mutual impact on each other.
4. They have co-producing factors from within as well as co-producing factors arising from outside the system's environment such that they form interacting fields of problems of many "co-factors" that impact on each other resulting in circular causations whereby a problem co-produces and reinforces itself.
5. The solution to one problem triggers another that may or may not be related to the one solved e.g. providing water to an estate could trigger environmental issues related to road network, breeding mosquitoes and drainages issues.
6. Wicked problems are also strongly stakeholder dependent with little consensus about what the problem is and how to resolve it (Ritchey, 2005). Examples are cultural/religious activities within neighbourhoods with respect to hygiene and health related attitudes, noise, etc.
7. They are messy, devious and reactive: for instance differences in social appreciations of neighbours.
8. they fight back when you try to resolve them e.g. housing and climate change.
9. wicked problems persist not for want of policy action, yet, decades of policy actions have failed to solve them.

This graphically describes the nature of housing provisions in Nigeria.

le Roux(2011) in her understanding of the problems of providing low cost housing in South Africa show that they (problems) satisfied all the characteristics/criteria of a wicked problem as follows:

1. There is no definite formulation of a wicked problem.
2. Wicked problems have no stopping rules.
3. Solutions to wicked problems are not true-or-false, but better or worse.
4. There is no immediate and no ultimate test of a solution to a wicked problem.
5. Every solution to a wicked problem is a 'one-shot operation' because there is no opportunity to learn by trial and error, every attempt counts significantly.
6. Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.
7. Every wicked problem is essentially unique.
8. Every wicked problem can be considered to be a system of another (wicked) problem.
9. The causes of a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problems resolution.
10. The planner has no right to be wrong.

A wicked problem is further described as a social or cultural problem that is difficult or impossible to solve for four reasons:

1. It has incomplete or contradictory knowledge,
2. Numerous and diverse people and opinions are involved,
3. It encompasses a large burden; and
4. It is interconnected naturally with other problems.

Clearly then, wicked problems cannot have a single all encompassing solution as they are difficult and cumbersome to be dealt with en-masse. Yet it 'plagues' the society enough to warrant attention. These clearly suit the housing delivery problems as are found in Nigeria and the FCT, Abuja.

Housing is a social public problem. Its (housing) delivery is not sectorally bounded, being a naturally unstructured, complex and multi-dimensional phenomenon. It cannot be departmentally pigeon-holed. It is impacted by and impacts on broader societal processes. It cannot also be a sectorally integrated development, but can be seen/appreciated as an issue of "integrated or sustainable development" (le Roux, 2011). Its (housing) management can at best, according to Khan and Ambert (2003), be clustered into groups of critical sub-systems (factors) e.g. housing and macro-economy, housing finance, land and services and housing and human settlement development or such suitable clusters as are appropriate to the affected society, community or settlement. Wicked problems can be mitigated through the process of design- an intellectual approach emphasing "empathy, adductive reasoning and rapid proto-type designs" as it has an indeterminate scope and scale. An understanding of these issues fits the Systems thinking/theory for a systems approach to housing delivery, which is the focus of this pioneer study. The study adapted a macro-view for a wholistic (comprehensive) understanding of the problem.

A synthesis of the literature review has clearly enabled an understanding of the dimensions of the problem defined in Sec. 1.2; subsequently, the development of the aim and objectives of the study (Sec 1.3.1 and 1.3.2); the research questions (Sec. 1.4); and study hypotheses(Sec. 1.5). These have aided the development of the Conceptual Framework of the study, research design and methodology for solving the problem as are discussed in the subsequent sections.

###### CONCEPTUAL FRAMEWORK

* + 1. **Theoretical Background**

Housing, as shown earlier in Section 2.2.1**,** is a fundamental human right (UNHCS, 2001 Article 21) and man's second most important need. It is a public social policy issue, thus supported by the provision of the Nigerian Constitution, 1999 as amended, at Sections 15 (3) (b), 16 (2) (d) and 20. Housing delivery in Nigeria is based on the 1991 National Housing Policy (NHP) and its subsequent revisions.

The National Housing Policy 1991 and subsequent reviews described housing essentially as an economic issue of the process of providing a large number of dwelling (residential) buildings to meet basic and special needs of the population.

The Policy’s main thrust has been home ownership or access to decent, safe and healthy residential accommodation (dwelling units) at affordable cost. The policy's goal, objectives and strategies provided in Sections 2.2, 2.3 and 2.4 driven by a strong “political will" failed to deliver consequent upon the inadequacy of the Implementation theory, provisions approach (Akeju, 2007; Ademuluyi, 2011). Housing deficit is put at between 16 and 18 million housing units, (NPC, 2010). Nigeria, is a developing country, and one of the most urbanizing and globalising nations. Its urbanisation rate is about 5.1% annually with population growing at 3.2% annually (FMW and H, 2002). Consequently, the pressure for the delivery of adequate housing is high.

An understanding of the multidimensional view of housing and the imperatives of housing delivery combine to spell the housing problem and the difficulties of delivery using Implementation theory and provisions approach. Thus the problem is that the present housing delivery approach is neither adequate, efficient nor sustainable. The

solution to wicked problems cannot be met by traditional linear analytical methods, but a comprehensive one-in-all (wholistic) solution such as is provided by the systems approach, being proposed in this study.

Thus, the need for close examination of the extant National Housing Policy's,1991 delivery approaches and its frameworks for housing in the Federal Capital Territory,(FCT), including understanding the theoretical assumptions/frameworks used for the formulation, implementation, key performance indicators (KPIs), strategies for monitoring and evaluations, research and development support for managing the policy, drivers for the delivery processes, and the relationships between the stakeholders and organisation of the policy's implementation so as to juxtapose suitable alternative frameworks of the systems approach.

###### Systems Approach Concept and Framework

The workings of systems approach is governed by regular processing, rules and general repetitiveness in form, and by the unexpected, irregular and variant processes which stimulate and manage changes that initiate adaptation. The role of theory in policy design supports this thinking (Section 2.4.1). What the systems approach requires to perfect its openness and adaptation stance is access to data (information) on the state of affairs of the policy relative to its environment that will enable it to manage the changes it encounters.

It is to be added that for social issues, the systems perspectives justify its openness and adaptability. It points to the error that individual persons, groups, organisations and nations make when they act as separate, uniquely named things, mostly bureaucratic, as is in the present practice of the provisions approach. This utilises the separation principle of

production and provisions of housing by developers, producers, providers and marketers of houses to end-users and beneficiaries. When individuals, groups or organisations ( acting units) are recognised and participate correctly, they are organised and interlocking activity flows, processing across historical time in somewhat regularised fashion, and described as an organised packet of active processes in exchange with an environment and utilising communication and control to survive and adapt. In this context, Japan has been described as an incredibly complex network of related action much more than a place, a people, or a name (Anonymous). This captures the essence and desire for an efficient and sustainable housing delivery policy and frameworks that can be systemic as in the systems approach concept.

Secondly, systems approach from systems theory/thinking, do contain design and control mechanisms to ensure adequacy (effectiveness), efficiency and sustainability. These control frameworks must be adequately designed, developed and put in place to check/checkmate all variables to ensure stability of performance in the areas of planning, resource allocation and production; and monitoring and evaluation of performance output in achieving sustainability.

In essence, the systems approach in concept and perspective provides for and is characterised fundamentally by openness and adaptation, communication and corrective action (control) as is obtained in the eco-system. It is based on ‘generalisations’ rather than a mathematical model (systems engineering) and therefore must be flexible and pragmatic. The forces that drive the systems' processes are the flow of resources propelled by an appropriate management principle that is able to cut across many organisational disciplines such as finance, manufacturing, architecture, engineering, building, technology and

marketing, in carrying out the functions of production, distribution, management and maintenance (Chattapadhyay,2009; van Wyk, 2006). In its simplest form, the systems approach schematically is an open system as in Figure 15.

Sub-system

Sub-system

Sub-system

Sub-system

Sub-system

Sub-System

**System**

**Inputs**

**Output** (Product – Buildings)

###### Figure 15: A Simple Open System Framework Source: Kast and Rosenzweig (1981)

The systems approach thus views housing delivery as an organisational matter, which workings are in agreement with organisational theory, with great tendencies towards open and adaptive systems or living systems.

For the purpose of this study, the systems approach framework identifies the various structural components (sub-systems), designs the processes and defines the functions that will ensure adequate and sustainable (effective and efficient) delivery, meeting the social, economic and environmental dimensions as required for sustainable developments. These are all based on the systems theory/thinking as earlier alluded to from literature. This begins with the components of a housing delivery scheme (model or type) discussed in the following section.

###### The Concept

* 1. **Planning Component**

The conception sub-system is principally dealing with the definition of the goals of housing demand, need and supply. The main issues include collection of data and analysis for determination of the housing scheme culminating in all decisions for choices of the design concept by stakeholders, planning strategy (means, ends and resources) for production and the design of implementation and control management strategy for the housing model/typology (mess) (e.g. estates, condominiums). The critical issues here are decisions for the planning strategy which le Roux(2011) conceded should be "interactive."

The planning component is therefore reduced into the whole initiation part of the study's conceptual framework in developing the systems approach framework. The study proposes a Systems Approach option using Systems Thinking and Systems Theory which promises flexibility, inclusiveness, holism and participation of all stakeholders ensuring

value and satisfaction to end-users. Pragmatically, the study further opts for an open-closed system as shown in figure 16 for the complex nature of housing, which requires close monitoring and evaluations to ensure collaboration and participation that recognise and use learning from inevitable changes in the course of the implementation of the systemic processes. The framework is specifically guided by the following:

* + 1. The determination of the policy goal (aim) of home ownership or access to it (NHP,1991), objectives and implementation strategies for the determination of the housing goal's demands, needs and supply indicators (targets) for the system to deliver is the first step. These lead to the determination of resources (input) which subsequently constitute the inputs of the planning framework. The workings of factors (variables) of the planning component could lead to a reconsideration of the thrust of the policy framework.
    2. The understanding of the imperatives of housing delivery aids the determination of the mix of relevant stakeholders required (e.g. professionals/end-users) and frameworks at this stage of the process. These relevant framework then constitute the sub-systems for the planning and implementation processes. They include legal, technological, financial, organisational, government and all such stakeholders that will enable the take-off of this initial delivery process. Critical requirements (issues) here are those of clear and unambiguous definition of roles and responsibilities of the processes, their functions and the structures provided by the policy. The imperatives of the systems thinking demand that the guiding principles be systemic participation, inclusiveness/integration, collaboration and holism and their relationships to drive the process. The Innorisk PESTE concept (Figure 9) as

explained, determines relevant structures of the sub-systems of the framework such as the building industry, markets and other vital inputs like technology, resources, management, labour, finance.

The planning framework of the systems approach is premised on the provisions of policy strategies for housing delivery. They spell the basis for the system and sub-systems frameworks, the components of which are the structure(s), process(es) and function(s). The success of the systems approach to delivery is based on the strategies (drivers and barriers) of the framework(s). These need to be examined and understood for successful implementation of the delivery process(es). For this study, the strategies are planning, decision making and relationships, while participation (involvement), integration (inclusiveness), collaboration and holism (PICH) form the independent variables of the study.

###### Participation.

Every framework needs to be examined to determine or know its components and standing: a sole or shared framework, and if it is shared, to what extent. Once these are known, the logical follow up is to know who is to provide, sponsor or use the framework for the input and what implementation strategies are employed and expected outcomes. These spell out the participation: participants, decisions and actions.

In other words, participation clearly identifies all relevant participants, functions (roles and responsibilities), processes and actions. Subsequently, the Initiation/Planning sub-system is formed. It has the role and responsibility of deciding on the goals and models/housing type, determination and planning of its resources. These are transferred to

the Design sub-system whose role is to design the proposed development e.g. an estate for 500 households.

###### Decisions

Decision and decision making are critical to the success of any component (sub- system) framework. e.g. the design component framework (structure, functions, processes and participants) must decide:

* + - 1. Who decides what for the estate
      2. What should be done to implement the decisions and by who
      3. Who provides for the estate
      4. The consequences of the decisions

The answer(s) to the above are found in the Decision Theory.

The work of Bross (1953), one of the founding fathers of Decision Theory as employed by Uji (2000) espoused this concept of decision making. Decision making can simply be defined as the process of exercising power over any/something e.g. choice of a framework for design (implementation) to a desired outcome. It clearly spells out the who and what (purpose) and why (consequences) for the framework. Schematically, decision making is represented in Figures 16 and 17:

###### Figure:16: The Decision Maker Source: Uji (2000)

Value System

Recommendation

Data

Decision Criteria

Predicting System

From the scheme above, the function (purpose) and the participation in decision making determine the quality and applicability of the decisions. Uji (2000) proposed a four (4) quadrant paradigms(options) for decision making based of who sponsors and who provides for a decision in self help housing and other options for provisions approach to housing delivery. This work has modified this to produce a fifth-option housing decision paradigm suitable for the Systems Approach decision making where both sponsors and users together decide and provide together. This is shown in Figure 17.

|  |  |  |  |
| --- | --- | --- | --- |
| Q.1  sponsor Decide, Top-Bottom Sponsors Provide | | Q.2  Sponsors Decide Users Provide | |
| Q.4 Users Decide  Sponsors Provide  Bottom -Top | | Q.3 Users Deicide  Users Provide  e.g. Self-Help Housing | |
|  | **Provisions Approaches** | |  |
| **Q.5 - Both Users & Sponsors Decide & Provide Together Systems Approach** | | | |

###### Figure 17: Five options housing decision making paradigms Source: Author

5th Option, Q.5

A close look at Fig.17, easily show systems of approaches that are not systemic, but are bureaucratic. Option Q.1 where the sponsor decides and sponsor provides, fits the extant policy's stance, suitable for a provisions approach of "Top - Down" bureaucratic delivery. It has failed to support adequate and sustainable delivery.

Option Q. 2 where Sponsor decides, Users provide is another version of Q. 1, a Top

- Down approach, but inviting the users to solely finance or co-finance the developments, while Sponsors (e.g. government) facilitates, enables enhancement or some form of partnership such as the public private partnership (PPP) or social housing concepts. These featured in the NHP reviews of 2004, 2006 and 2012. They are yet to show any appreciable level of success for efficiency or sustainability in housing delivery. The 2012 revision is yet to take off.

Option Q.3: Users decide, Users provide is the reverse of quadrant 1 - a "Bottom - up" approach. This has the challenge of the problems of planning and leadership. Self-help housing models typifies this development. Self-help models however, are not sustainable as they often become victims of development control laws in evictions and demolitions (SERAC, 2007). Self-help housing is yet to be formally acknowledged by government as in the work of Uji (2000). Furthermore, it is heavily depended on contingencies of economic reforms of governments and political dispensations, which in Nigeria has shown much uncertainties and therefore, not reliable nor sustainable.

Option Q. 4: Users decide, Sponsors provide may be suitable for Social housing approach if sponsors are a corporate funding agency. This also fails to meet sustainability requirements for housing delivery. It depends on the health of the state economy and political will.

All of the above work under separation principle variations in decision making and affects the extent and quality of participation and commitment to success and ultimately, the sustainability.

This study proposes a 5th Option Q.5 where Both Sponsors and Users, Decide and Provide Together. This aligns with the systems thinking of inclusiveness as it makes for participation, induces integration, commands collaboration and is holistic. It also answers critical participation questions of the circumstances of decisions for who will do what, and, under what circumstances will who do what and for what consequences. It answers the questions of control and decision making which is crucial. Such dependent variables of choices of site, location, neighbourhood, housing typology, technology, funding/financing, administration, legal issues, land (tenure, registration, security), labour, management, maintenance and those issues on design decisions, planning, production, standards (the imperatives of design, production and management /environment) are expected to get answers before implementation commences.

Ultimately, all the sub-systems can easily be established based on their structures, functions and processes under a housing management concept, as this study is proposing.

The purpose of a decision is important for the paradigm shift. The purpose spells out the value systems of the outcome of the framework; the objectives and functions to achieve them; as well as determine the course(s) of action from all the possibilities available for choices and the circumstances under which they are made - whether automatic, trial and error or pragmatic. Housing is an unstructured phenomenon. Decisions can therefore be made under conditions of uncertainty or for choices where the probabilities of intended outcomes are unknown. This explains why this study aligns with the thoughts of

Leppimaki and Laitenen (2007) in futures studies and the pragmatic philosophy for the systems approach that posits that the tasks for solutions to housing delivery problems be based on imagination for what is possible, analysis for what is probable and participation for what is preferable. For instance decision for a housing scheme could then be made from either the cooperative, social, inclusive, self-help or incremental housing models/typologies.

Data is required for quality decisions. Data here refers to all available and relevant processed information required for all possible actions and probabilities (certainty, risk and uncertainty) for each action. To ensure that the outcome of decisions taken are qualitative, there must be a means of assessing the value. The use of "Value Tree" concept e.g. the Radford's Analytical Technique in Uji (2000) can be employed.

###### Relationships

The workings of the systems approach relies heavily on the relationships of the framework's sub-systems to cooperate with each other in the systems processes. van Wyk's (2006) management process concept and Leppimaki and Laitenen's (2007) framework combine to introduce a housing delivery management process for working on the principles of sustainable developments to deliver and manage the systems approach framework for efficiency and sustainability. The framework designed will be PREDICATIVELY tested and validated for its efficiency and sustainability for adoption in this study. The aim is to seek for a framework and delivery approach that will be jointly acceptable to the participants (stakeholders) without necessarily providing each participant with the alternative of their most preference, but an outcome which they will all accept as constituting a compromise of their individual preferences, providing an equitable

resolution of the problem. Considerations are for the participants' different preferences among available alternative courses of action, while recognising each participant's future situation most agreeable to them. Thus, different possible future scenarios of the problem are considered and the interactions of the participants within the scenario as in the PESTE Innorisk Framework (Figure 10).

For an example, an estate developer will need to consider social/cultural scenarios such as - places of worship, events management- weddings, sports, shopping malls and abattoirs for their relationships. The case is for a state of equilibrium to be reached in an effort to decide on the most appropriate situation for action for all participants to remain together pending future developments.

Decisions for complex situations (phenomena) like housing will take the following steps. Step 1. List all stakeholders (participants) in the decision situation and all available options

- Housing types, shapes, forms, character, standards, materials, etc.

Step 2. List details of the particular scenarios - (site, location, etc.) to be evaluated for options opened to participants (stakeholders; end users in particular). This need not be current (status quo), though it might be. It must however answer the question of stability for the participants in the future.

Step 3. Select a particular scenario containing potential choices of available options: types, location, neighbourhood, environment to the participants in the decision situation.

Step 4. Identify:

1. Participants to make /take the decisions;
2. Options, strategies, scenarios (all or a combination) of the Political, Economical, Social, Technological and Environmental (PESTE):
   1. Project Group (Developers, non-profit/private organisations, NGOs, etc.),
   2. End users, rentals, lease holdings,
   3. Locations (site, neighbours, environment),
   4. Government and its agencies (organisation),
   5. Opposition Groups (Union), political parties.
3. Development concept and strategies: Project designs, production strategies, cost of new and maintenance of old stock and other facilities, standards.

Thus, an examination of the stability of project (scenario) is conducted for a compromise where all stakeholders can fully participate and feel so, without any encumbrances from any of the stakeholders who might have not completely bought into the ideas. This is for a buy-in, ownership structure and management of the development.

Step 5. Application: Decisions are made for:

1. Housing Goals (demand, need, supply and stakeholders mix) to meet stakeholders requirements and gain acceptability.
2. Design, production and management (constructability and sustainability) for procurement type, distribution, usage and all management processes using choice technology for each as appropriate.

Systems engineering technology can be employed where processes are considered as a complex whole with parts divided into sub-systems, through the examination of relationships among them. Critical to success is information flow, stakeholder and process influence (relationships), materials adequacy, energy and the routes they follow within the systems flow of resources.

Housing in the FCT, Abuja in accordance with NHP,1991, is provided by the formal and informal sectors. The formal settlements have continued to present problems of capacity, knowledge of the issues of housing, arrogance of government, with a claim to the ability to provide or facilitate the provision of affordable housing to enable its citizens "own" or "have access" to housing at "affordable costs." Housing has thus remained a problem, not for lack of efforts, but perhaps for proffering (administering) the wrong solution to the problem. This arrogance of government has led to the near total negligence of the efforts of the informal private sectors, particularly, self help housing, and continuous/persistent application of the "Implementation theory, Provisions approach" to housing provision (delivery) for over five decades, indeed, since the pre-colonial days to date. This study is seeking for an alternative approach to provide a remedy to this perennial failure.

In retrospect, the failure has enabled an understanding of the concept and components to delivery especially the role of stakeholders in which the extant approach (framework) failed to acknowledge:

1. The needs of the urban poor dwellers who are capable of taking their own decisions to provide better and more appropriate housing for themselves through self help (Uji, 2000), though they may be in contravention of government development control standards, distorting the Master plan. Yet, these informal "self-help " housing efforts have succeeded in housing them better than all the government policies have.
2. That government is not putting in place the appropriate FRAMEWORKS for housing delivery.

The systems approach flexibility elicits team work and participatory ownership structure for concept, planning, implementation and management that promises to give the end users options to choose location and neighbours; the ultimate satisfaction of value - whether owned or rented, guaranteed security of land tenure, financial "freedom" to housing because they are affordable and protection from exploitation by landlords/house providers, among other benefits.

The environment is sustainable as developments are based on sustainable development concepts, making room for models such as "Incremental housing" (Harper et al, 2015) whether the estate were produced on cooperative, social or other forms or models. This therefore, accommodates the formal and informal self help housing concepts as well as provisions of cognate facilities of water supply, energy, sewerage, roads and other infrastructure.

###### Design Component (Sub-System)

Systems approach puts in place more efficient methods of resource planning and management in the context of developmental impulses employing adequate resources and strategies promoting sustainable living and the opportunity for quality ways of life for all people. Global increases in population and rapid urbanisation are fuelling the demand for housing especially in developing nations, where affordability is of great essence. Bordignon (1998) asserts that by approaching the design of a home from a civil engineering systems perspective, considerable resources may be saved and a better quality product can be produced. He defined a sustainable affordable house design as “one which minimises cost and environmental impact while maximising the social acceptability. The imperatives of design for housing delivery (see Section 2.2.4(a)) demand a systemic design

perspective that would utilise multiple design alternatives that assess the time need of the people, utilise appropriate building materials, consider the physical environment and utilise methods of industrialisation as well as a multi-objective evaluation of procedures for alternatives based on the culture, environment, life-cycle costs, material life-cycle and the functionality and familiarity of the design. The selected preferred alternative is optimised by changing individual design parameters, watch the outcomes and based on the observed resulting change in systems performance, the design is re-evaluated until a final compromise decision is made and accepted. This brings in all the stakeholders- from planning, design, production, financing, legal, environmental, end-users and beneficiaries perspectives together.

This way, designs are flexible, anticipated problem areas are identified, constructability and maintainability are reasonably guaranteed and participation by and commitment from all stakeholders are obtained; so that just as Foster (1975) long ago said, the house is used more efficiently and new forms of construction may be developed for the solution of environmental and structural problems.

###### Production Component (Sub-Systems): Building Construction Industry

Building construction consumes resources. In this context, an important area of concern is that of sustainable developments, especially the environment that provides the resources required for building construction. The success of a production component (sub- system) depends on the performance of the variables (factors) of operation of the processes, such as the flow and application of resources (labour, technology, land and capital) and their management. Others are the capacity of the information handling channels of the sub-system (the system input/output measures), the management of

information flow (planning and control) for acceptable output, the capacity of the system and the quality of the products objectively measured (appearance and performance characteristics), durability, serviceability and other physical characteristics, timelines of delivery, cost, appropriateness of documentation and supporting materials. These go to define the sub-system, a driver for the constructability, which determines product availability in quantity and quality and productivity issues of the delivery.

In typical production systems, there are three types: batch, the continuous and project systems. The batch and continuous systems can be employed in mechanistic production of such goods/services as electronic items and consumables. The third, project system, is suitable for ‘one-short’ system or one-of-a-kind product such as a house (building) or a ship. Project system requires processes of management for success that contain the cost, time of production and quality as in project management types of building projects (see Sec.2.2.4(b), and imperatives of production).

Once the design, specifications, needed resources and expected outcomes of a project are determined and planned, three important decisions follow:

* 1. Builders, engineers, production managers and other specialists choose the design, procurement type and technology to be used, including the choice of equipment, tools, site layout and facilities, selection of workforce, work methods, etc. These are carefully done to avoid mistakes at this stage which could be costly leading to failures.
  2. Determination of capacity of the production sub-system (building industry) depending on available capital, demand (product) forecast for output, technology/techniques, methods, labour, etc. It needs experience, wisdom and

continuous learning through monitoring and evaluations to avoid mistakes, e.g. of striking the right balance of capacity utilization.

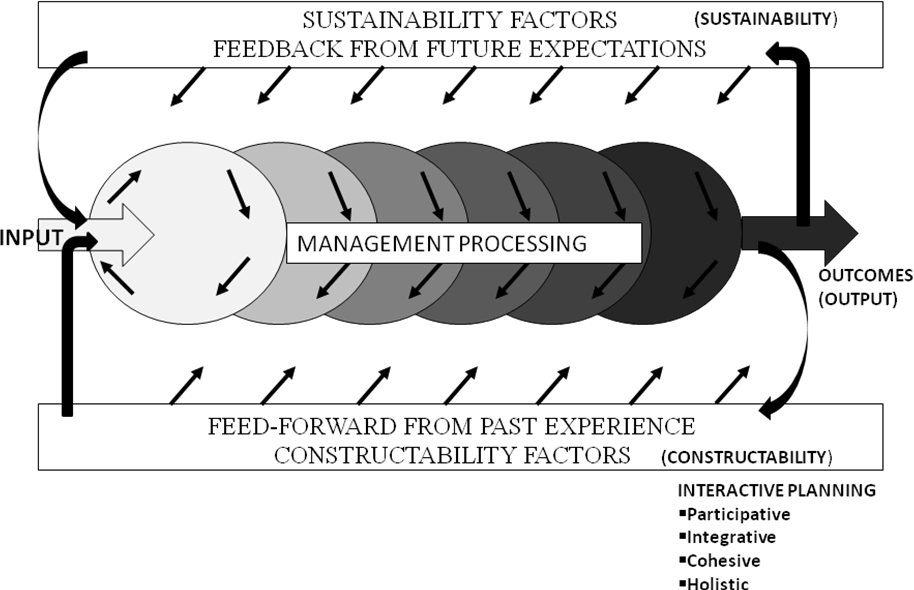
* 1. Adaptability (management) parameters for future challenges depending on the technological constraints of the processes, the economics of the industry and the nature of competition. An example is production using integrated building systems (IBS) or systems buildings depends significantly on the building industry.

The use of technology, for instance, is chosen considering that production of buildings use technology for various positive reasons. However, technology can be a two- edge sword. It solves one problem and creates another. It must therefore be used in a manner that enhances proper resource management technique, while recognising future global consequences of development. Flexibility must be a prime consideration here.

###### The Management Sub-System (Product Management)

The problems of housing delivery, globally have been identified as "wicked problems" especially their adequacy, affordability and sustainability. The issues identified for these include population growth, increased levels of poverty in the face of increasing housing costs, rapid urbanisation and urban sprawl (squatter settlement), inadequate/lack of education, self-help housing (houses self-built by the occupants) and failed government policies (Bordignon, 1998). The management sub-system considers and puts in place all the factors that produce, distribute and manage housing, ensuring sustainability in the social, economic and environment parameters to provide user satisfaction, value and a

liveable environment/community. It should therefore put in place a suitable housing delivery management process advanced by van Wyk, (2006) and as modified in figure 18.



###### Figure 18:Housing Delivery Management Process Source: Modified from van Wyk (2006)

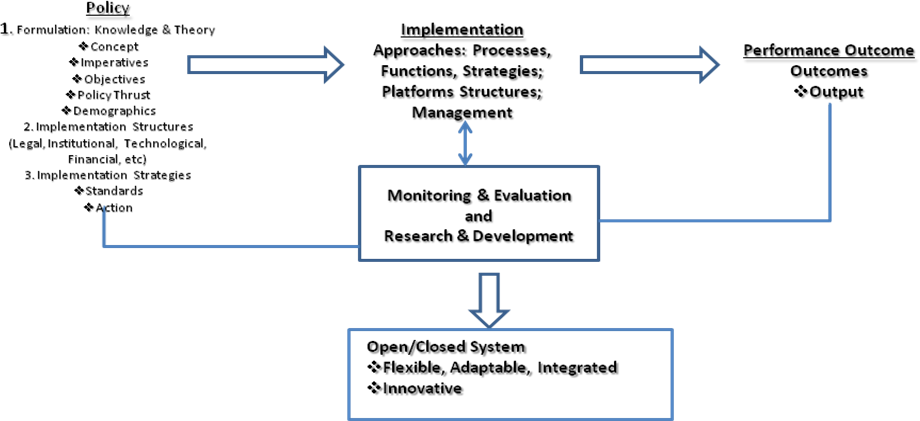
This sub-system is at the centre of the implementation stage. Critical issues (independent variables) here are the relationships, organisation of resources and efficient management, productivity and information management of the sub-systems in working together to produce and manage the products/services. This is at the heart of concerns of the delivery aspects of constructability.

At this stage the frameworks are critically subjected to close monitoring and evaluations for the efficiency and adequacy of inputs, structures, processes and functions of the systems frameworks and sub- systems in the context of van Wky's development processes (van Wyk, 2006). Each loop indicates progress made from one sub-system to another in the horizontal arrow direction e.g. when the planning operation component (sub- system) is completed, it passes on to the design operation component (sub-system). Yet they are not separated but work is dependent on feedback from related sub-systems (roles) reflecting learning and innovation. Each stage is considered as an operation paradigm rather than a production stage. Each operation is characterised by participative and consultative approach as against a product/project "straight-line mechanistic approach" in provision of products. This makes housing delivery a "people driven process to improve households and communities" (Figure 18). It is expected that learning will come from the feedback from future expectations to aid sustainability, while the feed-forward from past experiences would aid constructability factors e.g. tacit knowledge. Planning then becomes interactive. The process continues until the products (houses) are produced, distributed, used, managed and renewed at the end of designed life-cycle- a "cyclical process," requiring management.

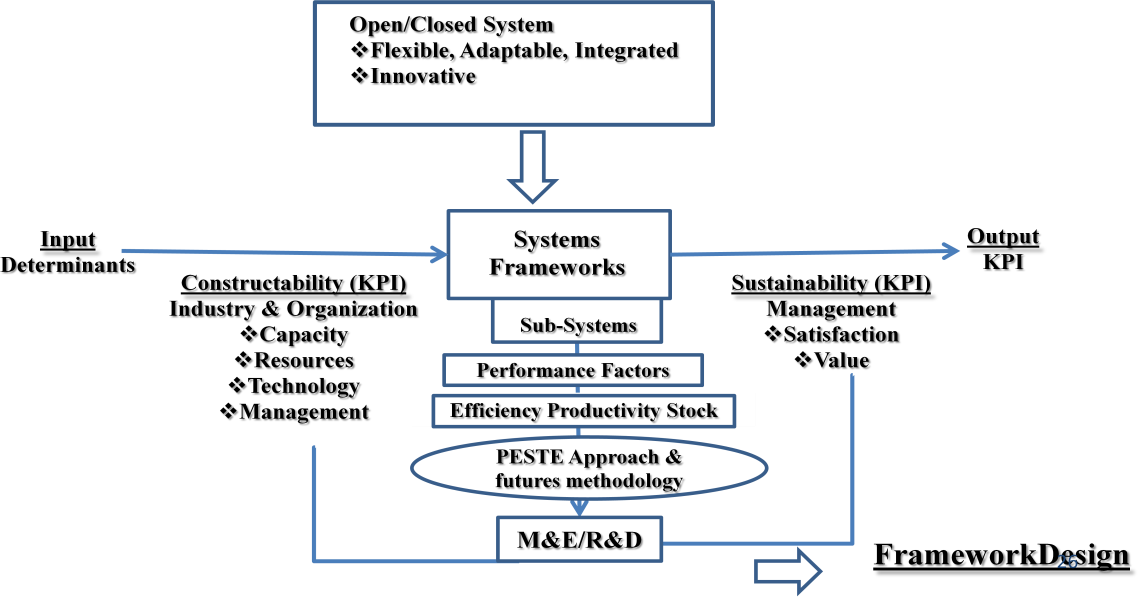
The final stage is sustainability of the framework. Key performance indicators (KPIs) are designed and used to monitor and manage performance. These are obtained from end-users, key industry players and managers of the environment. The instrumentation of monitoring and evaluation, establishment of functional housing databank, enhanced by research and development (R&D) and other systemic instruments of housing information management are critical to success. Factors of measuring satisfaction, value (economic contributions, physical institutional development), employment, quality of life, adaptability and such social demographics on health, harmony, peace, choices of housing typology, location and neighbourhoods and sustainability of new and improved sustainable human living environment are critical. The methodology of the study therefore, directs thinking to the development of the systems approach framework (Figure 20) as is discussed in the next section.

###### The Framework

The concept in Figure19 is developed to provide the Research Design Framework in Figure 20. Details of how this is addressed are discussed in the next chapter, methodology.



###### Figure 19:Conceptual Framework for Systems Approach Housing Delivery



**Figure 20: Framework Development**

###### CHAPTER THREE RESEARCH METHODOLOGY

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###### OVERVIEW

This chapter provides discussions on the methodological processes of the study. It first, explains the philosophical assumptions that informed the choice of the research approach and strategy. It then provided explanations on the choice of research methods, research design, sampling technique, and the techniques and procedures used in data collection. Finally, it provided procedures and selected statistical tools appropriate for data presentation and analysis for the research towards addressing the research objectives.

###### PHILOSOPHICAL POSITION FOR THE STUDY

There are two main branches of research philosophy that guide the choice of methods and strategies towards addressing research objectives or ensuring research questions. These are ontology and epistemology (Blaikie, 2010). Ontology is a branch of philosophy concerned with the nature and reality of what exists. In other words, ontology enables researchers to philosophically justify what knowledge is (Creswell, 2009). Epistemology provides the philosophical basis for establishing what kind of knowledge is possible and the criteria for deciding how knowledge can be adjudged adequate and legitimate (Blaikie, 2010). Whereas ontology is geared towards understanding what exists, epistemology is concerned with espousing what it means to know what exists.

Furthermore, there are two ontological options of assumptions available for the researchers: Objectivism (realism) and Subjectivism (idealism) (Blaikie, 2010). The objectivist believes that the existence of social actor entities (phenomenon) is external to the social actors concerned with their existence, whereas, the subjectivist believes that the

social entities (phenomenon) are created by the thoughts, perceptions and resultant actions of the social actors concerned with their existence.

Similarly, there are two main epistemological positions a researcher can take. These include positivist and interpretivist stand points. The positivist researcher believes that only observable phenomena can lead to acceptable information which can be gathered based on hypotheses that are derived from existing theory(ies). In other words, the positivist stand point is based on facts. The interpretivist stand point is based on the need for researchers to understand the differences between social actors in a given phenomenon. Hence the interpretivist researcher is actively involved in what is being studied (Blaikie, 2010).

Creswell (2009) posited that there is another research philosophy known as pragmatism. Pragmatism is neither based on ontological nor epistemological stand points alone. It is based on the combination of possible stand points to enable the researcher to adequately address the research objectives.

Housing, a public social policy issue, is a complex, unstructured phenomenon and its delivery is accepted to be a “wicked problem" involving complex processes and various disciplines, partnerships, collaborations and policy mixes - a complex management issue (le Roux, 2011). Housing problems cannot be successfully treated on simple traditional linear analytical approaches (Ritchey, 2005), neither is housing sectorally bounded nor departmentally pigeon-holed. It is impacted by and impacts on broader social processes. It can be appropriately seen as an issue of “integrated development or sustainable development" (le Roux, 2011). Therefore, studying housing requires the use of holistic

approach, as using either quantitative or qualitative methods alone cannot address the issues involved (Creswell, 2009).

This study is an empirical study of the complexity in housing delivery in the FCT which in the last two decades (1992 - 2011) has experienced the persistent failure of the provisions approach, using the implementation theory (see Table 1 and Appendix C). The study therefore has aligned with the philosophical thinking of pragmatism*.* Pragmatism assumes that all realities (such as the complexities in housing) influence practice as in the delivery of housing and that those influences have meaning to researchers, policy makers and practitioners. Philosophically, pragmatists reject the idea that the function of thought is to describe, represent, or mirror reality. Rather, they believe that the function of thought is as an instrument or tool for prediction, action, and problem solving (Williams, 1904). In explaining the tradition of pragmatism, Williams (1904) notes that:

Pragmatism represents a perfectly familiar attitude in philosophy, the empiricist attitude, but it represents it, as it seems to me, both in a more radical and in a less objectionable form than it has ever yet assumed. A pragmatist turns his back resolutely and once and for all upon a lot of inveterate habits dear to professional philosophers. He turns away from abstraction and insufficiency, from verbal solutions, from bad a priori reasons, from fixed principles, closed systems, and pretended absolutes and origins. He turns towards concreteness and adequacy, towards facts, towards action and towards power.

This thinking gains acceptability from Cresswell (2009), in his considerations of research world views. According to Creswell (2009), the Pragmatic world view is more concerned with the consequences of actions, problem centred, pluralistic and real-world oriented thinking in researching any problem that is as complex as the wicked problems of housing delivery. These are in contrast to the Post- positivism, Constructivism and Advocacy/participatory world views that deal more with problems/issues that can be dealt

with based on traditional linear analytical methods (Ritchey, 2005). Pragmatism is in tandem with Systems Thinking and Futures Studies in solving complex , unstructured and multi-dimensional, multi-processes problems like housing delivery. According to Leppimaki and Laitinen (2007), the solutions to such problems have the tasks of imagination for what is possible, analysis for what is probable and participation for what is preferable*.* Creswell (2009) supports this by positing that pragmatist researchers look to the "what and how" to research, based on intended consequences and epistemologically, where they want to go with it (Creswell, 2009).

