CONSTRUCTION PROFESSIONALS' PERCEPTION OF ECONOMIC SUSTAINABILITY FOR HOUSING DELIVERY IN ABUJA

BY

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Declaration

I declare that the work in this dissertation entitled "**CONSTRUCTION PROFESSIONAL'S PERCEPTION OF ECONOMIC SUSTAINABILITY FOR HOUSING DELIVERY IN ABUJA**" has been carried out by me in the department of building. The information derived from the literature has been duly acknowledged in the text and list of references provided. No part of this dissertation was previouslypresented for another degree or diploma at this or any other institution.

Felix Setdua MAKAMA, ____________________ ____________________

Signature Date

Certification

Thisdissertation entitled“**CONSTRUCTION PROFESSIONAL’S PERCEPTION OF ECONOMIC SUSTAINABILITY FOR HOUSINGDELIVERY IN ABUJA**” by FELIX SETDUA MAKAMA, meets the regulations governing the award of the degree ofM.Sc. Construction Management of the Ahmadu Bello University and is approved for its contribution to knowledge and literary presentation.

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Dedication

I dedicate this research work to my entire family.

Acknowledgement

My unreserved gratitude goes to God Almighty for His infinite mercy and unconditional love.

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Abstract

The construction professional perception is significant to the improvement of housing delivery in Abuja, which would take Abuja to greater heights after lapses and failure of the mass housing scheme to provide sustainable housing in addition, to increase the phase of development and infrastructure in Abuja which was grossly inadequate both quantitatively and qualitatively. The research aimed at evaluating the construction professional's perception of economic sustainability for housing delivery in Abuja. The earmarked areas selected for this research included Lugbe, Kado, Apo, Nyanya and Waru. Using a structured questionnaire administered to the professional's in the construction, financial institution and housing owners within Abuja. The questionnaires sought the perception of respondents on the operational measures for performance assessment using profitability, effectiveness, efficiency and affordability as the assessment criteria for the economic sustainability for housing deliveryAbuja. A 65% response rate was achieved and used for analysis, while the statistical tools such as SPSS (statistical package for the social science) was used to generate the data collected from the respondents.Percentage, weighted mean, relative importance index, tables and charts were also adopted to interpret the research findings. The result indicated a very high significance for the economic of sustainable housing delivery having (RII= 0.93) and viewed it as a laudable concept, the effectiveness of sustainable housing delivery components has land acquisition with a very high significance (RII= 0.93) while for the efficiency of its inputs labour has a very high significance of (RII= 0.92). Finally for affordability of sustainable housing delivery in Abuja, land acquisition has a very high significance of (RII= 0.97) been a factor that can militate against sustainable housing affordability. The research concludes that land acquisition, sources of finance and government policies are key factors leading to unsustainable delivery of sustainable housing delivery. The research recommend that if affordability and availability of sustainable housing is to be properly and adequately addressed in Abuja, there is need for good policy initiatives.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The economics of sustainable housing development is an important factor in the recognition of a nation's success. It is difficult to talk about the success of a nation without analyzing its housing situation (Daniel, 2009). As important as the housing sector is to national development the challenges confronting the Nigerian economy in the 21st Century are diverse and enormous (Jiboye, 2009). However housing represents one of the most basic human needs as a unit of the environment, it has a profound influence on the health, efficiency, social behavior, satisfaction and general welfare of the community (Onibokun, 1998)

The supply of housing in Abuja is mostly through individual efforts who acquire their housing through incremental methods of buying the land and developing over a number of years (CBN, 2013). Housing by its very nature is a capital intensive venture which if it is to be financed through personal financial resources will require slow and tedious accumulation of savings (Omiri & Nubi, 2007). More so the social and economic wealth of any nation can only co-exist with good housing (Ural, 2002).

In Nigeria, the organization for housing development and housing finance is not radically different from the prevailing situation in other developing countries such as Brazil, Philippines, Thailand, Ethiopia, India, South Africa, Ghana, Iran, Egypt, Afghanistan, and Mexico. The several governments in Nigeria since independence have highlighted housing delivery as a major focus (Roland, 2011). Sustainable housing delivery shows the tremendous opportunities waiting to be tapped in the Nigerian housing market (Olomolaiye, *et al*, 1998).

The wide gap existing between sustainable housing needs and housing supply is further compounded by a complete lack of finance mechanisms for sustainable housing development and the failure to deliver enough houses is not just a social problem but a huge repercussion in terms of economic development (Daniel, 2009).

An understanding of the inter-relationship between sustainable housing and economic development is essential for the various ways in which interventions could be made in housing finance in Nigeria (Roland, 2011). This inter-relationship is well understood in Thailand, where the Thai government views the real estate sector as a major driver of economic stability and growth and they enacted numerous policies to address the housing requirements. Like Nigeria, Thailand has been experiencing rapid population growth and continuous urbanization has created numerous demands for housing delivery to a wide-range of income levels (Roland, 2011).

The economy in Nigeria has slowed down housing development and investment which in turn has made banks to be unwilling to invest money in the housing sector (AUHF, 2016). It's not surprising that without an effective finance system, no housing policy can be effectively implemented (Ajanlekoko, 2001).

The access to decent and affordable housing is a daunting challenge which has made housing an issue of national importance. It has been established that the poverty level of most Nigerians makes it difficult for them to own houses (Daramola, *et al*, 2005), since land and construction costs are mostly beyond their means. Another major challenge confronting sustainable housing provision in Nigeria apart from the socio-economic factor is dearth of accurate statistics on housing needs and supply. This ought not to be so because research finding by (Nubi, 2000), shows that an average urban dweller spends between 40-60% of his income on house rent.

The Federal Capital Development Authority, (FCDA), hence conceptualised accelerated development program for sustanable and affordable housing delivery which is designed to solve myriads of problems previously associated with provision of basic infrastructure, inadequate funding, springing up of shanties in Abuja, deliberate abuse of the Abuja Master Plan, daily migration of people into Abuja, which has of course led to overstretching of the existing facilities and services (Aduwo, *et al* 2013).

The Federal Capital Territory Administration (FCTA) in 2005, decided to fast track the development in Abuja, a switch from Mass housing program which was supposed to be a solution to housing problems but showed unsustainable characteristics (Ukoje & Kanu, 2014). Meanwhile, the primary infrastructure which investors are expected to provide in the earmarked areas include detailed district design and the bill of engineering measurement, agreed kilometres of roads of varying specified sizes within the districts, storm water drains, sewer lines, water distribution lines, street lightening; electrical power distribution stations, telecommunication ducts as well as mini sewer treatment plants, school, shops, market, public outdoor recreational space, security or police post without any financial or technical demand on the government (FCDA).

A situation where such projects may be abandoned midway has been ruled out because the developers have delivered their business plan that shows their technical capacity, financial capability and managerial competence to the Federal Capital Territory Administration (FCTA), before commencement of the project. The Federal Capital Development Authority (FCDA) will appoint a Consultant to ensure that the execution of the work is done in accordance with its specifications.

1.2 Problem Statement

Nigerians living in Abuja, the Federal Capital Territory (FCT) deserve quality and affordable housing to live in (Akintokunbo, 2008). The country, have witnessed barrage of failed attempts at addressing the problem of sustainable housing development during the period of military rules which spanned late 1960s and late 1990s (Ayedun, *et al*, 2011). Consequently, the civilian administration which came into being in the late 1990s inherited a serious problem of inadequate housing, resulting from many years of neglect, a situation in which most of the professional's engaging in the construction of housing and provision of infrastructure fell short of the prescribed standards. These have led to the outright sales of the land allocated at very exorbitant rates rather than developing them (Ukeje, 2014).

There was also the problem on conflict of objectives among actors and stakeholders in the housing industry namely; the funding institutions and the developers on one side and the occupant of the housing on the other side (Ayedun, *et,al* 2011). Hence the profit maximization objective of the developers and funding institutions tends to conflict with the affordability of housing to the housing occupant especially the low-income earners (Draft National Housing Policy, 2004), with the government which is supposed to play an active role at solving the accentuated problem of housing provision in the country lacking the required political will to deal decisively with the housing problem and standing as a disinterested umpire.

The country has a very large and ever-increasing housing deficit which stood at approximately 8 million housing units in 1991 and between 12 to 14 million housing units in 2007 (Akeju, 2007; Aikhorin, 2008) while a more recent estimate put the figure at between 16 to 17 million housing units deficit (according to Olusegun Adeniji (2004) of FMBN cited in Sombo, 2007; Uroko &Akintola, 2008).