Following the argument of Williams, (1904); Leppimaki and Laitinen (2007) and Creswell (2009) , this study of complexities in housing delivery can possibly be achieved by turning towards realities (concreteness, adequacy, facts, action and power). These realities partly lie within the arrangement and system of housing delivery and urban management in the FCT, and partly within the interaction of the building industry and institutional actors such as the Federal Ministry of Lands, Housing and Urban Development, Federal Capital Development Authority (FCDA), the six (6) Municipal Area Councils of the FCT, Federal Housing Authority (FHA), Federal Mortgage Bank of Nigeria (FMBN), Mortgage Banking Association of Nigeria, Real Estate Developers Association of Nigeria (REDAN), International industry players like the IMF, World Bank involved in the processes or within the system. Some of the realities also lie within experts: policy makers, architects, builders, engineers, quantity surveyors, urban planners, estate surveyors, among others, in and around the building industry and the built environment involved with the implementation of housing and urban development policy/programmes in the FCT. The nature and character of housing provided in the FCT over time also

contain some realities such as the evictions of "Self-help" housing providers (SERAC, 2007) similar to the "Barriadas" of Lima, Peru in the works of Fernandez-Maldonado, 2006 & 2007 (le Roux, 2011). Therefore, answers to the questions presented in chapter one of this work (Sections 1.3, 1.4 and 1.5) were sought from the relevant institutional frameworks of the NHP, industry and individual actors in the FCT **(**See Questionnaires as well as other research instruments used).

###### METHODOLOGICAL APPROACH

The methodological approach to this study is open to either inductive or deductive reasoning. this study opted for deductive reasoning because it helps researchers to work from the more general to the more specific problem (Trochim, 2006). Housing is a complex phenomenon and dealing with its issues require holistic understanding for specific issues such as delivery. Trochim (2006) provides a concise explanation to the logic of problem solving in deductive reasoning: First, the logic operates from top to down, starting with thinking up a theory about a topic of interest. This aspect has been covered in the literature review, where theoretical assumptions were explored for the purpose of underpinning the thesis. The second stage involved narrowing down into more specific hypotheses/research questions that the study tested or examined. This aspect was covered in chapter one through the formulation of relevant research questions and hypotheses (See Section 1.4 and 1.5). The third stage involved narrowing down even further by collecting *data* to address the objectives and research questions. The process of data collection was examined in this chapter with a view to developing an appropriate housing delivery framework that is efficient and sustainable. The last stage was a confirmation/validation

carried out by testing of the framework and scrutinising of research with specific data and analysis.

###### RESEARCH STRATEGY

Two possible strategies opened for solving complex problems like housing are Survey and Case Study. (Yin, 2009) described a case study as:.

an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. …the case study inquiry copes with the technical distinctive situation in which there be many more variables of interest than the data points and as one result rely on multiple sources of evidence, with data needing to converge in triangulating fashion, and another result benefits from the prior development of theoretical propositions to guide data collection and analysis.

Case study strategy is appropriate for use where: first, a study is trying to uncover a phenomenon, test a theory and create causal links; secondly, the phenomenon under investigation is a complex functioning unit; thirdly, the ‘case’ under investigation is in its natural context and can be studied with a multitude of methods; and finally, the case is a contemporary issue (Yin, 2009).

Survey is a strategy of inquiry that provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population using questionnaires or structured interviews for data collection with the intent of generalising from a sample to a population (Creswell,2009).

The basic intent of a survey is to "test the impact" of a treatment on an outcome, at all times controlling for all other factors that might influence that outcome. The survey follows a format that might influence that outcome, and a format that among others has the survey design, the population and sample, instruments, identified variables in the study

(independent, dependent and or control), data analysis and interpretation and a defined/designed methodology (Creswell,2009).

While case study as a strategy has these advantages, the unstructured nature of housing, its "wicked" nature and the uncoordinated "implementation approach" to its delivery carried out in the FCT as shown so far in this study, makes the choice of Survey as a strategy a more appropriate option particularly for paradigms of housing delivery, a pragmatic approach.

###### RESEARCH DESIGN

###### Methods

For the purpose of collecting robust data that addressed the complexity of housing, this study utilised Persuasive Mixed Research Methods, including structured questionnaire survey and analysis of documents. Persuasive Mixed Method involves the concurrent mixing of methods which merge or converge quantitative and qualitative data in order to provide a comprehensive analysis of the research problem – the constructability and sustainability of housing and its efficient delivery in Abuja, FCT. Data was therefore collected concurrently and integrated in the interpretation of the overall results (Cresswell, 2009). In this research, the qualitative data addressed the frameworks (structures, processes and functions), while the quantitative, addressed the outcomes. Variables were analysed for their relationships and performances among the systemic frameworks (sub-systems).

###### Sampling Techniques

The sample population consists of estates in the FCT, Abuja, experts, practitioners and key industry role players as well as end-users and beneficiaries. These are involved in housing policy making, policy implementation, housing finance and production as well as

urban planning in the FCT. Probability sampling technique was utilised in the sampling of respondents (designers, producers/developers, marketers, end-users/beneficiaries, managers among others) for questionnaire survey. A probability sampling method is any method of sampling that utilises some form of random selection (Trochim, 2006) and for this study, a simple random sampling technique was employed. A simple random sampling allows for the selection of *n* units out of *N* such that each *N*C*n* has an equal chance of being selected. Where: *N* is the number of cases in the sample frame; *n* is the number of cases in the sample; and *N*C*n* is the number of combinations (subsets) of *n* from *N* (Trochim, 2006). The selection of the estates and subsequent units was randomly sampled (simple random sampling). The estates could have been ideally stratified, but the absence of an organised stratification of the estates in the FCT compelled a simple random sample to be used.

Non-probability sampling technique was utilised in the recruitment of participants for the questionnaire. The difference between non-probability and probability sampling is that non-probability sampling does not involve random selection and probability sampling does (Trochim, 2006). There are variances of non-probability sampling techniques such as convenience sampling, purposive sampling, quota sampling, snowball sampling among others. This study employed purposive sampling technique for its appropriateness. In purposive sampling, a researcher samples with a purpose in mind (Trochim, 2006 ) and for this study. The questionnaire were conducted to corroborate evidence from the pilot survey conducted earlier in the study.

###### Sample Size

From the population, the selection of sample frame had the following criteria:

* + - * Estates in formal settlements.
      * Isolated informal estates in each Municipal Area Council (MAC) for consideration.
      * Households on equal representation (Simple Random Samples), irrespective of ownership structure.
      * Key industry role players and experts

The study used Simple Random Sampling technique, using the table of random numbers to select a more manageable number of estates in view of the large size of the study area. Simple Random Sampling is a method of selection where each possible sample of different units has an equal chance of being selected into the sample (Moses & Kalton 1974, p. 81).

A sample size of respondents in 18 estates of varying sizes covering the six (6) Municipal Areas (MA) of the FCT were randomly selected and engaged, three (3) in each MA. Respondents purposively selected were Chief Executive Officers (CEO) of MDAs, National Housing Council, Professional and Regulatory Bodies of the built environment (Architects, Builders, Engineers, Town Planners, Quantity Surveyors, Estate Surveyors and Land Surveyors), Financial institutions involved with housing finance such as FMBN, Mortgage Banking Association of Nigeria, Selected commercial banks, Bank of Industry, National Housing Trust Fund (NHTF), and some selected tertiary institutions of learning with relevant programmes on housing and its delivery.

The sample size was determined based on the work of Krejcie and Morgan (1970). They developed a Table for sample size that could have been calculated or constructed from the formula:

###### s=X2NP(1-P)/d2(N-1) +X2P(1-P) (1)

s = required sample size

X2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N = the population size

P = the population proportion (assumed to be .50 since this would provide for the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05). They developed based on above Table 8.

Table 8: Table for Determining Sample Size from a Given Population

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *N* | *S* | *N* | *S* | *N* | *S* |
| 10 | 10 | 220 | 140 | 1200 | 291 |
| 15 | 14 | 230 | 144 | 1300 | 297 |
| 20 | 19 | 240 | 148 | 1400 | 302 |
| 25 | 24 | 250 | 152 | 1500 | 306 |
| 30 | 28 | 260 | 155 | 1600 | 310 |
| 35 | 32 | 270 | 159 | 1700 | 313 |
| 40 | 36 | 280 | 162 | 1800 | 317 |
| 45 | 40 | 290 | 165 | 1900 | 320 |
| 50 | 44 | 300 | 169 | 2000 | 322 |
| 55 | 48 | 320 | 175 | 2200 | 327 |
| 60 | 52 | 340 | 181 | 2400 | 331 |
| 65 | 56 | 360 | 186 | 2600 | 335 |
| 70 | 59 | 380 | 191 | 2800 | 338 |
| 75 | 63 | 400 | 196 | 3000 | 341 |
| 80 | 66 | 420 | 201 | 3500 | 346 |
| 85 | 70 | 440 | 205 | 4000 | 351 |
| 90 | 73 | 460 | 210 | 4500 | 354 |
| 95 | 76 | 480 | 214 | 5000 | 357 |
| 100 | 80 | 500 | 217 | 6000 | 361 |
| 110 | 86 | 550 | 226 | 7000 | 364 |
| 120 | 92 | 600 | 234 | 8000 | 367 |
| 130 | 97 | 650 | 242 | 9000 | 368 |
| 140 | 103 | 700 | 248 | 10000 | 370 |
| 150 | 108 | 750 | 254 | 15000 | 375 |
| 160 | 113 | 800 | 260 | 20000 | 377 |
| 170 | 118 | 850 | 265 | 30000 | 379 |
| 180 | 123 | 900 | 269 | 40000 | 380 |
| 190 | 127 | 950 | 274 | 50000 | 381 |
| 200 | 132 | 1000 | 278 | 75000 | 382 |
| 210 | 136 | 1100 | 285 | 1000000 | 384 |

###### Source: Krejcie, R.V. and Morgan, D.W. (1970)

Note- N is Population size S is Sample size

The questionnaire survey covered relevant institutions and organisations responsible for the formulation and implementation of the National Housing Policy such as the Ministries, Departments and Agencies (MDAs) of government. These included Federal Ministries of Lands, Housing and Urban Development, Works, Transport, Power and Energy, National Planning Commission, Federal Housing Authority (FHA), housing providers and developers like Real Estates Developer Association of Nigeria (REDAN) and Federation of Industry Contractors (FOCI). Others are Standard Organisation of Nigeria (SON), Nigerian Building and Road Research Institute (NBRRI), Estate and Facility Managers, End-users (Tenants, Owners).

Important restrictions to ensure quality of respondents were used. These included years of relevant working experience and positions, academic qualifications, status of registration of professionals with their Professional and Regulatory bodies in the questionnaires, and other relevant bio-data. Figure 21 shows the research design steps and outcomes.

For this work the population as stratified was 400 and from the table, sample size is

196. The work however produced and administered 200 questionnaires. 178 were retrieved for screening and analysis.

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**STAGES**

1. **Literature Review**

Housing Definition

Housing Delivery National- Housing Policy Delivery Approaches Housing Status

**Investigate Housing**

* + Policy in FCT

1. Documents
   * Reports
   * Archival Data
   * Questionnaire

**Investing Building Industry and Housing Stakeholders:**



**III**

**Questionnaire-Pilot survey**

**Framework Design**

**& Validation**



**IV**

`

**OUTCOME**

* Housing Deficit; Acute shortages; Failure of Policy delivery approaches



* Defective understanding of Housing Complex Phenomenon/Management
* **Research Gap: Delivery was Inadequate and not sustainable** Aim, Objectives, Research Questions, Conceptual Framework

**Research Gaps- explained**

* Inadequate understanding of complex Nature, Levels, and Components of housing
* Housing problems are “wicked problems”
* **Defective Policy and Practices**: i. Inadequate theoretical and delivery framework;

1. Unsustainable delivery approaches; and
2. Housing solution requires participative, holistic, inclusive, integrative approaches. **Re-think: Systems Approach**

**Inadequate/Absence of Delivery**:

* + Platform or organisation
  + Defined/designed Frameworks
  + Housing Management framework

**Field work: Pilot Survey & Outcomes**

* **Field survey and validation**
* **Findings, Framework**
* **Conclusion and Recommendation**

###### Figure 21: Research Design Steps and Outcomes/ Source: Author Source: Author

###### RESEARCH AREA

The research area is the Federal Capital Territory (FCT), Abuja which covers the Federal Capital City (FCC), Abuja, Nigeria. It was established in 1978 as Nigeria's new and developing federal capital. Abuja was properly conceived and planned to correct among others, the housing constraints experienced in the old federal capital city of Lagos (FGN,1978).

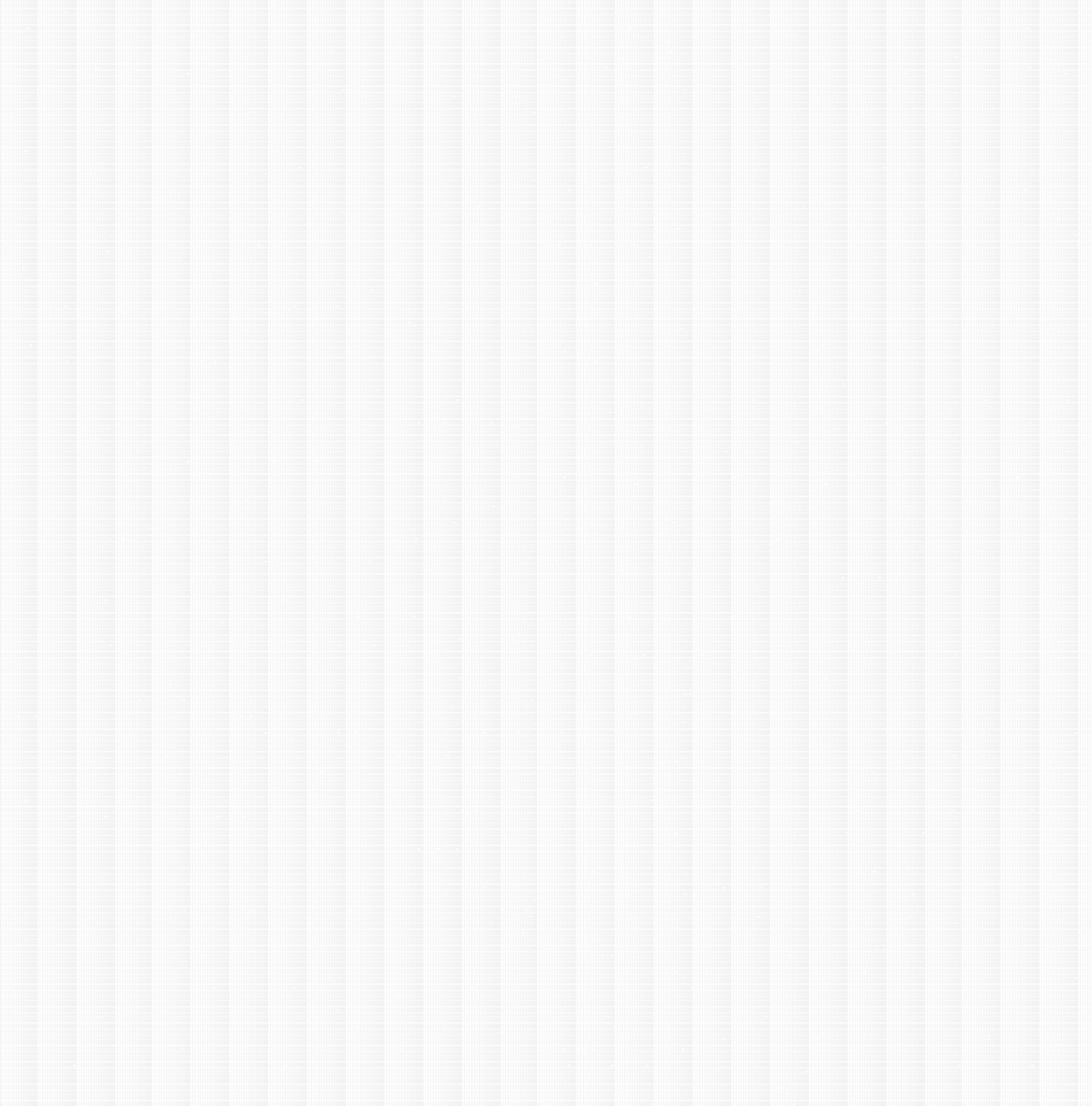
The development of Abuja is managed and funded largely by the federal government through the Federal Capital Development Authority, (FCDA) and the Ministry of the Federal Capital Territory, (MFCT), the Federal Ministry of Lands, Housing and Urban Development (FLH&UD), the Federal Housing Authority (FHA) and the private sector.

Abuja, centrally located in the country (Figures 22 and 23) was selected and designed by one of the best city planners in the world, International Planning Associates (IPA) of United States of America. The FCT, Abuja is accessible from all the parts of Nigeria by road and air (Figure 23). Has every means of communication and "promise" to be one of the best liveable built environment in the world. It has adequate land, 8,000Km2, out of which the FCC has been allocated 250Km2. It is endowed with human and natural resources for urban development. It has been the focus of development of the nation and aspires to be the national "show piece" of city development as well as be among the best in the world as contained in the Vision20-2020 document.

However, over thirty (30) years after its development started, and when compared with contemporary new capital cities that are being simultaneously developed such as Putrajaya (Malaysia) or Brasilia (Brazil), the housing situation in Abuja becomes a compelling study subject. This is because huge resources have been and are being invested into it. The FCT, Abuja is the Federal Republic of Nigeria's seat of power (Africa's largest economy). Housing roles in social, economic and environmental developments emphasise

the attributes of the economy, surroundings, history, culture and systems in cities as a matter of fundamental human right and need. Housing contributes significantly to urban development.

Figures 23 show the centrality of Abuja, its suitability and position in the Nigerian context and Africa is supported by an urban land use suitability analysis as in Figure 24. The potentials for its being the model city from which all other cities in Nigeria would emulate are obvious. For instance the capacity of its being self sufficient in power/energy and water supply are very high as seen in Figure 25. Its political influence can even have an African significance (Figure 23). All these show the important role of the FCT to Nigeria and beyond in housing.

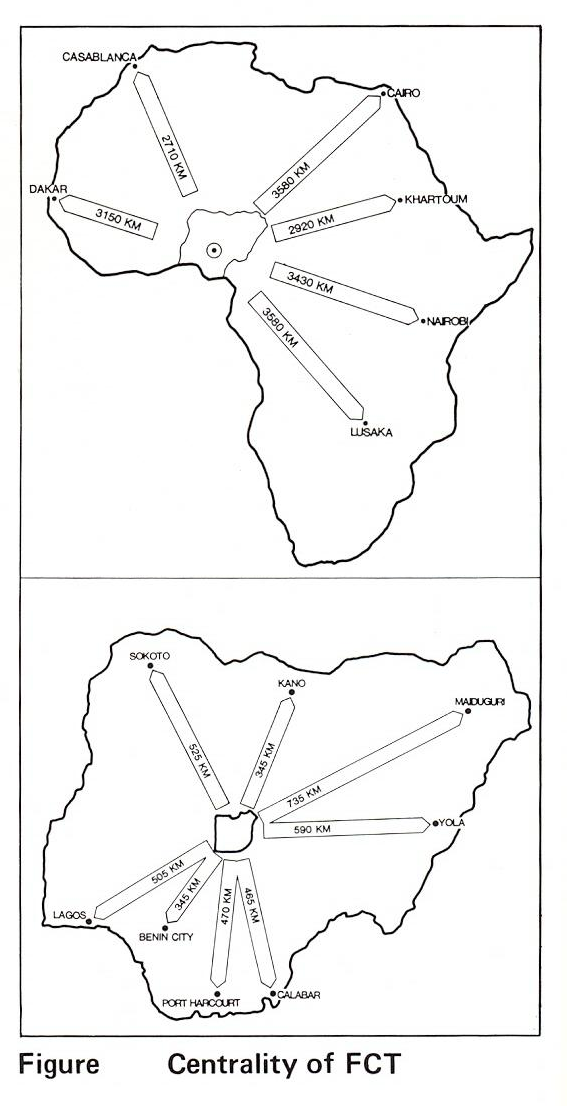


**N**

###### Figure 22: Map of Nigeria showing the Federal Capital Territory,

**Abuja, in the National Context.**

###### Source: FGN (1979).



**N**

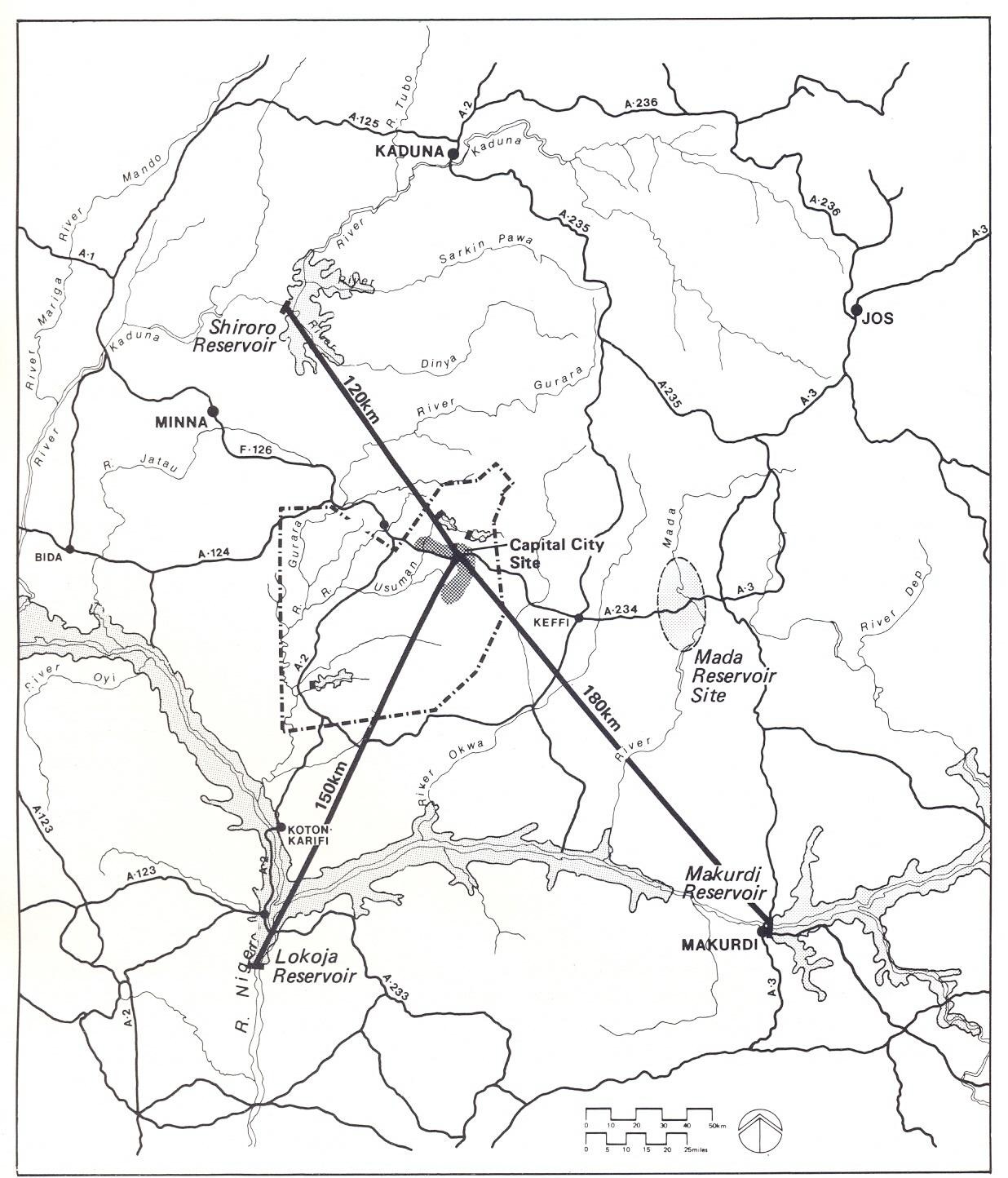
**N**

**Figure 23: Centrality of FCT Source: FRN (1978)**



**N**

###### Figure 24: Urban Land Use Suitability Source: FRN (1978)



**N**

**Figure 25: Potential Power and Water Sources Outside The FCT Source: FRN(1978)**

###### DATA COLLECTION AND COLLATION

* + 1. **Types of Data**

The type of data required for this work are qualitative and quantitative data. Their sources, methods of collection, collation and presentation are discussed in this section.

**Qualitative data:** were sourced and collected from documents in printed and electronic forms- text books, journals, internet, relevant documents including policy statements (National Housing Policy, National Urban Development Policy, Abuja Master Plan, etc.), reports on the implementation and outcomes (performances) of mass housing, financing strategies, building materials developments, etc), communiqués and autobiographies of policy experts in the field of housing and urban development. Case studies from other countries with similar standing and problems (developing countries or those building new capital cities such as Malaysia, Brasil, India, South Africa) were also accessed and studied. **Quantitative data:** Data for this purpose was sourced mainly from the pilot survey and structured questionnaire administered.

###### Data Collection Instruments

The instruments used for collecting data were questionnaires. These were the pilot survey and the structured questionnaire.

###### Data collection

The main issue is examination (investigation) of the extant 1991 NHP frameworks for housing delivery with a view to designing an alternative/more effective framework with structures, processes and functions that will be efficient and sustainable for performance.

Information required are on constructability and sustainability factors (drivers and barriers) of delivery process such as:

1. Goals of delivery - needs, demands and supply of housing in quantity and quality for planning and decision making on the housing mess (typology or model).
2. Approaches based on appropriate theoretical considerations for drivers,

barriers, organisation, political, economic, social, technological and environmental (PESTE) scenario characteristics for the framework's structures, processes and functions.

1. Production imperatives: planning, design, production, industry, stakeholders.
2. Product management: infrastructure/facilities, research and development support monitoring and evaluations for feedback, corrective actions, learning and innovations, etc.
3. The Management of the framework of housing delivery for the impact of development on the society and environment. This will be based on:
4. Establishment of relationships for efficient and sustainable participation, inclusiveness (integration), collaborations and holistic processes by stakeholders for the systems approach framework.
5. Performance indicators i.e. constructability of the:
   1. sub - systems frameworks: structures, functions and processes for efficiency and sustainability in delivery and management for System/sub-systems;
   2. input variables:(land, finance, materials, market, labour, technology);
   3. output variables: productivity, satisfaction, efficiency, adequacy, impacts on society (access, affordability, availability and adaptability); and
   4. Sustenance: stock usage, renewals, distribution, maintenance management.
6. Policy institutional frameworks - concerns are with planning, organisation of political, economic, social, technological, environmental (PESTE) scenario characteristics of the formal key industry players in the Implementation Approaches to delivery. Variables worth considering are:
   1. Policy thrust, drivers/barriers, theoretical bases for levels of involvements, influence and impacts.
   2. Stakeholder organisation and performance, participation, collaboration Integration, holism, inclusiveness in delivery activities and demographic characteristics of participants (plural, dichotomy, etc).
   3. Roles/responsibilities, influences of/on designs and production, products, product management on environment (cities) and development. Evidence from output and performances of the framework.

###### Questionnaire: construction/schedules of questionnaire and administration:

A Pilot survey was earlier conducted in December, 2014 in Uyo on key role players on housing delivery in Nigeria during the 4th Annual Council of Housing Meeting organised by the Federal Ministry of Lands, Housing and Urban Development. Out of a total of thirty (30) Questionnaires administered by this researcher, twenty five (25) were retrieved (i.e. 83.3% response rate). After screening the returned questionnaires for completeness, two (2) were found to be incomplete in many aspects and were rejected. Thus, a total of twenty - three (23) questionnaires (i.e. 77% acceptance rate) were accepted for analysis. These were analysed using for an assessment of the key role players (industry practitioners, policy makers and regulators, financial institutions, developers, academics and end-users) on housing status, the Implementation Approach of the extant National Housing Policy and their views/opinion on the need for an alternative in view of the persistent failure seen in the huge housing deficit and acute housing shortages in the FCT, Abuja. Outcomes were presented in graphs and frequencies. It was also used to improve the quality of the survey questionnaire for the research. The questionnaire's details are as follows:

###### The Construction/Schedule of questions

1. Biodata of respondents, organisations and households, characteristics questions on gender, age, level of education, occupation, professional status. These were for the quality of the research's reliability.
2. Documented information on the National Housing Policy and performance/status of housing in the FCT, Abuja (prospects and problems/challenges) and from observations of trends of housing developments. Information here is used to corroborate the status of housing and performance of the policy frameworks.
3. Questions were further asked on the housing delivery frameworks of the NHP - the structure, function and processes and factors of efficiency, productivity, performance and sustainability. Information required include identification of drives/barriers and their impacts; structures and actions; functions and their roles and responsibilities; processes and their influences; and stakeholders and their organisation. The characteristics of participation, involvement, inclusiveness (integration), collaboration and holistic paradigms in the context of systems thinking and theory were examined.

Information was needed to establish relationships of operations of the various sub- systems of the Systems Approach framework. Information was structured to measure impacts and strength of relationships of participants, structures, functions and processes in the systems approach planning and management sub-systems. Responses were on a Likert Scale of 1 to 5: 1 with lowest rank, graduating to 5 as highest rank. The ranking pattern in the questions were sometimes reversed to avoid/check response bias by the respondents (Pallant, 2011). Reliability and normality checks were conducted on the data.

1. Questions sought information on the potentials of the Systems Approach Framework predicatively within the provisions of the Policy and building construction industry players and experts. The systems approach framework concept was code named the PICHparadigm (Participatory, Inclusiveness/Integrative, Collaborative and Holistic)paradigm. Information was required on the building industry's organisation, scope, capacity, relationships for productive performance indicators, management (monitoring and evaluations of capabilities/practices, and research and development support components) for sustainability.

The questionnaire was used to PREDICTABLY validate the claims of the Systems Approach Framework to delivery. Information were to be evaluated predictably because the Systems Approach to housing delivery has not been applied in the FCT, Abuja. This study is a pioneer work. The framework being developed is a predicative one, which if validated by the majority of the stakeholders, would be an addition to the body of knowledge for housing delivery and management. Information was collected, collated and presented for analysis using statistical tools for the development of the framework.

In summary, the structured questionnaire was designed to address policy, practice, product and management questions and objectives of the study. Specifically, the questionnaire sought data for analysis for answers to policy formulation: theory and knowledge basis for policy thrust, strategies, frameworks for planning, designs, production and management as well as actions for sustainable housing delivery.

Secondly, questions addressed policy implementation frameworks and determinants for their efficiency and effectiveness; key performance indicators (KPIs) and strategies/processes for monitoring (measurements) and evaluations of productivity, value and satisfaction from outcomes. Expected responses were for roles, responsibilities and relationships for housing delivery and management, as well as identification of drivers and barriers to the processes, controls for monitoring and evaluation of the framework and outcomes. Data were also sought for information management of the system and research and development support for sustainable delivery. These were to design an appropriate housing delivery and management framework for the FCT, Abuja and Nigeria.

Targeted respondents included chief executive officers (CEOs) of relevant federal government ministries, departments and agencies (MDAs), Presidents of regulatory and professional bodies of organisations involved in housing developments in the built environment e.g. architects, builders, engineers planners, quantity surveyors; CEOs of FHA, FMBN, FCTA, directors and senior officials of affected MDAs; experts and

practitioners in housing finance and provision as well as informed end-users, beneficiaries, marketers and managers. These have the knowledge, including tacit knowledge, expertise, experience and understanding of the issues of housing delivery. The goal was to obtain information directly from those in the centre of the aim and objectives of the study, housing delivery and to corroborate this with those of the literature and pilot survey.

The design of the questions were rigorously reviewed after the Pilot Survey to strengthen areas of weaknesses in the design, improve on simplification and clarity of expressions to remove ambiguities and technical jargons as much as possible but without losing meaning.

**Primary sources**: primary data was sourced from structured questionnaires with an appropriate sample frame administered on key housing industry players: policy makers, developers, producers and end-users and housing experts from professional and regulatory bodies of the built environment: architects, builders, engineers, planners, surveyors, estate surveyors, quantity surveyors, facilities managers, environmentalists.

**Secondary sources:** Relevant texts from books, journals, documented conference proceedings, archival records from ministries, departments and agencies (MDAs) of the federal government, research publications/works and electronics means (internet). The Federal Capital Development Authority (FCDA), Ministry of the Federal Capital (MFCT), Bureau of Statistics(BOS), Federal Ministry of Lands, Housing and Urban Development, National Population Commission (NPC), National Planning Commission, Municipal Area Councils (MACs) in Abuja, the Abuja Master Plan of 1978 and its Review of 2001, Technical Reports from MDAs, Research Projects and theses.

###### Questionnaire Administration Procedure

Before embarking on actual fieldwork, several trips were undertaken on observations (reconnaissance) study of housing developments in the FCT, Abuja by the researcher. These were to familiarise the researcher with the housing scenario (mix). This covered:

* The entire study area - planning for housing.
* Physical characteristics of housing developments.
* Land use and housing patterns, location and types of housing units, organisation of space, source and quality of materials, type of labour and technology/techniques used in production, procurement options.
* Housing conditions - quality of fabric, maintenance management, surroundings, infrastructure and delivery of services.
* The impacts of urban planning laws.
* Physical features covered in the Abuja Master plan, but currently distorted by developments.
* Ownership structure; Houses/Estates in contravention of urban planning laws: Land use, zoning, safety standards, access, setbacks, building heights and sizes, space between buildings, fire protection and materials used for construction, presence/absence of pipe borne water supply, boreholes, wells, sewerage, electricity, roads(tarred/untarred) health and recreational facilities and their serviceability.
* Commercial activities: Shops, filing station, slaughter houses, markets, small scale industries, etc,
* Design patterns and planning for housing production (inspection)
* Presence of squatter settlements, "self -help informal" settlements.
* Socials: parks, gardens, events management halls, sports facilities,
* Cultural: places of worship, theatres, shrines, monuments, etc.

The Principal researcher engaged the services of eight (8) carefully selected Research Assistants, graduates from universities, resident and located in different but relevant parts in the FCT, Abuja for the administration of the questionnaires. They are all familiar with research administration, and were given a guided orientation and training on the peculiarities and nature of this work, and on strategies to use to motivate respondents to answer all the questions, but without interference. These were Blessing Emmanuel, Chalya Dashe, Lawrence Gabriel Manggei, Nanfa Tali, Moboni Alemika Luguja, Matthew Ocheme, Oyiza Stephen and Mrs. Christy A Alao.

These were randomly distributed to the respondents who were similarly randomly selected based on a purposive random selection sample method as discussed in Chapter Three of this work. The Assistants were all monitored by the Principal Researcher on a daily basis. All challenges encountered were promptly attended to based on a daily evaluation exercise conducted to ensure success. The exercise lasted two weeks.

###### The Challenges

The Research Assistants, adequately trained, mobilised and motivated, had the following challenges:

1. There was significant resistance/reluctance to responding to questionnaires among respondents generally. Many had biased/apathetic mindsets to its being seen only as an "academic" exercise of no real value/worth. Others feared for their security and confidentiality of the information they may give, despite all assurances to the contrary. The most surprising resistance came from the government MDAs who felt they were under "investigation or interrogation."
2. Consequently, the exercise had serious challenges of the timings to meet the respondents who were very senior and busy people. Several visits had to be made

to retrieve the questionnaires. At the end of the exercise, some of the questionnaires were not returned, despite efforts to do so.

1. Some organisations had several bureaucratic obstacles put in place to avoid or make it hard to have them respond to the questionnaires, and therefore returned them not responded to and in some cases grossly inadequate for any meaningful use. This was the lowest point of the experience.

It was however, not all difficulties. Private developers, professional/regulatory bodies and tertiary institutions appreciated the initiative and the quality (depth) of the research, which they saw as very relevant and practical to the issue - housing delivery.

###### DATA PRESENTATION AND ANALYSIS

###### Data Presentation

Data were mainly presented in tables, figures and graphs. These reflected, related and enabled interpretation of results and analysis of the work.

###### Qualitative Analysis

Data analysis was done as follows: first, the data was categorised through coding and indexing. The coding and indexing of data helped in the identification of themes and patterns, which were then organised into coherent categories as shown in the body of the work in Chapter Two. The next step in the analysis of data was a further identification of patterns and creation of connections/relationships between and within categories. The last stage, brought all the data together for analysis using appropriate statistical tools for results, interpretation and outcomes. These procedures are consistent with work of Taylor- Powell and Rener (2003). Data were subjected to statistical analysis using frequencies, t- test analysis, and Analysis of Variance (ANOVA).

###### Quantitative Analysis

The data collected were collated using Microsoft Excel. Statistical Package for Social Sciences (SPSS) version 21 was used to analyse the data. The questionnaire responses (raw data) were screened for missing values and entries for quality of outcomes. By employing SPSS, these analyses were conducted: Analysis of Variance (ANOVA) was used in the analysis of relationships between the study variables; Frequencies Analysis was used to scrutinise the drivers and barriers to housing delivery in the FCT for their relationships and influences on the frameworks and sub-systems. Lastly, t-Tests Analysis was used to analyse the strength of relationships of the factors of delivery inputs, process frameworks and structure of constructability and factors of performance for sustainability.

###### Derivation of Variables

In furtherance of steps III and IV of the research design steps and outcomes, Figure 20, a non-parametric comparative analysis of the provisions approach against the proposed systems approach was done from literature. The specific variables relevant to the pursuit of analysis for the validation of the systems approach framework are in Table 9. The analysis used a one sample t-test for associated impact variables of performance of the frameworks.



###### Table 9: Systems framework design analysis scheme

|  |  |  |  |
| --- | --- | --- | --- |
| **Components of Housing Scheme (A)** | **Systems Components (Dependent**  **Variables) (B)** | **Key Performance Indicators**  **(Independent Variables) (C)** | **Valuation/ Assessment (Outcomes and**  **Impacts) (D)** |
| 1. Planning (concept and initiation) 2. Design 3. Production 4. Housing Management (Occupancy + Post occupancy evaluations) | Participation, Inclusive/Integration Collaboration Holism | **INPUT(4Ms)**  **Resources**: Money(Finance) Machinery (Technology & Expertise)  Men (Labour/End-Users) Material (Land)  **Management**   1. Framework (policy thrust, strategies, structures, processes, functions); 2. Enabling environment; 3. Management options: Project   Development concept Business  Public   1. Support Service Provision: M &E; R&D 2. Decision making 3. Relationships 4. Roles and responsibilities and organisation   **Framework:** Structures, Functions, Processes | Effectiveness; Flexibility; Sustainability; Constructability; Adaptability; Adequacy; Efficiency; Liveable Communities; Choices available;  Security of property; Harmony;  Quantity; Quality;  Economic impacts; Maintainability; Feedback, learning; Employments; Environmental control/impact; Satisfaction  Value Satisfaction Impacts |
| **NB.** All items in C were analysed for decision making, relationships, organisation and roles and responsibilities in the framework against all items in B for outcomes and impacts D (separately) using the extant provisions approach framework and management. Same was repeated for comparative analysis employing management for drivers and barriers of the systems approach frameworks. Both were evaluated for  efficiency, adequacy and sustainability. | | | |

**CHAPTER FOUR RESULTS AND DISCUSSIONS**

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###### 4.1 PRELIMINARY RESULTS

1. **Response Rate**

In response to the sampling technique for this work, a total of 200 questionnaires were administered, 135 (67.5%) were returned, while 65 (32.5%) were not. After thorough screening, 75 or 55.6% were found to be suitable for analysis. This is acceptable for analysis especially for responses to research in the construction industry. Response rate in construction management research is normally between 20% and 30% due to the difficulty in obtaining responses from industry practitioners (Akintoye, 2000; Dulami, Ling and Bajracharya, 2003; Yang, Shen, Drew and Chan, 2009).

In this survey, a good representation of all the stakeholders was captured. See Appendix G for details of ministries and organisations contacted in this survey.

###### Reliability of Data

A Likert ranking scale was used to obtain data of opinion on the questions for this study. Descriptive statistics of the variables of gender, age bracket, marital status, highest academic qualification, professional affiliation, highest professional membership attainment, position or cadre in organisation, years of relevant experience in organisation, year organisation was established, staff strength of organisation and involvement in National Housing Policy of respondents used Frequencies and Percentages to determine the values and influence of the variables on the issues.

The Reliability statistics was computed on a Cronbach Alfa Coefficient Value. This statistics indicates the quality of internal consistency reliability of a scale for analysis. When a scale fails to be consistent and reliable, the measure of that value of the data being considered will not be dependent upon or acceptable for addressing the issue(s). A value of

.7 suggests a very good internal consistency reliability of a scale used for any sample

(Pallant, 2011). Usually a value of .7 is considered acceptable though .8 is preferable. For all questions in this study where the Likert scale was applied, the following were values of the Cronbach Alpha coefficient for all items are in Table 10.

For all the items, they had very good internal consistency Cronbach Alpha Coefficient values ranging from .71 to .96. The data is therefore acceptable for addressing the aim and objectives of this work as they are reliable and valid and therefore fit for purpose.

###### Table 10: Table of Reliability of Data of Ranked Items

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/No | Qn.  No. | Description | No of  Items | Cronbach Alfa  Coefficient Value |
| 1 | 17 | Extent of organisations participation in  national housing policy formulation | 8 | 0.91 |
| 2 | 21 | Extent of involvement of organisation in determination in areas of housing  development | 8 | 0.89 |
| 3 | 22 | Extent of efficiency ( synergy and inclusiveness) of components of framework  of delivery | 3 | Items were too few (L5) |
| 4 | 25 | Extent of success of housing delivery  factors | 11 | 0.71 |
| 5 | 26 | Impact of failure of housing delivery  factors | 6 | 0.79 |
| 6 | 27 | Extent of efficiency of management  frameworks | 6 | 0.86 |
| 7 | 30 | Extent of involvement of organisation in  factors of housing delivery | 36 | 0.90 |
| 8 | 31 | Extent of collaboration required in  components of housing delivery | 7 | 0.92 |
| 9 | 32 | Extent of influence of barriers to success of  housing | 21 | 0.94 |
| 10 | 35 | Impact of stakeholders working in a  systems approach | 6 | 0.89 |
| 11 | 36 | Extent of influence of drivers of the  processes to | 26 | 0.96 |

The data were processed using SPSS version 21 for analysis for test of normality of ranking using the Kolmogorov – Smirnov to certify the normality of the distribution of scores. According to Pallant (2011), a result of a sig value of less than .05 indicates distribution of scores is not normal, and therefore unacceptable. Table 10 shows the outcome in this study. All items were higher than the minimum value of .05. The least was

.07. indicating clear normality. They show cases of skewedness, some positive, others negative. This is to be expected in cases where the sample size is less than 200. This does not necessarily indicate a problem with the scale, but reflects the underlying nature of the construct being measured - housing delivery issues which have been described as "wicked problems" (le Roux, 2011, Ritchey, 2005). The scales have already been certified as reliable. (See Section 4.1.2; Table 10). From the descriptive statistics, the t-test mean values for items 1, 5, 8, 9, 10 and 11 in Table 18, exceeded the acceptable normal mean

value of 3. Values for items numbers 2, 3, 4, 6 and 7 were lower. These exceptions cannot make a significant difference as the data has satisfied the test of normality. It is significant to observe that the difference between the mean values and the 5% trimmed mean values are not significant either. This signifies that extreme scores in the statistics are not having a strong influence on the mean (Pallant, 2011). The statistics therefore satisfy the requirements for normal data for analysis and the outcomes can be relied upon.

### Table 11: Table of normality of scale of ranked items.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/No. | Items Kolmogorov-Smirnova | | | |
|  |  | Statistics | Df | Sig |
| 1. | National Housing Policy Participation extent | .096 | 75 | .087 |
| 2. | Extent of involvement in Areas  of Housing Development | .094 | 75 | .098 |
| 3. | Extent of working together in components of housing delivery  Frameworks | .229 | 75 | .000 |
| 4. | Extent of success factors in  Housing Delivery | .070 | 75 | .200 |
| 5. | Impact of Factors of failure in  Housing Delivery | 0.83 | 75 | .200 |
| 6. | Extent of Efficiency of Management Frameworks for  Housing Delivery | .105 | 75 | .038 |
| 7. | Extent of involvement in  aspects of Housing Delivery | .078 | 75 | .200 |
| 8. | Extent of collaboration  Required in components of Housing Delivery | .167 | 75 | .000 |
| 9. | Extent of Influence of Housing  Delivery Barriers | .142 | 75 | .001 |
| 10. | Impact of System Approach  Implanted | .204 | 75 | .000 |
| 11. | Extent of Influence of Housing  Delivery Drivers | .166 | 75 | .000 |

###### Statistics of Respondents

The characteristics (bio-data) of the respondents were examined for reliability, validity and quality of the data. The factors considered were: gender, age, marital status, highest academic qualifications, professional affiliations, professional membership attainment, position or cadre in organisation, years of relevant experience in practice and years of involvement with the National Housing Policy. The results are presented in Table 11.

Table 12:Statistics on Respondents’ Background Information

|  |  |  |
| --- | --- | --- |
| **GENDER** | **Frequency** | **Percentage** |
| Male | 57 | 76.0 |
| Female | 18 | 24.0 |
| Total | 75 | 100.0 |
| **AGE BRACKET (Years)** |  |  |
| Below 25 | 3 | 4.0 |
| 25 – 30 | 15 | 20.0 |
| 31 – 35 | 3 | 4.0 |
| 36 – 40 | 20 | 26.7 |
| 41 – 45 | 7 | 9.3 |
| 46 – 50 | 6 | 8.0 |
| 51 – 55 | 10 | 13.3 |
| 56 – 60 | 9 | 12.0 |
| Above 60 | 2 | 2.7 |
| Total | 75 | 100.0 |
| **PROFESSIONAL AFFILIATION** |  |  |
| Architecture | 9 | 12.0 |
| Client End User Provider | 1 | 1.3 |
| Building | 22 | 29.3 |
| Engineering | 10 | 13.3 |
| Town Planning | 5 | 6.7 |
| Surveying | 1 | 1.3 |
| Quantity Surveying | 3 | 4.0 |
| Estate Surveyors and Valuers | 4 | 5.3 |
| Facility Management | 2 | 2.7 |
| Others | 18 | 24.0 |
| Total | 75 | 100.0 |
| **POSITION/CADRE IN ORGANISATION** | | |
| Top Management | 11 | 14.7 |
| Mid Management | 30 | 40.0 |
| Supervisory | 20 | 26.7 |
| Others | 14 | 18.6 |
| Total | 75 | 100.0 |
| **YEAR ORGANISATION WAS ESTABLISHED** | | |
| Before 1960 | 2 | 2.7 |
| 1960 – 1970 | 9 | 12.0 |
| 1971 – 1980 | 20 | 26.7 |
| 1981 – 1990 | 13 | 17.3 |
| 1991 – 2000 | 7 | 9.3 |
| 2001 – 2010 | 15 | 20.0 |
| 2011 – Date | 9 | 12.0 |
| Total | 75 | 100.0 |

1. **Gender of Respondents**: show a fair mix of the gender of respondents in a profession that is considered male dominated. There were 57 Males (76%) and 18 Females (24%).
2. **Age of Respondents**: show an impressive return. 20% of respondents are young graduates engaged principally in designs and production processes/functions; while 36% are middle aged and maturing mid-career professionals/practitioners. 33.8% of the respondent have matured in the system. It is expected that these should be productive. About 12% are at their retiring age. This also gives hope for succession and good professional mentoring. Results are in Table 9.
3. **Marital Status**: The results show a fair representation of the cross-section of the society, and a stable and responsible group, showing singles (22,7%); married (76%) and widowed 1No. (1.3%). Results are in Table 9.

###### Descriptive statistics of Professional Affiliation

The data on professional affiliations covered highest academic qualifications and professional membership attainments of the respondents. This is in Table 12. The data showed a fair distribution as well as confirming the involvement of a multiplicity of actors. There is also a high percentage of "others" (24%), whose affiliations are not clear. These appear to support the "all comers' industry" debased view the building industry has been described as.

The results show a high representation of Architects 9No (12%), Builders 22No (29 3%) and Engineers 10N0 (13.3%). These seem to be those that are more involved in the practice of building productions. the low levels of Town Planning 5No. (6.7%), Surveying 1No. (1.3%), Quantity Surveying 3No.(4%), Estate Surveying and Valuers 4No.(5.3%0 and Facility Management 2No. (2.7%) suggests low levels of participation in the production, and more into management. It confirms the separation principle stand of the present practice, typical of implementation/provision approach to housing delivery. This is in agreement with literature (Mullins and Rhodes, 2007). The systems approach would

probably have had an even spread of the affiliations/configuration of the statistics displaying a higher level of participation, integration and holism.

It is however significant to observe that the respondents results in Table 9 showing their positions/cadre in organisations show a fair management level of involvement with top management 11 (14.7%), mid management 30 (40%), supervisory cadre 20 (26.7) and others 14 (18.7%). This position can be understood as the present practice is more bureaucratic and with significant government influence.

###### The Professional Membership Cadre.

Positions or Cadre in Organisation and corresponding Years of Relevant Experience of Respondents in Tables 11 and 17 show significant correlations and normalcy of expectation for any industry. It however indicates some areas of note/concern namely:

* 1. There is an experienced and evenly aging population of respondents (practitioners) with corresponding years of relevant experience. Their experiences require tapping into through effective collaborations.
  2. Mid to top management cadre is significant with 40% and 14.7% respectively in those positions. The statistics show a likelihood of more office management respondents (54.7%) and less actual production (field) management, which has 26.7% and 18.7% (45.3%) for supervisory and others respectively. This could be responsible for the high deficit of housing units required and poor quality products resulting in incessant building collapse. This situation require better management of the delivery approach that ensures more holistic participation at the actual production and supervisory levels, active collaborations and inclusiveness in the processes.
  3. The growing interest in professionalism shown in the number of Graduate membership 30No (40%) is a sign of better days to come and should enhance quality of practice for productivity and quality. This is good for the industry.

They will however require mentoring. The results in Tables 13 and 14 compliments this position by having a good crop of qualified practitioners both academically and in their professional callings.

|  |  |  |
| --- | --- | --- |
| **Table 13: Descriptive Statistics of respondents' -**  **Professional Membership Attainment** | | |
| Professional Attainment | Frequency | Percent |
| Graduate | 30 | 40.0 |
| Associate | 12 | 16.0 |
| Corporate Member | 21 | 28.0 |
| Fellow (Corporate) | 11 | 14.7 |
| Others (Not specified) | 1 | 1.3 |
| Total | 75 | 100.0 |

|  |  |  |
| --- | --- | --- |
| **Table 14: Descriptive Statistics of respondents'**  **Highest Academic Qualification** | | |
| Qualification | Frequency | Percent |
| Primary Cert | 1 | 1.3 |
| OND/NCE | 4 | 5.3 |
| HND/BSc | 37 | 49.3 |
| MSc/PhD | 31 | 41.3 |
| Others | 2 | 2.7 |
| Total | 75 | 100.0 |

On the organisations' involvements in the policy, it is significant to observe that from 1991to date, 31No. (41.3%) organisations (Table 15), were established after the promulgation of the National Housing Policy in 1991, while 44 (58.7%) were before. Thus, organisations are aware of and have adequate knowledge of the policy. Only 9 (12%) were established less than 10 years ago. It is therefore apt to expect positive impacts from the roles played by the organisations in all aspects of the policy and adequate outcomes from the performance in implementing the policy as all organisations should have keyed into the provisions of the policy.

Results in Table 14, on the levels of involvements of organisations in the National Housing Policy show unimpressive levels of involvement. The result show consistency in the number of respondents involved (ranging from 18 to 21) spanning a period of 20 years (1991 to 2010) and declining from 2011 to date. This indicates inconsistency in the level of involvement in the policy. The level of involvement is not growing. It would seem that those involved are principally made up of government respondents, which explains the results in Figures 26, 27 and 28, where involvements are mainly in areas of policy formulation and design of implementation strategies and other such administrative functions and less in technical assistance, estate development, housing management; and far too little in consultancy services, beneficiaries/end-users involvements. A possible reason for this situation is the influence of strategic barriers and or drivers of the delivery frameworks that require management. This is being examined in this study.

|  |  |  |
| --- | --- | --- |
| **Table 15: Descriptive statistics of respondents'**  **involvement in National Housing Policy** | | |
| Period (10 years) | Number of respondents | Percent |
| Before 1991 | 20 | 26.7 |
| 1991 - 2000 | 18 | 24.0 |
| 2001 - 2010 | 21 | 28.0 |
| 2011 - Date | 16 | 21.3 |
| Total | 75 | 100.0 |

Identification of delivery determinants Monitoring and evaluation guidelines Design of implementation strategies

Drafting the policy thrust Design of institutional framework Provision of housing data

Identification of problems

0

5

10

15

20

25

**Number of Respondents**

Series1 Series2 Series3 Series4 Series5

###### Figure 26 Extent of participation at different levels of policy

**(Qn.11 Appendix A2)**

###### Key

1= very high extent of participation 2= high extent of participation

3= moderate extent of participation 4= low extent of participation

5= very of participation

12

**N e**

**u s**

**R** 10

**m p**

8

**b e**

**r**

**o n d e n t s**

6

4

**o**

**f**

2

0

1

2

3

4

5

Policy formulation Policy implementation

Performance monitoring and evaluation

Effecting corrective actions on performance lapses

###### Figure 27:Extent of involvement in collaboration by organisations in the FCT. (Qn.12 Appendix A2)

**Key**

###### 1 = highly involved in collaborations by organisations 2 = involved

**3 = moderately involved 4 = rarely involved**

###### 5 = not involved at all

Technical Assistance Consultancy Services Beneficiaries/End Users Estate Development Housing Management Housing Production Monitoring and Evaluation Policy Implementation

Policy formulation

0

2

4

6

8

10

12

Number of Respondents

**Figure 28 : Major roles of respondents' organisations in housing delivery (Qn. 6 Appendix A2)**

Results of staff strength of organisations is in Table 16. Analysing the staff strengths of the organisations show that the building industry remains one of the highest employers of labour in the country with 22No. (29.3%) organisations employing over 3000 staff each. It also has a growing number of small and medium size organisations with 31No. (41.3%) and 12No. (16%) employing between 0 - 500 and 501 - 1000 persons respectively. This would enhance collaborations if the firms strategise to fit into the various components of housing delivery. The policy and its framework for delivery are a veritable tool for this.

|  |  |  |
| --- | --- | --- |
| **Table 16: Statistics of respondents - Staff Strength of Organisation** | | |
| Staff Strength  (No of people employed in organisation) | Frequency  (No. of organisations) | Percent |
| Below 500 | 31 | 41.3 |
| 501 - 1000 | 12 | 16.0 |
| 1001 - 1500 | 3 | 4.0 |
| 1501 - 2000 | 4 | 5.3 |
| 2001 - 2500 | 3 | 4.0 |
| 3001 and above | 22 | 29.3 |
| Total | 75 | 100.0 |

The years of relevant experience of respondents (Table 17), show an industry that is growing well. It has good succession, growth and development prospects, requiring organisation to do so. The industry has potentials to mentor and pass on knowledge, including tacit knowledge required for successful housing delivery. This study, being a macro-view, can only observe such indications as other factors will be necessary for conclusions to be drawn. such factors as the competence levels, use of technology, specialisations and quality of staff are other details required for detailed analysis. But the indications are good for this level of the study

|  |  |  |
| --- | --- | --- |
| **Table 17: Statistics of respondents' Years of Relevant Experience** | | |
| Years of experience | Number | Percent |
| 0 - 5 years | 17 | 22.7 |
| 6 - 10 years | 17 | 22.7 |
| 11 - 15 years | 14 | 18.7 |
| 16 - 20 years | 4 | 5.3 |
| Over 20 years | 23 | 30.7 |
| Total | 75 | 100.0 |

###### RESULTS OF EXAMINATION OF THE EXTANT (EXISTING) POLICY FRAMEWORKS FOR HOUSING DELIVERY IN THE FCT, ABUJA (OBJECTIVE ONE)

The results of the examination of literature on the existing national housing policy frameworks for housing delivery has shown that:

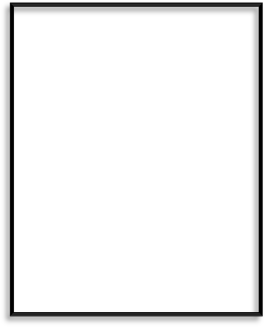
1. Housing and its delivery have not been adequate, efficient and sustainable over 30 years after moving out of Lagos (FRN, 1978; Kalgo and Olatubosun ,2001). The FCT, Abuja is Nigeria's new Federal Capital Territory,(FCT) and houses the Federal Capital City (FCC) of Nigeria.
2. Nigeria promulgated a National Housing Policy, (NHP) in 1991. The NHP of 1991 and its subsequent reviews are to provide "effective solutions" to the perennial problems of housing delivery. However, failure to perform has been traced to "lack of political will, policy inconsistency, poor financing and weak institutional framework" (NHP,2012). This failure has been real and growing. It is characterised by "acute shortages of dwelling units, with its attendant social, environmental and health problems" (NPC, 2010). Environmental and social amenities/services and infrastructure have also been inadequate for sustainable living. The current deficit put at 17 million units, up from Eight (8) million in 1987 (Ozo, 2007). Table 1 has shown the overwhelming failure status of government efforts which Okunfulere (1994,) described as "catastrophic," while Table 2 identified key variables influencing housing development implementation. The FCT has only 303,592 household units (NPC, 2010) to house a population of about five (5) million people. Nigeria is aspiring to be among the top 20 Economies of the world by year 2020!
3. Examination of the Policy's thrusts in all the reviews have shown that housing delivery frameworks have been based on implementation theory and provisions approach, driven by government's "Political will," using designed government policy/programmes. Studies have shown that Provisions Approach and Implementation Theory are neither

adequate nor sustainable to tackle complex "wicked" problems such as housing delivery (Mullins and Rhodes, 2007).

1. Further reflections on the literature on the nature of housing delivery and its problems show that:
   1. Housing in the policy has been defined as a process of "provisions." The nature of housing and its problems are "wicked problems" (le Roux, 2011), which cannot be solved by "traditional linear analytical approaches" (Ritchey, 2005). Housing is multidimensional, unstructured and has multiple levels and components (UNCHS, 2010; van Wyk, 2006). It is a complex phenomenon which needs to be understood for appropriate delivery and management actions (van Wyk, 2006; Chattopadhyay, 2009). The persistent and perennial problems of housing delivery therefore suggest that the NHP 1991 seemed not to have been given adequate thought in the definition and design of the frameworks of delivery for the realisation of its policy thrust (aim) of providing for "home ownership or access" based on "political will, at affordable cost." This has been going on for over 30 years. This provision, when further examined limits its understanding of housing to the noun context of housing to dwelling units only. This is deficient, fails to aid comprehensive knowledge and understanding of housing aspects and ramifications and subsequent delivery. Housing is also a verb as is shown in the reflection and analysis of literature in Figure 29.

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**Strategies**



**POLICY**

**Policy Thrust**

Nature of Housing is unstructured. Multidimensional sectors

**Building Materials**

**Finance**

**Housing**

**Technology**

**GLOBAL LEVEL**

**REGIONAL LEVEL**

**NATIONAL HOUSING LEVEL FCT ABUJA (STATE) LEVEL**

**LOCAL (MACs) LEVEL**

Multiple processes

**PROFESSIONAL SPHERE**

Policy with many sub-policies (Roles & Responsibilities)

Housing Inclusiveness, many actors; receivers, producers,etc.

Outcome – Complex, requiring

**SOCIAL COMPONENT**

**CULTURAL COMPONENTS**

**DELIVERY**

**& MANAGEMENT**

**TECHNOLOGY COMPONENT**

**NATURAL COMPONENT**

**Instruments**

**Actions**

Housing Management Approach

**POLITICAL COMPONENT**

**ECONOMIC COMPONENT**

**(Frameworks)**

**Multidimensional View of Housing Phenomenon**

Source: **Adopted and Modified from UN-HABITAT, 2010.**

**LEVELS & COMPONENTS OF HOUSING PHENOMENUM – CONTEXTUALISED TO FCT ABUJA**

**Source: Modified from van Wyk (2005)**

###### Definition:

***Housing is a complex and systemic process of delivery of dwelling units (adequate, accessible, available, affordable and adaptable) and appropriate facilities and services that support the production and development of sustainable living environment.***

###### Verb

* A fundamental human need, rights, and more than shelter.
* It involves a complex system of intricate development relationships to create, deliver and sustain dwelling units (homes, settlements, cities); meeting social, political, economic and environmental requirements for liveable and sustainable environment (built and natural).



* Requires systemic framework of delivery with adequate sustainable structures, processes and functions driven by end users.
* A social public policy matter, a people’s process

###### Noun

Dwelling Units, Residences and issues of economic demand and supply, subject to and dependent on market forces.

Project Management for production for provisions, not delivery.

###### Figure 29: Understanding the nature of housing and delivery Source: Author

From the analysis above, for adequate, efficient and sustainable comprehensive understanding of housing, this work therefore, developed a new meaning for housing as:

Housing is a complex and systematic process of delivery of dwelling units (adequate, accessible, available, affordable and adaptable) and appropriate facilities and services that support the production and development of sustainable living environment.

###### Housing Delivery

The imperatives of housing delivery and management from literature (Section 2.2.5, and figures 2, 7, 8 & 9) affirm that housing delivery is a complex phenomenon. It lacks a single theory of its own for delivery (Clapham, 2009). The NHP of 1991 and its reviews have not adequately defined housing delivery. The absence of a commanding meaning of housing delivery in the NHP has had adverse effects on the adequacy of delivery as the frameworks were designed to view delivery as an issue of provisions, an economic consideration of demand and supply only and dependent on "market forces." This is ad-hoc and not adequate, efficient and sustainable.

Indeed, the policy was designed without links and management strategies for the "institutional frameworks" (NHP,1991). The efforts of the institutional frameworks of the federal ministry of Works and Housing and their agencies have been ad-hoc and experimental on trial and error activities- such as the low cost housing programmes, sites and services schemes, proto-type houses schemes, owner-occupier schemes and the monetisation schemes. None has been sustainable. Financial frameworks, are still at developmental stages. The mortgage institution and housing market are not vibrant (Akeju, 2007; Ademuluyi, 2006). The building industry, is fragmented, unorganised, weak, not dependable (Bordignon,1998). It operates with no synergy, passion, commitment or organisation for efficient and sustainable delivery. Data from this work in

Figures 30 (Questions 22 to 29, Appendix A2) on the building industry as an institutional framework, found it to be highly relevant to the delivery process, but fragmented, with inadequate capacity and scope for delivery. It required adequate technological structures, building materials market support, institutional frameworks and organisation to earn the confidence (reliability) of the other stakeholders. It is unorganised (Figures 31) as 63% of the industry is disorganised and only 37% is organised in some discrete form. The housing market is similarly inadequate (Figure 33), as it is only 21% adequate. A look at the operational barriers of the industry, confirmed that it lacked adequate team work for delivery processes. The understanding therefore of housing and its delivery from examination of the extant policy and its provisions are that the delivery frameworks provided are grossly inadequate, not efficient and sustainable to drive delivery in the light of the provisions approach (Figure 1). This inadequacy of the provisions approach, has motivated the need to consider the alternative delivery approach to housing in view of the delivery imperatives and components of housing in Figure 32. The components of housing are planning and decision making, design, production and product management (cities and environment), where the impacts and value of housing are assessed and evaluated. To give effect to this, a new definition for housing delivery was developed. Housing delivery is a systemic (dynamic) process of managing the complex phenomenon of housing into sustainable living environments within the provisions of an articulated housing policy - a social public policy.



**F**

**r e q u e n c**

**y**

16

14

12

10

8

6

4

2

0

Series1

Series2 Series3 Series4

Series5

###### Figure 30: The position of building industry in housing delivery

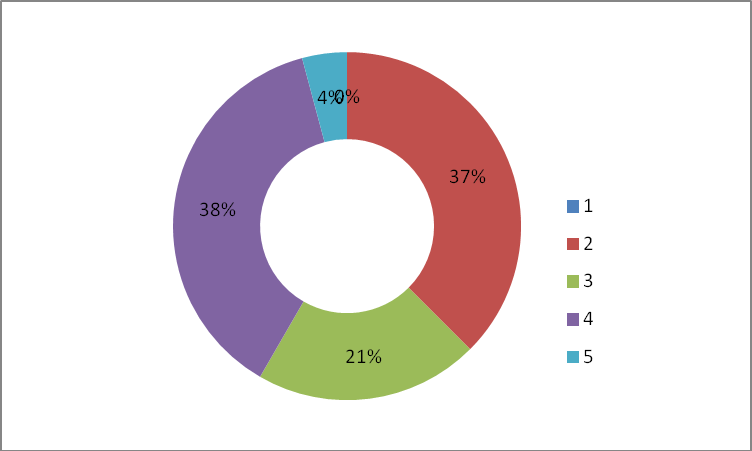
**(Questions 22 to 29, Appendix A2)**

###### Key

**Series 1 = Very Highly Rating Series 2 = High Rating**

###### Series 3 = Average Rating Series 4 = Low Rating

**Series 5 = Very Low Rating**



###### Figure 31: Extent of stakeholders' organisation for housing delivery

Key

1 = highly organised housing stakeholders 2 = organised housing stakeholders (37%)

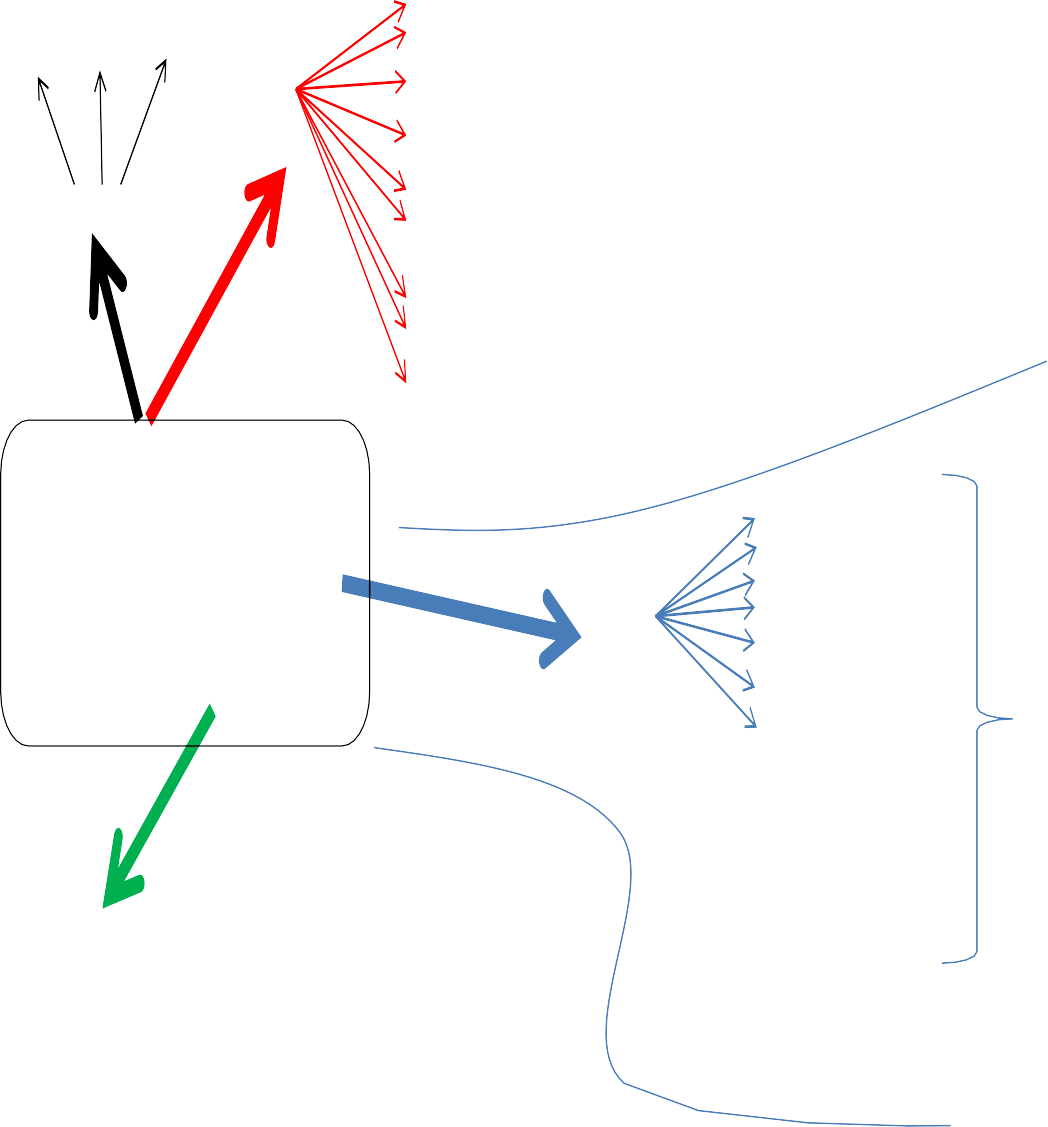
3 = confused housing stakeholders (21%)

4 = disorganised housing stakeholders (38%)

5 = highly disorganised housing stakeholders (4%)

**Housing delivery imperatives point to a management concept that addresses a complex problem.**

* Physical development concept, planning



**Proactive Reactive Interactive**

**Planning**

# 1

**Design details**

# 2

* Energy consumption, water supply/distribution, waste management (end disposal)
* Social & cultural identity, architecture(Forms, shapes, sizes &functions)
* Space utilization, space allocation ,sizes, forms and management
* Technology
* Economic Management (Financing & cost benefit analysis of contributions to physical development, services, costs and capital formation)
* Municipal Infrastructure Development
* EIA (Environmentalcontrol, green building, global warming)
* Buildability/maintainability content:

Constructability and sustainability

#### HOUSING DELIVERY: a systemic (dynamic)

**process or a system of processes of managing the complex phenomenon of housing into a sustainable living environment within the provisions of**

**DESIGN IMPERATIVES OF HOUSING DELIVERY**

#### Production details

Quality Management Financial Management

H & S Management Processes Information Management

#### an articulated housing policy - a social 3

**public policy.**

Material Management

Technology Management Human Resource Management

and

Technology

# 4

##### Product Management

Cities

Economy – Markets, Commerce Capital formation, GDP

Surrounding & Security Networking & Security

(Professionals, Technical, Financial & Admin Personnel and Artisans and craftsmen, non-skilled)

**Constructability: Construction & Project Management.**

**PRODUCTION IMPERATIVES OF HOUSING DELIVERY**

##### Environment

History (Land marks, Monuments)

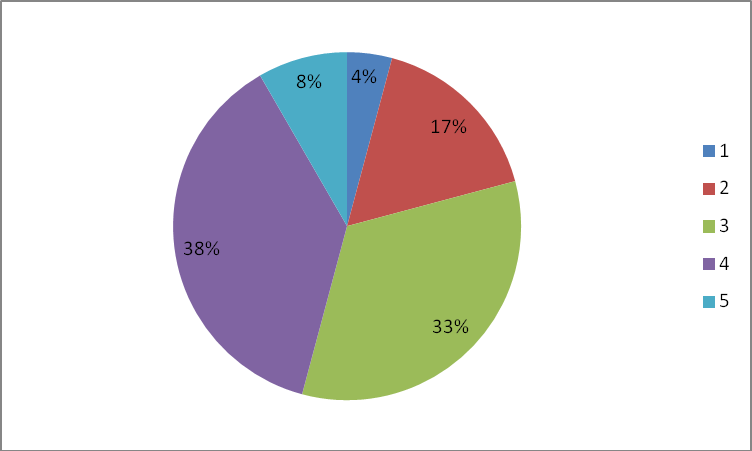
Environment – Land management, Eco-system, E.I.A. procedures/sustainability Distribution (End user)- Equity, Social justice

Stock (New/old) Management–Urban renewal, Housing Types, Technology, Development Socials -Labour, Harmony, Health, Disease, Crime

Economics -Financing, Employment, Training and Development

**PRODUCT AND ENVIRONMENTAL MANAGEMENT IMPERATIVES OF HOUSING DELIVERY**

###### Figure 32: Housing Delivery Imperatives Source: Author



**Figure 33: Adequacy of Housing Market Key**

###### 1 = very adequate (4%)

**2 = adequate (17%)**

###### 3 = undecided (33%)

**4 = not adequate (38%)**

###### 5 = not adequate at all (8%)

* 1. **Management of the framework of housing delivery**

Analysis of data on the management of the framework of delivery from the questions on examination of both the "Extent of working together in components of housing delivery frameworks" and the "Extent of efficiency of management frameworks for housing delivery" show mean values of 1.82 and 2.95 respectively, all below the acceptable mean minimum value of 3 (See Table 18 Descriptive Statistics of NHP items 3 and 6).

###### Status of housing in the FCT, Abuja

Thus, the status of housing (deficits) in the FCT, Abuja produced by the extant National Housing Policy and its frameworks for delivery demand for a re-think of the Policy frameworks as they have not been adequate, efficient and sustainable. When examining the existing policy efficacy in housing delivery, the study examined the variables and the extent to which provisions approach suited the policy thrust for home ownership or access to housing at affordable cost driven by a political will (NHP,1991).

###### Descriptive statistics

Data was collated and processed from the respondents on the efficacy of the provisions of the extant National Housing Policy using t-test for association of relationships with respect to the extents of participation, involvement in areas of housing development, working together of components of housing delivery, influence of success factors, impacts of failure factors, efficiency of management frameworks, involvements in aspects of delivery, collaborations required in the components of housing delivery, and the influence of barriers and drivers to delivery. These were covered in questions 17, 21, 22, 25, 26, 27, 30, 31, 32, 35 and 36 of the research questionnaire (Appendix A1). Using SPSS Statistics Version 21 to process the data, the outcome is in Table 18. This work limits the analysis to descriptive statistics to one sample of the variables and considered the mean values ranked on a Likert scale, this being a Macro-view consideration.

The efficacy of the existing Policy frameworks in housing delivery was examined the factors of contributions to national physical development, involvement, participation, planning and planning strategy and their opinion on the efficacy of the building industry as a means of production/provision of housing. (Questions 16 - 19, 24, 28, 33 and 34 of the research questionnaire, Appendix A1, Table 18).

The results show that the mean values for the items considered were all positively rated for National Housing Policy Participation 3.24; Impact of factors of Failure in housing delivery 3.28; Extent of Collaboration required in components of housing delivery 3.99; Extent of Influence of housing delivery barriers 3.72; Impact of Systems Approach when implemented 4.22 and Extent of influence of housing delivery drivers 3.94. These confirm the position of literature on high level of failure with a mean of 3.28. The influence of barriers and drivers require management as both have high mean valves of

3.72 and 3.94 respectively, thus influencing the performances of the frameworks adversely as they require collaboration (3.99), which is lacking. Similarly, the low mean values for the Extent of involvement in components of frameworks (1.82) and Extent of involvement in aspects of housing delivery (2.75) are evidences of the inadequacy of the extant policy frameworks in the Provisions Approach which is incapable of driving efficient, adequate and sustainable housing delivery, and hence the failure being experienced.

###### Table 18: Descriptive Statistics of National Housing Policy(NHP)Variables.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S/ No  . | Item |  |  |  | Statistic | |  |  |
|  |  | 5%  Trimmed Mean | Mean | 95% Confidence Interval from mean | | Skewness | Kurtosis | Dev. |
|  |  |  |  | Lower | Upper |  |  |  |
| 1. | National Housing Policy Participation  Extent | 3.24 | 3.22 | 2.96 | 3.49 | - .003 | - .99 | 1.15 |
| 2. | Extent of Involvement in Areas of  Housing Development | 2.80 | 2.82 | 2.57 | 3.06 | - | - | 1.07 |
| 3. | Extent of working together in Components of Housing Delivery  Frameworks | 1.69 | 1.82 | 1.57 | 2.07 | 2.48 | 1.56 | 1.08 |
| 4. | Extent of Success Factors in Housing Delivery | 2.21 | 2.23 | 2.07 | 2.40 | .59 | 1.05 | .70 |
| 5. | Impact of Factors of Failure in Housing  Delivery | 3.28 | 3.26 | 3.05 | 3.47 | -.296 | -.151 | .93 |
| 6. | Extent of Efficiency of Management Frameworks for Housing Delivery |  | 2.95 |  |  | .28 | .55 |  |
| 7. | Extent of Involvement in Housing  Delivery |  | 2.75 |  |  | .18 | -.10 | .84 |
| 8. | Extent of Collaboration Required in Components of Housing Delivery | 3.99 | 3.90 | 3.63 | 4.16 | -1.15 | .43 | 1.14 |
| 9. | Extent of Influence of Housing  Delivery Barriers | 3.72 | 3.67 | 3.48 | 3.85 | .33 | -.22 | .96 |
| 10. | Impact of System Approach Implanted | 4.22 | 4.11 | 3.87 | 4.34 | -1.65 | 2.42 | 1.01 |
| 11. | Extent of Influence of Housing  Delivery Drivers | 3.94 | 3.88 | 3.69 | 4.07 | -1.24 | 1.43 | .83 |

These results corroborates the results in Figures 31 and 32. It is significant to note the high positive values of the impact the systems approach would have when implemented - 4.22, an indication of the desirability of the systems approach to housing delivery.

Considering other related and relevant issues to successful housing delivery, Table 19 affirmed that most appropriate planning strategy for housing delivery is the interactive 43 (57.3%). Table 20 show the organisations' contributions to the National Physical Developments (Qn.16, Appendix A1). Results affirm the multi-dimensional reality of housing delivery. The study however show that professionals (respondents) pay little attention to the roles played by adequacy of infrastructure required for housing delivery as shown in the results: roads ((40%), power (25.3%), water (24%), sewage/drainages (28%), environmental impact (12%) and research and development (16%). Housing performance is inadequate without water, power or provisions for sustainable living environment.