The housing situation in Nigeria has been extensively dealt with by eminent scholars few among them are (Onibokun, 1972; Onokerhoraye, 1976; Jagun, 1983; Wahab *et al*, 1990; Olotuah, 1997; Ogwu, 2006; Onyike, 2007, Sanusi, 2003), which shows the degree of sustainable housing development problems and provision in the country and the importance the scholars and academia attached to the subject matter.

However, housing in Abuja is grossly inadequate both quantitatively and qualitatively (Olayiwola, *et al*, 2005). There is no doubt that Abuja residence are facing housing affordability problem particularly with reference to quality of housing to the quality of the built environment (Aribigbola, 2008). This is because, in spite of the various economic policies, programs and strategies espoused and adopted by governments to enhance economic development of housing, it has not brought any appreciable transformation change to the sector.

1.3 Justification of the Study

The fast tracking of the physical development of Abuja considering the huge demographic changes, needed a proactive decision deeply looking for credible alternative source of financing infrastructural development in Abuja after little of no much success was recorded through the mass housing scheme. Considering the aim and scope to which this dissertation is expected to achieve, it is important to asses all relevant facts, framework to guide, regulate and coordinate the delivery of sustainable housing.

The study addresses the need for sustainable and affordable housing as originally designed in the Abuja master plan for all residents living in Abuja.

It is because of the situation and state at which the government mass housing schemes and programs are that a research to evaluate the construction professional's perception of economic sustainability for housing delivery in Abuja was paramount.

1.4 Aim and Objectives

1.4.1 Aim

The research is aimed at evaluating the professional perception of economic sustainability with a view for an improved level of housing delivery in Abuja.

1.4.2 Objectives

The objectives of the study are to;

i. Examine the need for sustainable housing delivery in Abuja.
ii. Examine the professional perception for efficiency and effectiveness on sustainable housing delivery in Abuja.
iii. Identify the significant factors militating against affordability of sustainable housing delivery.

1.5 Scope and Limitation

1.5.1 Scope

The study covers the perceptions of construction professionals (Architects, Builders, Engineers, Quantity Surveyors, Land Surveyors, Urban and Regional Planners, Estate Surveyors, Financial Agencies and building End-user). The study focuses on the construction professional's perception and the economics of sustainable housing development which pose a daunting challenge to housing delivery, it’s based only on the perception of construction professionals.

The research covers economic in relation to sustainable housing development in Abuja alone. The effectiveness, efficiency, affordability and profitability of sustainable housing delivery are the operational measures for performance assessment for the research.

The research only focuses on construction professionals, financial institutions and building owner/end users in Abuja, who were administered questionnaires because of their direct involvement and knowledge on the state of housing in the F.C.T.

1.5.2 Limitation

The researcher would have sampled more professional stakeholders within Abuja and conducted interviews as the questionnaires might have it short comings, these would have further established the study. Therefore the accuracy of this research is limited to the accuracy of the information supplied by the respondents.

The sample size adopted could reduce the generation of the research results and also limits its confidence, but also the sample size was carefully calculated to ensure the right sample size was used that will make the results reliable. The overall intention was to capture the perception of construction professionals on housing delivery in Abuja in specific areas rather than to draw true generalization for the entire population.

CHAPTER TWO

ECONOMICS SUSTAINABLITY OF HOUSING

2.1 Introduction

This chapter presents a literature review aimed at facilitating the understanding of professional's perception on the concept and principles of economic sustainability for housing delivery in Abuja.

The chapters are divided into five (5) sections. The first, second and third sections review the definitions, comprehensive developmental approach and the city of Abuja, the impact of Abuja mass housing and the challenges of housing program to the economic sustainability of housing delivery in Abuja with a view to facilitating a broader understanding of the research. The fourth section reviews the professional's perception for housing delivery in Abuja. The fifth section focuses on the method of evaluating the performance of housing delivery using the operational measure as indicators for performance assessment.

2.2 Economic Sustainability of Housing Delivery

Economic development and sustainability are not considered synonymous. By this, the sustainability practices tend to be viewed as impediments to economic development.

However, if sustainability practices are utilized correctly, it can be quite the contrary. Economic development strategies can benefit greatly through the incorporation of sustainability programs. Sustainable development is one of the critical, challenging and fundamental issues Nigeria and indeed most developing countries are facing today. It is the panacea to poverty and key to good quality life (Okonjo, 2012).

Sustainable development gingers and engenders durable growth, economic progress, prosperity and dignity of human life. It must however be affirmed that only meaningful and viable economic reforms can guarantee transformation. This is because effective structural reforms create value, growth and investment opportunities in the economy by stimulating and accelerating sustainable development.

The development experience in Abuja has been ineffective due to economic policies and developmental initiatives employed by successive government over the years have been called into question. In order to be sustainable, housing initiatives must be economically viable, socially acceptable, technically feasible and environmentally compatible (Choguill, 2007). In the other hand, housing encompasses the immediate environment, sanitation, drainage, recreational facilities, and all other economic and social activities that makes life worthwhile (Olejado, 2003).

Today there are over 300 published definitions of sustainable development, the products of diverse world views and competing vested interests (Moles and Kelly, 2000). Fundamentally, sustainable development addresses three major areas, people living today are entitled to justice and equal rights, environmental degeneration must be alleviated or eliminated and future generations must not be impoverished as a result of current actions

(Redclift, 1987). Our Common Future explores how sustainable development “is not a fixed state of harmony but rather a process of change in which the exploitation of resources, the orientation of technological development, and institutional change are made consistent with future as well as present needs” (Moles and Kelly, 2000). In other words (WCED, 1987) defined sustainability as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs” a definition adopted for these research. A sustainable house is cost-efficient over time, comfortable, cheap to maintain and complements our unique environment (Queensland Government, 2004). The focus on sustainable housing program implies a perspective of flows (Klunder, 2004).

2.3 Comprehensive Development Approach and the City of Abuja

The Master Plan of Abuja made provision for comprehensive development in all the districts of the City. It was aimed at developing standard buildings similar to those in other parts of the world as well as providing for the needs and health of its citizens. This approach did not provide enough housing to meet the needs of the inhabitants of the City (Jibril, & Garba, 2012). Many reasons could be attributed to this low delivery of housing.

There was first of all the lack of well-developed mortgage institutions in the Country which could have assisted the developers in Abuja to deliver enough sustainable housing. This problem was compounded by the movement of seat of power from Lagos to Abuja, in 1991, this made the City to witness unprecedented growth.

The Federal Government of Nigeria recognizes the fact that provision of adequate housing is a national challenge and is worst off in Abuja with over Three Hundred Thousand career civil servants alone. On February 4th 1976, the Federal Military Government of Nigeria, led by Gen. Murtala Mohammed, established Abuja as Nigerians new Federal Capital Territory (FCT), this decision was made to move the capital to the inner part of the country, it was selected by the federal government strategically to be placed centrally in the country and it occupies a total land mass of about 800 square kilometers, bounded by Kaduna State on the North, on the South West by Kogi state, on the west by Niger state and on the east and south east by Nasarawa state (Kwabe, 2010).

Abuja is a city with a master plan which was developed by International Planning Associates and a more detailed design of the central area particularly its monumental core was accomplished by Kenzo Tange a renowned Japanese Architect, along with his team of city planners. Abuja as the new Federal Capital Territory of Nigeria is a city which houses the headquarters of Governmental offices, organizations, parastatals and ministries including embassies of foreign countries and head offices of some banks and private organization, Non-Governmental Organizations (NGOs), etc. The Master Plan contains recommendations for housing that is combines with subsidies to the housing sector and offered a strategy to improve on housing conditions. The program was built on the following principles:

i. Efficient plot layout and appropriate standards of infrastructure permitting upgrading of standards as economic capability increases
ii. A range of housing options for all income groups, from detached buildings to flats to traditional multi-family compounds, or rooming houses and shared-services accommodations
iii. Increased reliance on local construction materials, reduced levels of finish and careful management controls to assure that costs of construction are reduced and maintained at lowest possible levels

iv. Sites and services approaches, use of shared services and self-help/self-contracted construction to lower costs.

Today, the housing developments in Abuja have completely diverted from the recommendations of the master plan for a housing program that offered a strategy to improve the housing conditions in Abuja (Ukoje *et al,* 2014).