Thus, Table 19, demonstrates the multidimensional and holistic nature of national physical development and housing. It strongly acknowledges the existing separation principle of practice in the industry, lack of understanding of the requirement for strong synergy and inclusiveness in national physical development planning and execution. Issues of housing include infrastructure, research and development and the environment. It indicates too that housing contributes significantly to national development.

###### Table 19: Frequencies of factors of housing delivery

|  |  |  |  |
| --- | --- | --- | --- |
| S/No | Items | Respondents  Yes/(%) | Respondents  N0/(%) |
| 1 | Organisational planning Involvement  (Qn. 18) | 55(73.3) | 20(26.7) |
| 2 | Planning Strategy   1. Top-Down 2. Bottom-Up 3. Interactive (Qn. 19) |  |  |
|  | 14(18.7)  18(24.0)  43(57.3) |  |
| 3 | Housing Delivery Assessment   1. Failed 2. Not Failed 3. Undecided (Qn.24) |  |  |
|  | 39(52)  35(46.7)  1(1.3) |  |
| 4 | Stakeholder awareness of others  involved in Housing Delivery (Qn.28) | 41(54.7) | 34(45.3) |
| 5 | Building Industry enhances Housing  Delivery (Qn.33) | 29(38.7)  1(1,3) | 45(60.0) |
| 6 | Systems Approach as an alternative for housing Delivery (Qn.34) | 60(80.0) | 15(20.0) |

**Table 19: Organizations' Contributions to National Physical Development**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/No. | Area of Contribution |  | Frequency |  |
|  |  | No | Yes (%) | No (%) |
| 1. | Housing | 75 | 63(84) | 12(16) |
| 2. | Road | 75 | 30 (40) | 45 (60) |
| 3. | Power | 75 | 19 (25.3) | 56 (74.7) |
| 4. | Water | 75 | 18 (24) | 57(76) |
| 5. | Sewage/Drainages | 75 | 21 (28) | 54(72) |
| 6. | Environmental | 75 | 12(16) | 63(84) |
| 7. | Research and Development | 75 | 12(16) | 63(84) |

###### Stakeholders awareness and involvement

The results of stakeholders awareness is in Table 19. It showed that(Qn. 28), 41(54.7%) affirmed they were aware of other stakeholders involvement, while 34 (45.3%) were not. It is significant to observe that, in an issue that is so important to everyone, housing, man's second most important need, 45:3% of respondents in organizations involved in delivery are not aware of the involvement of other stakeholders. It affirms the presence and impact of the separation principle in the Provisions approach and the extent to which there is inadequate synergy in the frameworks of delivery. This probably accounts for the many produced and provided housing estates that are not occupied in the FCT, Abuja. The status of the housing market (Figure 33) further reinforces the reality that the provisions approach frameworks are not adequate for housing delivery.

###### Planning

Examining organizations involved in planning for housing delivery (Qn. 18), results in Table 19 show that 55(73.3%) affirmed being involved, while 20 (26.7%) are not. Examining the planning strategies, results show that14(18.7%) used "Top Down" Strategy, "Bottom Up" 18(24.0%) and" Interactive" strategy, 43(57.3%). The result affirms the preference of Interactive planning strategy as most appropriate for housing planning. It agrees with le Roux (2011). The bureaucratic stance of the provisions approach seems to affect the extent to which decision making to sponsor and provide for the housing mess is interactive. The existence of so many developed estates that have remained unoccupied suggests that the decision to sponsor and provide for those estates are not fully interactive.

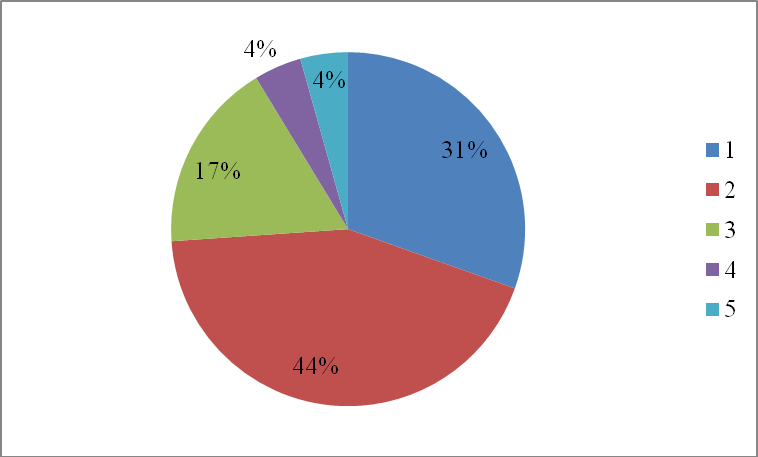
###### Building Industry Capacity

Examining the efficacy of the building industry to delivery housing in its present state, 45(60%) said it is inadequate, while 29(38.7%) opined it is and 1(1.3%) was not decided. This result is a significant reality that explains the inadequacy of the building industry to

positively contribute to the success of the NHP to deliver housing, being an important institutional framework and key role player. Thus in the FCT, Abuja delivery was confirmed to have failed as confirmed by 39(52%) of respondents (Table 19).

This position is explained in the Nature of collaboration between organisations and stakeholders (Figure 34) a total of 75% of collaborations between organisations and stakeholders for housing delivery are open. The industry has been said to an "all comers industry" where there is no control of what goes in or comes out and so where there is no law there can be no offence. Housing delivery cannot be adequate unless the provisions of the policy so specifies. Figure 26 is the result of examining the extent of participation at different levels of policy. The result show that less than 20% of respondents participate at the very high levels of policy. This is supported by the results of major roles played by respondents organisations in housing delivery in Figure 28. Here the roles and extent of participation are stakeholders in estates development are very low for beneficiaries and end users, consultancy services and technical assistances (1-2),while production and housing management (5-7) as against Monitoring and evaluation (9); policy formulation

(10) and policy implementation (11) respondents. It explains the weaknesses of the extant policy delivery frameworks that has more attention on administrative work than physical execution aspects of delivery.



###### Figure 34: Nature of collaboration between organisations and stakeholders

**Key**

###### 1= very open collaboration 2= open collaboration

**3= not sure**

###### 4= close collaboration

**5= very close collaboration**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 21: Extent of impact of Failure Factors (HdelvExtF One-**  **SampleTest)** | | | | |
| Item |  | Test Value = 0 | |  |
|  | t | Mean  Difference | 95% Confidence  Interval of the Difference | |
|  |  |  | Lower | Upper |
| Frameworks deficiency | 22.10 | 3.49 | 3.18 | 3.81 |
| Inadequate industry platform | 20.52 | 3.17 | 2.87 | 3.48 |
| Ambiguous defined roles &  responsibilities | 20.07 | 3.00 | 2.70 | 3.30 |
| Organisational conflicts | 21.61 | 3.13 | 2.84 | 3.42 |
| Policy somersaults | 20.79 | 3.33 | 3.01 | 3.65 |
| Process deficiency | 22.02 | 3.43 | 3.12 | 3.74 |

**Table 21A: Factors of Management of Framework (ExoMgtFra - One SampleTest)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Business Management | 21.81 | 3.13 | 2.85 | 3.42 |
| Project Management | 23.26 | 3.24 | 2.96 | 3.52 |
| Public Management | 18.51 | 2.68 | 2.39 | 2.97 |
| Physical Development | 22.77 | 3.07 | 2.80 | 3.34 |
| Technological Management | 18.30 | 2.80 | 2.50 | 3.11 |
| Housing Management | 17.91 | 2.77 | 2.46 | 3.08 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 22: Extent of influence of success (HdelvExtS-One-Sample Test)** | | | | |
| Item |  |  | Test Value = 0 | |
|  | t | Mean Difference | 95% Confidence Interval of the  Difference | |
|  |  |  | Lower | Upper |
| Adequate in quantity and quality | 15.72 | 2.59 | 2.26 | 2.91 |
| Affordable | 12.83 | 1.61 | 1.36 | 1.87 |
| Accessible | 15.93 | 2.40 | 2.10 | 2.70 |
| Available | 18.55 | 2.92 | 2.61 | 3.23 |
| Adaptable | 18.09 | 2.57 | 2.29 | 2.86 |
| Promote peaceful existence | 18.58 | 2.95 | 2.63 | 3.26 |
| Provide security | 20.80 | 2.91 | 2.6 | 3.19 |
| Meeting needs | 13.91 | 1.55 | 1.33 | 1.77 |
| Rent control | 12.70 | 1.29 | 1.09 | 1.50 |

The results are further confirmed by the results of the factors responsible for extent of failure and those for the management of the frameworks for sustainability of delivery in Tables 21 and 21A. The results speak very clearly. Results of performance for constructability, in examining the extent of success in Table 22 also show that failure is real.

Evaluating the efficacy of the provisions of the extant NHP for housing delivery for constructability and sustainability, results in Table 18 show that the extent of involvement in areas of Housing development has a low mean value of 2.82 on the Likert scale, below the average of 3. The extent of working together in components of Housing delivery Frameworks has a value of 1.82, extent of efficiency of management frameworks for housing delivery (2.95), extent of involvement in aspects of housing delivery (2.79). These are all lower than the mean value of 3. Table 23 show a strong mean values of 3.90 for extent of collaboration required in components of housing delivery; 3.67 for Extent of influence of housing delivery barriers and 3.94 for extent of influence of Housing delivery drivers. These results have brought to the fore the weaknesses of the capacity and efficiency of the NHP Frameworks to deliver housing.

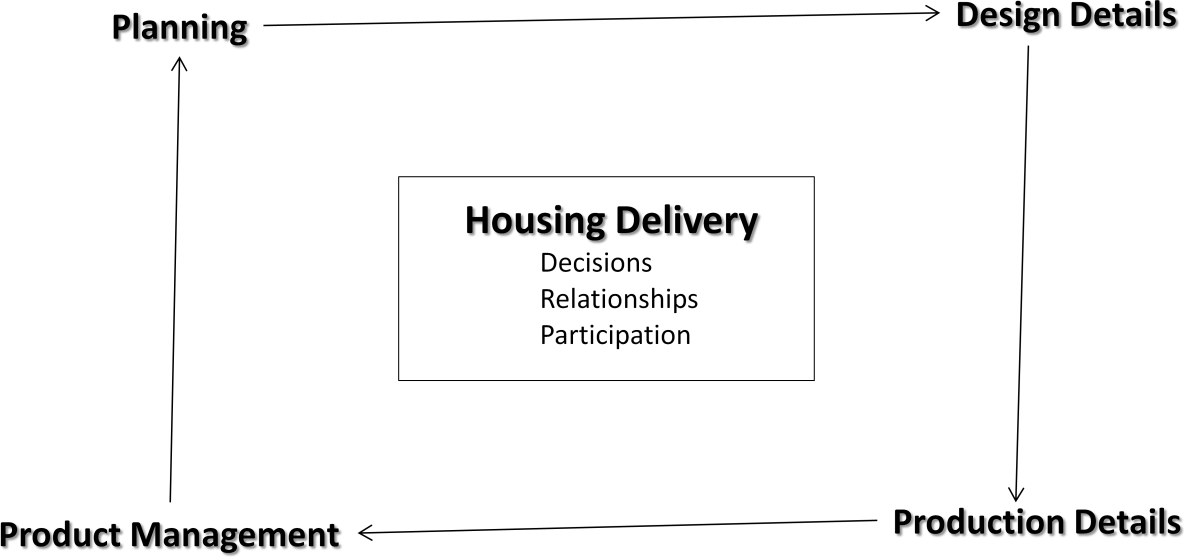
These show the weakness of the present provisions of the extant policy for housing delivery. The results show that there was the desire for National Housing Policy to provide for close participation by all stakeholders which has a value of 3.22. Therefore housing delivery under the extant NHP, driven by the Provisions Approach and based as Implementation Theory cannot provide efficient and sustainable housing delivery nor its management. Housing is not an issue of project plans and programmes, but processes that are systemic (active and dynamic) and require prompt and sustainable responses to its problems.

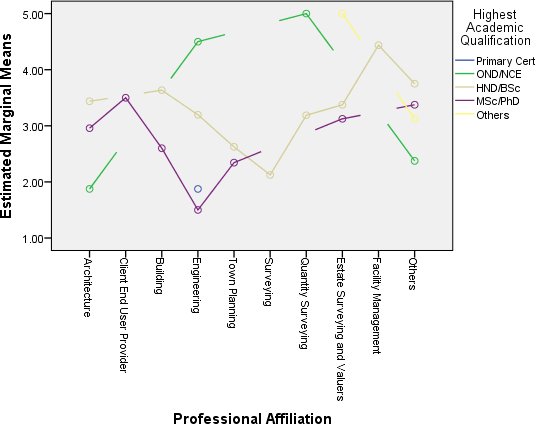
The roles and responsibilities must seek for equilibrium in the management framework to ensure sustainability in making use of feedback from future expectations

and feed forward from past experiences (van Wyk, 2006) in a participatory, inclusive (integrated), collaborative (cohesive) and holistic pragmatic paradigm arrangement. The nature of the present practice can be conceived as in Figure 35 which acknowledges the components of delivery, but deny their connectivity and organisation in the critical issues of decision making, working relationships and participation. As shown earlier (Figure 26 and 28) there is significant involvements in administration in policy formulation, policy implementation, monitoring and evaluations, housing production in areas of development controls, average involvement in housing management, but dismal involvement in crucial support services that will ensure the sufficient and sustainable delivery and management as in technical assistance, end-user/ beneficiary involvement, consultancy services and actual estate development. These failures are in areas of constructability and sustainability for effective delivery while supporting provisions principles.

The summary of these can be seen in Figure 36 that shows the results of examining the efficacy of the extant NHP provisions by the various professional affiliations in practice. Each professional grouping views of housing delivery was examined for an in-depth opinion of their understanding of the extent of participation in delivery. The ranked opinion on a Likert scale of 5, were below the average of 3. Results have therefore shown that there is no clear pattern of opinion among the respondents on the status of participation even by the experts and key role players. Housing delivery cannot thrieve on a separation principle and bureaucratic practices alone.

###### Figure 35: Participation of Components of Delivery in Provisions Approach Source: Author





**Figure 36: Extent of participation by professional affiliation in national housing delivery**

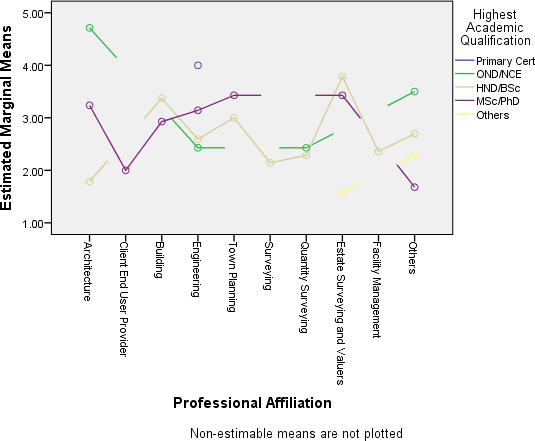
The Provisions for institutional frameworks e.g. the building industry would require organisation for practice such as a platform for synergy and management. This applies to the adequacy of the housing market (Figure 33). A reconnaissance survey by the author of housing stock and costs of housing, show that Abuja has so many housing estates unoccupied, while the cost of building houses, rentals or any form of ownership or access is open to "market forces" and uncontrollable escalations. The cost of rental for a two-bedroom apartment, depending on location ranges from N1.5m to N3million per annum with a minimum payment of two (2) years rents in advance of possession. The cost of producing same, depending on location, costs between N25m to N50million. These are certainly beyond the affordable limits of the low-income group who are in the majority and in need of such apartments. This situation also accounts for the many government abandoned housing projects littered all over the country. These are the realities and concrete evidences of failure of the extant NHP provisions for housing delivery.

The next section has results of examination of the effectiveness of the provisions approach framework for performance and management of housing in the FCT, Abuja for a better understanding of the extant Policy's in/ability to deliver housing efficiently and sustainably to solve the perennial housing delivery problems.

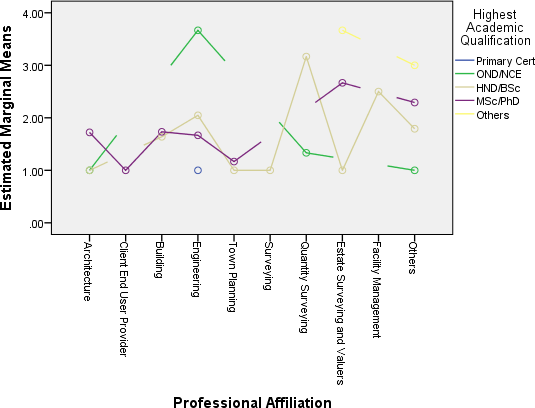
###### RESULTS OF EXAMINATION OF THE EFFECTIVENESS OF HOUSING DELIVERY POLICY FRAMEWORKS AND PROGRAMMES IN THE FCT, ABUJA (OBJECTIVE TWO)

The outcomes of the examination of the efficacies of the provisions on the extant NHP of 1991 for housing delivery, brought to the fore the weaknesses of the capacity of the NHP Frameworks to deliver housing. This section further examines the effectiveness of the provisions approach framework for performance and management of housing in the FCT, Abuja by the extents of involvements in the areas of housing developments (Question 21); working together of components of housing delivery frameworks in Question 22; success of the factors in housing delivery, Question 25; impacts of the factors on failure of housing delivery, Question 26; efficiency of management of the frameworks, Question 27; involvement in housing delivery, Question 30; collaboration required in the components of housing delivery, Question 31; the extent of influence of housing delivery barriers, Question 32; and influence of housing delivery drivers, Question 36 (Appendix A1). These were compared to a "predicative" impact of systems approach if implemented, Question 35.

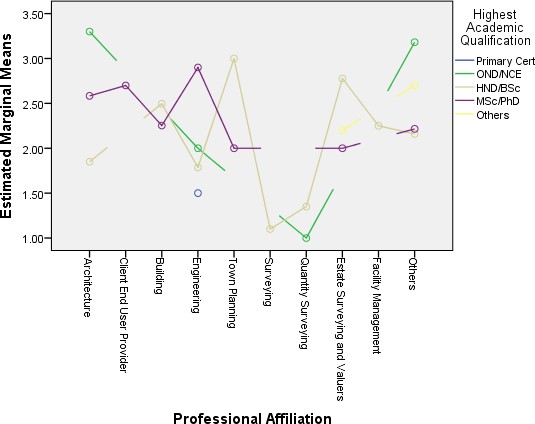
The above factors were analysed for their effectiveness using the Likert scale of 5, ranking their strengths. The outcome of the effectiveness of the frameworks in factors of housing performance and management are presented in profile plots of their performance measuring their estimated means for their effectiveness in Figures 37 to 46. The results are the authoritative views of experts (professionals) and key role players in housing in practice.



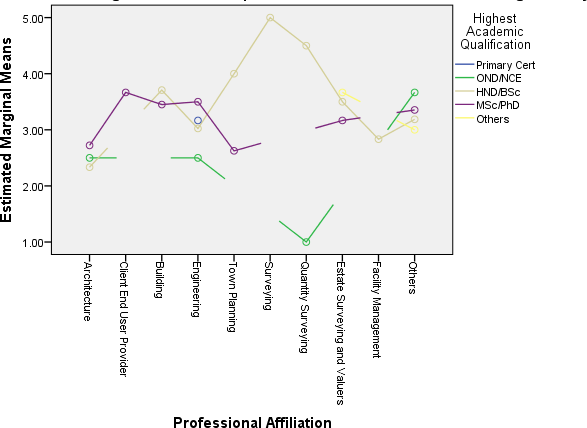
###### Figure 37: Extent of involvement in areas of housing development



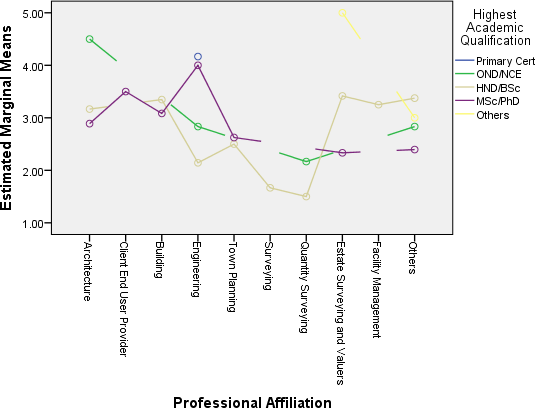
**Figure 38: Extent of working together of components of housing delivery frameworks**



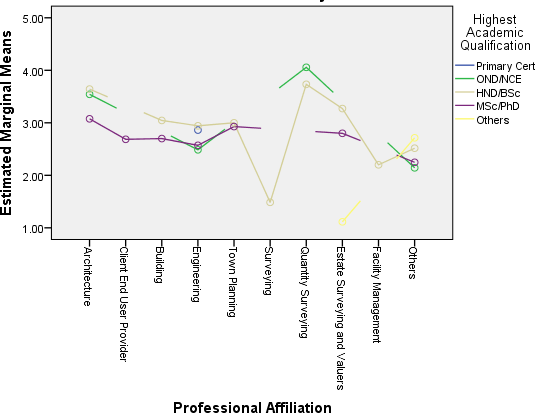
###### Figure 39: Extent of success factors in housing delivery



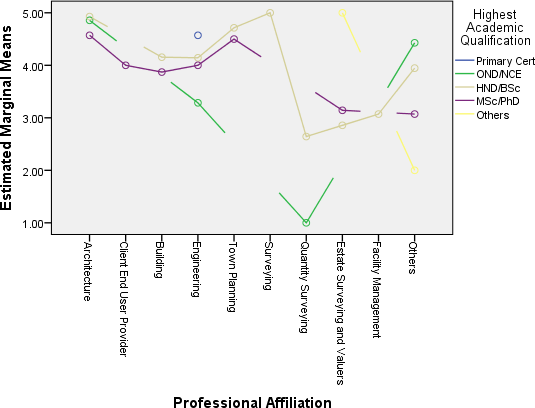
**Figure 40: Impacts of factors on failure of housing delivery**



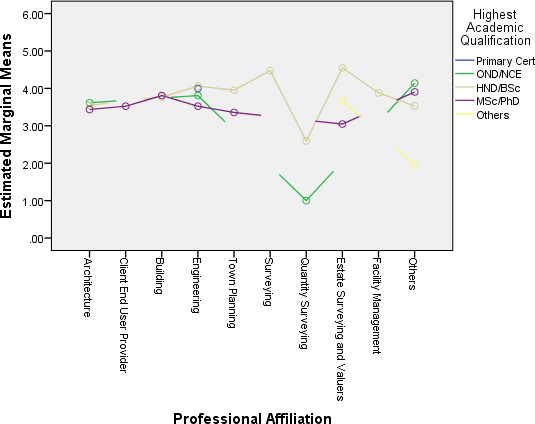
###### Figure 41:Extent of efficiency of management of the frameworks for housing delivery



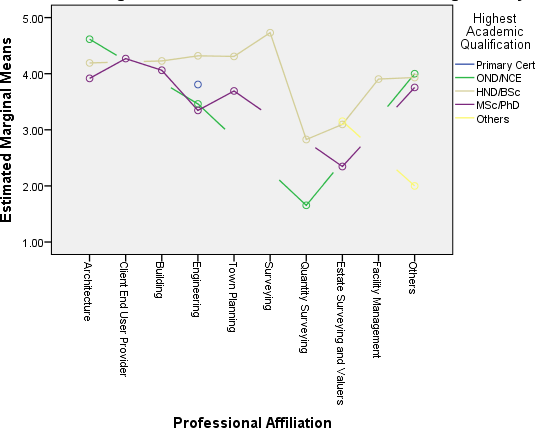
**Figure 42: Extents of involvement in aspects of housing delivery**



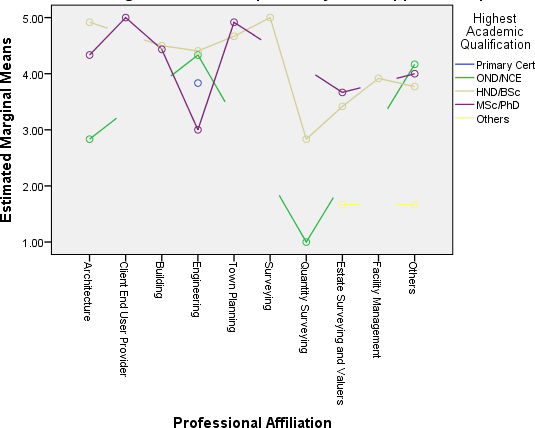
###### Figure 43:Extent of collaboration required in components of housing delivery



**Figure 44: Extent of influence of housing delivery barriers**



###### Figure 45: Extent of influence of housing delivery drivers



**Figure 46: Impact of systems approach implementation**

These results show that the performance were mostly below the average mean of 3 on the Likert scale, even when measured from their educational points of view. In Figure 37, only the higher educated professional with qualifications of B.Sc/HND and M.Sc/PhD were reasonably involved in the areas of housing developments. These are likely to be in designs and administration. Notable are architects, builders, town planners and estate surveyors. the others are below the mean value of 3. In Figure 39, almost all respondents were below the mean value of 2,showing a very weak bond of working together of the components of housing delivery, these being planning, designs, production and management. This outcome corroborates the findings of the efficacy of the frameworks for housing delivery requiring to be very efficient if delivery is to be efficient, effective and sustainable as in Figure 47. This is supported by the results in Figure 48 where the level of synergy between the organisations and stakeholders is not impressive.

Results in Figures 39 and 40 complement each other. Success factors are low, and subsequently, failure is high up. This is explained by the low levels of management of the framework as Figure 41 shows. The results in Figure 43 show that the components of housing delivery require collaborations and adequate management of the barriers and drivers of housing delivery as shown in the results in Figures 44 and 45where mean values for the strengths are higher than the average of mean value of 3. The results in Figure 46 suggests strongly the need for an alternative approach to provisions as respondents rated it well above the average mean value of 3.

Thus the results from examination of the effectiveness of the provisions frameworks for housing delivery have shown that they are too weak to deliver and an alternative, the systems approach was preferred. These results agree with the positions of Mullins and Rhodes (2007) that housing delivery problems (wicked problems) could not be solved without adequate understanding of the nature, imperatives and complexity of

housing. Efforts by the extant policy to drive delivery using implementation theory and 'Top-Down' provisions approach frameworks, based on policy/programmes of government are inadequate and therefore, failure was inevitable. The studies of Chan, (2011), O'Toole Jnr. (2000), Hjern and Porter Matland (1995) and Sabtier (1986) confirmed this position. An explanation for the failure position is that policy/programmes, being highly bureaucratic, assume that policy and programmes are independent with starting point benchmark, actually and conceptually distinct- designed at the top for implementation at the bottom, have passive agents or potential impediments, are relatively narrow, immediate focus of policy is effectiveness- measured by the extant goals to be met, stand point is top- the policy makers and central government, broad aim is to improve performance; and dominant theme is hierarchy, control and compliance.

They show that a highly bureaucratic type provisions framework would fail for the following reasons:

* + - 1. Housing delivery is dependent upon the interactions of multiple actors, agencies and processes and not separation .
      2. Housing policy cannot and is not "actually" and "conceptually" distinct. It has no single theory of its own. The actions/activities of one agency in the complex could influence that of others and therefore the need for coordination, cooperation and synergy. For instance a delay in delivery of building materials to building sites could lead to time and likely cost overruns in the execution of a project.
      3. The factors and aspects involved in housing are broad in nature:- land, finance, building materials, planning type adopted and development controls,
      4. The bureaucracies of the provisions approach cannot withstand the rigours of the imperatives of delivery in planning, design, production and product management.

The results of this work have thus far shown that the provisions of the extant National Housing Policy and the effectiveness of the delivery frameworks are inadequate to deliver housing adequately, efficiently and sustainably even in the context of a Macro- view to housing delivery. The indicators for failure are strong (Figure 40) as are the desire for credible alternative approach (Figure 46) to deliver housing as the predicative System Approach implementation rating suggests.

This study affirms that planning for housing delivery should be "interactive" as agreed by the majority of respondents (52%). It also desires the establishment of appropriate working relationships supported by appropriate decision making mechanism as developed in this work, where "both sponsors and users decide and provide together" (Figure 16).

The Components of a policy framework are the structure(s), functions and processes. These are driven by a very high level of efficiency and synergy between the organisations and stakeholders involved in the policy for desired implementation, performance and outcomes. The low ratings of the extent of efficiency of the management of the frameworks of housing delivery (Figure 41) and of the extent of working together of the components of housing delivery (Figure 38) show that there is the requirement for efficiency in the components of the framework as shown by the results in Figure 47 and improved synergy between organisations and stakeholders in the delivery of housing as in Figure 49. This is in agreement with the work of van Wyk (2006). This is the outcome of objective two of this study. It can therefore be summed up that the perennial housing problems in the FCT, Abuja and Nigeria have a faulty hollow policy driven by ad-hoc housing provisions framework, with no systemic links, no inclusiveness of stakeholders hence, not adequate, efficient and sustainable. These are the outcomes of objectives one and two.

**N**

**o**

**R** 16

**e**

**s** 14

**p**

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**o**

**f**

**d** 10

**e n t**

**s**

8

6

Structure

Organised functions Defined processes

4

2

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1

2

3

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5

###### Figure 47: Efficiency of the components of frameworks required for housing delivery (Question 20, Appendix A2)

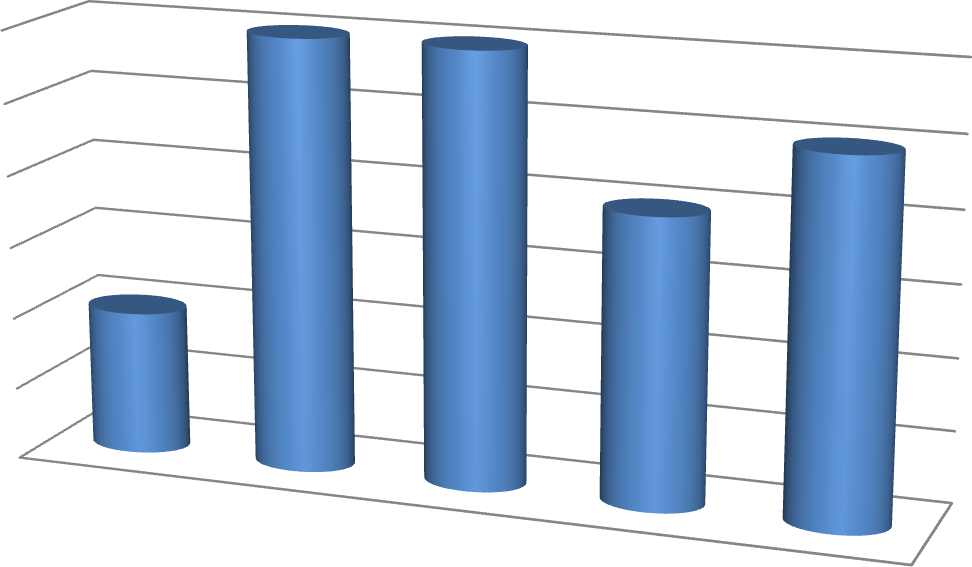
**Key**

1 = Highly efficient 2 = Efficient

3 = Normal

4 = Less efficient

5 = Not efficient at all



**R** 6

**e**

**s** 5

**p**

**o** 4

**n**

**d** 3

**e**

**n** 2

**t** 1

**s**

0

1

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5

Level of synergy between organisation and stakeholders for housing delivery in the FCT

###### Figure 48: Level of synergy between organisations and stakeholders for housing delivery in the FCT. (Question 13, Appendix A2)

**Key**

1= very high level of synergy 2= high level of synergy

3= moderate level of synergy 4= low level of synergy

5= very low level of synergy

###### RESULTS OF EVALUATION OF POLICY INFLUENCE ON STAKEHOLDERS' PARTICIPATION AND PERFORMANCE FOR HOUSING DELIVERY IN THE FCT, ABUJA (OBJECTIVE THREE)

Results from objectives one and two have clearly demonstrated that housing delivery cannot be successful on a provisions approach, driven by government's "political will" for home ownership or access at affordable cost. The frameworks for the policy have been and are still heavily government dependent. This section seeks to evaluate what influence this has had on the industry with a view to determining the most appropriate arrangement the delivery process would adopt for efficient, adequate and sustainable housing delivery and management. Housing delivery is a public social policy issue.

In the survey conducted ( Questions 18 and 19 Appendix A2) to assess the influence of the extant housing policy on the status of the building industry practitioners, policy makers and regulators, financial institutions and the end-users with respect to participation and performance of housing delivery in the FCT, Abuja, the results were as follows:

1. The results show a high influence of the Barriers and Drivers to housing delivery processes as shown in Figures 49 (Question 19 Appendix A2) and Figure 50 (Question 18 Appendix A2). These results were confirmed by the results of the extents of the influence of housing delivery barriers and drivers in Figures 44 and 45 respectively where both were very strong: above the average mean rating of 3 by most respondents professional affiliations. This is authoritative.
2. The Building Industry was found to be highly relevant to the delivery processes, but it was unorganised (fragmented), with inadequate capacity and scope for delivery (Figures 30 and 31). This collaborates the extent of stakeholders organisation that show that 63% of the industry is disorganised and only 37% is organised (Figure 31). It required adequate technological structures, building materials market support, institutional

frameworks and organisation to earn the confidence (reliability) of the other stakeholders. A look at the barriers confirmed that the industry lacked adequate team work for delivery frameworks (structures, processes and functions).

Ownership structure of…

Mode of… Design inadequacy

Land availability Land adequacy Land security

Labour and technology Inadequate production… Inadequate distribution…

Inadequate planning Funding sources Funding affordability Fundng management

Inadequate maintenance… Poor appreciation of… Limited choice of… Inadequate housing… Absencec of R&D for… Absence of organised… Inadequate institutional…

Inadequate team work Inadequate definition of…

299

16

14

12

10

8

6

4

2

0

**F**

**r e q u e n c y**

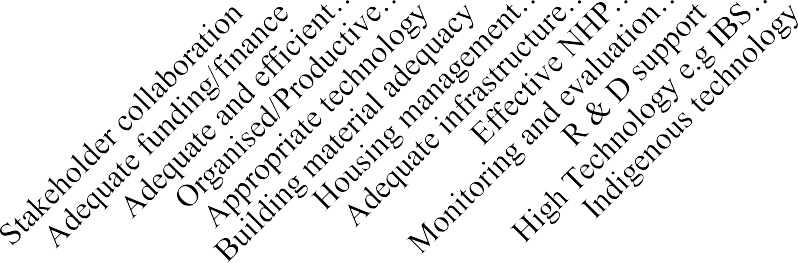
Series1 Series2 Series3 Series4

Series5

**Figure 49: Influence of barriers to successful housing delivery (See Appendix A2 Qn.19).**

**Key**

1=highly influential; 2=influential; 3=partially influential; 4=less influential; 5=not influential at all).



**R**

**e s p o n d e n t s**

25

20

15

10

5

0

Series1 Series2 Series3 Series4

Series5

###### Figure 50: Influence of drivers to housing delivery process in the FCT (See Appendix A2 Qn. 19).

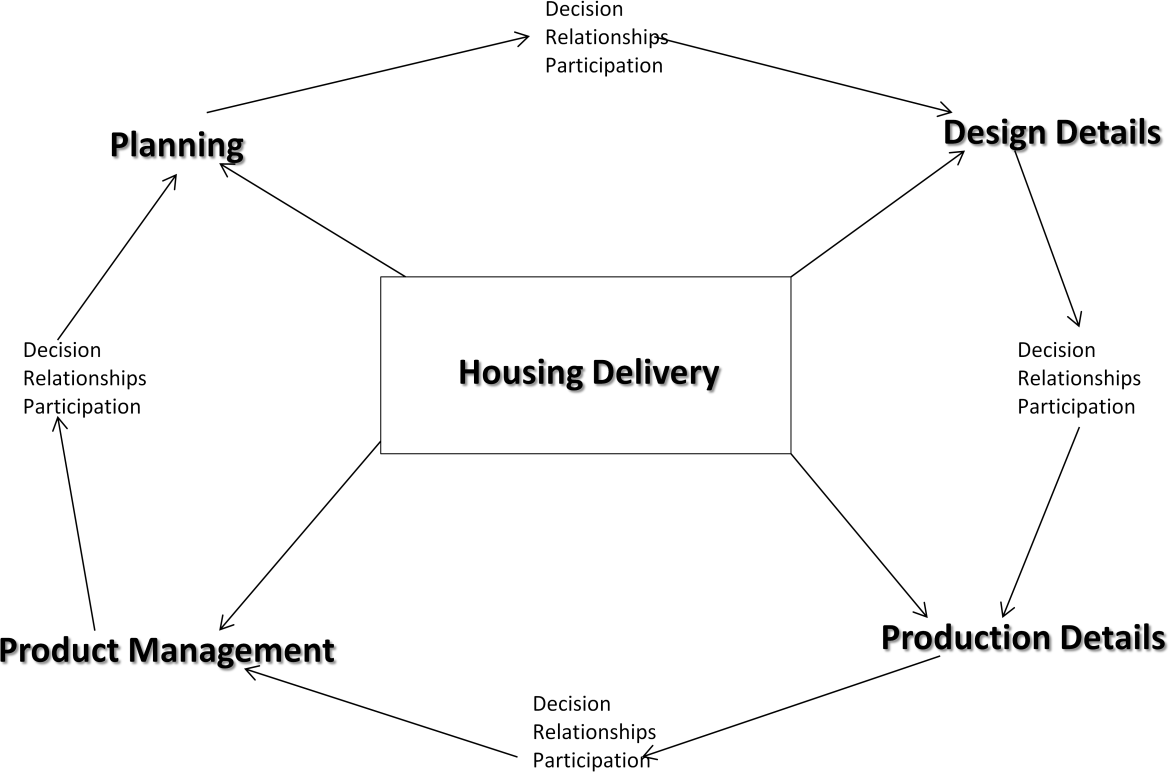
**Key**

1=highly influential 2=influential 3=partially influential 4=less influential 5=not influential at all

An analysis of the extents of actual involvements of the organisation of the aspects of housing delivery, Question 30 of the Questionnaire Survey (Appendix A1**),** show mean values ranging from 2.0 to 3.2. Most were below the minimum mean value of 3, and therefore inadequate. They were marginally above the minimum value (3.2) in man-power development, which could be a bureaucratic activity for other administrative purposes such as staff promotions. The aspects of the influence of stakeholders mainly deal with the operations of the industry that require synergy, stakeholder collaborations, various housing management systems that cannot make any sense if they are operated separately. The relationships of the components of the schemes of estates development in the final survey establish the fact that relationships are required for efficiency and sustainability of the building industry as shown in the requirement for efficiency and synergy of the components of the frameworks of housing delivery (Figures 47 and 48). Therefore the relationships and management of the frameworks (structures, functions and processes) are crucial for housing delivery and management performance, efficiency and sustainability.