2.4 Evaluation of the Impact of Abuja Mass Housing Programmes

Cities all over the world developed through the efforts of both government organizations and private individual and initiatives. Abuja therefore cannot be an exception (Fatile, 2015). In recognition of the above challenges, the Federal Capital Territory Administration (FCTA) and the federal capital development authority (FCDA) decided in the year 2000 to embark on a new approach in order to meet the challenges. A Private Public Partnership concept was introduced in housing delivery and the mass housing program was initiated with more emphasis in creating the enabling environment for the private sector to participate more actively. It aimed to bridge the wide gap that existed between supply and demand of housing within the city of Abuja and its environs (Jibril, *et al,* 2012).

The intention of the new policy was to take off the burden of the cost of providing infrastructure and sustainable housing for the teeming residents from government. It was designed in line with the national vision for provision of affordable housing to all categories of income earners. But due to the vast increase in population in developing parts of Abuja, different mass housing schemes have been developed and are still in construction around Abuja. A mass housing department was also created to coordinate the orderly development of these mass housing projects. The department is however handicapped as a result of inadequate budgetary allocations but the Private investors embark on the construction to cater for the ever increasing population (FCDA, 2012).

The provision of this mass housing by the government is an answer to providing shelter for its inhabitants, but in most cases, after a while, these mass housing developments deteriorate and become slums surrounded by vast neighborhoods of poverty, satellite towns, informal settlements and the different mass housing schemes degrade the urban face of the city (Daniel, 2009).

There are several mass housing schemes being developed in Abuja at the moment, most of which have either been sold off part - by - part by the federal Government to private individuals, or to private investors. The different mass housing schemes have been grouped into three categories according to the initial idea of construction, these include (Alao, D.A (2009).

i. Initial Government Schemes
ii. Re – settlement Schemes
iii. Private intervention schemes

The private intervention schemes usually concerns private investors and corporations who want to see a big return and profit from their developments and therefore ensure that their environments are well taken care of, provided for and a certain level of comfort maintained. This in return is a reason for the high cost of housing in such areas, because these services are lacking in governmental schemes and are therefore seen as a plus in sustainable housing delivery in Abuja.

The housing policies and legal framework for housing in the country are also insufficient and in cases where there are housing policies, these policies are not adequately implemented (Ugochukwu, *et al* 2016).

2.5 Challenges of Housing Programme in Abuja

The first and the most important challenge came as a result of inadequate planning as well as inadequate supervision (Jibril, *et al*, 2012). There were a lot of violations of the provisions of the Master Plan. Unfortunately, the rush with which these housing were started, led to the omission of most of these facilities and infrastructures. It became clear that virtually over 90% of the developers were not interested in providing these very important segments for the benefit of the end users.

This serious challenge could also be attributed to the fact that at the time most of the developers moved to site, they hadn’t any detailed land use and site development plans. There was also no detailed engineering design for most of the districts. There was therefore little or nothing to guide them towards the orderly development in line with the provisions of the Master Plan of the City of Abuja. Despite the fact that each and every developer was supposed to submit these details to the development control department for vetting, approval and final issuance of development permit, the department was also supposed to grant ‘setting out’ approval on site before any developer could commence real development, this handicap led to serious violations. The violations also led to avoidable pains and removal of structures sited in wrong areas (Muhammed, 2015).

In districts where detailed land use plans are available, some developers decided to violet the rules with impunity. These groups of developers were those that decided to convert and develop plots for other uses such as school plots, markets, recreational parks, places of worship and even road reservations into housing estates. Such cases have compelled development control department to take punitive measures (such as removal of the offending structures) to recover the plots and restore them to the original land use provided by the Master Plan of Abuja (Jibril, *el al* 2012).

Another aspect of the challenge is the habit of some developers of parceling the plots set aside for them, into single plots and selling same to individuals. The buyers would then build using a proto type design obtained from the 'developer' and posing as 'sub-contractors'. Developers had more land than they could develop they resorted to land subdivision into single plots which were sold to individuals; this action tends to suggest that the majority of participants did not have good intentions towards sustainable housing development in Abuja. Through this outright sale of bare land, the government is effectively deprived of the revenue that would have accrued if the developers had actually developed and sold the built houses (Ukoje, 2014).

The terms for the grant to a developer is to develop the parcel of land obtained from the government, provide the necessary infrastructure, and develop the houses and then sell to the public. This situation diverted attention of developers from the intent and purpose of the public private partnership objectives as land sales was found more lucrative than housing development (Zubair, 2015).

2.6 Professionals Perception of Housing Development in Abuja

Improvement of housing efficiency is an imperative preoccupation on the process of house building (Brebbia, 2012). The process of housing development should be based on sustainability principles, which could be applied in the conception, construction and use of the buildings. The goals of the process are to decrease the environmental costs incurred by inadequate constructive systems and solutions, minimizing the impacts on natural resources and improving users' comfort (Amado, *et al*, 2007).

Sustainable housing is a form of affordable housing that incorporates environmentally friendly and community based practices, it attempts to reduce the negative impact that homes can have on the environment through choosing better building materials and environmental designs (Gilkinson & Sexton, 2007). The growing problems of affordability in Nigeria over the last two decades has brought into focus the need for housing researchers and decision makers to develop a better understanding of the structure, operation and dynamics of urban housing market. Therefore, examining the issue of affordable housing was found to be of significance. The present housing approach or policy that over-emphasized unfettered market forces in determining housing consumption will not achieve the desired results of making all Nigerians accessible to decent, safe and affordable houses (Aribigbola, 2008).

The operational constraints which could derail the formulation and implementation of public private partnership scheme are the access to land, high cost of building materials and access to finance. Access to land particularly serviced land for housing is one of the major challenges faced by developers (Ukoje & Kanu, 2014).

Land is fundamental to housing development in the FCT and therefore important to successful housing delivery. Land accessibility, according to (Omirin, 2002) entails land tenure security, land affordability, land availability and the ease with which land is acquired. Access to land in this context goes beyond paper allocation to the actual possession of the land by the developers for housing purposes. At the beginning, land allocation was made at already vacant land at no cost, apart from the meager processing fee paid, as government equity contribution to the scheme. But later on, the developers were tasked with compensating current occupants of their allocation before they could take possession. But in negotiating with the communities, the processes were sometimes delayed by the emergence of influential youths/touts and associations who claimed to represent the interests of the indigenes. These groups harassed and disturbed organized private sector from accomplishing the process and carrying out the development.

However the ranges of housing options in the city of Abuja do not support all income groups even though there are different house designs. They have been developed by private individuals and investors who have obtained parcels of land at very high rates from the government and therefore cost of rent for these buildings are high, coupled with the cost of construction and finishing of the houses. Preferably some land developers divert to selling their allocation of land which is more profitable to them at the expense of the government and end user (FGN, 2004). More so, there's supposed to be an increased reliance on local construction materials and the use of self-help and self-contracted services and modes of construction. In the central area of Abuja today, construction of so many buildings and houses are done by multinational and foreign construction companies, with 80% use of foreign building materials, which in turn make houses more expensive and unaffordable by the middle and low income earners (Akeju, 2007).

The Federal Capital Territory has a comprehensive Master Plan covering the entire 8,000 square kilometers, adequately taking care of the Federal Capital City (FCC) which is 250 square kilometers defining by the phases of the city's development as well as the Area Councils and the Satellite towns expected to be feeding the city center. The Abuja metropolitan conservatively is put at 5 or 6 million people, while the actual physical development is still within Phases I & II respectively (FCDA). Meanwhile, the physical development of the Federal Capital City is structured into four phases with about 74 districts. The Federal Capital Territory hitherto planned to be completed within 24 years with the Phase I of the Federal Capital City expected to accommodate 230,000 people while the Phases II, III and IV were expected to provide for about 585,000; 640,000 and 1.7 million people respectively. But sadly, it is only about 25 percent of the city's development that has been completed to date.

The reasons advanced by various FCT Administrations are paucity of funds (FCDA, 2012), this lack of funds coupled with ever influx of Nigerians from all walks of life into the Federal Capital Territory. The Federal Government has been able to provide infrastructure in almost all the seven districts of the Phase I of the Federal Capital City namely; Maitama, Asokoro, Garki I, Garki II, Wuse I and Wuse II. Others that recorded appreciable percentage of infrastructural presence are the Central Business District Utako, Jabi, Gudu; while the provision of infrastructure in districts such as Mabushi, Katampe, Katampe extension, Jabi, Wuye, Guzape and a host of others in the Phases II & III have infrastructure partially provided.

As from 2005, under Mallam Nasir El-Rufai, who served as Minister from 2003 to 2007, the duration for completion of building was fast tracked to 18 months under the Accelerated

Development Program: according to experts, over N30 billion is required to provide a world class infrastructure in a single district and the resources is not forth coming (Nasir, 2012).

On the same path to provide sustainable housing for the residents of Abuja at affordable rates the housing is not only concerned with the design of a specific number of house units, but rather, the design of a whole environment that provides accommodation, jobs, education, health services, etc. All these are to be achieved within a context that is accessible, safe, beautiful and sustainable (Erskine, 1998).

In his essay: “Towards a Sustainable Housing Development” (Dilip da Cunha, 2007) states that “Housing, because of its ability, as a total entity, to satisfy all the levels of need, spiritual, cultural, economic and physical is in a unique position to be the leading sector, showing the way towards more holistic policies and sustainable development”.

2.7 Operational Measures for Performance Assessment

The performance assessment in this study would be guided by whether the objectives in regards to the economic sustainability of housing development through the accelerated program are met or not. Construction firms use performance measurement to evaluate their project performances, both in terms of financial and non-financial aspects and to compare and contrast the performance with others in order to improve programme efficiency and effectiveness in their organizations (Kagioglou *et al.*, 2000). The objectives defined below would constitute the assessment criteria.

2.7.1 Profitability, in the context of returns to the operators, it is the excess of income over expenditure, i.e., yielding a financial profit for the owner, from patronage derived through the performance assessment of the program. The developer enters an agreement with the government, without any down payment, but a structured plan on how the invested funds would be recovered at completion is designed. The performance of the program leads to its profitability (Kaydos, 1998).

Two elements of measuring project success are emphasized vis-a-vis efficiency and effectiveness. The efficiency element measures the 'processes' efficiency in the strategic planning, management and utilization of resources and it relates to the project outputs. The efficiency measures would only be achieved where standard systems of measurements and methodology are provided for benchmarking (George, 1968). On the other hand the effectiveness element measures the 'results' and it relates to the project outcomes such as the core business and project objectives, users' satisfaction and the use of the project. Project success is usually measured against the achievement of goals that were predetermined at its outset (Dainty *et al*, 2003).

2.7.2 Effectiveness - This has been producing favorable impressions or causing a successful result especially with regards to the desire to intended outcome for the economic sustainability of housing delivery.

2.7.3 Efficiency - The competence or ability to implement the program well and achieve a desired result with the minimum use of resources, time and effort. The market inputs has provided quality and speedy services that satisfy end-users which would lead to reduction in service cost and time.

The economics of sustainable housing delivery has led to reduction in services provided by government the construction inputs and there availability would provide fast service delivery and these construction inputs would further assess how equipped and organized the key players are in the housing sector. More specifically, Kelada (1999), hints that the performance measurements used apply not only to product or service quality and to business performance, but should also be extended to customer satisfaction, quality management, needs, wants and expectations cost, time and quality. Again, in today's construction environment, timely completion within budgetary allocations are highlighted as critical to client requirement in order to attain first in the market advantage over competitors (Kog*et al.*, 1999).

2.7.4 Affordability - The principle of affordability implies that the cost of acquiring sustainable housing is affordable. The administration system of the economic should be operated in such a way that costs can be recovered fairly and without unduly burdening users. Affordability ensures that nobody who participates in sustainable housing development is left behind and that equal opportunity is guaranteed for the entire income groups (UN, 2016). There must be a mechanism that directly or systematically engages, particularly urban poor persons who are often left out mainly due to financial and legal challenges. Affordable sustainable housing delivery should promote growth which in turn leads to economic development, considering a few of the following factors militating against housing affordability; land acquisition problem, the Route of infrastructure and government policies (Ukoje, 2014).

The sources of housing finance and land acquisition as it affects affordability of sustainable housing delivery in Abuja needs to be looked into and reviewed. Housing is typically financed through a number of institutional sources in Nigeria i.e., Budgetary appropriations, Commercial/Merchant Banks, Insurance Companies, State Housing Corporations and the Federal Mortgage Bank of Nigeria (FMBN) and now the newly established Mortgage Institutions; all these constitute the formal institutions (Ibrahim, 2012).

(Kagioglou *et al.,* 2000) also concurs that the methods used to measure performance in construction projects fall into three main categories. These are;

i. **Financial perspectives** - That is, how do the project's financial stakeholders view the project. For example, use of cash flow and cost benefit analysis;

ii. **The internal business process perspective** - That is, how are we performing in our key process activities? For example, use of critical path analysis.

iii. **The customer perspective -** That is, how do our existing and potential customers see it?

One of the main conclusions drawn from the list of project indicators identified by (Ali *et al*. 2013) and other articles reviewed for this study is that all authors mix the different kinds of indicators. For this reason, it is important to identify the Result Indicators first, so that they serve as a guide to identify and structure Process and Leading Indicators for sustainable housing delivery.

Table 2.1: Summary of Performance Indicator for Projects

No.	Author and Year	Country	Performance Indicators	
1	Jastaniah (1997)	Saudi Arabia	1. Client satisfaction 2. Planning period 3. Staff experience 4. Communication 5. Safety	6. Closeness to budget 7. Profitability 8. Payment 9. Claims
2	Egan (1998)	UK	1. Predictability – time, cost 2. Construction cost 3. Construction time 4. Productivity	5. Profitability 6. Safety 7. Defects 8. Client satisfaction
3	Department of the Environment, Transport, and the Regions (DETR), 2000; Department of the	UK	1. Time 2. Cost 3. Quality 4. Client satisfaction	5. Client changes 6. Business performance 7. Health and safety

	Environment, Transport, and the Regions (DETR); (2000)			
4	Pillai *et al*. (2002)	India	1. Benefit 2. Risk 3. Project status 4. Decision effectiveness 5. Production	6. Cost effectiveness 7. Customer commitment 8. Stakeholders 9. Project management
5	Cheung *et al*. (2004)	China	1. People 2. Cost 3. Time 4. Quality	5. Safety 6. Client satisfaction 7. Communication 8. Environment
6	Wong (2004)	UK	1. Staff experience 2. Resources 3. Site management 4. Safety	5. Contractor experience 6. Time 7. Cost 8. Quality
7	Constructing Excellence, 2005; Constructing Excellence, 2006; Constructing Excellence, 2009 and Roberts and Latorre, (2009)	UK	1. Client Satisfaction 2. Defects 3. Predictability cost, time 4. Construction cost, time 5. Variance cost, time 6. Contractor satisfaction	7. Profitability 8. Productivity 9. Safety 10. Social indicators 11. Environment
8	Rankin et al. (2008) and Canadian Construction Innovation Council (CCIC)	Canada	1. Cost 2. Time 3. Quality 4. Safety	5. Scope 6. Innovation 7. Sustainability 8. Client Satisfaction
9	Luu et al. (2008)	Vietnam	1. Construction cost 2. Construction time 3. Customer satisfaction 4. Quality management	5. Team performance 6. Change management 7. Material management 8. Safety
10	Skibniewski and Ghosh (2009)	USA	1. Construction cost 2. Construction time	4. Defects 5. Client satisfaction product

			3. Predictability cost and time	
11	Toor and Ogunlana (2010)	Thailand	1. On time 2. Under budget 3. Specifications 4. Efficiently 5. Effectiveness	6. Safety 7. Defects 8. Stakeholders 9. Disputes
12	Construction Industry Institute (CII) (2011)	USA	1. Cost 2. Schedule 3. Changes	4. Accident 5. Rework 6. Productivity

Source: King Saud University Journal, 2013.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that is used to evaluate the construction professional's perception of economic sustainability for housing delivery in Abuja. The study adopted quantitative research method using a descriptive design questionnaire technique to solicit responses from the large population.

3.2 Research Approach and Method

The methods adopted for data collection in the course of this research were as follow:

i. Review of existing literature relating to subject matter.
ii. Structured questionnaires administered to key players in the housing sector in Abuja. These key players include the construction/building professionals (Architects, Engineers, Planners, Quantity surveyors and Estate Surveyors), and the building end user.
iii. The tools of analysis included SPSS (statistical package for the social science), simple percentile techniques, tables, charts and graphs.

The Likert scales survey questions was adopted since it offer a range of answer options from one extreme attitude to another, like "extremely likely" to "not at all likely." Typically, it include a moderate or neutral midpoint and one of the most reliable ways to measure opinions, perceptions, and behaviours. The Likert scale questions gave a more granular feedback about the research and helped uncover degrees of opinion that made a real difference in understanding the feedback for the research. It also pinpoint the areas needing improvement.