1. Examining further, the industry performance under the extant national housing policy and management of frameworks (Tables 21, 22 and 29) show various issues that account for failure that an alternative approach when adequately organised, could turn to sustain housing delivery that is constructible, adequate, efficient and sustainable. These include adequate stakeholders' organisation, housing market, collaboration and synergy between organisations and stakeholders, levels of participation by organisations. The organisation of components of housing delivery in an effective approach such as a systems approach suggests that the relationships would be a systemic pragmatic arrangement as in Figure 51.

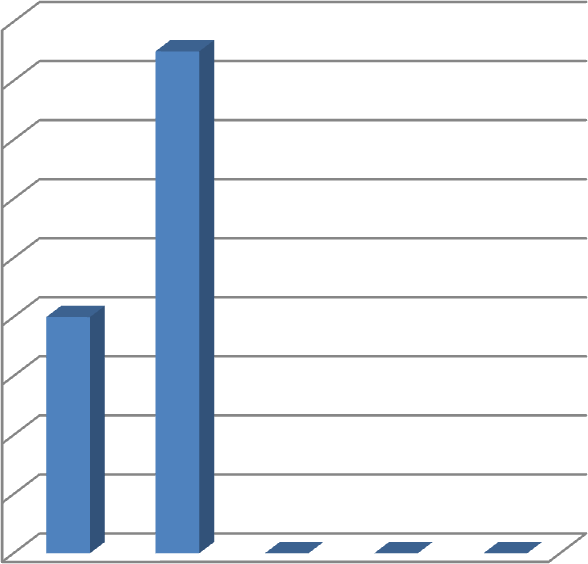
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 23: Extent of involvement (ExtentofInv) One-Sample Test** | | | | |
| Item |  | Test Value = 0 | |  |
|  | t | Mean Differenc  e | 95% Confidence Interval  of the Difference | |
|  |  | Lower | Upper |
| Determining housing needs | 17.974 | 3.13 | 2.79 | 3.48 |
| Determining housing demands | 16.643 | 2.87 | 2.52 | 3.21 |
| Determining housing supply | 18.224 | 3.05 | 2.72 | 3.38 |
| Determining housing redevelopments | 16.333 | 2.63 | 2.31 | 2.95 |
| Managing housing stock | 16.947 | 2.52 | 2.22 | 2.82 |
| Housing planning | 16.630 | 2.93 | 2.58 | 3.29 |
| R and D, Innovations | 14.943 | 2.65 | 2.30 | 3.01 |



###### Figure 51: Components of Housing Delivery in a Systems Approach Delivery Source: Author

The roles played by respondents in Figure 34 are more administrative functions than physical processes of delivery and management of housing. Housing is not much of a bureaucratic matter. It is a systemic process that is active/dynamic and requires prompt and sustainable response to its problems. Applying the principles of van Wyk (2006), the roles and responsibilities seek for equilibrium in the management of frameworks to ensure sustainability in making use of feedback from future expectations and feed forward from past experiences, documented and tacit knowledge, in a systemic and pragmatic participatory, integrative/inclusive, cohesive/collaborative and holistic arrangement.

There is a high desire for a common platform for housing production management in the building industry (See Figure 52). This is a significant result and a challenge to the status of housing delivery. The role of the building industry as a major actor/stakeholder in the housing delivery process is very crucial, It requires active sharing of experiences, knowledge and collaborations and inclusive/integrated functions that promote a holistic delivery process. The extents of the influence of housing delivery barriers (3.67) and drivers (3.88) are crucial on the performance of policy frameworks (Table 23) and do require management for successful housing delivery, hence the holistic stance for the delivery frameworks and components. These have special implications for the building industry, being a very important key player and an important employer of labour. The various artisans and craftsmen required for the successful delivery in the various aspects go to show the need for the components of delivery to be adequately organised and managed by appropriate professionals in the framework: structure, processes and functions. These are presently characterised by fragmentation, segregation and underperformance. The systems approach has been described in Figure 1.



18

**R**

**e s p o n d e n t**

**s**

16

14

12

10

8

Desireability for a common

platform for housing production management to the building industry

6

4

2

0

1

2

3

4

5

###### Figure 52: Desirability for a common platform for housing production management in the building industry(Question 21 Appendix A2)

**Key**

1= highly desirable;

2= desirable;

3= undecided;

4= not desirable;

5= highly undesirable)

**Table 23: Housing Delivery Framework Efficiency in NHP, 1991**

|  |  |  |  |
| --- | --- | --- | --- |
| S/  No | Dependent Variable | Marginal  Mean | |
|  |  |  | S.D. |
| 1. | Extent of Involvement in Areas  of Housing Delivery | 2.82 | 1.07 |
| 2. | Extent of Working together of  Components of Housing Delivery | 1.82 | 1.08 |
| 3. | Extent of success factors in  Housing Delivery | 2.23 | 0.70 |
| 4. | Impact of factors of failure of  Housing Delivery | 3.26 | 0.93 |
| 5. | Extent of Efficiency of  Management Frameworks for Housing Delivery | 2.95 | 0.96 |
| 6. | Extent of Involvement in  Aspects of Housing Delivery | 2.79 | 0.84 |
| 7. | Extent of Collaboration Required in Components of  Housing Delivery | 3.90 | 1.14 |
| 8. | Extent of Influence of Housing  Delivery Barriers | 3.67 | 0.80 |
| 9. | Extent of Influence of Housing  Delivery Drivers | 3.88 | 0.83 |
| 10. | Impact of Systems Approach Implementation | 4.11 | 1.01 |

The study therefore, examined the frameworks suitable for the systems approach discussed in the following section.

###### The Case for Systems Approach

It has been established from literature (le Roux, 2011) that housing problems are "wicked" in nature and tackling them require:

* 1. Thinking that is capable of grasping the holistic picture and all the interrelationships of their full range of causal factors. These require broader, more collaborative, innovative and systemic approaches (le Roux,2011).
  2. Changing or re-orientating the behaviour of groups or all affected stakeholders (Leppimaki and Laitinen, 2007).
  3. Working across both internal and external organisational, social, environmental and technological boundaries, engaging citizens, stakeholders, systems/sub- systems in policy making and implementation - a holistic process (systems thinking).
  4. Innovative, pragmatic and comprehensive solutions that are flexible allowing for pragmatic modifications on the basis of experience and feedback (van Wyk, 2006; Ritchey, 2005) management which are different from traditional linear analytical approaches, such as the bureaucratic implementation approaches. Outcomes of the system are the product and not the sum of the process of the sub-systems.

Combining these, the structures, functions and processes of a frameworks will need to according to Mullins & Rhodes (2007), take care of Policy Networks for policy formulation, design and power structure; Network governance for policy implementation, relationships among agents; Supply Network/Chains for products and services, Chains and networks management; Organisation for change management (inclusiveness and

flexibility) and Complex Systems for frameworks for understanding the interactions of agency and structure and co-adaptation.

This study and analysis of theoretical positions demand frameworks with management functions that:

* + 1. Address relationships between organisations and how they affect behaviour for policy making, resource dependencies, power and network structure from policy formulation.
    2. Recognise shapes and structures of frameworks within organisational operations for roles and responsibilities of the functions and processes of the framework,
    3. Ensures that policy intervention must be structured in the context of network governance i.e. have a feedback mechanism for monitoring and evaluations, with appropriate Research and Development (R&D) support (van Wyk, 2006),
    4. Ensures organisations must be responsive to change in the field and adapt to changes where necessary (inclusiveness and flexibility (van Wyk, 2006; Leppimaki and Laitinen, 2007),
    5. Know that there are boundaries and scales of operations and the extent to which these are managed will affect outcomes (collaborations, participation, holism) (Petit, 1967).

From above, housing delivery phenomenon is most suitably considered a Futures Methodology Study for long term solution to the "wicked" nature of housing problems, best dealt with using Systems Thinking (Approach) and the solutions to housing problems can best be pragmatic from imagination for the possible;

analysis for the probable and participation for the preferable options (Leppimaki and Laitinen (2007)

The outcomes of this work and literature search, both support the choice of systems approach and the philosophical position of pragmatism as an alternative to implementation theory and provisions approach for adequate and sustainable housing delivery. It promises solutions that will provide sustainable inputs in housing delivery and management (Chattophyay, 2009. The systems thinking is in line with Erickson's (2009) position when examining housing policy in the USA. In his book, "The Housing Policy Revolution: Networks and Neighbourhoods" he posits that policy in the USA has been shaped

...in part by history, in part by ideology and in part by technology, but in all cases it was brought to life by Policy actors through decisions made along the way by individuals-powerful in corporate boardrooms and less powerful local activists and advocates hoping to improve communities. Together, they developed a new approach to building affordable housing*.*

The results of data and analysis of Objective Three has led the study to conceptualise the design of an alternative delivery framework based on the systems approach in Figure 53. Thus objective three has been achieved.



**Policy**



**Practice**



**Performance**



**INPUT**

**SYSTEMS FRAMEWORKS**



**Determinants**

1. **Product:** Value (Quantity, Quality, Price), Market, Standards
2. **Demographic Stakeholders**: (Demand, Need, Supply)
3. **Industry**

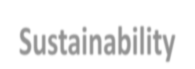
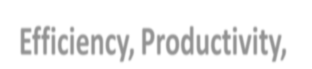
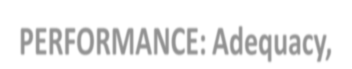
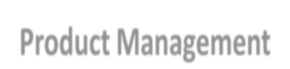
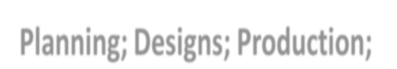
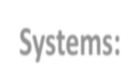
* Designs
* Production
* Management
* Resources,
* Technology

**Dependent Variables** Participation collaboration, Inclusiveness, Holistic

* Decision Making
* Planning Strategy

**Sub-Systems:**

**Planning; Designs; Production; Product Management**



## PERFORMANCE: Adequacy, Efficiency, Productivity, Sustainability

**M&E R&D**

#### KPI:



**OUTPUT**

**Adequacy (Constructability)** House Type Suitability (Choices – 3As)

1. Livable environment – cities
2. Sustainable development (Social, economic environment)

- Adaptability

###### Efficiency &

**Sustainability**

1. Impact
2. Value
3. Satisfaction

###### Figure 53: Research design for Systems Approach framework

* + 1. **RESULTS OF DEVELOPING A SYSTEMS APPROACH FRAMEWORK TO HOUSING DELIVERY AND MANAGEMENT FOR THE FCT, ABUJA (OBJECTIVE FOUR).**

Analysis from the questionnaire surveys, strongly pointed to the need for a common platform for the industry to perform, an interactive planning process strategy for housing developments, strong synergy and organisation for collaborations and participation among stakeholders, technology and housing market among other drivers of a delivery framework. These strongly agree with a systems approach framework, consistent with systems thinking. Housing delivery, it has been established is a process requiring a comprehensive and responsive management of people, institutions and resources on an appropriate framework for performance that is efficient, adequate and sustainable.

Past efforts in housing delivery, particularly in the FCT, Abuja, from literature

e.g. Kalgo and Olatubosun (2001), have been and are still a powerful tool in the hands of government and its agencies, housing, being an issue of government projects and programmes. This is the view contained largely in government policy documents, including the Vision documents (Vision 2010 and Vision 20-2020). It enjoys political relevance and status in the political equation, but as experience has shown, mainly for power gains. The Shagari Housing scheme is an example. The work of Chikwanba (2006) on "The Politics of Housing Delivery" in South Africa corroborates this. The Provisions Approach, a bureaucratic structure, seems to be a suitable framework that a suits the status quo for governments to be seen to meet its social responsibility to its citizens. But this framework is not adequate, efficient or sustainable.

This may explain why housing has not received adequate prominence and attention in Nigeria's development equation compared to roads construction. It took THIRTY-ONE (31) YEARS (1960-1991), after Nigeria gained independence, to come up with the first National Housing Policy, (NHP,1991). Virtually every administration

changes the status or institutional arrangement, particularly the nomenclature**,** of housing in the organisational structure. There has been no consistency to aid feedback, learning, innovation, monitoring or evaluations of the mandate and performance for housing development. Housing did not feature prominently in the two very important national development milestone designs: the Vision 2010 and Vision 20-2020. There were acknowledgements of the roles and importance of housing as contributors to the national economy (GDP) and sustainable developments and some provisions made for housing were made in the Vision 20-2020 in the sum of about N250 billion for projects and programmes for the period of 2010 - 2013. these were subjected to the usual government bureaucracy of provisions subject to availability of funds and the political will of the powers that be. Subsequently, no tangible results have come out of it compared to the provisions for infrastructure items like roads. Other considerations have been those incorporated with the issues of the environment in the Millennium Development Goals, (MDGs) now Sustainable Development Goals (SDGs) propelled by international attention on global warming and the Green revolution movement in the built environment. If housing delivery is to become efficient, adequate and sustainable, these must change, starting with the creation of a separate ministry of housing on its own.

The roles of institutional frameworks have been identified as important variables for housing delivery. This was considered as inadequate in the development of the extant policy frameworks. It is hoped that the outcome(s) of this work will provide a suitable framework that will revolutionise housing delivery for the FCT, Abuja, Nigeria and possibly, beyond. This attempt is a macro-view framework. It is a pioneer work

###### DISCUSSIONS ON DELIVERY FRAMEWORK APPROACH

The results of Sections 4.3 and 4.4 combine with literature to inform the concept and components of the housing scheme and systems approach framework design. The

components of housing scheme in this work are planning, decision making, design, production and product management. The components' dependent variables in the systems approach framework are participation, inclusiveness/involvement, collaboration/cohesion and holism in a pragmatic paradigm framework, and each operating as a sub-system.

The planning/conception component is undertaken by the planning sub-systems*.* The framework design starts with decision making process for the goals of the scheme, which for the systems approach is where both the sponsor(s) and user(s) decide and provide together for it. The model /typology, quantum, size, shape and form, location and other such tangible characteristics of the scheme are determined. The planning of means, ends and resources are also executed at this point in preparation for implementation by the design, production and management sub-systems. Planning is interactive i.e. all-over- at once.

The driving force for the processes at all points are the system /sub- systems key performance indicators (KPIs) as determined for every process (Table 9: Systems Framework Design Analysis Scheme). These are the determined input, management, output and outcome /impact factors (variables), supported by the services provisions.

From the planning sub-system, the next in the process is the design, production and management sub-systems. This process relies on the relationships of the various structures, processes and functions of design and production from their imperatives **(**See section 2.2.5). Here the Housing Delivery Management Process model by van Wky (see Fig.17**)** is adapted for every component to ensure systemic management as seen in previous sections. The sub-systems are driven by the systems structures, supported by various services provided by the project management/procurement options decided on. The development concept of the area (location), business management and public management all integrate in a development paradigm to produce the houses. Their

relationships are critical to functions, efficiency and performance. For instance, the land, housing and building materials markets, technology, methods, labour (men), finance and building industry are important business and project management components that will drive the process of production together.

Similarly, government economic and social development policies are important input drivers and/or barriers, as the case maybe, as public management components to the success of productions, management and outcomes/impacts of the housing scheme. Public appreciation and management of value and investments, monetary regimes and creation of enabling environment for the housing developments are important components of public management in aid of constructability and sustainability for housing developments.

Finally, the processes are guided by monitoring and evaluation of outcomes and inputs on society and environment. These services are supported by adequate research and development (R&D) and appropriate management information systems (data management) to ensure that feedback, learning and innovations are a continuous experience of the sub-systems for effecting corrective actions to problems of constructability (accessibility, availability), adequacy (quantity and quality) and subsequently affordability. These are necessary for sustainability factors like satisfaction, value of investments, liveability of environment as well as social imperatives of housing that come from efficient management of the structures, processes and functions of the various components of delivery in a paradigm concept. Ultimately, the goal of housing delivery is achieved when it is adequate, efficient and sustainable. This promotes growth and development. A view of respondents was sought for their understanding, acceptance and organisation of the systems approach to housing delivery in Questions 3**7,** Appendix A1 of the Questionnaire survey. The results and subsequent analysis of their responses using SPSS Version 21 are in Table 25.

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|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S/N** | **Tasks** |  | **Frequencies of working together of organization in a system approach-(No / %)** | | | | | | | |  |
|  |  | **No.** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
| a. | Information gathering and  sharing | 75 | 34(45.3) | 28(37.3) | 22(29.3) | 32(42.9) | 23(30.7) | 22(29.3) | 22(29.3) | 28(37.3) | 34(45.3) |
| b. | Monitoring and Evaluation of  Outcomes | 75 | 30(40) | 38(50.6) | 31(41.3) | 24(32) | 13(17.3) | 22(29.3) | 22(29.3) | 25)33.3) | 22(29.3) |
| c. | Developing housing standards | 75 | 44(58.7) | 39(52) | 35(46.7) | 28(37.3) | 15(20) | 19(25.3) | 22(29.3) | 24(32) | 19(25.3) |
| d. | Enforcing Development Control Regulation and  Building code Standards | 75 | 38(50.7) | 37(49.3) | 33(44) | 36(48) | 21(28) | 19(25.3) | 14(18.7) | 11(14.7) | 11(14.7) |
| e. | Housing Planning | 75 | 33(44) | 27(36) | 24(32) | 47(62.7) | 22(29.3) | 19(25.3) | 22(29.3) | 18(24) | 22(28) |
| f. | Management of Existing  Housing Stock | 75 | 13(17.3) | 23(30.7) | 13(17.3) | 13(17.3) | 13(17.3) | 14(18.7) | 30(40) | 47(62.7) | 20(26.7) |
| g. | Managing Environmental  Developments | 75 | 17(22.7) | 19(25.3) | 19(25.3) | 36(48) | 18(24) | 13(17.3) | 24(32.0) | 34(45.3) | 17(22.7) |
| h. | Rent Control | 75 | 13(17.3) | 11(14.7) | 7(9.3) | 9(12) | 8(10.7) | 14(18.7) | 39(52) | 29(38.7) | 33(44.0) |
| i. | Policy Implementation and  Review | 75 | 31(41.3) | 33(44) | 33(44.0) | 31(41.3) | 23(30.7) | 26(34.7) | 28(37.3) | 28(37.3) | 24(32.0 |
| j. | Effecting Connective Actions on performance lapses  (feedback) | 75 | 30(40.0) | 36(46.7) | 32(42.7) | 23(30.7) | 16(21.3) | 15(20.0) | 22(29.3) | 26(34.7) | 25(33.3) |
| k. | Providing professional code of  conduct for housing development | 75 | 35(46.7) | 36(48.0) | 37(49.3) | 32(42.7) | 24(32.0) | 28(37.3) | 26(34.7) | 26(34.7) | 16(21.3) |
| l. | Ensuring compliance with  NHP by all housing providers | 75 | 34(45.3) | 30(40.0) | 26(34.7) | 31(41.3) | 21(28.0) | 26(34.7) | 26(38.7) | 32(42.7) | 26(34.7) |
| m. | Funding housing provision | 75 | 20(26.7) | 16(21.3) | 15(20) | 15(20.0) | 12(16.0) | 24(32.0) | 19(25.3) | 17(22.7) | 42(56.0) |
| n. | Others (specify) | 75 | 6(8.0) | 6(8.0) | 6(8.0) | 4(5.3) | 4(5.3) | 6(8.0) | 5(6.7) | 5(6.7) | 6(8.0) |

###### Table 25:Analysis (Frequencies) of acceptability of a System Approach by professional affiliation (Question 37 Appendix A1) Key: 1-Architect; 2- Builder; 3- Engineer; 4- Town Planner; 5- Surveyor; 6- Quantity Surveyor; 7- Estate Surveyor and Valuer;

1. **Facility Manager; 9- End User/Client/Provider**
   1. All the questions were validly responded to, none was missing.
   2. A careful study of the pattern of responses show that no one task was left to any one profession/professionals as their exclusive preserve. This is a clear evidence of the systems approach acceptability. All are and should be reasonably involved. There are few cases that emphasise areas of professional leadership based on relevance, competence and core practice differentiations with respect to tasks.. This is understandable.
   3. A detailed study, a micro-view, would bring out the sub - systems arrangements of the structures, functions and processes for the delivery framework. This study being a Macro-view is therefore satisfied that the systems approach is the way to go for this multi-faceted phenomenon – Housing delivery.

Similarly, Question 35, examined the strength of influence of the factors responsible for success of the processes of housing delivery by the systems approach predicatively. Results are in Table 25. It showed that a lowest mean value of 3.64 for "absence of or minimum organisational conflict" and highest of 4.39 for " Delivery framework efficiency" from a Likert scale of 5 for impact of the systems approach framework. This collaborates very well with the findings from question 37 as shown in Table 32. This is an excellent endorsement of the systems approach framework. It is interesting to note low levels of concerns for Rent Control by most stakeholders except for providers/end-users/clients 33 (44%), Estate Surveyors and Valuers 39 (52.0%), and low concerns for housing funding provisions except by providers/end-users/clients 42[56.0%). All these indicate the patterns of the existing provisions approach that have promoted separation principle of operations. A solution to all these that will ensure sustainability and efficiency of delivery points to the systems approach and the establishment of a platform for managing all the Stakeholders such as a Building Industry Development Board. It will ensure

constructability and sustainability for housing delivery and design, production and management of the existing stock considering all the tasks involved.

Findings in this chapter show the relevance and desirability for close synergy for all components of delivery and management of the frameworks with their designed roles and responsibilities for participation, and monitoring and evaluation strategies for performance (KPIs). Thus, 38.7% of respondents confirmed that the building industry is not efficient and therefore cannot enhance housing delivery (Table19) in response to Question 33. The acceptance of the systems approach as the most suitable alternative to the provisions approach has been endorsed by 80% of respondents (Question 34). Respondents were asked to rank the impact of factors of the systems approach implementation of housing delivery (Question 35, Appendix A1) on a Likert Scale of 1 to 5. Using SPSS Version 21 to process the data, the results obtained in Table 24.

Analysing Question 36 further, the strength of influence of the drivers of the processes to the success of housing delivery approach predicatively, obtained a lowest mean value of

3.64 for "absence of or minimum organisational conflict" and a highest of 4.39 for " Delivery framework efficiency" from a maximum value on a scale of 5 for impact of the systems approach framework. Others show that for

1. operating building industry platform - 4.21;
2. clearly spelt out roles and responsibilities of key players - 4.28;
3. effective policy implementation - 4.08; and
4. process efficiency - 4.04.

These collaborate very well with the findings from question 37 as shown in Table 26, and are an excellent endorsement of the systems approach framework. The results predicatively agrees that the systems approach is a positively robust approach to housing delivery with a strong rating for all items of the factors for success higher than the mean value of 3.0. It can therefore be strongly endorsed for application in the FCT, Abuja

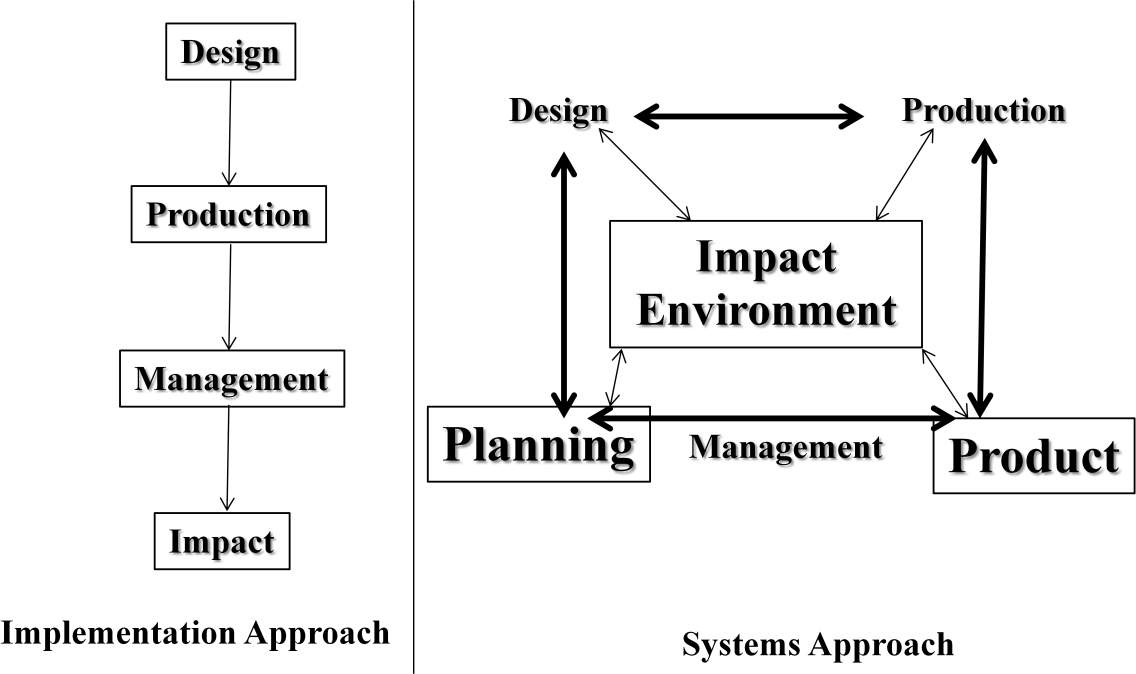
###### Table 26: Impact of systems approach predicatively implemented

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/No | Item | No. | Descriptive Statistics | |
|  |  |  | Mean . | S.D. |
| 1. | Delivery Framework Efficiency | 75 | 4.39 | 1.18 |
| 2. | Operational Building Industry  Platform | 75 | 4.21 | 1.66 |
| 3. | Clearly Spelt out roles and  responsibilities of Key Players | 75 | 4.28 | 1.13 |
| 4. | Absence of or Minimum  Organizational Conflicts | 75 | 3.64 | 1.46 |
| 5. | Effective Policy Implementation | 75 | 4.08 | 1.25 |
| 6. | Process Efficiency | 75 | 4.04 | 1.32 |

###### DISCUSSIONS ON THE FRAMEWORK DEVELOPMENT

Putting all these together a picture of the systems approach emerges from:

* + - 1. Contextualising the outcomes of the surveys in the light of an appropriate housing delivery framework from a comparison of the Implementation Approach and the Systems Approach in the following (Figure 54). While the implementation approach is a strongly bureaucratic hierarchical arrangement, with an open-ended rating for success; the systems approach, an open - close system, is an interactive and participatory framework, which success evaluation is the positive impact it has on the environment and society in ensuring a liveable sustainable environment.
      2. Further contextualising the outcomes in the light of the framework design in Table 27, an analytical comparison of the implementation/provisions and systems approach housing delivery picture emerges as in Figures 54 and 55**.** The framework itself is in Figure 56: The macro view of a housing delivery systems approach framework. A final Systems Approach Framework to Housing Delivery will be a contextualised modification of van Wyk's model in Figure 57. These speak for themselves.



###### Figure 54: Comparison between implementation and systems approach to housing delivery concept.





|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Components**  **of Housing Scheme** |  | **Provisions Approach (Implementation theory)** |  | **Systems Approach (Systems theory)** |  |
| **Planning** |  | **Conception /Invitation:** for housing Estate project  **Goal Decision Making Options**   1. Sponsor Decides, Users Provide 2. Sponsor Decides, Sponsor Provide 3. Users Decides, Users Provide 4. Users Decides , Sponsor Provide   **Planning Strategy** Proactive : Top - Down Reactive : Down- Top  Action: Bureaucratic, hierarchical |  | **Conception /Invitation:** for housing model/typology/paradigm process  **Goal Decision Making**  Both Sponsors and Users Decide and Provide Together (Stakeholders Assembly)  **Planning Strategy**  Interactive: all-over-at-once: for model/typology, means, end & resources planning.  Action: participatory, Inclusive/Integrative, Collaborative and Holistic (PICH paradigm) |  |
| **Design, Production and management** |  | **Operation:** Separation Principle **Organisation:** Project management based:  **hierarchical organisation**  **Planning**  Stakeholders  **Design**  Teams / Consultants  **Production**  Team/Organisation  **Product management**  Open-ended/Contingent  **Outcomes/Impact**  Market Forces/Ad-hoc   * Procurement type and management depend on Sponsors, providers or Users. * Not adequate, efficient nor sustainable. |  | **Operation:** Systemic management of processes & functions, inclusive and holistic **Organisation:** Systemic plan- process-design- produce-product management relationships: **PICH paradigm organisation**  **Stakeholders Conference(Sponsors/Providers**  Input Magt. Output Outcome  planning Design & Products Society & sub- production management Environment system sub-system sub-system sub-system  Monitoring & Evaluation/Research & Dev support: Feedback, Learning, Innovation,  **Outcomes/Impact**  Process and functions of the systems structures based on roles and relationships, organisational partnerships, collaborations and synergy in a holistic, participatory and consultative manner  Adequate, Efficient and Sustainable |  |

**Fig.55: An analytical comparison of provisions approach and systems approach**

###### Table 27: A comparison of provisions approach and systems approach

|  |  |  |
| --- | --- | --- |
| **Management Support Services** | **Provisions Approach (Implementation theory)** | **Systems Approach (Systems theory)** |
| **Policy Drivers** | Political will, Economic considerations (Ad-hoc), Bureaucratic institutional frameworks on a Separation principle: a straight- line mechanistic approach | Process and functions management of frameworks of sub-systems on a PICHparadigm, (Participatory, Inclusive, Collaborative & Holistic), a participative and consultative approach; Drivers contend with corresponding Barriers. |
| **Monitoring &Evaluations**  **/R&D** | * Stage completion of projects * Sales, rentals of a number (quality) of dwelling units * Constructability &sustainability- contingent FCT, Abuja experience - failed   Provision (delivery) is separated from management. Organisation is bureaucratic and a barrier to measuring sustainability. | Sub-systems output, Key Performance Indicators for Inputs, Management, Output and Outcomes/Impacts are measurable and manageable.  Constructability is systemic, adequate and efficient.  Sustainability is ensured e.g. stock management (available, accessible, affordable)  Experiences from South Africa (Le Roux, 2011). India (Chattopadhay, 2009), and Brazil shown promise of success. Has good M&E/R&D support.  The PICHparadigm is an integrated, systemic & sustainable development management process: all inclusive, flexible and manageable. Sustainability is guaranteed . |
| **Organisation** |
| **Support** | Rules and Regulations such as Building Regulations, codes and standards in a bureaucracy | Service provisions by project management options, development management concepts of government and public management roles and responsibilities of sub-systems in a systemic organisation on the bases of  established Relationships |

**Input Management Output Outcomes/Impact**



Monitoring and Evaluation/R & D: Feedback, Learning, Innovation

Society & Environment sub-system

Design and Production sub-system

Planning sub-system

Products Management sub-system



###### Figure 56: PICHparadigm Systems Approach Framework for Housing Delivery and Management. (Macro-View)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **INPUT SUB-SYSTEM** | | | | | | **DESIGN PRODUCTION SUB-SYSTEM** | **OUTPUT SUB-SYSTEM** | **OUTCOME/IMPACT SUB-SYSTEM** |
| **Stake Holders Assembly Planning Decision Making Goal & Decision**  **Housing Role Player**  **need Stakeholders** | | | | | | **Design & Production Management**  **Design Role**  **Project Dev. Players**  **Manage Manag**  **ment ement**  **Production**  Building  **Housing** Industry  **Development** (Construction  Industry  Development Board)  **Business Public**  **Manage Manag Production**  **ment ement Role**  **Players** | **Product Management**  **Maintenance Management**  **Distribution**  **Product Magt. Housing Sector management; Productivity & Employment**  **Housing**  **Policies Investments**  - Manage  ment Policy -Financing  -Strategies -Funding  -Systems -Support  Frameworks  -Resources | **Sustainable Development Management**  **House holds & Society**  **Communities** -Better  -Stable  **Developments** -Peaceful  -Welfare -Harmony  -Social -Less Crime  -Economics -Productive  -Physical -Secure  -Institutional -Connected  **New and Improved Sustainable Human Living Environment**  **Value and Satisfaction** |
| **Housing Demand** |  | **RESOURCES**  (Pragmatic) | |  | |
|  |  |
|  | |  | | |  |
| **Housing Supply**  Typology/ Model Paradigms | | | **Policy Action** | |  |
| -Legislature  -Codes  -Acts | |
| Controls/ Standards | |
|  | | | | | |
| **MONITORING AND EVALUATION/ RESEARCH AND DEVELOPMENT SUPPORT**  **\*FEEDBACK \*LEARNING \*INNOVATION** | | | | | | | | |

**Figure 57: PICHparadigm Systems Approach Framework to Housing Delivery and Management**

###### CHAPTER FIVE

###### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

###### SUMMARY OF FINDINGS

1. Housing in Nigeria and its policy of 25 years has failed to deliver housing resulting in a myriad of perennial problems. The deficits, for instance, in the country and the FCT, Abuja in particular, is huge and growing. Housing has been driven on the Provisions approach frameworks to delivery. This has not been adequate, efficient or sustainable.
2. Successful housing delivery process is based on a knowledge driven policy framework that adequately defines housing and addresses the components of delivery:
   1. Interactive and inclusive decision making and planning processes
   2. Sub-systems for design, production and management processes and operations
   3. Suitable theoretical paradigms to pragmatically address the dynamic dispensations of change and satisfy the various requirements of the stakeholders; and,
   4. Provisions of an operational platform which will guarantee the latitude for professional excellence and best practices (i.e. a level playing ground for holistic and inclusive practice) and strong relational capacity and capabilities for adequate, efficient and sustainable housing delivery.

###### CONCLUSION

Housing has largely been approached from self-help and provisions points of view. Its delivery over time, peoples and nations has been characterised by perennial problems and persistent inadequacy, inefficiency and not sustainable. Housing is an issue of social public policy. In the FCT, Abuja and Nigeria, problems have been largely due to inadequacy in the capacity of the provisions approach formulated policy frameworks to drive the components of housing in a manner suitable for housing, whose problems have

been described as "wicked" in nature. Thus the myriad of problems associated with housing ranging from huge deficits of dwelling units, high costs of production and management, to social and health problems of crime and disease, as well as environmental sustainability issues.

This reflective study therefore has developed an alternative housing view that is adequate, efficient and sustainable. It is the delivery approach employing systems thinking and theory, as an outcome of the examination of the application of the extant National Housing Policy,1991 and all its reviews in the FCT, Abuja. The policy's thrust of Provisions Approach, Implementation Theory, was a faulty hollow policy driven by ad-hoc housing provisions framework, with no systemic links, no inclusiveness of stakeholders, hence, not adequate, efficient and sustainable.

The study has therefore developed, validated and recommended for adoption in the FCT, Abuja and Nigeria, a housing delivery and management framework - The Systems Approach PICHparadigm framework. The framework has captured the systemic and multidimensional nature of housing and the imperatives of planning, designs, production, managements of the products and impacts of housing on sustainable living environments. Housing is a peoples' process, a pragmatic and systemic phenomenon for sustainable living environments, and not just dwelling units provided on a cash and carry basis.

###### RECOMMENDATIONS

The following are the recommendations of this study:

1. Housing developments should be on the basis of pragmatic paradigms and sustainable development concepts and not models or typologies considering the perspectives of the definitions of housing and housing delivery developed in this study for the National Housing Policy.
2. The newly developed framework be adopted and implemented for housing developments in the FCT, Abuja and the nation as a whole.
3. The government should review the National Housing Policy to include the findings of this work.
4. The Ministry of Housing should stand alone as a federal ministry.
5. The government in conjunction with the housing stakeholders should establish a housing industry development board and a housing delivery databank for the country.
6. The National Housing Council should be revived and reinvigorated.
7. Government at all levels should conduct enlightenment campaigns on housing developments and de-politicise housing issues.
8. All educational institutions offering housing programmes should be encouraged to create appropriate curricula for housing studies reflecting the findings of this work at all levels of learning.

###### LIMITATIONS OF THE STUDY

1. The limitation to this work is that it is a pioneer work, and therefore only a MACRO- VIEW was considered. The outcome of this study would have been tested with a real life application. The micro details are therefore recommended for further work, while this serves as a spring board to such further works.

###### SUGGESTIONS FOR FURTHER STUDY

The following are suggestions for further study:

* + 1. That a plot of land be acquired and used for a real life pilot scheme using the developed framework in the FCT, Abuja or through one of government's agencies or REDAN to authenticate its efficacy.
    2. Examination of the influence of Nigeria's cultural pluralism on the success and sustainability of the systems approach to housing delivery.
    3. An evaluation of the impact of the systems approach delivery frameworks and management employing technological innovations such as the Building Information Modelling (BIM), Industrialised Building Systems (IBS) and sustainable development issues of housing delivery in the developing world.
    4. Examination of the adequacy of the current curriculum for housing developments in the tertiary institutions with respect to the systems approach to housing delivery.
    5. The imperatives of management information systems for housing and the systems approach framework for sustainable housing delivery.

###### CONTRIBUTION TO KNOWLEDGE

The following are the contributions to knowledge from this study.

1. Housing phenomenon hitherto mainly approached through the self-help and provisions strategies, based on separation principle of practice, are not adequate, efficient or sustainable. This study has developed a holistic strategy, the delivery approach, using the systems theory (thinking) and approach that is adequate, efficient and sustainable.
2. The study has thus developed a definition for housing. Housing is a complex and systemic process of delivery of dwelling units that are adequate, accessible, available, affordable and adaptable; and appropriate facilities and services that support the production and development of sustainable living environment.
3. Housing delivery is a systemic and pragmatic process of managing the complex phenomenon of housing into sustainable living environments within the provisions of an articulated housing policy - a social public policy.
4. The planning and decision making strategy for housing delivery for a systems approach framework is that both users and sponsors decide and provide together all that is required for the housing scheme.
5. Based on the delivery approach to hosing, a housing delivery framework, the Systems Approach PICHparadigm Framework has been developed and validated, ready for adoption in the FCT, Abuja and Nigeria. This is a sustainable development concept approach for housing delivery and management.

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###### APPENDIXES

###### APPENDIX A1: FINAL RESEARCH QUESTIONNAIRE

###### DEPARTMENT OF BUILDING FACULTY OF ENVIRONMENTAL SCIENCES

**UNIVERSITY OF JOS.**

###### PhD RESEARCH

**"A SYSTEMS APPROACH TO HOUSING DELIVERY IN THE FEDERAL CAPITAL TERRITORY, (FCT), ABUJA"**

###### QUESTIONNAIRE FOR ALL STAKEHOLDERS

(FEDRERAL GOVERNMENT MDAs, PROFESSIONAL/REGULATORY BODIES, FINANCIAL INSTITUTIONS, HOUSING PROVIDERS/DEVELOPERS, HOUSING MANAGERS, ACADEMICS, END-USERS/BENEFICIARIES)

###### MARCH, 2016.

**DEPARTMENT OF BUILDING, FACULTY OF ENVIRONMENTAL SCIENCE,**

###### UNIVERSITY OF JOS, JOS.

**TO WHOM IT MAY CONCERN**

###### LETTER OF INTRODUCTION

I am a PhD Candidate of the above institution currently conducting a research entitled "A Systems Approach to Housing Delivery in the Federal Capital Territory (FCT), Abuja: 1991-2011."

Your organisation has been carefully identified and selected as a strategic stakeholder (partner) with tacit knowledge and experience for participation in this study on the issues involved in the National Housing Policy (NHP) and Housing Delivery in the Federal Capital Territory (FCT) Abuja and Nigeria.

The purpose of this Questionnaire is to solicit your responses to the issues as they relate to the Systems Approach in the perspective of housing delivery and management in the FCT, Abuja, Nigeria. The information you provide will be used to enhance the quality of this research.

Your identity will not be disclosed and the information you provide will be taken and treated with utmost confidentiality.

Thank you.

###### Dachollom Dalyop Jambol Researcher

Introduction: Please respond to each question with every sense of responsibility, honestly and on your integrity. Tick or circle cleanly and write legibly, preferably in uppercase (Capital) letters.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **QUESTIONS AND FILTERS** | **CODING CATEGORIES** | **INFO** | |
| 1 | Gender of Respondent | Male |  | Tick one |
| Female |  |
| 2 | Age Bracket. | Below25years |  | Tick one |
| 25-30 |  |
| 36-40 |  |
| 41-45 |  |
| 46-50 |  |
| 51-55 |  |
| 56-60 |  |
| 60+ |  |
| 3 | Marital Status | Single |  | Tick one |
| Married |  |
| Widowed |  |
| Separated |  |
| Divorced |  |
| Living with Man/Woman |  |
| Single Parent |  |
| 4 | Highest level of Academic attainment. (Qualification) | Primary |  | Tick one applicable |
| Secondary (JSS/SSS) |  |
| OND /NCE |  |
| HND/BSc |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | MSc/ PhD |  |  |
| Any other (Please specify) | |
| 5 | Your Professional Affiliation. Please circle as applicable. | Architecture |  | Tick one |
| Client End User Provider |  |
| Building |  |
| Engineering |  |
| Town Planning |  |
| Surveying |  |
| Quantity Surveying |  |
| Estate Surveying & Valuers |  |
| Facility Manager |  |
| Technologist |  |
| Any other (Please specify) | |
|  | |
| 6 | Highest level of professional attainment | Graduate |  | Tick one |
| Associate |  |
| Corporate Member |  |
| Fellow (Corporate) |  |
| Any other (Please specify) | |
|  | |
| 7 | Present Position/Cadre. | Top Management |  | Tick one |
| Mid Management |  |
| Supervisory |  |
| Any other (Please specify) | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | |  |
| 8 | Years of experience (please specify). | 0-5years |  | Tick one |
| 6-10 years |  |
| 11-15 years |  |
| 16-20 years |  |
| Over 20years |  |
| 9 | Name of Ministry/ Department/ Agency/Professional/Regulatory Body or Organisation |  | | Write Answer |
|  | |
|  | |
| 10 | Address |  | | Write Answer |
|  | |
|  | |
| 11 | Website |  | | Write Answer |
|  | |
|  | |
| 12 | Contact (telephone) | Land line: | | Write Answer |
| Email: | |
| GSM: | |
| 13 | Year of Establishment of Organisation | Before 1960 |  | Tick one |
| 1960 - 1970 |  |
| 1971 - 1980 |  |
| 1981 - 1990 |  |
| 1991 - 2000 |  |
| 2001 - 2010 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | 2011- Date |  |  |
| 14 | Current Staff or Membership Strength of Organisation | Below 500 |  | Tick one |
| 501 - 1000 |  |
| 1001 - 1500 |  |
| 1501 - 2000 |  |
| 2001 - 2500 |  |
| 2501 - 3000 |  |
| 3001 + |  |
| 15 | When did your organisation become involved with the National Housing Policy? | Before 1991/ |  | Tick one |
| 1991 - 2000 |  |
| 2001 - 2010 |  |
| 2011 - Date |  |
| 16 | In what specific area of National physical development is your organisation contributing | Housing |  | Tick as applicable |
| Road |  |
| Power |  |
| Water |  |
| Sewage/Drainages |  |
| Environment |  |
| Research and Development |  |
| 17 | To what extent has your organisation participated in policy formulation for housing delivery in the extant National Housing Policy (NHP) since the NHP,1991? Rank the extent of participation on a scale of 1 - 5:  1 (Very High) - 5 (Very Low) | Identification of housing problems |  | Rank each |
| Provision of housing data |  |
| Design of institutional framework |  |
| Implementation of policy thrust |  |
| Design of implementation strategies |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Monitoring and evaluation guidelines |  |  |
| Identification of delivery determinants |  |
| Research and development support |  |
| 18 | Has your organisation been involved in planning for housing delivery? | Yes |  | Tick one |
| No |  |
| 19 | Which of these planning strategies has your organisation been using? | Pre active planning (Top- Down) |  | Tick one |
| Reactive planning (Bottom Up) |  |
| Interactive planning |  |
| 20 | Which planning strategy in your opinion is most appropriate for housing? | Top - Down (Pre active) |  | Tick one |
| Bottom - Up (Reactive) |  |
| Interactive (all-over-at-once) |  |
| 21 | To what extent has your organisation been involved in the determination of the following areas of housing development. Rank on a scale of 1 - 5: 1 (Very highly involved) - 5 (Not at all involved) | Determination of housing needs |  | Rank each |
| Determination of housing demands |  |
| Determination of housing supply |  |
| Determination of housing Redevelopment |  |
| Managing existing housing stock |  |
| Planning |  |
| R & D, Innovations |  |
| Others (specify) |  |
| 22 | To what extent do the following components of Housing delivery frameworks require working together (synergy and inclusiveness). Rank on a scale of 1-5: 1(Very High) - 5 (Very Low) | Structure |  | Rank each |
| Processes |  |
| Functions |  |
| 23 | List 5 areas of collaborations in order of importance you consider as critical to | 1 |  | Write |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | successful housing delivery. | 2 |  |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 24 | What is your assessment of housing delivery in the FCT, Abuja? | It has Failed |  | Tick one |
| It has not Failed |  |
| 25 | For housing delivery in the FCT-Abuja, Rank the extent of success of the following factors on a scale of 1- 5: 1(Very High)-5 (Very Low): | a Adequate in quantity and quality |  | Rank each |
| b Affordable |  |
| c Accessible |  |
| d Available |  |
| e Adaptable (ease of maintenance, modifications,  alterations) |  |
| f Promoting peaceful coexistence |  |
| g Providing security |  |
| h Providing for low income group |  |
| i Providing for people with special needs: young, Aged, unemployed, handicapped, etc |  |
| k Rent control |  |
| l Others (Specify) |  |
| 26 | For housing delivery in the FCT-Abuja, Rank in order for failure the impact of the following factors on a scale of 1 - 5: 1(Very High) - 5 (Very Low) | Delivery framework deficiencies |  | Rank each |
| Inadequacy of building industry platform |  |
| Ambiguous roles and responsibilities of key players |  |
| Organisational conflicts |  |
| Policy Summersault |  |
| Processes efficiency |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 27 | To what extent are the following management frameworks of housing delivery efficient? Rank on scale of 1 - 5: 1(Very highly efficient) - 5(Not efficient at all) | a. Business management framework (Housing market) |  | Rank each |
| b. Project management framework |  |
| c. Public management framework |  |
| d. Physical development framework |  |
| e. Technological Management framework |  |
| f. Housing Management framework |  |
| 28 | Do you know other stakeholders involved in housing delivery? | Yes |  | Tick one |
| No |  |
| 29 | If Yes to 28, can you please name them? | 1 | | write |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
|  | |
| 30 | To what extent is your organisation involved in the following aspects of housing delivery? Rank on a scale of 1-5: 1(not at all) - 5 (highly involved) | a) Institutional Framework design |  | Rank each |
| b)Promotion Stakeholder Collaboration |  |
| c)Enhancing Participation of Stakeholders |  |
| d) Integration of Stakeholders for Productivity |  |
| e)Enhancing negotiations among Professionals |  |
| f) Determining  housing needs and or Demands |  |
| g) Determination of housing supply |  |
| h) Management of Resources |  |
| i) Manpower  (Human) development |  |
| j) Research and Development |  |
| k) Policy  formulation |  |
| l) Policy  Implementation |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | m) Monitoring and Evaluation |  |  |
| n) Housing  Design & Production |  |
| o) Housing  Management |  |
| p) Beneficiaries  /End-users /Providers/ Developers |  |
| q) Consultancy  Services provision |  |
| r) Housing  Financing |  |
| s) Property  Marketing |  |
| t) Building  Materials Manufacturing & Marketing |  |
| u) Building  Maintenance and Redevelopment |  |
| v) Project  Management |  |
| w) Building  Regulation & Code Enforcement |  |
| x) Legal Service |  |
| y) Building  Education |  |
| z) Social  Development |  |
| aa) Housing Data Management |  |
| bb) National  Physical Development |  |
| cc) Development Control |  |
| dd) Infrastructure Management |  |
| ee) Environmental Management |  |
| ff) Infrastructural and Facilities Management |  |
| gg) Land Administration and Management |  |
| hh) Information and  Communication Systems (ICT) |  |
| ii) Waste  Management |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | jj) Others (Please Specify) |  |  |
| 31 | What extent of collaboration is required in the following components of Housing delivery? Rank on a scale of 1-5: 1(Very High) - 5 (Very Low) | Housing Conception |  | Rank each |
| Housing Planning |  |
| Housing Designs |  |
| Housing Production |  |
| Housing Management |  |
| Monitoring and evaluation |  |
| Research and Development |  |
| 32 | What is the extent of influence of the following Barriers to success of housing delivery (performance). Rank on a scale of 1 - 5: 1(Highly influential); 2(Influential); 3(Undecided); 4(Less influential); 5(Not influential at all). | a. Undefined process of production |  | Rank each |
| b. Undefined ownership structure of dwelling units |  |
| c. Design inadequacy |  |
| d. Land availability constraints  e.g. Titles, Quality |  |
| e. Land inadequacy |  |
| f. Land insecurity |  |
| g. Inadequate labour and inappropriate technology |  |
| h. Poor housing management |  |
| i. Inadequate planning |  |
| j. Inadequate financial sources |  |
| k. Unaffordable (high cost of capital) finance |  |
| l. Poor appreciation of value of investment |  |
| m. Limited choice of housing typology |  |
| n. Limited or unavailable choice of location |  |
| o. Limited or unavailable choice neighbourhood |  |
| p. Absence of robust research and development support |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | q. Existence of separation principle of operation by key stakeholders (everyone to  himself) |  |  |
| r. Poor/inadequate institutional framework for delivery |  |
| s. Poor/inadequate infrastructure |  |
| t. Poor/inadequate social amenities |  |
| u. Security challenges |  |
| 33 | Do you agree that the building industry as currently organised is going to enhance housing delivery in the FCT? | Yes |  | Tick one |
| No |  |
| 34 | The systems approach to housing delivery is a concept that promotes participation, inclusiveness, collaboration and holistic principles of delivery. Do you agree that the systems approach to  housing if introduced will enhance housing delivery in the FCT? | Yes |  | Tick one |
| No |
| 35 | When the stakeholders of housing delivery in the FCT-Abuja work together (Systems Approach), rank the impact on the following factors of delivery on a scale of 1 - 5: 1(Very High) - 5 (Very Low). | Delivery framework efficiency |  | Rank each |
| Operational building industry platform |  |
| Clearly spelt out roles and responsibilities of key players |  |
| Absence of or minimum organisational conflicts |  |
| Effective policy  implementation |  |
| Processes efficiency |  |
| 36 | What is the extent of influence of the following Drivers of the processes to success of housing delivery in the FCT?  Rank on a scale of 1- 5: 1(Highly influential); 2(Influential); 3(Undecided);  4 (Less influential); 5(Not influential at all) | 1 Stakeholder collaboration |  | Rank each |
| 2 Funding/finance (Vibrant mortgage market) affordability |  |
| 3 Urban development planning |  |
| 4 Organised/productive building industry |  |
| 5 Suitable technology |  |
| 6 Vibrant building materials market |  |
| 7 Housing management organisation/structure |  |
| 8 Adequate infrastructure & services |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | 9 Effective NHP  implementation frameworks and strategies |  |  |
| 10 Monitoring and evaluation frameworks and strategies |  |
| 11 Research and development support |  |
| 12 Appreciable value of investment (property valve) |  |
| 13 Good varied choices of housing typology, location and neighbourhood |  |
| 14 Management  information systems for housing management |  |
| 15 Organised industry platform |  |
| 16 Designed institutional frameworks |  |
| 17 Robust/efficient team work among professional stakeholders for productivity |  |
| 18 Clearly defined roles and responsibilities for stakeholders (functions) |  |
| 19 Human resources management structure |  |
| 20 End - user friendly products |  |
| 21 Conducive land management & administration |  |
| 22 Sustainable liveable environment (peace, harmony, value) |  |
| 23 Building maintenance management structure |  |
| 24 Robust/vibrant housing market |  |
| 25 An all inclusive stakeholder housing organisation |  |
| 26 Feedback framework for learning and innovations |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | TASKS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
|  | When the systems |  |  |  |  |  |  |  |  |  |  |  |
| i Information gathering and sharing |  |  |  |  |  |  |  |  |  |
|  | approach to delivery is |  |
|  | introduced, in which of |  |
|  | the following tasks |  |
| ii Monitoring and evaluation of outcomes , |  |  |  |  |  |  |  |  |  |
|  | would your organisation |  |
|  | be working together with |  |
| iii Developing housing standards |  |  |  |  |  |  |  |  |  |
|  | the following |  |
|  | stakeholders to realise |  |
|  | the goal of the National |  |
| iv Enforcing development control regulation and building code standards |  |  |  |  |  |  |  |  |  |
|  | Housing Policy for |  |
|  | housing delivery? |  |
|  |  | v Housing planning |  |  |  |  |  |  |  |  |  |  |
| 37 | 1. Architect; | vi Management of existing housing stock |  |  |  |  |  |  |  |  |  | Tick as appropriate |
| 2. Builders; | vii Managing environmental developments |  |  |  |  |  |  |  |  |  |
|  | 3. Engineers; | viii Rent control |  |  |  |  |  |  |  |  |  |  |
|  | 4. Town Planners; | ix Policy implementation & review |  |  |  |  |  |  |  |  |  |  |
|  | 5. Surveyors; | x Effecting corrective actions on performance lapses (feedback) |  |  |  |  |  |  |  |  |  |  |
|  | 6. Quantity Surveyors; | xi. Providing Professional code of conduct for housing development |  |  |  |  |  |  |  |  |  |  |
|  | 7. Estate Surveyors and | xii. Ensuring compliance with NHP by all housing providers |  |  |  |  |  |  |  |  |  |  |
|  | Valuers; |  |
|  | 8. Facility Managers; | xiii. Funding housing provision |  |  |  |  |  |  |  |  |  |  |
|  | 9. End Users/Clients/Providers). | xiv. Others (specify) |  |  |  |  |  |  |  |  |  |  |

313. Please give any suggestion(s) you think will improve housing delivery in the FCT, Abuja in the space provided below in order of importance.

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Thank you

###### APPENDIX A2: PILOT SURVEY QUESTIONNAIRE

**DEPARTMENT OF BUILDING FACULTY OF ENVIRONMENTAL SCIENCES**

**UNIVERSITY OF JOS.**

# M.Phil/PhD RESEARCH

### "HOUSING DELIVERY IN THE FEDERAL CAPITAL TERRITORY, (FCT), ABUJA:

**SYSTEMS APPROACH TO POLICY AND PERFORMANCE (1991-2011)"**

PILOT

**QUESTIONNAIRE**

**NOVEMBER, 2014.**

###### DEPARTMENT OF BUILDING, FACULTY OF ENVIRONMENTAL SCIENCE,

**UNIVERSITY OF JOS, JOS.**

###### INTRODUCTION

I am an M.Phil/PhD Candidate of the above institution conducting a research on "**Housing Delivery in the Federal Capital Territory (FCT), Abuja: Systems Approach to Policy and Performance, 1991-2011**." The purpose of this **Questionnaire** is to solicit your responses as they relate to the Systems Approach in the perspective of housing delivery and management in the FCT, Abuja, Nigeria.

Your organisation has been identified as a strategic stakeholder (partner) with tacit knowledge and experience on the issues involved in the National Housing Policy (NHP) and Housing Delivery in the Federal Capital Territory (FCT) Abuja and Nigeria.

The information you provide will be used to enhance the quality of this research. Your identity will not be disclosed and the information you provide will be taken and treated with utmost confidentiality.

Thank you.

**Dachollom Dalyop Jambol**

**Researcher**

###### QUESTIONNAIRE FOR MDAs, HOUSING PROVIDERS/BUILDERS, PROFESSIONAL/REGULATORY BODIES & OTHER STAKEHOLDERS.

**INSTRUCTIONS:** Please tick (√) the response of your choice in the space provided as appropriate.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | SECTION I: BACKGROUND INFORMATION | | | | | | |
| NO | QUESTIONS | CATEGORIES | | | | | |
| 1 | Name of Organisation  (Optional): |  | | | | | |
| 2 | Year of Registration/Estab lishment | Before 1960 | | | |  | |
| 1960 – 1970 | | | |  | |
| 1971 – 1980 | | | |  | |
| 1981 – 1990 | | | |  | |
| 1991 – 2000 | | | |  | |
| 2001 – 2010 | | | |  | |
| 2011 – present | | | |  | |
| 3 | Current membership strength (Corporate/Fellow s only). | Less than 1000 | | | |  | |
| 1001 – 1500 | | | |  | |
| 1501 – 2000 | | | |  | |
| 2001 – 2500 | | | |  | |
| 2501 – 3000 | | | |  | |
| 3001 – 3500 | | | |  | |
| 3501 – 4000 | | | |  | |
| 4001 – 4500 | | | |  | |
| 4501 – 5000 | | | |  | |
| Above 5000 | | | |  | |
| 4 | Please indicate your professional field/body | Architecture | | | |  | |
| Building | | | |  | |
| Engineering | | | |  | |
| Town Planning | | | |  | |
| Surveying | | | |  | |
| Quantity Surveying | | | |  | |
| Estate Surveyors and Valuers | | | |  | |
| Facilities Managers | | | |  | |
| Technologists | | | |  | |
| Others, please state: | | | | | |
| 5 | Current Staff Strength of your  organisation |  | | | | |  |
| 6 | What are the major roles of your organisation? | 1. Policy Formulation | | | | |  |
| 2.Policy Implementation | | | | |  |
| 3.Monitoring & Evaluation | | | | |  |
| 4.Housing Production | | | | |  |
| 5.Housing Management | | | | |  |
| 6.Estate Developers | | | | |  |
| 7.Beneficiaries/End Users | | | | |  |
|  | QUESTIONS | FILTERS | | | | |  |
| 7 | When did your organization become involved in the implementation of the NHP? | 1991 to date | 1992 to 2001 | 2002 to 2011 | 2012 to date | |  |
| 8 | How is the relationship of your organization to the national development of  the country | Strongly related | Moderately related | Averagely related | Weakly related | | Not related |
| 9 | What is the level |  |  |  |  | |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | of your awareness about the NHP, 1991 and its  subsequent reviews? | Highly aware | Moderately aware | Indifferent (not sure) | Not aware | Highly unaware |
| 10 | What is the level of involvement of your organization in the implementation of  the NHP? | Highly involved | Involved | Moderately involved | Rarely involved | Not involved at all |
| 11 | In your view, what is the level of participation of your organization at each of the following levels of  policy | Very highly | High | Moderate | Rarely | Not at all |
| i. identification of  problems |  |  |  |  |  |
| ii. provision of  housing data |  |  |  |  |  |
| iii. design of institutional frameworks |  |  |  |  |  |
| iv. draft of the  policy thrust |  |  |  |  |  |
| v. design of implementation  strategies |  |  |  |  |  |
| vi. Monitoring &  evaluation guidelines |  |  |  |  |  |
| vii. Identification of delivery  determinants |  |  |  |  |  |
| 12 | To what extent is your organization involved in collaborations in  the areas of | Highly involved | Involved | Moderately involved | Rarely involved | Not at all involved |
| i. Policy  formulation |  |  |  |  |  |
| ii. Policy  implementation |  |  |  |  |  |
| iii. Performance  Monitoring & evaluation |  |  |  |  |  |
|  | iv. Effecting corrective Actions on performance  lapses |  |  |  |  |  |
| 13 | What is the level of synergy existing between your organization and other stakeholders in the delivery of  housing in the FCT? | Very high | High | Moderate | Low | Very low |
| 14 | What is the nature  of collaboration | Very Open | Open | Not sure | close | Very close |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | existing between your organization and other relevant  Stakeholders. |  |  |  |  |  |
| 15 | What in your opinion is the relevance of the inclusiveness of the institutional framework of  housing delivery? | Very relevant | Relevant | Moderately relevant | Less relevant | Not at all relevant |
| 16 | To what extent do you agree that the National Housing Policy in the FCT has failed to  perform? | Strongly agree | Agree | Don't know | Disagree | Strongly disagree |
| 17 | Do you agree that planning for housing delivery  should be interactive? | Strongly agree | Agree | Maybe | Disagree | Strongly disagree |
| 18 | What is the level of desirability and relevance of the following drivers of the processes of housing delivery  in the FCT? | Strongly desirable | Desirable | Optional | Less desirable | Not desirable |
| 1. Stakeholders  collaboration |  |  |  |  |  |
| 2. Adequate  funding/finance |  |  |  |  |  |
| 3. Adequate & Efficient urban  development planning |  |  |  |  |  |
| 4.  Organized/Product ive building industry |  |  |  |  |  |
| 5. Appropriate  Technology |  |  |  |  |  |
| 6. Building  material adequacy |  |  |  |  |  |
| 7. Housing management organization/  structure |  |  |  |  |  |
| 8. Adequate infrastructure &  services |  |  |  |  |  |
| 9.Effective NHP implementation  frameworks |  |  |  |  |  |
| 10. Monitoring & evaluation  frameworks |  |  |  |  |  |
| 11. R & D support |  |  |  |  |  |
| 12. Appropriate  Technology |  |  |  |  |  |
| 13. High  Technology e.g. |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | IBS for product |  | |  | |  | |  | |  | |
| 14. Indigenous  Technology |  | |  | |  | |  | |  | |
| 19 | Please evaluate the extent of influence of the following barriers to successful housing  delivery(performa nce): | Highly influential | | Influential | | Partially influential | | Less influential | | Not influential at all | |
|  | 1. Ownership structure of  dwelling units |  | |  | |  | |  | |  | |
|  | 2. Mode of production/produc  tivity |  | |  | |  | |  | |  | |
|  | 3. Design  inadequacy |  | |  | |  | |  | |  | |
|  | 4. Land: availability, adequacy & security | Please select appropriate box below | | | | | | | | | |
|  | * Availabil |  | | |  | |  | | |  |  |
|  | ity |
|  | * Adequac   y |  | | |  | |  | | |  |  |
|  | * Security |  | | |  | |  | | |  |  |
|  | 5. Labour &  technology |  | | |  | |  | | |  |  |
|  | 6. Inadequate  production processes |  | | |  | |  | | |  |  |
|  | 7. Inadequate distribution  Framework |  | | |  | |  | | |  |  |
|  | 8. Inadequate planning  (flexibility) |  | | |  | |  | | |  |  |
|  | 9. Financial  inadequacy: | Please select appropriate box below | | | | | | | | | |
|  | * Sources |  |  | |  | |  | |  | | |
|  | * Affordab |  |  | |  | |  | |  | | |
|  | ility |
|  | * Manage |  |  | |  | |  | |  | | |
|  | ment |
|  | 10. Inadequate maintenance  management |  |  | |  | |  | |  | | |
|  | 11. Poor appreciation of  value of investment |  |  | |  | |  | |  | | |
|  | 12. Limited choice of housing typology, location  & neighbourhood |  |  | |  | |  | |  | | |
|  | 13. Inadequate housing (product) management  structure |  |  | |  | |  | |  | | |
|  | 14. Absence of |  |  | |  | |  | |  | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | research & development for  housing delivery |  |  |  |  |  |
| 15. Absence of organized industry platform for  housing delivery |  |  |  |  |  |
| 16.  Poor/inadequate institutional frameworks for delivery |  |  |  |  |  |
| 17. Inadequate  Team work in the delivery process |  |  |  |  |  |
| 18.  Inadequate/Non- definition of roles & responsibilities  for stakeholders |  |  |  |  |  |
| 20 | What in your opinion will enhance the level of efficiency of Management information for housing delivery in the FCT? | Highly efficient | Efficient | Normal | Less efficient | Not efficient at all |
| 1. Structure |  |  |  |  |  |
| 2. Organized  function |  |  |  |  |  |
| 3. Defined  processes |  |  |  |  |  |
| 21 | How desirable is a common platform for housing production management to the Building Industry | Highly desirable | Desirable | Undecided | Not desirable | Highly Undesirable |
| 22 | How relevant is the building industry structures in influencing the processes of  housing delivery | Highly influential | Influential | Averagely Influential | Not influential | Not influential at all |
| 23 | To what extent is the building construction Industry relevant to the efficient/sustainabl e Management of  housing delivery | Highly relevant | Relevant | Averagely relevant | Not relevant | Very relevant |
| 24 | What is your assessment of the capacity of the Nigerian Building  Industry? | Very adequate | Adequate | Average | Low | Very inadequate |
| 25 | What in your view is the Scope of the Building Industry to respond to the  technology | Highly Adequate | Adequate | Averagely | Weak | Not Adequate |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | requirement of  housing delivery |  |  |  |  |  |
| 26 | To what extent can the Building Industry be relied upon to deliver housing in the  FCT? | Very Reliable | Reliable | Average | Not Reliable | Not Reliable at all |
| 27 | How adequate is the Housing Market | Very Adequate | Adequate | Undecided | Not Adequate | Not Adequate at all |
| 28 | How adequate is the Building Material market to respond to the  needs of housing | Very Adequate | Adequate | Undecided | Not Adequate | Not Adequate at all |
| 29 | How dependable is the technology  in the industry | Very depend- able | Depend-able | Undecided | Not depend- able | Not dependable at all |
| 30 | To what extent are the Stakeholders  Organised for housing delivery | Highly organised | Organised | Confused | Not organised | Disorganised |
| 31 | What is the level of Education of the Stakeholders of housing  delivery | Highly educated | Educated | Learning | Not educated | Not educated at all |

32. Please give any suggestions you think will improve housing delivery in the space provided below:

Thank you for your time .

###### APPENDIX B1: Summary of Past Policies and Programmes of Housing Delivery and Outcomes/Performances, Colonial Period - 2011

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Period | Dates | Policy / Program | Policy Thrust / Delivery Mechanism | Outcomes | Remarks |
| The Colonial  Period to Independence | Up to 1960 | No policy. Only housing activities and programmes of government related to housing. | Direct provision of housing accommodation using boards, sites and services and estates; promoting home ownership. | Staff quarters for expatriates staff and those on special government positions in government residential areas (GRAs). | There were constraints of sustainability, selective  provision; economic realities; limited scope in technology, man-power capacity/capability and absence of Institutional and Legal Frameworks etc. Not  successful for mass housing. |
| The Post Independence Period (Civilian / Military Administration) | 1960 – 1979 | No policy. Only Housing activities and policy frameworks of government related to Housing. Programmes were based on the 5 – Yearly Development Plans. | Direct provision using panels, boards and committees. Direct participation in production / provision using contractors based on programmes of the National Development Plans with:  \*Delivery Mechanism legal/institutional frameworks.  \*Land administration   * Rent control initiatives and * Mortgage institution. Thrust is Home ownership. | Major outcome is the identification of groups with special needs-the low income group; efforts to standardize housing types.   * A Ministry charged with the responsibilities of initiating and coordinating   policy initiations and programmes in housing related areas was established.   * Standards for House types. * Land Use Decree No. 6 of 1978 now ACT CAP 20, LFN (2004). | Great efforts of the 3rd National Development Plan led to establishment of National Council on Housing (1971); National Housing Programme (1972); Federal Housing  Authority (1973); Federal Ministry of Housing, Urban Development and  Environment (1975);  Committee on  Standardization of house  types and policies. Performance was not impressive, attainment of objectives failed. |

**APPENDIX B1 contd: Summary of Past Policies and Programmes of Housing Delivery and Outcomes/Performances**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Period | Dates | Policy / Program | Policy Thrust / Delivery Mechanism | Outcomes | Remarks |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Elected Civilian Administr ation | 1979 – 1983 | No policy yet. Housing was from Housing activities and the pressure from housing deficits, deterioration of existing stock, slums developments especially in the rural areas.  Facilitation from World Bank Assisted Nigerian States Urban Development Program (NSUDP) to  promote National Low Cost Housing Programme. This  transformed into Infrastructure  Development | Direct production/provision using contract system and facilitation.  \* For the first time National Housing  Programme imbibed “concept of affordability and citizen participation for housing delivery especially for low-in-come group for Home ownership. The birth of Low Cost Housing. | Not impressive inspite of huge financial resources invested. | Failure was from constraints of inadequate  /inappropriate designs, ambitious “politically” motivated programmes with limited  capacity/capability of execution, fraud and under performance, and lack of clearly thought out policy objectives and strategies, as well as lack of scientific basis in conception,  implementation and management. Efforts not sustainable. |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Period | Dates | Policy / Program | Policy Thrust / Delivery  Mechanism | | Outcomes | Remarks |  |
| Military Regime (Era) |  | 1984 – May 28,  1999 | Programmes driven more by Political will | \* New National Housing Policy, 1991. | | Not much as there  were struggles to adjust from a regulated | Failure was largely due to:  \* Failure in concept to be based on any theory of Housing: Thus |

|  |  |  |  |
| --- | --- | --- | --- |
| than technology, Economic indices, Socio-cultural issues or the environment.  There were thoughts of Housing  concepts such as Cooperative Housing, Social Housing, Owner-Occupier Housing, while  Informal Rental Housing was not recognized by  government. SAP policy thrust for National development was introduced | * Pressure from   Urbanization and  population growth (Housing Deficit) and High cost of building/rents, deterioration forced a rethink, Re-strategizing.   * Shift in policy thrust from Direct Provision to Enablement for Home Ownership or Access to homes. * Private Sector involvement initiated but not supported, nor fully integrated. | economy of planning and programmes to a free market  deregulated (SAP) economy controlled by the IMF and World  Bank. | a poor quality policy concept (uninformed and speculative).   * No defined delivery   mechanism. Industry was not organized. It produced based on a “Separation Principle”.   * Funding for housing were only SHORT TERM, not long term investible funds, thus inadequate. * Poor management of resources   e.g. land for housing and management of stock.   * Unorganized Housing Market. * Lack of recognition of the informal sector that produces 80% of houses. * No Housing Data Bank, Policy   was produced without adequate research.  Efforts were not sustainable. |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Elected Civilian Administration | 29th May 1999 to | Politically motivated / | Home Ownership or | | | Poor outcomes. | | Housing | was | in | a |
|  | 28th May 2007 | driven programmes | Access; Delivery | | | Policy poorly | | Limbo |  |  |  |
|  |  | based on “Political | mechanisms: Direct | | | implemented, | |  |  |  |  |
|  |  | Will”. | provision, Facilitation and | | | compelled the need | |  |  |  |  |
|  |  |  | Enablement (PPP). | | | for revision. Still | |  |  |  |  |
|  |  |  | \*NHP (1991), supported | | | suffering from the | |  |  |  |  |
|  |  |  | by its provisions. | | | negative influence and | |  |  |  |  |
|  |  |  | \*National Development | | | influence of the SAP | |  |  |  |  |
|  |  |  | instruments such as the | | | policy. | |  |  |  |  |
|  |  |  | MDGs, Vision 2010 and | | |  | |  |  |  |  |
|  |  |  | subsequent Vision 20- | | |  | |  |  |  |  |
|  |  |  | 2020 only paid lips service | | |  | |  |  |  |  |
|  |  |  | to Housing. | | |  | |  |  |  |  |
|  |  |  | Home | Ownership | of | Not much | to show, | Cost of building or | | | |
| Access | on the basis | of | mainly | political. | renting out of the rich | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Elected Civilian Administration Continuation | 29th May 2007 to 5th May 2010; 6th May 2010 to 28th May 2011 | NHP 1991, Revised  2006 with its provisions and  NHP (Revised) 2012 | mortgage Finance.   * Direct provision, Facilitation. * Implementation based on political will.   Main thrust is Social Housing | Housing deficit rising to between 14 and 16 million units. Many houses in estates are built, but not occupied. They are not affordable. Epileptic Mortgage  Market. | of the poor, low in- come group, aged and unemployed. It is nearly a crisis situation, especially in the FCT, Abuja. |
| Elected Civilian Administration | 29th May 2011 – Date | Same as six (6) above | Same as six (6) above | Same as six (6) above | Same as six (6) above. |

###### APPENDIXES B2: Housing Facilities in Nigeria 1990-2000.

**Table 28: Percentage Distribution of Household by Type of Toilet Facilities**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TYPE OF**  **TOILET** | **1990/91** | **1991/92** | **1990/91** | **1991/92** | **1990/91** | **1991/92** | **1993/94** | **1995/96** | **1996/97** | **1997/98** | **1998/99** | **1999/2000** |
| PIT | 76.51 | 74.08 | 65.63 | 72.02 | 42.61 | 42.04 | 63.30 | 61.60 | 56.97 | 56.57 | 54.56 | 54.10 |
| PAIL | 2.99 | 3.02 | 4.69 | 1.08 | 0.42 | 0.09 | 1.90 | 1.00 | 1.40 | 1.07 | 0.58 | 0.40 |
| WATER  CLOSET | 13.25 | 14.06 | 1.56 | 1.05 | 1.73 | 2.01 | 3.50 | 8.50 | 10.30 | 13.41 | 13.71 | 15.80 |
| TOILET ON  WATER | 4.09 | 3.02 | 3.65 | 3.00 | 5.69 | 2.05 |  |  |  |  |  |  |
| BUSH/DUNG  HILL & OTHERS | 3.17 | 4.02 | 11.00 | 21.05 | 48.00 | 31.30 | 29.10 | 28.90 | 31.33 | 28.97 | 31.16 | 29.70 |
| **TOTAL** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** |

###### Source: Federal Office of Statistics (FOS) (2006) General Household Survey.(1992/93 Statistics not available).

**Table 29: Percentage Distribution of Dwelling Units by Type of Water Supply**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Urban |  | Semi Urban |  | Rural |  |  |
| TYPE OF  WATER | 1989/9  0 | 1990/91 | 1989/90 | 1991/9  2 | 1989/9  0 | 1990/9  1 | 1993/94 |
| PIPE – BORNE |  |  |  |  |  |  |  |
| i. TREATED | 66.00 | 60.11 | 32.00 | 39.32 | 7.00 | 9.97 | 24.70 |
| ii. UN –  TREATED | 3.00 | 8.38 | 1.00 | 3.13 | 1.00 | 3.66 |  |
| WELL |  |  |  |  |  |  |  |
| i. PIPED INTO  HOUSEHOLD | 2.00 | 2.44 | 1.00 | 2.08 | 1.00 | 2.03 | 37.00 |
| ii. UN – PIPED  INTO HOUSEHOLD | 23.00 | 21.04 | 17.00 | 25.52 | 37.00 | 39.83 |  |
| BORE HOLE | 4.00 | 1.68 | 19.00 | 3.13 | 15.00 | 5.56 | 7.00 |
| STREAM | 0.00 | 3.63 | 25.00 | 19.53 | 31.00 | 35.68 |  |
| PONDS | 1.00 | 1.70 | 0.00 | 6.77 | 5.00 | 0.59 | 31.30 |
| OTHERS | 1.00 | 1.52 | 5.00 | 0.52 | 2.00 | 2.68 |  |
| **TOTAL** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** |

###### (Source: FOS (2006) (General Household Survey (Data for 1991/92 & 1992/93 not available)

**Table 29Contd: Percentage Distribution of Dwelling Units by Type of Water Supply**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TYPE OF WATER  SUPPLY | 1995/96 | 1996/97 | 1997/98 | 1998/99 | 1999/2000 |
| PIPE – BORNE | 61.60 | 56.97 | 56.57 | 54.56 | 54.10 |
| BORE HOLE WATER | 1.00 | 1.40 | 1.07 | 0.58 | 0.40 |
| WELL WATER | 8.50 | 10.30 | 13.41 | 13.71 | 15.80 |
| STREAM / POND | 28.90 | 31.33 | 28.97 | 31.16 | 29.70 |
| TANKER/TRUCK/VAN |  |  |  |  |  |
| **TOTAL** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** |

###### Source: National Bureau for Statistics (2006)

**Table 30: Percentage Distribution of Households by Type of Electricity Supply**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Urban | | | Semi Urban | | Rural | |  |  |
| TYPE OF  ELECTRICITY | 1990/91 | 1991/9  2 | 1990/9  1 | 1991/9  2 | 1990/9  1 | 1991/9  2 | 1993/9  4 | 1994/9  5 |
| NO ELECTRICITY  (NONE) | 24.37 | 18.05 | 55.21 | 49.06 | 83.65 | 81.00 | 66.29 | 59.51 |
| NEPA ONLY  (PUBLIC) | 73.32 | 79.08 | 38.80 | 44.01 | 13.24 | 16.o4 | 33.53 | 39.47 |
| RURAL  ELECTRICITY ONLY | 1.85 |  | 5.99 |  | 2.81 |  |  |  |
| PRIVATE GENERATOR  ONLY | 0.23 | 1.07 | 0.00 | 6.03 | 0.29 | 2.06 | 0.18 | 1.02 |
| NEPA/RURAL ELECTRICITY PLUS  GENERATOR | 0.23 |  | 0.00 |  | 0.00 |  |  |  |
| **TOTAL** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** | **100.00** |  |

###### Source: National Bureau for Statistics (2006)

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###### Table 30 Contd: Percentage Distribution of Households by Type of Electricity Supply

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TYPE OF ELECTRICITY | 1995/96 | 1996/97 | 1997/98 | 1998/99 | 1999/2000 |
| PUBLIC ONLY | 61.60 | 56.97 | 56.57 | 54.56 | 54.10 |
| PUBLIC/PRIVATE | 1.00 | 1.40 | 1.07 | 0.58 | 0.40 |
| PRIVATE ONLY | 8.50 | 10.30 | 13.41 | 13.71 | 15.80 |
| OTHERS | 28.90 | 31.33 | 28.97 | 31.16 | 29.70 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

**Source: National Bureau of Statistics (2006)**

These have been confirmed by various studies on the quantitative and qualitative housing problems across the country (Onibukun, 1983; Abumere, 1987; Federal Office of Statistics, 1997; Agboola, 1998; Egunjobi, 1999; Adeagbo, 1997; Olatubara, 2008; Mabogunje, 2003; Adeiluyi and Raji, 2008). It is to be noted that the situation has not improved significantly over the years as amply demonstrated by the 2006 Population and Housing Census of the Federal Government of Nigeria in the Housing Characteristics and Amenities Tables showing the quantity and quality of housing in Nigeria (Tables 31 to 42).