The Likert scale approach for responses on questionnaires was adopted for the survey which is often five (5) ordered response levels. The format of a typical five-level Likert item are; strongly disagree (1), Disagree(2), Neither agree nor Disagree(3), Agree(4), Strongly Agree(5). While the Likert scale formula is represented as below.

Table 3.1: Likert Scale

Mean Range	**Weight**	**Interpretation**
4.5 – 5.0	5	Excellent

3.5 – 4.49	4	Very Good
2.5 – 3.49	3	Good
1.5 – 2.49	2	Poor
1.0 – 1.49	1	Fair

Source: Rensis Likert (1967).

3.3 Sampling Technique

The sampling technique employed for this study consists of cluster sampling, simple random sampling as well as systematic sampling method. Abdulazeez, (2012), argued that sampling a population is faster, practically less cost and labour intensive than making use of the whole population.

The metropolis in Abuja is made up of five districts/clusters the districts are each made up of a number of neighborhoods. This gives a good coverage of the whole study area. Simple random sampling method was used to select the neighborhood from each cluster. Also random samples of two neighborhoods were taken from each cluster or district to be surveyed, while a systematic sampling method was adopted in order to select the professional's in the housing sector to be administered the questionnaires.

Purposive sampling method was used to administer questionnaires to financial players in the housing sector of the study areas. The choice for this sample technique was because their activities are unique and different, and each financial institution provides specific information about it activities, also the choice for this is due to the fact that the sampling population is small.

3.4 Sample Size

Abuja is made up of districts/clusters, which are the Phase 1, 2, 3, 4 and 5 area of the city; it is from these districts that samples were drawn for this study. Each district is made up of a number of settlements or neighborhoods and collectively has a total population of 1,406194 (NPC, 2006). The population was projected in 2012 using a growth rate between 20% - 30% per year. (Kish 1965) highlighted that the sample size can be calculated by using the following equations for 95% confidence level.

Where;

N = Total number of population,

n = sample size from finite population

S = 0.1 to 0.5 and V = 0.05

n^1 = sample size from infinite population $= \frac{s^2}{v^2}$ ……………..…Equation I

Thus,

$n = \frac{n^1}{[1+\left(\frac{n^1}{N}\right)]}$……………………………………………………Equation II

Where, $s^2$is the variance of the population elements and $v^2$is the standard error of sampling population.

s = 0.5, v = 0.05 and N = 500

Thus, a sample size of 83 was determined for Sample size of±10% Precision Levels, with Confidence Level is 95%.

Five estates were identified and form the population of the study estates are selected at random from the following districts namely; Lugbe, Kado,Apo, at the phase 1 of Abuja metropolis and Nyanya and Waru districts of phase 2. The criteria used for selecting the 5 districts from phase I and Phase II in the FCT would allow for complete coverage of the low, medium and high income earners. The economic status of each of the 5 districts is as follows (Adama, 2012).

i. District 1 -Lugbe accommodates the high income earners, in private and other public buildings.
ii. District 2 - Kado accommodates the high income earners in private and public buildings.
iii. District 3 - Apo is of medium density area and accommodates the high income earners with public and private commercial buildings.
iv. Disrict 4 – Nyanya is also a medium density area and accommodates the high income earners with public and private commercial buildings.
v. District 5 -Waru accommodates the low income earners, private commercial farmers.

3.5 Data Presentation, Analysis and Discussion

The data collected from the respondents were analyzed statistically using descriptive statistics, from the data generated with SPSS (statistical package for the social science), simple percentile techniques, tables, charts, mean score and relative important index distribution and the following formula were used;

i. Percentage to determine the magnitude of the respondents:

a. $\% = \frac{n}{N} \times 100$……………………………………………Equation III

ii. Mean using the weighted average formula:

a. $x = \frac{\sum fx}{\sum f}$……….……………………………….…………Equation IV

iii. Relative important index was used in the research for ranking:

$RII = \frac{\sum fx}{\sum f} \times \frac{1}{K}$………………………..………………..……...Equation V

Where $\sum fx$ = total weight given to each attribute by the respondents.

$\sum f$ = total number of respondents in the sample.

K = the highest weight on the likert scale.

The ranking of the factors under consideration were based on their relative important index (RII) values. The factors with the highest RII value are ranked 1st and the next 2nd and so on.The rating of all the factors for degree of significance was based on their value of respective relative important index (RII).

The guide for the rating is given in Mbamali and Okotie (2012), as follows; RII< 0.60 the item is assessed to have low significance, $0.60 \leq RII < 0.80$ for item assessed to have high significance, while $RII \geq 0.80$ is for items assessed to have very high significance.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

4.1 Introduction

This chapter presents the analysis of data obtained during the study from field surveys and inferences to determine the construction professional's perception of economic sustainability for housing delivery in Abuja. The Construction professionals, financial institution and building owners provided responses which have been analyzed in relation to the key objectives of the study and the research questions.

4.2 Analysis of Administered Questionnaires

In order to archive the key objective of this research on "evaluating the professional perception of economic sustainability with a view for an improved level of housing delivery in Abuja." Questionnaires were administered to key players in the housing sector in Abuja and a total of 83 respondents were involved in this survey, out of which 43 were from the construction/building sector, 20 from the financial sectors while 20 were the building owners/end users, these questionnaires were administered using a systematic random sampling method. The chart below gives a breakdown of administered questionnaire and the number of responses and non-responded questionnaire received.

Table 4.1: Administered Questionnaires

Questionnaire	Number	Percentage (%)
Total Administer	83	100
Total Returned	52	63

Not Returned	31	37
Used for the Study	52	63

Source: Field Survey, 2015

From the above table it can be understood that 28 questionnaires were unaccounted for because they were either not returned, incompletely or wrongly filled. Based on assertion of Moser and Kalton (1971), the result of a survey could be consider significant only if the response rate is not lower than 30-40%, therefore, the percentage responses of 65% is adequate for analysis.

4.3 Research Data Collection

The data collected for these research work through the questionnaires were divided into four; section A, B, C and D which was targeted on construction professionals (Architects, Engineers, Planners, Quantity surveyors and Estate Surveyors), mortgage bankers/providers, and lastly the building end-user/owners.

Section "A" of the questionnaire focuses on the respondent personal data covering areas like his/her profession, years of experience, highest qualification, professional qualification, and his/her rank, designation, position in the organization or company as this is considered important to the research finding for analysis to ascertaining the level of involvement of individuals firms and companies in the attainment of sustainable housing development.

Table 4.2 Breakdown of Administered Questionnaires

Professional's	Frequency	Percentage (%)
Architects	5	9.6
Land Surveyors	2	3.9
Builder	6	11.5
Town Planners	4	7.7

Quantity Surveyors	5	9.6
Engineers	4	7.7
Estate Surveyors	4	7.7
Financial Agencies	14	26.9
Building Consumers	8	15.4
Total	**52**	**100**

Years of Experience	Frequency	Percentage (%)
1-5	7	13.4
6-10	16	30.8
16-20	21	40.4
Over 20	8	15.4
Total	**52**	**100**

Academic Qualification	Frequency	Percentage (%)
OND	5	9.6
HND	19	36.5
B.Sc./ B.Tech	13	25.0
M.Sc.	10	19.2
PHD	4	7.7
Others Specify	1	1.9
Total	**52**	**100**

Average Annual Housing Unit Out-Puts	Frequency	Percentage (%)
1-40	22	42.3
41-70	4	7.7
71-100	18	34.6
Over 100	8	15.4
Total	**52**	**100**

Average Organizational Size	Frequency	Percentage (%)
5-10	11	21.2
11-20	19	36.5
21-50	8	15.4
51-100	14	26.9
Over 100 Employees	0	0

Total	52	100

Professional Affiliation	Frequency	Percentage (%)
Nigeria Institute of Builders	6	11.5
Nigeria Institute of Quantity Surveyors	5	9.6
Nigeria Institute of Architect	5	9.6
Nigeria Society of Estate Surveyors and Valuers	4	7.7
Nigeria Institute of Town Planners	4	7.7
Council for the Regulation of Engineering in Nigeria	4	7.7
Nigeria Institute of surveyors	2	3.8
Others(PMP, NSE Technicians)	22	42.3
Total	**52**	**100**

Source: Field Survey, 2015

It should be noted that as important as the profile is to the research no attempt was carried-out to investigate the flaws of any individual respondents or organization, but confidentiality was maintained.