###### Table 31: Distribution of Households by Type of Dwelling Units in Lagos and Abuja.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Owned | Owned but not yet  paid off | Rental | Occupie d Rent-  free | Squattin g | Other |
| Nigeria | 28,197,08  5 | 19,316,44  1  (68.5%) | 655,503  (2.3%) | 6,407,257  (22.7%) | 1,525,32  0  (5.4%) | 214,361  (0.8%) | 78,203  (0.3%) |
| Lagos | 2,195,842 | 386,744  (17.61%) | 12,106  (0.55%) | 1,663,621  (75.76%) | 114,124  (5.20%) | 11,923  (0.54%) | 7,324  (0.33%) |
| FCT | 303,592 | 101,819  (33.54%) | 16,575  (5.46%) | 161,830  (53.31%) | 19,860  (6.54%) | 2,144  (0.71%) | 1,364  (0.45%) |

**Source: National Population Commission (2010)**

###### Table 32: Distribution of Households by Type of Housing Units.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | House on a Separate  stand or yard | Traditional/hut structure made  of traditional material | Flat in Block of flats | Semi- Detached house | Rooms/ Let in house | Informal improvised dwelling | Others |
| Nigeria | 28,197,085 | 14,274,444  (50.6%) | 3,944,091  (13.9%) | 2,762,955  (9.8%) | 2,638,932  (9.4%) | 3,861,592  (13.7%) | 158,022  (0.6%) | 559,049  (1.9%) |
| Lagos | 2,195,842 | 438,103  (19.9%) | 11,040  (0.5%) | 433,613  (19.7%) | 96,831  (4.4%) | 1,174,972  (53.5%) | 7,818  (0.4%) | 33,465  (1.5%) |
| FCT | 303,592 | 139,708  (46.0%) | 5,568  (1.8%) | 68,410  (22.5%) | 22,678  (7.5%) | 64,014  (21.1%) | 1,466  (0.5%) | 1,748  (0.6%) |

**Source: NPC (2010)**

###### Table 33: Distribution of Regular Households by Number of Exclusive Sleeping Rooms.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Regular Household | No  sleeping room | One Room | Two Rooms | Three Rooms | Four Rooms | Five Rooms | Six Rooms | Seven Rooms | Eight Rooms |
| Nigeria | 28,197,085 | 4,708,651  (16.7%) | 4,493,927  (15.9%) | 4,896,474  (17.4%) | 4,701,811  (16.7%) | 3,658,840  (12.9%) | 1,880,026  (6.7%) | 1,598,732  (5.7%) | 724,142  (2.6%) | 1,534,482  (5.4%) |
| Lagos | 2,195,842 | 284,666  (12.9%) | 1,169,737  (53.3%) | 333,087  (15.2%) | 233,725  (10.6%) | 71,840  (3.3%) | 28,128  (1.3%) | 21,751  (0.9%) | 10,132  (0.5%) | 42,776  (1.9%) |
| FCT | 303,592 | 26,896  (8.8%) | 126,160  (41.6%) | 67,094  (22.1%) | 39,182  (12.9%) | 17,874  (5.9%) | 8,687  (2.9%) | 5,852  (1.9%) | 3,406  (1.1%) | 8,441  (2.8%) |

**Source: NPC (2010)**

###### Table 34: Distribution of Regular Households by type of main material used for floor of dwelling unit.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Earth/Mud/  Mud Bricks | Wood  /Bamboo | Cement  Concrete | Stone | Burnt  Brick | Vinyl /  Tiles | Ceramic  marble tile | Terrazzo | Other |
| Nigeria | 28,197,085 | 10,325,169  (36.6%) | 1,441,026  (5.1%) | 14,946,627  (53.0%) | 368,660  (1.3%) | 200,333  (0.7%) | 257,868  (0.9%) | 348,454  (1.2%) | 215,531  (0.8%) | 93,417  (0.3%) |
| Lagos | 2,195,842 | 76,030  (3.5%) | 43,278  (1.9%) | 1,863,080  (84.8%) | 17,735  (0.8%) | 7,943  (0.4%) | 54,163  (2.5%) | 59,393  (2.7%) | 66,672  (3.0%) | 7,248  (0.3%) |
| FCT | 303,592 | 45,775  (15.1%) | 3,024  (0.9%) | 214,245  (70.1%) | 1,404  (0.5%) | 1,853  (0.6%) | 12,587  (4.1%) | 16,140  (5.3%) | 8,080  (2.7%) | 484  (0.2%) |

**Source: NPC (2010)**

###### Table 35: Distribution of Regular Households by Type of Main Material used for Wall of Dwelling Unit.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Mud/Reed | Wood/Bamboo | Stone | Cement  Blocks/Bricks | Metal  Zinc Sheet | Others |
| Nigeria | 28,197,085 | 10,844,894  (38.5%) | 1,909,538  (6.8%) | 478,761  (1.7%) | 13,627,530  (48.3%) | 1,064,613  (3.8%) | 271,749  (0.9%) |
| Lagos | 2,195,842 | 51,520  (2.3%) | 69,485  (3.2%) | 15,963  (0.7%) | 2,015,697  (91.8%) | 31,670  (1.4%) | 11,507  (0.5%) |
| FCT | 303,592 | 72,070  (23.7%) | 4,097  (1.3%) | 829  (0.3%) | 215,724  (71.1%) | 9,894  (3.3%) | 978  (0.3%) |

**Source: NPC (2010)**

###### Table 36: Distribution of Regular Households by Type of Main Material used for Roof of Dwelling Unit.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **State** | **Total** | **Thatch/Palm leaves/Raffia** | **Wood**  **/Bamboo** | **Earth/Mud/ Mud Bricks** | **Corrugated Metal/Zinc**  **Sheet** | **Slate**  **/Asbestos** | **Cement**  **/Concrete** | **Roofing tiles** | **Others** |
| Nigeria | 28,197,085 | 4,456,459  (15.8%) | 2,317,497  (8.2%) | 2,684,455  (9.5%) | 13,328,987  (47.3%) | 2,888,127  (10.2%) | 1,860,684  (6.6%) | 499,604  (1.8%) | 156,272  (0.6%) |
| Lagos | 2,195,842 | 29,955  (1.4%) | 54,875  (2.5%) | 14,578  (0.7%) | 692,204  (31.5%) | 990,871  (45.1%) | 347,111  (15.8%) | 55,055  (2.5%) | 11,193  (0.5%) |
| FCT | 303,592 | 9,179  (3.0%) | 4,249  (1.4%) | 7,469  (2.5%) | 239,252  (78.8%) | 21,616  (7.1%) | 16,738  (5.5%) | 3,433  (1.1%) | 1,656  (0.5%) |

**Source: NPC (2010)**

###### Table 37: Distribution of Regular Households by Ownership Status of Dwelling Unit

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Head of Household | Spouse to Head of Household | Other Household Member | Relative but not Househol  d Member | Privately owned (Landlord) | Private Employer | Other Private Agency | Public Govt. Ownership | Other |
| Nigeria | 28,197,085 | 18,446,049  (65.4%) | 711,927  (2.5%) | 3,464,016  (12.3%) | 663,925  (2.4%) | 3,555,258  (12.6%) | 312,653  (1.1%) | 359,336  (1.3%) | 559,561  (1.9%) | 124,36  0  (0.4%) |
| Lagos | 2,195,842 | 801,369  (36.5%) | 58,688  (2.7%) | 166,207  (7.6%) | 33,812  (1.5%) | 943,461  (42.9%) | 52,173  (2.4%) | 37,792  (1.7%) | 77,411  (3.5%) | 24,929  (1.1%) |
| FCT | 303,592 | 137,890  (45.4%) | 5,929  (1.9%) | 9,746  (3.2%) | 3,570  (1.2%) | 103,281  (34.0%) | 7,656  (2.5%) | 5,791  (1.9%) | 28,062  (9.2%) | 1,669  0.5%) |

**Source: NPC (2010)**

###### Table 38: Distribution of Regular Households by Main Source of Water Supply for Domestic Use.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Pipe Borne Inside  Dwelling | Pipe Borne Outside Dwelling | Tankers Supply/ Water  Vendor | Well | Bore- Hole | Rain Water | River/ Stream/ Spring | Dugout Pond/ Valley/  Dam/Pool | Others |
| Nigeria | 28,197,085 | 1,443,130  (5.1%) | 1,762,974  (6.3%) | 1,656,936  (5.9%) | 10,087,476  (35.8%) | 3,839,032  (13.6%) | 2,438,875  (8.6%) | 5,660,446  (20.1%) | 389,884  (1.4%) | 918,332  (3.2%) |
| Lagos | 2,195,842 | 214,505  (9.8%) | 336,505  (15.3%) | 326,618  (14.9%) | 743,017  (33.8%) | 479,896  (21.9%) | 35,666  (1.6%) | 34,999  (1.6%) | 3,262  (0.1%) | 21,374  (0.9%) |
| FCT | 303,592 | 47,871  (15.8%) | 15,819  (5.2%) | 82,045  (27.0%) | 54,307  (17.9%) | 44,943  (14.8%) | 4,563  (14.8%) | 49,224  (16.2%) | 890  (0.3%) | 3,930  (1.3% |

**Source: NPC (2010)**

###### Table39: Distribution of Regular Households by Type of Toilet Facility

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Water Closet (WC) | Pit Latrine | Bucket / Pan | Toilet Facility in another (different  dwelling) | Public Toilet | Nearby (Bush/beach/fie ld | Others |
| Nigeria | 8,197,085 | 4,292,654  (15.2%) | 13,882,48  5  (49.2%) | 1,053,753  (3.7%) | 686,218  (2.4%) | 2,573,611  (9.1%) | 5,581,159  (19.8%) | 127,205  (0.5%) |
| Lagos | 2,195,842 | 1,090,969  (49.7%) | 871,148  (39.7%) | 46,844  (2.1%) | 11,400  (0.5%) | 47,063  (2.1%) | 121,739  (5.5%) | 6,679  (0.3%) |
| FCT | 303,592 | 134,673  (44.3%) | 89,518  (29.5%) | 4,949  (1.6%) | 1,981  (0.7%) | 12,664  (4.2%) | 59,152  (19.5%) | 655  (0.2%) |

**Source: NPC (2010)**

###### Table 340: Distribution of Regular Households by Type of Cooking Fuel (Energy)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Electricity | Gas | Kerosene | Fire | Coal | Animal Dung/  Sawdust/Coconut husk | Solar | Others |
| Nigeria | 28,197,085 | 2,147,347  (7.6%) | 724,620  (2.6%) | 8,087,203  (28.7%) | 16,063,532  (56.9%) | 906,080  (3.2%) | 163,694  (0.6%) | 41,786  (0.1%) | 62,823  (0.3%) |
| Lagos | 2,195,842 | 76,995  (3.5%) | 141,104  (6.4%) | 1,771,036  (80.7%) | 140,651  (6.4%) | 51,679  (2.4%) | 3,045  (0.1%) | 965  (0.0%) | 10,367  (0.5%) |
| FCT | 303,592 | 15,175  (4.9%) | 30,374  (10.0%) | 143,456  (47.3%) | 105,593  (34.8%) | 6,991  (2.3%) | 337  (0.1%) | 129  (0.0%) | 1,537  (0.5%) |

**Source: NPC (2010)**

###### Table 41: Distribution of Regular Households by Main Type of Lighting Fuel

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Electricity | Gas | Kerosene | Candle | Solar | Others |
| Nigeria | 28,197,085 | 10,422,427  (36.9%) | 317,079  (1.1%) | 16,402,533  (58.2%) | 810,003  (2.9%) | 87,029  (0.3%) | 158,014  (0.6%) |
| Lagos | 2,195,842 | 1,891,540  (86.1%) | 17,618  (0.8%) | 240,355  (10.9%) | 34,462  (1.6%) | 2,635  (0.1%) | 9,232  (0.4%) |
| FCT | 303,592 | 183,528  (60.5%) | 3,035  (0.9%) | 104,026  (34.3%) | 9,838  (3.2%) | 461  (0.2%) | 2,704  (0.9%) |

**Source: NPC (2010)**

###### Table 42: Distribution of Regular Households by Method of Solid Waste Disposal.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Collected | Buried by  Household | Public Approved  Dump Site | Unapproved  Dump Site | Burnt by  Household | Others |
| Nigeria | 28,197,085 | 5,439,274  (19.3%) | 2,716,037  (9.6%) | 5,759,200  (20.4%) | 7,965,527  (28.2%) | 5,615,273  (19.9%) | 701,774  (2.5%) |
| Lagos | 2,195,842 | 1,171,872  (53.4%) | 60,633  (2.8%) | 484,777  (22.1%) | 277,426  (12.6%) | 176,239  (8.0%) | 24,895  (1.1%) |
| FCT | 303,592 | 74,523  (24.5%) | 10,654  (3.5%) | 52,501  (17.3%) | 129,171  (42.5%) | 35,434  (11.7%) | 1,309  (0.4%) |

**Source: NPC (2010)**

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###### APPENDIX B3: HOUSING IN THE FCT,ABUJA.

Tables 43 – 52 give a graphic situation of housing in the FCT, Abuja as compiled by the 2006 Population and Housing Census of the FRN – Housing Characteristics and Amenities Tables

– Priority Tables (LGA) (NPC, 2007). The FCT is compared to Lagos in evaluating the impact of the implementation of the Abuja Masterplan in producing the FCT with the NHP, 1991.

**Table 43: Distribution of Regular Households by Tenure Status of Dwelling Unit in the FCT.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Owned | Owned but not yet paid off | Rental | Occupied Rent-free | Squatting | Other |
| Nigeria | 28,197,085 | 19,316,441  (68.5%) | 655,503  (2.3%) | 6,407,257  (22.7%) | 1,525,320  (5.4%) | 214,361  (0.8%) | 78,203  (0.3%) |
| Lagos | 2,195,842 | 386,744  (17.61%) | 12,106  (0.55%) | 1,663,621  (75.76%) | 114,124  (5.20%) | 11,923  (0.54%) | 7,324  (0.33%) |
| FCT | 303,592 | 101,819  (33.54%) | 16,575  (5.46%) | 161,830  (53.31%) | 19,860  (6.54%) | 2,144  (0.71%) | 1,364  (0.45%) |
| Abaji | 10,142 | 7,133  (70.3%) | 213  (2.1%) | 1,957  (0.2%) | 798  (7.9%) | 29  (0.3%) | 12  (0.1%) |
| AMAC | 179,674 | 43,120  (23.9%) | 12,357  (6.9%) | 108,247  (60.2%) | 13,730  (7.6%) | 1,574  (0.9%) | 646  (0.4%) |
| Bwari | 50,109 | 15,322  (30.6%) | 2,740  (5.5%) | 28,268  (56.4%) | 3,160  (6.3%) | 244  (0.5%) | 375  (0.7%) |
| Gwagwalada | 32,071 | 13,350  (41.6%) | 1,063  (3.3%) | 16,258  (50.7%) | 1,158  (3.6%) | 154  (0.5%) | 88  (0.3%) |
| Kuje | 17,092 | 11,814  (69.1%) | 96  (0.6%) | 4,473  (26.2%) | 607  (3.6%) | 88  (0.5%) | 14  (0.0%) |
| Kwali | 14,504 | 11,080  (76.4%) | 106  (0.7%) | 2,627  (18.1%) | 407  (2.8%) | 55  (0.4%) | 229  (1.6%) |

***Source: National Population Commission (2007)***

###### Table 44: Distribution of Regular Households by Type of Main Material used for Floor of Dwelling Unit in the FCT.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **State** | **Total** | **Earth/Mud/ Mud Bricks** | **Wood**  **/Bamboo** | **Cement Concrete** | **Stone** | **Burnt Brick** | **Vinyl / Tiles** | **Ceramic marble tile** | **Terrazzo** | **Other** |
| Nigeria | 28,197,085 | 10,325,169  (36.6%) | 1,441,026  (5.1%) | 14,946,627  (53.0%) | 368,660  (1.3%) | 200,333  (0.7%) | 257,868  (0.9%) | 348,454  (1.2%) | 215,531  (0.8%) | 93,417  (0.3%) |
| Lagos | 2,195,842 | 76,030  (3.5%) | 43,278  (1.9%) | 1,863,080  (84.8%) | 17,735  (0.8%) | 7,943  (0.4%) | 54,163  (2.5%) | 59,393  (2.7%) | 66,672  (3.0%) | 7,248  (0.3%) |
| FCT | 303,592 | 45,775  (15.1%) | 3,024  (0.9%) | 214,245  (70.6%) | 1,404  (0.5%) | 1,853  (0.6%) | 12,587  (4.1%) | 16,140  (5.3%) | 8,080  (2.7%) | 484  (0.2%) |
| Abaji | 10,142 | 4604  (45.4%) | 153  (1.5%) | 5,826  (57.4%) | 28  (0.3%) | 16  (0.2%) | 38  (0.4%) | 35  (0.3%) | 33  (0.3%) | 9  (0.1%) |
| AMAC | 179,674 | 21,027  (11.7%) | 1,451  (0.8%) | 124,110  (69.1%) | 718  (0.4%) | 1,361  (0.8%) | 9770  (5.4%) | 13,717  (7.6%) | 7200  (4.0%) | 320  (0.2%) |
| Bwari | 50,109 | 4,549  (9.1%) | 491  (0.9%) | 40,335  (80.5%) | 169  (0.3%) | 201  (0.4%) | 2078  (4.1%) | 1,726  (3.4%) | 504  (1.0%) | 56  (0.1%) |
| Gwagwalada | 32,071 | 5,767  (17.9%) | 223  (0.7%) | 24,639  (76.8%) | 105  (0.3%) | 104  (0.3%) | 444  (1.4%) | 420  (1.3%) | 307  (0.9%) | 62  (0.2%) |
| Kuje | 17,092 | 5,269  (30.8%) | 359  (2.1%) | 10,747  (62.9%) | 138  (0.8%) | 111  (0.6%) | 237  (1.4%) | 195  (1.1%) | 18  (0.1%) | 18  (0.1%) |
| Kwali | 14,504 | 5,159  (35.6%) | 347  (2.4%) | 8,588  (59.2%) | 246  (1.7%) | 60  (0.4%) | 20  (0.1%) | 47  (0.3%) | 18  (0.1%) | 19  (0.2) |

**Source (NPC, 2010)**

###### Table 45: Distribution of Regular Households by Type of Main Material used for Wall of Dwelling Unit in the FCT.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **State** | **Total** | **Mud/Reed** | **Wood/Bamboo** | **Stone** | **Cement Blocks/Bricks** | **Metal Zinc Sheet** | **Others** |
| Nigeria | 28,197,085 | 10,844,894  (38.5%) | 1,909,538  (6.8%) | 478,761  (1.7%) | 13,627,530  (48.3%) | 1,064,613  (3.8%) | 271,749  (0.9%) |
| Lagos | 2,195,842 | 51,520  (2.3%) | 69,485  (3.2%) | 15,963  (0.7%) | 2,015,697  (91.3%) | 31,670  (1.4%) | 11,507  (0.5%) |
| FCT | 303,592 | 72,070  (23.7%) | 4,097  (1.3%) | 829  (0.3%) | 215,724  (71.1%) | 9,894  (3.3%) | 978  (0.3%) |
| Abuja | 10,142 | 5,427  (53.5%) | 157  (1.5%) | 23  (0.2%) | 4,192  (41.3%) | 314  (3.1%) | 29  (0.3%) |
| AMAC | 179,674 | 34,033  (18.9%) | 2,224  (1.2%) | 499  (0.3%) | 136,826  (76.2%) | 5,527  (3.1%) | 565  (0.3%) |
| Bwari | 50,109 | 8,674  (17.3%) | 567  (1.1%) | 85  (0.2%) | 38,931  (77.7%) | 1,677  (3.3%) | 175  (0.3%) |
| Gwagwalada | 32,071 | 8,954  (27.9%) | 358  (1.1%) | 84  (0.3%) | 21,388  (66.7%) | 1,167  (3.6%) | 120  (0.4%) |
| Kuje | 17,092 | 7,718  (45.2%) | 395  (2.3%) | 46  (0.3%) | 8,260  (48.3%) | 645  (3.8%) | 28  (0.1%) |
| Kwali | 14,504 | 7,264  (50.0%) | 396  (2.7%) | 92  (0.6%) | 6,127  (42.2%) | 564  (3.9%) | 61  (0.4%) |

**Source (NPC, 2010)**

###### Table 46: Distribution of Regular Households by Type of Main Material used for Roof of Dwelling Unit in the FCT.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **State** | **Total** | **Thatch/Palm leaves/Raffia** | **Wood**  **/Bamboo** | **Earth/Mud**  **/Mud Bricks** | **Corrugated Metal/Zinc**  **Sheet** | **Slate**  **/Asbestos** | **Cement**  **/Concrete** | **Roofing tiles** | **Others** |
| Nigeria | 28,197,085 | 4,456,459  (15.8%) | 2,317,497  (8.2%) | 2,684,455  (9.5%) | 13,328,987  (47.3%) | 2,888,127  (10.2%) | 1,860,684  (6.5%) | 499,604  (1.8%) | 156,272  (0.6%) |
| Lagos | 2,195,842 | 29,955  (1.4%) | 54,875  (2.5%) | 14,578  (0.7%) | 692,204  (31.5%) | 990,871  (45.1%) | 347,111  (15.8%) | 55,055  (2.5%) | 11,193  (0.5%) |
| FCT | 303,592 | 9,179  (3.0%) | 4,249  (1.4%) | 7,469  (2.5%) | 239,252  (78.8%) | 21,616  (7.1%) | 16,738  (5.5%) | 3,433  (1.1%) | 1,656  (0.5%) |
| Abaji | 10,142 | 1,628  (16.1%) | 202  (1.9%) | 246  (2.4%) | 7,385  (72.8%) | 268  (2.6%) | 261  (2.6%) | 86  (0.8%) | 66  (0.7%) |
| AMAC | 179,674 | 2,981  (1.7%) | 1,977  (1.1%) | 3,811  (2.1%) | 142,705  (79.4%) | 13,345  (7.4%) | 11,451  (6.4%) | 2,272  (1.3%) | 1,132  (0.6%) |
| Bwari | 50,109 | 670  (1.3%) | 541  (1.1%) | 784  (1.6%) | 38,490  (76.8%) | 6,086  (12.1%) | 2,644  (5.3%) | 613  (1.2%) | 281  (0.6%) |
| Gwagwalada | 32,071 | 1,062  (3.3%) | 418  (1.3%) | 1,257  (3.9%) | 26,262  (81.9%) | 1,293  (4.0%) | 1,516  (4.7%) | 196  (0.6%) | 67  (0.2%) |
| Kuje | 17,092 | 1,214  (7.1%) | 578  (3.4%) | 693  (4.1%) | 13,717  (80.3%) | 280  (1.6%) | 404  (2.4%) | 161  (0.9%) | 45  (0.3%) |
| Kwali | 14,504 | 1,624  (11.2%) | 533  (3.7%) | 678  (4.7%) | 10,693  (73.7%) | 344  (2.4%) | 462  (3.2%) | 105  (0.7%) | 65  (0.4%) |

**SOURCE (NPC,2010)**

###### Table 47: Distribution of Regular Households by Ownership Status of Dwelling Unit in the FCT

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Head of Household | Spouse to Head of Household | Other Household Member | Relative but not Household Member | Privately owned (Landlord) | Private Employer | Other Private Agency | Public Govt. Ownership | Other |
| Nigeria | 28,197,085 | 18,446,049  (65.4%) | 711,927  (2.5%) | 3,464,016  (12.3%) | 663,925  (2.4%) | 3,555,258  (12.6%) | 312,653  (1.1%) | 359,336  (1.3%) | 559,561  (2.0%) | 124,360  (0.4%) |
| Lagos | 2,195,842 | 801,369  (36.5%) | 58,688  (2.7%) | 166,207  (7.7%) | 33,812  (1.5%) | 943,461  (42.9%) | 52,173  (2.4%) | 37,792  (1.7%) | 77,411  (3.5%) | 24,929  (1.2%) |
| FCT | 303,592 | 137,890  (45.4%) | 5,929  (1.9%) | 9,746  (3.2%) | 3,570  (1.2%) | 103,281  (34.0%) | 7,656  (2.5%) | 5,791  (1.9%) | 28,062  (9.2%) | 1,669  (0.5%) |
| Abaji | 10,142 | 7,456  (73.5%) | 75  (0.7%) | 334  (3.3%) | 159  (1.6%) | 1,443  (14.2%) | 106  (1.0%) | 59  (0.6%) | 468  (4.6%) | 42  (0.4%) |
| AMAC | 179,674 | 68,464  (38.1%) | 3677  (2.0%) | 5,743  (3.2%) | 2,186  (1.2%) | 69,111  (38.5%) | 5,185  (2.9%) | 4,443  (2.5%) | 19,943  (11.1%) | 922  (0.5%) |
| Bwari | 50,109 | 22,228  (44.4%) | 1001  (1.9%) | 1,029  (2.1%) | 353  (0.7%) | 17,548  (35.0%) | 1,683  (3.4%) | 621  (1.2%) | 5,376  (10.7%) | 270  (0.5%) |
| Gwagwalada | 32,071 | 15,598  (48.6%) | 622  (1.9%) | 1,679  (5.2%) | 498  (1.6%) | 10,940  (34.1%) | 342  (1.1%) | 539  (1.7%) | 1,485  (4.6%) | 368  (1.1%) |
| Kuje | 17,092 | 12,432  (72.7%) | 239  (1.4%) | 529  (3.1%) | 217  (1.3%) | 2,833  (16.6%) | 274  (1.6%) | 89  (0.5%) | 457  (2.7%) | 22  (0.1%) |
| Kwali | 14,504 | 11,712  (80.7%) | 315  (2.2%) | 432  (2.9%) | 157  (1.1%) | 1,406  (9.7%) | 66  (0.5%) | 40  (0.3%) | 333  (2.3%) | 43  (0.3%) |

**Source (NPC, 2010)**

###### Table 48: Distribution of Regular Households by Main Source of Water Supply for Domestic Use in the FCT.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Pipe Borne Inside Dwelling | Pipe Borne Outside Dwelling | Tankers Supply/ Water Vendor | Well | Bore-Hole | Rain Water | River/ Stream/ Spring | Dugout Pond/ Valley/ Dam/Pool | Others |
| Nigeria | 28,197,085 | 1,443,130  (5.1%) | 1,762,974  (6.3%) | 1,656,936  (5.9%) | 10,087,476  (35.8%) | 3,839,032  (13.6%) | 2,438,875  (8.6%) | 5,660,446  (20.0%) | 389,884  (1.4%) | 918,332  (3.3%) |
| Lagos | 2,195,842 | 214,505  (9.8%) | 336,505  (15.3%) | 326,618  (14.9%) | 743,017  (33.8%) | 479,896  (21.9%) | 35,666  (1.6%) | 34,999  (1.6%) | 3,262  (0.1%) | 21,374  (1.0%) |
| FCT | 303,592 | 47,871  (15.8%) | 15,819  (5.2%) | 82,045  (27.0%) | 54,307  (17.9%) | 44,943  (14.8%) | 4,563  (1.5%) | 49,224  (16.2%) | 890  (0.3%) | 3,930  (1.3%) |
| Abaji | 10,142 | 76  (0.7%) | 151  (1.5%) | 1,084  (10.7%) | 1,235  (12.2%) | 438  (4.3%) | 82  (0.8%) | 6,816  (67.2) | 123  (1.2%) | 173  (1.7%) |
| AMAC | 179,674 | 34,394  (19.1%) | 9516  (5.3%) | 55,528  (30.9%) | 30,595  (17.0%) | 27,293  (15.2%) | 2,769  (1.5%) | 17,240  (9.6%) | 398  (0.2%) | 1,941  (1.1%) |
| Bwari | 50,109 | 11,324  (22.6%) | 3298  (6.6%) | 13,866  (27.7%) | 7,842  (5.6%) | 6,434  (12.8%) | 501  (0.9%) | 6,456  (12.9%) | 77  (0.2%) | 311  (0.6%) |
| Gwagwalada | 32,071 | 1,731  (5.4%) | 2156  (6.7%) | 9,925  (30.9%) | 5,307  (16.5%) | 5,459  (17.0%) | 735  (2.3%) | 5,473  (17.1%) | 140  (0.4%) | 1,145  (3.6%) |
| Kuje | 17,092 | 138  (0.9%) | 324  (2.0%) | 1,32  (0.8%) | 6,047  (38.0%) | 1,321  (8.3%) | 222  (1.4%) | 7,384  (46.4%) | 101  (0.6%) | 235  (1.5%) |
| Kwali | 14,504 | 208  (1.4%) | 374  (2.6%) | 358  (2.3%) | 3,281  (22.6%) | 3,998  (27.6%) | 254  (1.8%) | 5,855  (40.4%) | 51  (0.4%) | 125  (0.9%) |

**Source (NPC,2010)**

###### Table 49: Distribution of Regular Households by Type of Toilet Facility in the FCT

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Water Closet (WC) | Pit Latrine | Bucket / Pan | Toilet Facility in another  (different dwelling) | Public Toilet | Nearby (Bush/beach/ field | Others |
| Nigeria | 28,197,085 | 4,292,654  (15.2%) | 13,882,485  (49.2%) | 1,053,753  (3.7%) | 686,218  (2.4%) | 2,573,611  (9.1%) | 5,581,159  (19.8%) | 127,205  (0.5%) |
| Lagos | 2,195,842 | 1,090,969  (49.7%) | 871,148  (39.7%) | 46,844  (2.1%) | 11,400  (0.5%) | 47,063  (2.1%) | 121,739  (5.5%) | 6,679  (0.3%) |
| FCT | 303,592 | 134,673  (44.4%) | 89,518  (29.5%) | 4,949  (1.6%) | 1,981  (0.6%) | 12,664  (4.2%) | 59,152  (19.5%) | 655  (0.2%) |
| Abaji | 10,142 | 749  (7.3%) | 3,315  (32.7%) | 57  (0.6%) | 132  (1.3%) | 553  (5.5%) | 5,326  (52.5%) | 10  (0.9%) |
| AMAC | 179,674 | 92,939  (51.7%) | 51,151  (28.5%) | 3,222  (1.8%) | 1152  (0.6%) | 7004  (3.9%) | 23,811  (13.3%) | 395  (0.2%) |
| Bwari | 50,109 | 26,464  (52.8%) | 13,808  (27.6%) | 551  (1.1%) | 302  (0.6%) | 1721  (3.4%) | 7195  (14.4%) | 68  (0.1%) |
| Gwagwalada | 32,071 | 10,205  (31.8%) | 11,228  (35.0%) | 742  (2.3%) | 170  (0.5%) | 2073  (6.5%) | 7599  (23.7%) | 54  (0.2%) |
| Kuje | 17,092 | 2,792  (16.3%) | 5,530  (32.4%) | 204  (1.2%) | 90  (0.5%) | 645  (3.8%) | 7722  (45.2%) | 109  (0.6%) |
| Kwali | 14,504 | 1,524  (10.5%) | 4,486  (30.9%) | 173  (1.2%) | 135  (1.2%) | 668  (0.9%) | 7499  (4.6%) | 19  (0.1%) |

***Source: National Population Commission (2007)***

###### Table 50: Distribution of Regular Households by Type of Cooking Fuel (Energy) in the FCT

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Electricity | Gas | Kerosene | Fire | Coal | Animal Dung/ Saw- dust/Coconut  husk | Solar | Others |
| Nigeria | 28,197,085 | 2,147,347  (7.6%) | 724,620  (2.6%) | 8,087,203  (28.7%) | 16,063,532  (56.9%) | 906,080  (3.2%) | 163,694  (0.6%) | 41,786  (0.1%) | 62,823  (0.2%) |
| Lagos | 2,195,842 | 76,995  (3.5%) | 141,104  (6.4%) | 1,771,036  (80.7%) | 140,651  (6.4%) | 51,679  (2.4%) | 3,045  (0.1%) | 965  (0.0%) | 10,367  (0.5%) |
| FCT | 303,592 | 15,175  (4.9%) | 30,374  (10.0%) | 143,456  (47.3%) | 105,593  (34.8%) | 6,991  (2.3%) | 337  (0.1%) | 129  (0.0%) | 1,537  (0.5%) |
| Abaji | 10,142 | 51  (0.5%) | 57  (0.6%) | 1317  (12.9%) | 8,597  (84.5%) | 59  (0.6%) | 41  (0.4%) | 2  (0.0%) | 18  (0.2%) |
| AMAC | 179,674 | 11,994  (6.7%) | 25,512  (14.2%) | 94,903  (52.8%) | 40,996  (22.8%) | 4,915  (2.7%) | 145  (0.1%) | 67  (0.0%) | 1142  (0.6%) |
| Bwari | 50,109 | 2,227  (4.4%) | 3635  (7.3%) | 29,304  (58.5%) | 13,912  (27.8%) | 816  (1.6%) | 59  (0.1%) | 31  (0.1%) | 125  (0.2%) |
| Gwagwalada | 32,071 | 588  (1.8%) | 890  (2.8%) | 12,559  (39.2%) | 17,012  (53.0%) | 826  (2.6%) | 44  (0.1%) | 15  (0.0%) | 137  (0.4%) |
| Kuje | 17,092 | 166  (0.9%) | 202  (1.2%) | 3208  (18.8%) | 13,072  (76.5%) | 323  (1.9%) | 20  (0.1%) | 5  (0.0%) | 96  (0.6%) |
| Kwali | 14,504 | 149  (1.0%) | 78  (0.5%) | 2165  (14.9%) | 12,004  (82.8%) | 52  (0.4%) | 28  (0.2%) | 9  (0.1%) | 19  (0.1%) |

**Source (NPC, 2010)**

###### Table 51: Distribution of Regular Households by Main Type of Lighting Fuel in the FCT

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Electricity | Gas | Kerosene | Candle | Solar | Others |
| Nigeria | 28,197,085 | 10,422,427  (36.96%) | 317,079  (1.12%) | 16,402,533  (58.17%) | 810,003  (2.87%) | 87,029  (0.31%) | 158,014  (0.56%) |
| Lagos | 2,195,842 | 1,891,540  (86.14%) | 17,618  (0.80%) | 240,355  (10.95%) | 34,462  (1.57%) | 2,635  (0.12%) | 9,232  (0.42%) |
| FCT | 303,592 | 183,528  (60.5%) | 3,035  (0.9%) | 104,026  (34.3%) | 9,838  (3.2%) | 461  (0.2%) | 2,704  (0.9%) |
| Abaji | 10,142 | 2,558  (25.2%) | 84  (0.8%) | 7,391  (72.9%) | 81  (0.8%) | 7  (0.1%) | 21  (0.2%) |
| AMAC | 179,674 | 120,080  (66.8%) | 2,147  (1.2%) | 49,121  (27.3%) | 6,492  (3.6%) | 300  (0.2%) | 1,534  (0.9%) |
| Bwari | 50,109 | 30,564  (60.9%) | 543  (1.1%) | 16,682  (33.3%) | 1,670  (3.3%) | 84  (0.2%) | 566  (1.1%) |
| Gwagwalada | 32,071 | 19,725  (61.5%) | 133  (0.4%) | 10,697  (33.3%) | 1,210  (3.8%) | 49  (0.2%) | 257  (0.5%) |
| Kuje | 17,092 | 5,459  (31.9%) | 60  (0.4%) | 11,036  (64.6%) | 271  (1.6%) | 15  (0.1%) | 251  (1.5%) |
| Kwali | 14,504 | 5,142  (35.5%) | 68  (0.5%) | 9,099  (62.7%) | 114  (0.8%) | 6  (0.0%) | 75  (0.5%) |

**Source (NPC, 2010)**

###### Table 52: Distribution of Regular Households by Method of Solid Waste Disposal in the FCT.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | Total | Collected | Buried by Household | Public Approved  Dump Site | Unapproved Dump Site | Burnt by Household | Others |
| Nigeria | 28,197,085 | 5,439,274  (19.29%) | 2,716,037  (9.63%) | 5,759,200  (20.42%) | 7,965,527  (28.255%) | 5,615,273  (19.91%) | 701,774  (2.49%) |
| Lagos | 2,195,842 | 1,171,872  (53.37%) | 60,633  (2.76%) | 484,777  (22.08%) | 277,426  (12.63%) | 176,239  (8.03%) | 24,895  (1.13%) |
| FCT | 303,592 | 74,523  (24.55%) | 10,654  (3.51%) | 52,501  (17.29%) | 129,171  (42.55%) | 35,434  (11.67%) | 1,309  (0.43%) |
| Abaji | 10,142 | 436  (4.29%) | 348  (3.43%) | 1482  (14.61%) | 6,265  (61.77%) | 1593  (15.71%) | 18  (0.18%) |
| AMAC | 179,674 | 59,522  (33.13%) | 5664  (3.15%) | 30,064  (16.73%) | 67,288  (35.45%) | 16523  (9.19%) | 613  (0.34%) |
| Bwari | 50,109 | 10,833  (21.62%) | 2157  (4.30%) | 9,688  (19.33%) | 20,391  (40.69%) | 6698  (13.37%) | 342  (0.68%) |
| Gwagwalada | 32,071 | 2,550  (7.95%) | 1161  (3.62%) | 6,525  (20.35%) | 16,644  (51.89%) | 4955  (15.45%) | 236  (0.74%) |
| Kuje | 17,092 | 604  (3.53%) | 557  (3.26%) | 2,891  (16.91%) | 9,889  (57.86%) | 3068  (17.95%) | 83  (0.49%) |
| Kwali | 14,504 | 578  (3.99%) | 767  (5.29%) | 1,851  (12.76%) | 8,694  (59.94%) | 2597  (17.91%) | 17  (0.12%) |