4.4 Examining the Need for Sustainable Housing Delivery in Abuja

It is absolutely essential for the housing delivery process to be implemented on a sustainable basis, paying due regard to social, historical, economic and ecological concerns. Consequently, Sustainability is necessary to satisfactorily meet the requirements of all citizens throughout their lifetime (Makinde, 2014).

It is important that short-term housing solutions do not undermine the opportunities for future generations to circumvent the viability of any long-term interventions aimed at sustainable growth, economic sustainability are imperative to facilitate an effective housing delivery process.

Table 4.3: The Need for Sustainable Housing Delivery

S/No	Economic of Sustainable Housing Delivery	Frequency of Response					∑f	∑fx	Mean	RII	Rank
		1	2	3	4	5					
1	The performance of construction in Abuja	1	6	3	9	33	52	223	4.29	0.86	4th
2	The state of housing delivery in Abuja	3	11	24	9	5	52	158	3.04	0.61	8th
3	Do you think the practice of sustainable housing delivery is a laudable concept?	6	8	4	13	21	52	243	4.67	0.93	1st
4	Describe the market for sustainable housing delivery	1	2	31	18	0	52	170	3.27	0.65	6th
5	The rating on the level of satisfaction for tentanability of space on sustainable housing delivery in Abuja	36	10	0	6	0	52	80	1.54	0.31	10th
6	Describe the business process performance of housing delivery in Abuja	4	28	4	18	0	52	144	2.77	0.55	9th
7	The impact of the present economic on housing prices.	6	3	23	19	1	52	165	3.17	0.63	7th

8	What section of the population patronizes sustainable housing?	0	0	2	18	32	52	232	4.46	0.89	3rd
9	How applicable is the cost of litigation considered on sustainable housing delivery in Abuja land acquisition.	0	5	8	15	24	52	214	4.11	0.82	5th
10	The importance of operating/maintenance cost on sustainable housing delivery in Abuja	0	2	5	10	35	52	234	4.50	0.90	2nd

Source: Field Survey, 2015

Section "B" of the questionnaire as shown on table 4.3 asked the opinion of respondents on their perception to the economics of sustainable housing delivery in terms of performance and the practice of sustainable housing delivery in Abuja is seen as a laudable concept with (RII= 0.93), having a very high significance. The importance of operating/maintenance cost on sustainable housing delivery in Abuja (RII= 0.90), section of the population that patronizes sustainable housing (RII= 0.89), the cost of litigation considered on sustainable housing delivery in Abuja land acquisition (RII= 0.82), the economics of sustainable housing delivery performance factors with high significance are the market for sustainable housing development (RII= 0.65), The impact of the present economic on housing prices. (RII= 0.63). The state of housing delivery in Abuja (RII= 0.61).

The factors that have a low significance are the business process performance of housing delivery in Abuja (RII= 0.55), the level of satisfaction for tentanability of space on sustainable housing delivery in Abuja (RII= 0.31).

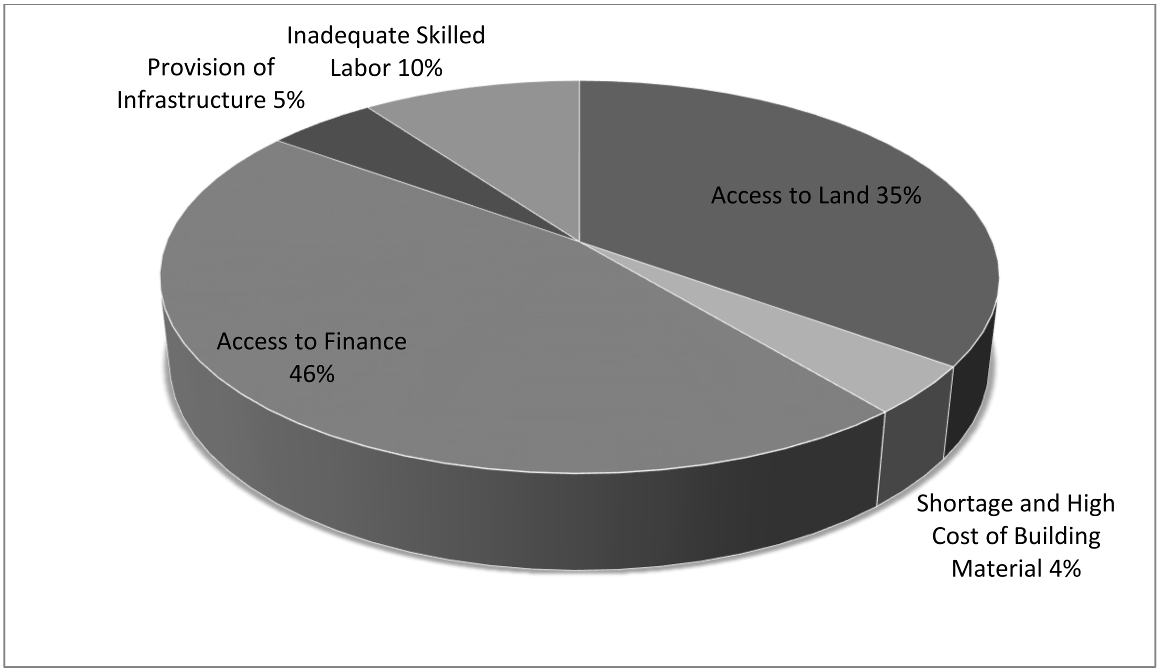

Fig I: Performance Assessment of Factors Enhancing Sustainable Housing Delivery

Source: Field Survey, 2015

The factors identified above were all seen to affect the economics of sustainable housing delivery in Abuja. Access to finance has the highest significant percentage of 46%, followed by access to land with35%, inadequate skilled labour 10%, provision of infrastructure 5% and shortage/high cost of building material has the least significance with 4%. The performance of the economics sustainability is achieved when the return on investment from the sales of the completed housing units to the public at a premium price after developing the districts into fully-serviced estates.

4.5 The Professional Perception for Effectiveness/Efficiency Of sustainable Housing Delivery

Effectiveness and Efficiency are the two elements for measuring a project success. Effectiveness was used to measure the results that relates to the economics sustainability outcome of housing delivery in Abuja while efficiency was used to measure the processes that is related to sustainable housing delivery outputs in Abuja.

Table 4.4 Effectiveness of its Elements

S/No	Effectiveness Outcome	Frequency of Response 1	2	3	4	5	∑f	∑fx	Mean	RII	Rank
1	Huge return on Investment	1	4	7	28	12	52	202	3.88	0.78	4th
2	Product Quality	0	4	6	7	35	52	229	4.40	0.88	2nd
3	Time to Market	0	1	11	10	30	52	225	4.32	0.87	3rd
4	Process Innovation	2	4	6	31	9	52	197	3.79	0.76	5th
5	Land Acquisition	39	9	4	0	0	52	243	4.67	0.93	1st
6	Resolve Value	1	7	12	23	10	52	192	3.69	0.74	6th

(Where 1= Not Important, 2= Slightly Important, 3= Fairly Important, 4= Important, 5= Very Important)

Source: Field Survey 2015

Section "C" of the questionnaire seeks the opinion of respondents on the reasons for evaluating the construction professional's perception of economic sustainability for housing delivery in Abuja to ascertain if it is effective and efficient as perceived.

The reasons for evaluating the effectiveness of the program are to validate how workable the components as shown on table.4.3 would have significance.

The components with a very high significance are; Land acquisition (RII= 0.93) which shows how important land is to the program, product quality (RII= 0.88), time to market (RII= 0.87), while those with high significance are; huge return on Investment (RII= 0.78), process innovation (RII= 0.76), resolve value (0.74).All the above components used to assess the effectiveness have great significance on sustainable housing delivery, if fully utilized.

Table.4.5: Efficiency of the In-Put for Sustainable Housing Development

S/No	Efficiency Input	Frequency of Responses					∑f	∑fx	Mean	RII	Rank
		1	2	3	4	5					
1	Labour	0	1	5	8	38	52	239	4.60	0.92	1st
2	Material	0	0	1	21	30	52	237	4.56	0.91	2nd
3	Market	0	12	26	12	2	52	160	3.08	0.62	5th
4	Profit	4	8	5	32	3	52	178	3.42	0.68	4th
5	Finance	2	10	5	6	26	52	98	1.88	0.38	6th
6	Land	2	1	3	26	20	52	217	4.17	0.83	3rd
7	Equipment	3	3	27	12	7	52	176	3.38	0.68	4th

(Where 1=Not Available, 2= Poorly Available, 3= Fairly Available, 4= Available,

5= Readily Available)

Source: Field Survey, 2015

The inputs required for efficiency in sustainable housing construction as identified on table 4.5 above. The input with a very high significance are; labour (RII= 0.92), material (RII= 0.91), land (RII= 0.83), while those input with high significance are; equipment (RII= 0.68), profit (RII= 0.68) market (RII= 0.62).

Finally the input with low significance required to examine the efficiency for sustainable housing delivery is finance (RII= 0.38).

4.6 Identify the Significant Factors Militating against Affordability of Sustainable Housing Delivery.

The ease of assessing the under listed factors that could militate against sustainable housing affordability is of great importance to sustainable housing delivery in Abuja. The professional’s perception is that the Federal Housing Authority and the Federal Capital

Development Authority has a big role to play for policies and legal framework to be adhered too. Also the provision of an enabling environment on the ease of execution of sustainable housing in Abuja.

Table 4.6: Affordability of Sustainable Housing

S/No	Assessing the Factors Militating Against Housing Affordability	Frequency of Response 1	2	3	4	5	∑f	∑fx	Mean	RII	Rank
1	Excessive protocol and bureaucracy	3	1	4	19	25	52	218	4.19	0.84	7th
2	Collateral security	0	1	1	21	29	52	234	4.50	0.90	3rd
3	Restriction of government policies	0	1	1	34	16	52	221	4.25	0.85	6th
4	High interest rate	0	2	12	32	6	52	195	3.75	0.75	9th
5	Loan ceiling and duration	0	0	14	28	10	52	204	3.92	0.78	8th
6	Funds shortage/ high cost of funds	31	11	5	4	1	52	89	1.71	0.34	11th
7	Delay in certificate of occupancy and building plan approval	0	3	3	14	32	52	231	4.44	0.89	4th
8	High cost of construction	20	31	1	0	0	52	85	1.63	0.33	12th
9	High cost of building material	23	11	18	0	0	52	99	1.90	0.38	10th
10	Land acquisition problem	0	0	2	4	46	52	252	4.87	0.97	1st
11	Route of infrastructure	0	0	2	10	40	52	246	4.73	0.95	2nd
12	Manpower shortage	29	18	2	2	1	52	84	1.62	0.32	13th
13	Government Policy	0	1	9	10	32	52	229	4.40	0.88	5th
14	Poor demand	24	20	8	0	0	52	88	1.69	0.34	11th

(Where 1= Very Insignificant, 2= Insignificant, 3= Fairly significant, 4= Significant, 5= Very significant**)**

Source: Field Survey, 2015

The factors militating against the housing affordability were analyzed and land acquisition problem had a very high (RII= 0.97), followed by the route of infrastructure (RII= 0.95), Collateral security (RII= 0.90), delay in certificate of occupancy and building plan approval (RII= 0.89), Government Policy (RII= 0.88), Restriction of government policies (RII= 0.85), Excessive protocol and bureaucracy (RII= 0.84), these are seen as the reasons that sustainable housing delivery in Abuja are not affordable to all income groups. The factors with high significance include Loan ceiling and duration (RII= 0.78), High interest rate (RII= 0.75) While those with low significance are High cost of building material (RII= 0.38), Poor demand (RII= 0.34), Funds shortage/ high cost of funds (RII= 0.34), High cost of construction (RII= 0.33) man power shortage (RII= 0.32).

The questionnaire sought the opinion of respondents as regards the three basic requirements for the economics of sustainable housing delivery in Abuja i.e. land, finances, and government policies as it affect housing affordability.

Table 4.7: Sources of Finance for Affordable Housing

S/No.	Sources of Housing Finance	Frequency of Responses					∑f	∑fx	Mean	RII	Rank
		1	2	3	4	5					
1	Internal Funds	28	7	8	7	2	52	104	2.00	0.40	7th
2	Loans from thrift and credit society	0	5	13	31	3	52	188	3.62	0.72	4th
3	Commercial banks	1	1	10	8	32	52	225	4.33	0.87	2nd
4	Mortgage banks	0	0	8	12	32	52	232	4.46	0.89	1st
5	Insurance and Pension funds	23	16	10	3	0	52	97	1.87	0.37	8th
6	Government bonds	2	29	14	7	0	52	130	2.50	0.50	6th
7	Foreign direct investment (FDI)	0	10	20	9	1	52	204	3.92	0.78	3rd
8	Shares	31	14	7	0	0	52	80	1.54	0.31	9th
9	Merchant bank	12	10	20	9	1	52	133	2.56	0.51	5th

(Where 1= Very Infrequently Used, 2= Infrequently Used, 3= Fairly Frequently Used, 4= Frequently Used, 5= Very Frequently Used**)**

Source: Field Survey 2015

Table 4.7 is showing the sources of finance sequentially in ranks to how they are assess. On the sources of finance for affordable housing. The major sources of housing finance with very high significance are; Mortgage banks (RII= 0.89), Commercial banks (RII= 0.87) while Foreign direct investment (RII= 0.78) and Loans from thrift and credit society (RII= 0.72) have a high significance to the sources of housing finances. The sources of finance with low significance are merchant bank (RII= 0.51), government bond (RII= 0.50), internal funds (RII= 0.40), Insurance and Pension funds (RII= 0.37) and shares (RII= 0.31).

Table 4.8: Methods of Land Acquisition for Affordable Housing

S/No	Land Acquisition Method	Frequency of Response 1	2	3	4	5	∑f	∑fx	Mean	RII	Rank
1	Government Allocation	1	2	10	30	9	52	191	3.67	0.73	1st
2	Outright Purchase from the Land Owners	13	26	7	3	3	52	113	2.17	0.43	3rd
3	District Heads/ Traditional Rulers	25	15	2	9	1	52	102	1.96	0.39	4th
4	Others	5	10	13	17	6	52	166	3.19	0.64	2nd

(Where 1= 1-20%, 2= 21-40%, 3= 41-60%, 4= 61-80%, 5= 81-100%)

Source: Field Survey 2015

Government policies on land acquisition/ allocation were discovered to play a major role for the provision of sustainable housing in Abuja as identified from literature. The (RII= 0.73) from government allocation for sustainable housing development ranges between 61-80% of the total land allocation which is of high significance for affordability of sustainable housings delivery in Abuja. The outright purchase from the land owners (RII= 0.43), Land acquisition from district heads/ traditional rulers (RII= 0.39), is of no significance to the provision of sustainable housing in Abuja, since the government owns the sole right of allocation of the land for developers in exchange for basic infrastructural amenities within the district.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of findings as established during the study. Recommendations are made in line with established results of the research findings and conclusions are made.

5.2 Summary of Findings

The research evaluated the construction professional's perception of economic sustainability for housing delivery in Abuja and the following findings were identified from the research.

i. The need for sustainable housing delivery with very high significance are; The practice of sustainable housing development as a laudable concept (RII= 0.93), the importance of operating/maintenance cost on sustainable housing delivery in Abuja (RII= 0.90), the section of the population that patronizes the housing delivery (RII= 0.89) and the cost of litigation considered on sustainable housing delivery in Abuja land acquisition (RII= 0.82) while the performance assessment of the factor enhancing the economic profitability of sustainable housing delivery are; Access to finance which has the highest significant of 46%, and access to land with 35%.

ii. The effectiveness of the components for sustainable housing delivery with very high significance are; Land acquisition (RII= 0.93) which shows how important land is to sustainable housing delivery and the product quality (RII= 0.88).

iii. The efficiency of the in-put with a very high significance are; labour (RII= 0.92), material (RII= 0.91) and land (RII= 0.83).

iv. The factors militating against affordability of sustainable housing with a very high significance are; land acquisition problem (RII= 0.97), followed by the route of infrastructure (RII= 0.95), Collateral security (RII= 0.90), delay in certificate of occupancy/ building plan approval (RII= 0.89), Government Policy (RII= 0.88), Restriction of government policies (RII= 0.85) and Excessive protocol and bureaucracy (RII= 0.84).

The three basic requirements as perceived by construction professionals are; land, finances, and Government policies, as it affects the affordability of sustainable housing for the end users:

a. The sources of finance for affordable sustainable housing delivery with very high significance are; Mortgage banks (RII= 0.89) and Commercial banks (RII= 0.87).
b. The methods of land acquisition for affordable sustainable housing delivery with high significance is from government allocation (RII= 0.73) for housing development ranging between 61-80%.