**Source (NPC,2010**)

###### APPENDIX B4: LIST OF MINISTRIES/ ORGANISATIONS AS PER SURVEY QUESTIONNAIRE

|  |  |
| --- | --- |
| Q/NO | ORGANISATION/MINISTRIES |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  29  21  22  23  24  25  26  27  28  29  30  31  32  33  34  36  37  38  39  40  41  42 | CORBON  KADUNA POLYTECHNICH/DEPARTMENT OF BUILDING  NIOB/CORBON  ABUJA-MUNICIPAL AREA COUNCIL NATIONAL POPULATION COMMISSION FEDERAL CAPITAL DEVELOPMENT AUTHORITY(FCDA)  NIGERIAN EXPORT PROMOTION COUNCIL FEDERAL HOUSING AUTHORITY FEDERAL CAPITAL DEVELOPMENT AUTHORITY(FCDA)  FEDERAL CAPITAL SECONDARY EDUCATION BOARD NIGERIAN INSTITUTE OF BUILDING (NIOB) GWAGWALADA AREA COUNCIL  FEDERAL HOUSING AUTHORITY (FHA)  NIGERIAN INSTITUTE OF BUILDING(NIOB)/CORBON UNIVERSITY OF JOS  FEDERAL HOUSING AUTHORITY ,ABUJA KWALI AREA COUNCIL  FEDERAL HOUSING AUTHORITY FEDERAL HOUSING AUTHORITY  FEDERAL MINISTRY OF POWER WORKS AND HOUSING  FEDERAL MINISTRY OF POWER WORKS AND HOUSING  UNIVERSITY OF JOS HAVCO NIGERIAN LIMITED  QUANTITY SURVEYORS ACADEMY OLERU ASSOCIATES  SETH JAMES &CO.LTD JAY-EXQUISITE LIMITED  DAROBET NIGERIAN LIMITED UNIVERSITY OF ILLORIN  AG MORTGAGE BANK PLC  NIGERIAN INSTITUTE OF BUILDING (NIOB) BOUXGUES NIGERIA LIMITED (BNL) NIGERIAN INSTITUTE OF BUILDING (NIOB) PARADISE HILLS ESTATE  UNIVERSITY OF JOS/DEPARTMENT OF BUILDING ENL CONSORTIUM LIMITED ABUJA  ABUJA INVESTMENT CO. LIMITED ABUJA INVESTMENT CO. LIMITED CONSTRUCTION SKILLS TRAINING & EMPOWERMENT  PENT HOUSE ESTATE II  ABUJA PROPERTY DEVELOPMENT COMPANY |

|  |  |
| --- | --- |
| 43  44  45  46  47  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72  73  74  75 | NIGERIA BUILDING ROAD RESEARCH INSTITUTE (NIBRRI)  PARADISE HILLS ESTATE AUZAPE EXTENSION ABUJA MUNICIPAL AREA COUNCIL  PRIVATE-LOHOM INVESTMENT COMPANY UNIVERSITY OF JOS  UNIVERSITY OF JOS  MINISTRY OF BUDGET AND NATIONAL PLANNING FEDERAL MINISTRY OF SCIENCE AND TECHNOLOGY-NIBRRI  MINISTRY OF BUDGET AND NATIONAL PLANNING MINISTRY OF BUDGET AND NATIONAL PLANNING MINISTRY OF BUDGET AND NATIONAL PLANNING KWALI AREA COUNCIL /DEPARTMENT OF WORKS MINISTRY OF INTERIOR  DEPARTMENT OF ESTATE MANAGMENT ASO SAVINGS & LOANS PLC  ASO SAVINGS & LOANS PLC ASO SAVINGS & LOANS PLC JEDO INVESTMENT CO. LIMITED  FCTA/PROJECT DIVISION EDUCTION SECRETERIAT FCDA-DEPARTMENT OF MASS HOUSING  GITTO COSTRYZION GENERAL NIGERIA LIMITED FEDERAL MINISTRY OF HEALTH  GWAGWALADA AREA COUNCIL COMMISSION FCT AREA COUNCIL SERVICE  FEDERAL CAPITAL DEVELOPMENT AUTHORITY(FCDA)  FEDERAL CAPITAL DEVELOPMENT AUTHORITY(FCDA)  NATIONAL POPULATION COMMISSION SAMSONITE INTERNATIONAL LIMITED NMOD  NIGERIA SOCIETY OF ENGINEERS (NSE) FEDERAL GOVERNMENT OF NIGERIA (FGN) FEDERAL HOUSING AUTHORITY (FHA) AMAC |

|  |  |  |
| --- | --- | --- |
| S/NO | AREAS OF COLLABORATION CRITICAL TO HOUSING DELIVERY SUCCESS-QUESTION 23 | STAKEHOLDERS INVOLVED IN HOUSING DELIVERY- QUESTION 29 |

**APPENDIX B5**: **OPEN ENDED RESPONSES**

|  |  |  |
| --- | --- | --- |
| 1 | I need analysis  ii demand analysis iii supply analysis iv funding issues v location | i professionals, ii developers, iii funders,  iv government, v researchers, vi beneficiaries |
| 2 | 1. access to and availability of land 2. production of housing units in a slump and scattered settlements 3. maintenance / management of existing housing stock 4. finance provision for mass housing production 5. Energy efficiency and sustainability in rural urban housing. | 1. Abuja Property Development Company 2. Government iii Banks 3. Real Estate 4. Labour unions 5. Insurance company vii International Agency |
| 3 | i Determination of housing needs ii Determination of housing supply iii Managing existing housing | Real Estate Development Association (REDAN) |
| 4 | i planning & coordination ii funding and execution iii mortgage finance | Self help providers, Government, mortgage banks, professional, Estate Developers, Craftsmen, Development control |
| 5 | 1. Needs of the citizens 2. Type and location of building iii Determination of cost and price iv Involvement of people | David Goal Green Nig. Ltd |
| 6 | i Planning, ii design of frame work, iii Design of implementation strategy iv identification of delivery determination v monitoring of delivery determination | Government, banks, companies (corporate), individuals (private), international organisations |
| 7 |  | Federal ministry of works and  housing |
| 8 | Finance, design, land, research innovation | Federal Housing Authority, Federal Mortgage Bank, National Housing Fund, Office of the secretary to government of the federation, Association of Housing corporation of Nigeria, Real Estate Developers Association of Nigeria |
| 9 | Redevelopment, Management of existing stock, Research and Development, planning, Determination of Housing need |  |
| 10 | Proper planning, Identify the needs, Interact  it with would be beneficiaries |  |
| 11 | House planning, proper construction plans, Environmental impact | Ministry of Housing, private organisation, National Housing Scheme |

|  |  |  |
| --- | --- | --- |
| 12 | Federal mortgage Bank of Nigeria, Cooperatives Research Institutions, General public | General public, Regulatory agencies, service delivery agencies, finance/mortgage institutions,  construction companies, cooperatives, professional bodies |
| 13 | During Housing production, Housing designs, Housing planning, Housing monitoring and evaluation, Development  control | Real Estate Developers Association (REDAN), ASO Savings,  Platinum Mortgage Bank |
| 14 | Financing, maintenance, Building materials  supply, cooperatives, legal services |  |
| 15 | Political will, foreign aids, population |  |
| 16 |  | Federal Housing Authority, Federal  Mortgage Bank. |
| 17 | Research and Development, planning | Real Estate Developers Association (REDAN), Rotating Credit and Savings Association (ROSCAS), micro-credit finance bank. |
| 18 | Government to Builders relationship, Builders to client relationship, Builders to other professional bodies relationship, Review of contract documents by  professionals | Government, private individuals, companies, foreign investors, international bodies |
| 19 | Demand research identification, supply installation, demand cost subsidy,  maintenance management | CORBON, NIOB, NIA, ARCON, NIQS, COREN, TOPREC |
| 20 | Contractor-Client, Main contractor-sub contractor, Design team-contractor, Quantity  Surveyors-contractors, supervisors-Artisans |  |
| 21 | Location, cost, workmanship, Development  control, security |  |
| 22 | Land availability, title perfection, financing,  monitoring by regulators, provision of infrastructure | Federal Mortgage Bank of Nigeria (FMBN) |
| 23 | Planning, Data collection, forecasting,  policy and government focus/research, financial integration development | Local land owner, land speculators, intermediate agents |
| 24 | Planning, strategies, coordination, implementation, execution and maintenance | Client (individual), government, professionals. |
| 25 |  | Professionals, Architects, Builders, client consultants, End users, Skilled  workers local |
| 26 |  | DAYLAD Engineering, FHS Global,  ENL Nigeria, Society of Engineers. |
| 27 |  | ENL consortium, Design Logic Ltd,  Build option Ltd, Orik construction Ltd. |

|  |  |  |
| --- | --- | --- |
| 28 | Initiation, planning, execution, monitoring and control | Government,/FHA/FCDA, Architects, Building materials sellers, Building contractors, consultants, End users |
| 29 |  | Brains and Hammers, UPDC, Trade  more Estate |
| 30 | Planning, Building permits (securing), monitoring and evaluation, quality control  and assurance | Department of development control, FCDA |
| 31 | Research and development, FMLHD, Ministry of Environment, Ministry of  Finance, private sector (developers) |  |
| 32 |  | Developers, Federal Housing  Authority, End users |
| 33 |  | Policy makers, AGIS/ Land administrators, professionals, Estate developers, Mortgage Banks, Development control, regulatory  bodies |
| 34 |  | Individual Developers. |
| 35 | Research and Development, Housing provision, management of housing stock, policy formulation, security provision |  |
| 36 | Mortgage, private sector participation, cost of building materials, policies, and  inclusiveness, of all parties. |  |
| 37 | Research and Development, seminars, workshops, conferences. |  |
| 38 | Land availability, Funding availability, Building materials availability, standard and regulatory policies, building Engineers,  Architects, and Technicians | FCDA/FCTA, MINISTRY of HOUSING & LAND, NIBRRI, SON, FMBN |
| 40 | Interactive planning, policy trust, single digit lending and mortgage |  |
| 41 | Stakeholders dialogue, bottom top approach, interagency collaboration, publicity and  media communication | Individuals, local developers. |
| 42 | Awareness, large fund, good government  policy, implementation monitoring | RCC Nigeria Ltd., Shelter for all |
| 43 |  | FMBN, Association of developers, Mortgage Bankers. |
| 44 | Demand, need, land, mortgage arrangement,  infrastructure |  |

|  |  |  |
| --- | --- | --- |
| 45 | Determination of Housing needs, determination of Housing demands, Land allocation, provision of infrastructure development | Federal mortgage bank, FHA, Federal ministry of land and Housing/department of mass housing, SARAHA ESTATE Developers, Urban shelter development, ADKAN Estate Ltd., Prince and Princess Estate |
| 46 | Land acquisition, planning, procurement,  Resettlement and compensation, private public partnership (ppp). | Private developers, financial  organisation, cooperative societies, professional bodies |
| 47 | Interaction, publicity, Affordable, Quality  accessible |  |
| 48 | Housing loan, land acquisition, mortgage bank, cooperative scheme, Housing savings | Aso savings, Federal mortgage bank, national housing fund, National housing policy |
| 49 | Private Public Partnership (PPP), BOT,  Government initiative |  |
| 50 |  | FHA, FMH, Federal mortgage bank, REDAN, primary mortgage bank, private developers, cooperative  societies |
| 51 | Housing demand and supply, professionalism, land availability, cost involved, time required | Self help providers, government, professionals, development control department, Estate companies, The developers, FCTA/AGIS, mortgage  banks |
| 52 | Housing adaptability, Housing maintenance | FHA, Federal ministry of Housing, Abuja investment, military and  paramilitary |
| 56 | Government support, NGO support,  individual collaboration |  |
| 57 | Need Data, appropriate policies appropriate  plans, strategic implementation, sustainable arrangements | FHA, FCTA, Private sector  operation, REDAN, EMPW+H, Individuals, corporate organisation |
| 58 | Public Private Partnership (PPP) | Federal ministry of Housing, Federal ministry of mortgage banks |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **APPENDIX B6: RESULT FROM QUESTIONNAIRE**  **Extent of actual involvement of aspects of housing delivery (HDIextent One-Sample Test) (Qn.30 Appendix A1)** | | | | | | |
| Item |  |  | Test Value = 0 | |  |  |
|  | T | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the  Difference | |
|  |  |  |  |  | Lower | Upper |
| HdIExt1 | 16.382 | 74 | .000 | 2.78667 | 2.4477 | 3.1256 |
| HdIExt2 | 17.243 | 74 | .000 | 3.00000 | 2.6533 | 3.3467 |
| HdIExt3 | 17.894 | 74 | .000 | 3.00000 | 2.6659 | 3.3341 |
| HdIExt4 | 18.516 | 74 | .000 | 3.01333 | 2.6891 | 3.3376 |
| HdIExt5 | 21.611 | 74 | .000 | 3.13333 | 2.8444 | 3.4222 |
| HdIExt6 | 17.495 | 74 | .000 | 2.96000 | 2.6229 | 3.2971 |
| HdIExt7 | 16.828 | 74 | .000 | 2.84000 | 2.5037 | 3.1763 |
| HdIExt8 | 17.062 | 74 | .000 | 2.86667 | 2.5319 | 3.2014 |
| HdIExt9 | 19.210 | 74 | .000 | 3.20000 | 2.8681 | 3.5319 |
| HdIExt10 | 16.962 | 73 | .000 | 2.97297 | 2.6237 | 3.3223 |
| HdIExt11 | 17.611 | 73 | .000 | 2.97297 | 2.6365 | 3.3094 |
| HdIExt12 | 18.457 | 73 | .000 | 2.95946 | 2.6399 | 3.2790 |
| HdIExt13 | 17.138 | 73 | .000 | 2.82432 | 2.4959 | 3.1528 |
| HdIExt14 | 16.263 | 73 | .000 | 2.95946 | 2.5968 | 3.3221 |
| HdIExt15 | 16.931 | 73 | .000 | 2.71622 | 2.3965 | 3.0360 |
| HdIExt16 | 16.263 | 73 | .000 | 2.67568 | 2.3478 | 3.0036 |
| HdIExt17 | 16.510 | 73 | .000 | 2.86486 | 2.5190 | 3.2107 |
| HdIExt18 | 13.245 | 73 | .000 | 2.22973 | 1.8942 | 2.5652 |
| HdIExt19 | 14.464 | 73 | .000 | 2.60811 | 2.2487 | 2.9675 |
| HdIExt20 | 12.224 | 73 | .000 | 2.25676 | 1.8888 | 2.6247 |
| HdIExt21 | 17.541 | 73 | .000 | 2.74324 | 2.4316 | 3.0549 |
| HdIExt22 | 18.191 | 72 | .000 | 2.94521 | 2.6224 | 3.2680 |
| HdIExt23 | 16.913 | 72 | .000 | 2.95890 | 2.6101 | 3.3077 |
| HdIExt24 | 14.161 | 73 | .000 | 2.31081 | 1.9856 | 2.6360 |
| HdIExt25 | 15.312 | 73 | .000 | 2.78378 | 2.4215 | 3.1461 |
| HdIExt26 | 17.325 | 73 | .000 | 2.70270 | 2.3918 | 3.0136 |
| HdIExt27 | 16.426 | 73 | .000 | 2.51351 | 2.2085 | 2.8185 |
| HdIExt28 | 17.528 | 73 | .000 | 2.75676 | 2.4433 | 3.0702 |
| HdIExt29 | 15.955 | 73 | .000 | 2.64865 | 2.3178 | 2.9795 |
| HdIExt30 | 18.421 | 73 | .000 | 2.89189 | 2.5790 | 3.2048 |
| HdIExt31 | 17.752 | 73 | .000 | 2.83784 | 2.5192 | 3.1564 |
| HdIExt32 | 17.480 | 73 | .000 | 2.68919 | 2.3826 | 2.9958 |
| HdIExt33 | 16.358 | 73 | .000 | 2.70270 | 2.3734 | 3.0320 |
| HdIExt34 | 17.827 | 73 | .000 | 2.95946 | 2.6286 | 3.2903 |
| HdIExt35 | 16.487 | 73 | .000 | 2.83784 | 2.4948 | 3.1809 |
| HdIExt36 | 2.828 | 3 | .066 | 2.00000 | -.2503 | 4.2503 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Extent of influence of success (HdelvExtS-One-Sample Test)** | | | | | | |
| Item |  |  |  | Test Value = 0 |  |  |
|  | T | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the  Difference | |
|  |  |  |  |  | Lower | Upper |
| HdelvExtS1 | 15.724 | 74 | .000 | 2.58667 | 2.2589 | 2.9144 |
| HdelvExtS2 | 12.828 | 74 | .000 | 1.61333 | 1.3627 | 1.8639 |
| HdelvExtS3 | 15.928 | 74 | .000 | 2.40000 | 2.0998 | 2.7002 |
| HdelvExtS4 | 18.550 | 74 | .000 | 2.92000 | 2.6064 | 3.2336 |
| HdelvExtS5 | 18.087 | 74 | .000 | 2.57333 | 2.2898 | 2.8568 |
| HdelvExtS6 | 18.581 | 73 | .000 | 2.94595 | 2.6300 | 3.2619 |
| HdelvExtS7 | 20.803 | 74 | .000 | 2.90667 | 2.6283 | 3.1851 |
| HdelvExtS8 | 13.913 | 74 | .000 | 1.54667 | 1.3252 | 1.7682 |
| HdelvExtS9 | 12.701 | 74 | .000 | 1.29333 | 1.0904 | 1.4962 |
| HdelvExtS10 | 12.197 | 74 | .000 | 1.57333 | 1.3163 | 1.8304 |
| HdelvExtS11 | 2.803 | 5 | .038 | 1.83333 | .1521 | 3.5146 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Extent of participation in national policy in housing delivery (NHPPart -One-**  **SampleTest)** | | | | | | |
| Item |  |  | Test Value = 0 | |  |  |
|  | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the  Difference | |
|  |  |  |  |  | Lower | Upper |
| NHPPart1 | 14.946 | 74 | .000 | 2.66667 | 2.3112 | 3.0222 |
| NHPPart2 | 17.531 | 74 | .000 | 3.18667 | 2.8245 | 3.5489 |
| NHPPart3 | 20.767 | 74 | .000 | 3.36000 | 3.0376 | 3.6824 |
| NHPPart4 | 20.150 | 74 | .000 | 3.37333 | 3.0398 | 3.7069 |
| NHPPart5 | 20.505 | 74 | .000 | 3.33333 | 3.0094 | 3.6572 |
| NHPPart6 | 20.889 | 74 | .000 | 3.41333 | 3.0877 | 3.7389 |
| NHPPart7 | 20.754 | 74 | .000 | 3.38667 | 3.0615 | 3.7118 |
| NHPPart8 | 17.457 | 74 | .000 | 3.05333 | 2.7048 | 3.4018 |

###### APPENDIX C: PUBLICATIONS FROM THE WORK.

C 1: Jambol, D.D., Molwus, J.J. and Daniel,M.M. (2013). Re-thinking the approaches to mass housing delivery in Nigeria In: Smith S.D. and Ahiaga-Dugbui, D.D. (Eds.) *Pocs 29th Annual ARCOM Conference,* 2-4 September 2013, Reading, UK*.* Association of Researchers in Construction Management, (1):285-295.

###### APPENDIX C1: RE-THINKING THE APPROACHES TO MASS HOUSING DELIVERY IN NIGERIA: LESSONS FROM PAST HOUSING PROGRAMME IMPLEMENTATION

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Abstract

Nigerian cities are experiencing increasing population and rising urbanisation rates which are inconsistent with the provision of adequate housing and urban infrastructure. This contradictory trend arises mostly from the failures of past efforts by the government and the private sector. In recent times, public-private partnerships have evolved at different urban centres to produce houses which are inaccessible to the low-income households. Consequently, a substantial population of the low- income households residing in the urban areas are accessing their housing through informal arrangements which are synonymous to the sprawling of substandard housing. This problem is evidenced by the deficiency of infrastructure, shortage of good housing, unplanned urban expansion, poor living condition, high residential rentals and deprivation. To examine these issues, a review of government's mass housing schemes is undertaken. Official policy papers, reports and academic literature covering the period from 1960 to 2010 were used to explicate the mass housing schemes. The findings indicates a consistent use of top-down approach to design and implement mass housing programmes, from the Federal to State and Local government levels. This approach failed to achieve desired results due to non engagement of relevant stakeholders (governmental actors, private institutions, land owners and end-users) in the funding, design and implementation of housing projects. Similarly, roles were over-centralised in Federal Government line agencies which gave undue advantage to few individuals to monopolise the implementation processes. Furthermore, there was a lack of appropriate procurement regulations to address probity, accountability and efficiency concerns. In view of these findings, a bottom-up approach, the decentralisation of roles and partnership of multiple actors are recommended. These have potentials for solving the problems identified; therefore, further research could empirically verify this claim.

**Keywords**: housing, bottom-up approach, top-down approach, national policy

###### INTRODUCTION

The post-independence arrangement of housing provision in Nigeria can be split into two eras; state-led approach and market friendly system. In approximate terms, the state-led era began from 1960 to 1990 and the market friendly system was introduced in 1991 and remains operational till date. These two eras are marked by contrasting

Ideological stance, policy framework, strategies, and actions (FGN-Housing Policy, 1991, 2006). Studies however, documented that the two eras share similarities of worrisome and awful inefficiencies and ineffective arrangements for the supply of housing to meet growing demand ((Ikejiofor, 1999).

Since independence in 1960, the population of Nigeria has been on the rise. In 1963, the population estimate was put at 55.6 million (Metz, 1992 p.94), it rose to 88,992,220 in 1991, 140,431,790 in 2006 (FGN-National Population Commission,

2010) and 162.47 million in 2011 (World Bank, 2010). This population growth rate makes Nigeria one of the most populous countries in Sub-Saharan African region (World Bank, 2009). There has been a rapid occurrence of urbanisation in Nigeria and it is estimated that 48 percent of the population resides in urban areas (World Bank, 2009 p. 119). By this estimate, Nigeria has become one of the most urbanising countries in the Sub-Sahara African region (Hitimana, Heinrigs, and Trémolières,

2011; Akinbamijo, 2012). The growing population of Nigeria is causing a demand pressure for adequate and affordable housing in urban and rural areas but the supply is not keeping pace with this rising demand. For instance, as of 2006, the official government records put the total number of houses at 28,197,085 (FGN-Housing Census, 2006) and this stock is made up of houses of varying standards such as: houses on separate stand (50.6 percent), traditional hut structures made of traditional materials (13.9 percent), flat in block of flats (9.7 percent), semi-detached houses (9.7 percent), rooms/let-in houses (13.6 percent), improvised dwellings (0.5 percent) and others (1.9 percent) FGN-Housing Census, 2006). Based on the combination of sub- standard housing stock and new demand, a prevailing deficit of between 12 - 16 million housing units has been estimated (FGN-Housing Sector Reforms, 2006). This overwhelming shortage is rising regardless of the policies, strategies, and actions which the government has pursued since independence.

In view of the present housing situation in Nigeria, it is necessary to provide answers to a number of questions: what are the key variables that influence the outcomes of past housing programmes? On what basis could a case for a rethink on present housing approach be made?

###### RESEARCH METHODOLOGY AND CONTEXT

The methodological approach adopted for this study is premised on the idea that housing is a complex commodity and its provision require multiple components such as finance, land, infrastructure, labour and building materials. These components are organised and shaped by legal, regulatory and institutional frameworks within which they operate. The forces that would often operate within any housing sector are policies, strategies, instruments and actions (UN-HABITAT, 2004 p. 4; 2010 p. 13).

Conducting a study in such a complex context requires the selection of method that respect contingency (Jessop, 2008).

The sources of information used for this study include official policy papers, reports and peer review articles. The official policy papers and reports were obtained from the relevant authorities (the Federal Ministry of Housing and Urban Development, the Federal Mortgage Bank of Nigeria and the Federal Housing Authority) during a field visit and some were accessed from the websites of international agencies (such as t he World Bank, the UNDP, and the UN-HABITAT). The academic literature (journal articles and conference papers) were mostly retrieved from the internet. As not all the archival records were accessible during the field visit, the review, therefore, is limite d to the extent of resource availability at the time of writing this paper.

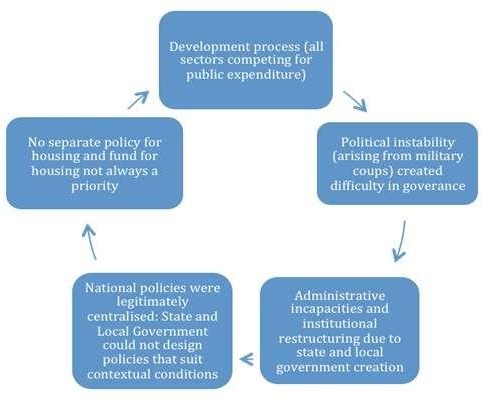
Four key interactive macro level processes of housing provision were reviewed, these include: policy framework and institutional arrangement, funding mechanism, housing project implementation and allocation process. The review is limited to this scope, bearing in mind that all knowledge is partial, provisional, and incomplete-able (Jessop, 2008).

###### THE STATE-LED HOUSING PROVISION ATTEMPTS

This section reviews the attempts by government to provide housing and factors that influence outcomes which can be summarised into four key aspects: housing policy framework and institutional concerns; funding mechanisms; project implementation; and allocation process.

###### Inappropriate Policy Framework and Institutional Concerns

Starting from 1960 till early 80s, Nigeria's national development programme was based on a socialist political ideology and the Keynesian central command type of economic planning. On the basis of this ideology, five yearly National Development Planning (NDP) systems were introduced and the chronology of the Plans is presented in Table 1. It is important to note that, the idea of NDPs was later replaced with three- year overlapping National Rolling Plans (NRPs) in 1990 and as of 2001, about six of such Plans have been implemented (Mongabay, 2010). Furthermore, the institutional arrangement for housing provision in Nigeria developed within the overall process of national development and the key interactive variables that affected housing provision are summarised in figure 1. Previous studies (for example, Achuenu and Achuenu, 2008; Olotua and Babadoy, 2009; Ademiluyi, 2010) concluded that housing provision was neglected in the first and second NDPs, this review has clearly shown that with the prevailing developmental circumstances at that time such neglect was expedient.



*Figure 1: Interactive issues influencing the supply of housing*

###### Unsustainable Funding Mechanisms

Public expenditure for housing first appeared in official government records in early 70s and this was in the period when the second NDP was being implemented. Prior to this time, other welfare items such as health, education, cooperative social welfare, water supply had received budget priority but this was not the case with housing. When housing first received budget attention, it was only the federal government that provided funding while state and local governments did not (Ekundare, 1971). Similarly, the capital expenditure schedule shows that housing was not initially included but an afterthought allocation of N2.634 million was later made (Awotona, 1990). In the third and fourth NDPs and the fourth NRP, budget estimates (in Nigerian Naira) of N1.830 billion, N2.686 billion and N2.0 billion were respectively provided by the federal government. The values of these amounts of monies were good in the periods at which the budgets were made because the exchange rate of Nigerian currency (N) to US dollar ($) was almost at par and the inflation rate was at a single digit in some of the periods. For instance, the exchange rate of N0.66 to 1US$ was recorded in 1973 and the inflation rate was put at 5.4 percent (Metz, 1992). In 1982 the exchange rate of N0.67 and inflation rate of 5.6 percent were recorded and similarly in 1991, the exchange rate of N9.91 and inflation of 12.7 percent were recorded (Imimole and Enoma, 2011 p. 12; Onwioduokit (1999 p.3). The budgetary provisions, number of houses projected to be provided and number of houses actually provided during these periods are presented in Table 1.

*Table 1: Federal Government housing budget and milestone*

Period Budget

amount

1st NDP 1962-68 -

Number of houses

p2r4o,0je0c0ted

Outcome

About 500 units completed (\*)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2nd NDP | 1970-74 | N2.63 | 54,000 | - |
| 3rd NDP | 1975-80 | 4  N1.830 | 66,000 | (\*\*)  About 23.3 % success rate |
| 4th NDP | 1982-86 | N2.686 | 440,000 | About 13.3 % success rate |

Projects were suspended due to economic recession and government's focus

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 5th NDP | 1987-89 | turned to implementation of Structural Adjustment Programme (SAP)  (\*\*\*\*\*\*) | | |
| 1st NRP | 1990-92 |
| 2nd NRP | 1991-93 | Consolidating on SAP and dealing with macroeconomic issues | | |
| 3rd NRP | 1993-95 |  | | |
| 4th NRP | 1994-96 | N2.0billion | 121,000 | About 2000 units |
| 5th NRP | 1997-99 | - | - | - (\*\*\*\*\*\*) |
| 6th NRP | 1999-01 | - | - | - (\*\*\*\*\*\*) |

***Sources****: (\*) FGN (1962); (\*\*)Ekundare, (1971); (\*\*\*)Lewis (1977); (\*\*\*\*)UNDP (1982);*

*Awotona, (1990); Ikejiofor (1999); (\*\*\*\*\*\*)Ademiluyi (2010); Onwe et al (2013).*

Other arrangements for the financing of housing in Nigeria were also not adequate. For instance, the FMBN housing loan arrangement scheme started in 1977 after the federal government, through the Indigenisation Policy transformed Nigerian Building Society (NBS) into FMBN (Ademiluyi, 2010). The bank was lacking robust resources to finance mortgages such that from 1979 to 1983, it received 2,798 applications but only granted loan to 538 applicants (UN-HABITAT, 2001 p. 25). Another arrangement through which public housing was funded is the Employers' Housing Loan Scheme. This scheme started in the 70s but the amount of loan provided to workers is not well documented in public records and academic literature. It is also clear from the evidences presented in Table 1 that the federal government was not consistent in providing funding for housing through the NDPs and NRPs.

The participation of state governments in funding public housing started during the second NDP but like the federal government, they were not consistent in providing the funding. Awotona (1990) confirmed this evidence and also revealed that housing received less priority in state governments’ budget compared to other welfare services. During the second NDP for instance, the aggregate expenditure of 11 states on health care services was N87.362 million, the expenditure on education was N179.542million and town and country planning including housing provision received an expenditure of N27.576 million. The situation was similar in subsequent NDPs and NRPs and more worrisome was the non-participation of LGCs in the funding of housing (Ikejiofor, 1998 & 1999; Ademiluyi, 2010).

###### Poor Administration of Project implementation

The evidences presented in Table 1 clearly show the failure rates that occurred from the efforts at provision of housing by the federal government through NDPs and NRPs. Identifying the reasons for the failure of these efforts will guide future efforts at housing provision. There are multiple variables that accounted for the poor performances as summarised in Table 2.

*Table 2: Key variables influencing housing project implementation*

Key variables Manifestation of problems Effects

Poor organisatio nal framework

Inadequat e procureme nt regulation

Land acquisiti on issues

Use of top-down model of design and implementation of projects

Monopoly over the administration of project implementation by Federal Government agencies

Small group of individuals became too powerful and exerted considerable influences over the implementation process

Volume of projects to implement at certain time outweigh the administrative capacity of implementation agencies

Local Government Agencies, Community Based Organisation and Non-Governmental Organisations were left out

A lack of a uniform procurement regulation and permanent arrangement for control and surveillance

Proliferation of Tender Boards which have limited mandate and power to decide contract *de facto* resting with politicians and bureaucrats

Procurement process was handled by officers that lacked relevant skills and knowledge

The land tenure try to take away land ownership from individuals and kinship groups

The land tenure gave too much power to Governors to grant statutory rights on land to give consent transfer of landed properties

Land ownership tussles between kinship groups and governments causes delay in land acquisition for housing development

Seeking consent from Governor before carrying transaction creature delay for investors.

Over- centralisation of roles in few agencies, lack of probity, accountability, transparency and failures

(+)

Bribery, corruption, contract collusion,

'ghost contracts', 'ghost contractors', inflations of contract cost and kickbacks (++)

Delays over land acquisition process, inadequate compensation payment to dispossessed land owners and reluctance (of kinship groups and individuals) to sell land to government and

private investors. (+++)

*Sources: (+) Ikejiorfor, 1999, 1998,1999; Ademiluyi, 2010; (++)Oguonu, 2005; World Bank,*

*2010; (+++) Otubo,2012; Awotona, 1978, 1989*

###### Faulty Allocation process

The arrangement for allocation of housing by government agencies to beneficiaries in Nigeria was faulty during the state-led approaches and this created some major concerns which are summarised in figure 2.

Uneven spread of housing projects

Unequal access opportunity for intended beneficiaries

Exclusion and deprivation of households that earn their incomes from the informal occupation

* For instance, in the third Plan, 46,000 units were allocated to Lagos, the capital city then, 12,000 were allocated to Kaduna State and 8,000 allocated to 17 States (Ogunshakin and Olayiwola, 1992)
* As of 2010, the FHA had achieved a cumulative record of 35,609 completed housing units which are spread across 50 projects sites. However, only 22 out of 37 states of the federation benefitted from these houses. About two-third of the houses were allocated to the present (Abuja) and the past (Lagos) FCT while the remaining were spread across 20 states (FGN-FHA, 2010)
* Nigerian housing programmes are worker-focused but the low cadre workers were often deprived access to housing services. For instance Lewis (1977) examined the allocation formula adopted during the third NDP and found that a household with combined public sector income of less than N1500 were crowded in one bedroom house unit regardless of household size.
* Housing programmes that were intended for the low income groups were hijacked by senior bureaucrats, politicians and military officers (Ikejiofor, 1999; Awotona, 1990).
* Nigerian housing programmes are worker-focused but for exclusive benefit of formal workers in the public sectors (Admiluyi, 2010)
* Often, no attention is given to household who earn their incomes from informal sector occupations. This category of people are often deprived access to housing services provided by the government (Ikejiofor, 1999; Awotona, 1990; Onibokun, Agbola and Labeodan, 1986; Lewis, 19

*Figure 2: Factors arising from faulty process of housing allocation in Nigeria*

###### SHIFT TO MARKET FRIENDLY SYSTEM

Since the late 80s, most developing countries have experienced a shift in policy thrust from direct provision of housing, to enabling the provision of shelter. This policy change started occurring in developing countries of Asia (Sri Lanka, Thailand, Indonesia among others), South America (Costa Rica, Mexico, Brazil, and Chile among others), the Sub-Saharan Africa (South Africa, Zimbabwe, Nigeria, Namibia, Tanzania, Kenya, among others) and the Arab Region (Jordan among others) (UN- HABITAT, 2000 & 2006), after the concept of the “enabling approach to shelter” was introduced by the United Nations and its agencies (UN-HABITAT and UNDP) in

1988 (UN-HABITAT, 2004). The concept of “enabling shelter strategies,” as it is has

been popularised in successive documents of UN Agencies "*calls for a fundamental shift in the role of government, from provider to enabler. This is clearly outlined in the “Global Shelter Strategy to the Year 2000” and the “Habitat Agenda"*(UN- HABITAT, 2004 p. 1).

In response to this policy agenda, the Federal Government of Nigeria introduced the 1991 National Housing Policy which was revised in 2006 and 2011 respectively

(FGN-NHP, 1991, 2006 & 2011). The design of 1991 and 2006 housing policy was both hinged on a number of assumptions. First, by 1991, Nigeria was already in a recessionary phase which was being addressed through SAP. The experience of SAP had pushed for neo-liberal macro economic framework in Nigeria and therefore, the 1991 housing policy was itself a neo-liberal policy of a sort. In recent policy documents, the assumptions of neo-liberalism and market mechanisms were further emphasised (FGN-NHP, 2006, 2011). One of the key assumptions of the subsisting housing policy is that liberalisation programme will promote growth of private institutions which could then partner with government agencies to finance the supply of low-income housing. It is on the basis of this assumption that the roles of the Federal Mortgage Bank of Nigeria (FMBN) were redefined by the provisions of the National Housing Fund Act of 1992 and the FMBN Act of 1993 to serve as a networking agent. However, studies (Ibem, 2010; Ikejiofor, 1999) have document the impracticality of these Statutes and policy. Furthermore, the federal government has transferred the responsibility of housing provision to State and Local government authorities on the assumption that they would organise the provision at their respective domains (FGN-NHP, 2006). This aspiration has not been fulfilled and it is as a result of this failure that a case for a rethink is made.

### CONCLUSIONS AND RECOMMENDATIONS

Previous efforts at increasing the supply of low-income housing through mass provision have not been successful in Nigeria. This study identifies fundamental issues in the policy framework, funding mechanism and organisational arrangement for housing production and allocation. Proposals for a rethink are made based on these findings (see figure 3).



Influential factors Proposal for a rethink Anticipated outcomes

Top-down policy design framework



Bottom-up policy design framework

Participation of Governmental Authorities at different levels with Cooperative, CBOs and NGO to design policies that suit local context

Exclusive funding of mass housing by the Federal Government Authority

Involvement of multiple actors in the funding of mass housing, including Federal, State and Local Government, the private sector and Cooperatives

Robust and sustainable funding; government and Cooperatives could provide subsidised funding to low- come households; and private institutions could supply credit at open market interest rate

Institutional Monopoly in the organisation of

house-building process

Use of Pluralist Approach Involving of multiple actors including governmental agencies, private house- builders, CBOs, NGOs, housing cooperation and cooperatives,

Participation; partnership; increase in supply of housing; effective, efficient, transparent and accountable production and allocation; need/demand-based allocation; and equitable access for households

*Figure 3: Summary of factors influencing the provision mass housing, proposals for a rethink and the anticipated outcomes*

It is argued that reversing institutional monopoly and promoting institutional pluralism at local level through partnership and participation of key stakeholders (government agencies, households, land owners, private developers and financers, CBOs, NGOs etc) could increase the supply of low-income housing. It is also speculated that the engagement of multiple actors (stakeholders) at different levels of housing decision and implementation could lead to efficient, transparent and accountable provision of housing. This is the bottom up approach as opposed to the top down approach that is currently practiced in Nigeria. Empirical studies can examine the perspectives of stakeholders on these claims. It is important to note that governments in other parts of the world have adopted the objective of involving the public in planning decisions on matters that affect them. The Organisation for Economic Co-operation and Development (OECD, 1996) observed the significance of public participation in various planning and development projects in Japan, Australia and Canada. Germany for instance, included requirements for public participation in its planning legislation - the Federal Building Code (Pahl-Weber and Henckel, 2008). Elsewhere in the United States of America and United Kingdom, government have supported, encouraged and adopted the use of design charrette and other public engagement techniques to involve all relevant stakeholders in development strategies and project implementation. It is possible for the government of Nigeria to utilize these techniques in addressing the problems facing the provision of housing to meet demands through successful implementation of projects. The application/applicability of these and other bottom up approaches within the Nigerian cultural, administrative and legislative systems will be investigated in future research.

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