5.3 Conclusion

The improvements suggested from this research include the examination of the findings along other general observations which supports the advancement of these three (3) general conclusions.

i. The first conclusion is the methods of land acquisition as conceived in the early and initial stage of this research. If it is workable and viable, where only (RII= 0.73) of the developers secured 61-80% of their lands free from government allocation for housing development in exchange for the provision of infrastructures. Obtaining the parcel of lands at very high rates from government or other means would make sustainable housing delivery in Abuja expensive and unaffordable since the developers seeks to get returns for their investment.
ii. Secondly is the availability of funds or finances for the investors, which is posed with the economic challenges on return of investment, if the economics of sustainability in housing delivery is to be adhered strictly.
iii. Implementation of policies and legal framework for sustainable housing developments by government, regulatory authorities and professionals involve in the housing delivery.

5.4 Recommendations

Below are suggestions which are needful for achieving the economic sustainability of housing delivery in Abuja. The recommendations are made based on the objectives of the research:

i. To create a sustainable housing delivery in Abuja, professionals and development authorities, which include the Federal Housing Authority, (FHA) and the Federal Capital Development Authority (FCDA), should improve on the policies legal framework for housing and housing developments. And also ensure that they are strictly adhered to by all individuals and construction companies involved.

ii. The improvements in the housing environments should be done in line with the designed considerations and the developments in areas which are lacking infrastructures would also reduce the overstretching of the existing facilities and services provided by the government.

iii. A vigorous and buoyant housing sector is an indication of a strong programmed of national investment and is indeed the foundation of future economic growth and social development. Therefore the need for government support for the housing sector is paramount.

iv. Sustainable housing delivery would definitely bring about improved rental income and create better image for the building industry with improved flexibility and adaptability to meet future needs.

v. Accurate statistics on housing needs and supply is required to assess finances from the financial institutions which would breach the gap exiting on sustainable housing delivery in Abuja.

5.5 Contributions to Knowledge

This research work adds to the existing body of knowledge in the following ways;

i. Land, finance and government policies are key factors that can lead to sustainable housing delivery in Abuja.

ii. Accelerated development program would solve myriads of problems previously associated with provision of basic infrastructure within the developed area.

iii. The dearth of accurate statistics on daily migration would lead to overstretching of the existing facilities and services of the sustainable housing needs and supply.

5.6 Areas for Further Studies

For further research studies, the following ways are avenues to explore:

i. A comparative study on other programs as to how sustainable housing development can be provided in Abuja.

ii. A further study into sustainable housing financing in Abuja.

iii. Further studies into land acquisition methods for sustainable housing delivery in Abuja.

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DEPARTMENT OF BUILDING

AHAMADU BELLO UNIVERSITY, ZARIA

M.SC CONSTRUCTION MANAGEMENT RESEARCH QUESTIONS

This questionnaire is been administered as part of an M.Sc. research in the above mentioned institution titled "CONSTRUCTION PROFESSIONAL'S PERCEPTION OF ECONOMIC SUSTAINABILITY FOR HOUSING DELIVERY IN ABUJA"

All information provided will be treated confidentially and solely used for the purpose of this research only.

Yours Faithfully,

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QUESTIONNAIRE FOR KEY PLAYERS IN THE HOUSING SECTOR

SECTION (A)

PERSONAL DATA OF RESPONDENTS

Kindly fill the information in the blanks spaces provided.

- Address of organization……………………………………………………………………….
- Rank/ Designation/position in the organization………………………………………………………………………… …………………………………………………………………………………………

Please tick (√) as appropriate

1. Your profession?

   Architecture [ ] Building [ ] Quantity Survey [ ] Engineering [ ] Estate Survey []
   Land Survey [ ] others, please specify [ ]………………………………………

2. Average years of experience of respondent.

   1-5 years [ ]   6-10 years [ ]   11- 15 years [ ] 16-20 years [ ] over 20 years [ ]

3. Highest level of educational qualification attained.

   Ordinary National Diploma (OND) [ ] Higher National Diploma (HND) [ ] Post Graduate Diploma (PGD) [ ] First Degree (B.sc/B.Tech) [ ] Master Degree (M.sc) [ ] Doctorate Degree (PHD) [ ] others, please specify [ ]

4. Highest level of professional qualification attained

   COREN [ ] NIOB [ ] NIQS [ ] NIA [ ] NIESV [ ] NITP [ ] NIS [ ]

   Others please specify [ ]…………………………………………………………....

5. Kindly indicate the type of owner ship structure in your organization

   Sole Proprietor [ ] Partnership [ ] Corporation [ ] Public Limited [ ]

   Public Unlimited [ ]

6. How long have you been involved in housing delivery?

   1-5 years [ ] 6-10 years [ ] 11-20 years [ ] over 20 years [ ]

7. Please state the size of your organization?

   5-10 employees [ ] 11-20 employees [ ] 21-50 employees [ ]

   51-100 employees [ ] over 100 employees [ ]

8. What is your average annual housing unit output?

   1-40 units [ ] 41-70 units [ ] 71-100 units [ ] over 100 units [ ]

SECTION (B)

<u>Please tick (√) as appropriate</u>

<u>Examining the Need for Sustainable Housing Delivery in Abuja</u>

1. How would you rate or describe the performance of construction in Abuja?

Poor [ ] Fair [ ] Good [ ] Very good [ ] Excellent [ ]

2. How would you rate the state of housing in Abuja?

   Poor [ ] Fair [ ] Good [ ] Very good [ ] Excellent [ ]

3. Do you think the practice of sustainable housing delivery in Abuja is a laudable concept?

   Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]………………………….

4. How would u describe the market for the sustainable housing delivery?

   Poor [ ] Fair [ ] Good [ ] Very good [ ] Excellent [ ]

5. How would you rate your level of satisfaction with tentanability of space on sustainable housing delivery in Abuja?

   Poor [ ] Fair [ ] Good [ ] Very good [ ] Excellent [ ]

6. How would you rate or describe the business process performance of housing delivery in Abuja?

   Poor [ ] Fair [ ] Good [ ] Very good [ ] Excellent [ ]

7. What is the impact of the present economy on housing unit prices in Abuja?

   No Impact [ ] Moderate Impact [ ] Significant Impact [ ] Great Impact [ ] Severe Impact [ ]

8. What section of the population patronizes the housing units in Abuja?

   High Income Earners [ ] Medium Income Earners [ ] Low Income Earners

9. How applicable is the cost of litigation consider in sustainable housing delivery in Abuja?

   Not Important [ ] Slightly Important [ ] Fairly Important [ ] Important [ ] Very Important [ ]

10. How would you rate the importance of operating/ maintenance cost on sustainable housing delivery in Abuja?

    Not Important [ ] Slightly Important [ ] Fairly Important [ ] Important [ ] Very Important [ ]

11. Identify the factors affecting sustainable housing delivery in Abuja, in order of importance on a scale of 1-5.

    [ ] Access to land

    [ ] Provision of infrastructure (i.e. pipe born water, electricity, access road e.t.c

    [ ] Access to finance

    [ ] Shortage and high cost of building materials

    [ ] Inadequate skilled labor

SECTION (C)

<u>Please tick (√) as appropriate</u>

<u>Examining the Professional Perception for Efficiency/Effectiveness on Sustainable Housing Delivery in Abuja</u>

1. How would you rank the present state of sustainable housing delivery in Abuja, on a scale of 1-5? Where

   (1)= Not Important, (2) =Slightly Important, (3) = Fairly Important,

   (4) = Important, (5) = Very Important.

S/No	**Elements to Effective Housing Delivery Outcome**	**RANK**				
		1	2	3	4	5
A	Huge returns on investment					

B	Product quality					
C	Time to market					
D	Process innovation					
E	Land acquisition					
F	Resolve value					

2. Kindly rank the availability of housing construction inputs on efficiency as follows.

(1)= Not Important, (2) = Slightly Important, (3) = Fairly Important,
(4) = Important, (5) = Very Important.

S/No	**Elements to Efficient Housing construction inputs**	**RANK**				
		1	2	3	4	5
1	Labour					
2	Material					
3	Market					
4	Profit					
5	Finance					
6	Land					
7	Equipment					

1. Are these houses design based on climate, culture i.e. involve user Participation? Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]…………………………

2. Do these houses accommodate high, middle and low income earners by the range of housing option? Yes[ ] No [ ] May be [ ] Not sure [ ]
Others [ ]………………………….

3. Are the pubic outdoor spaces adequate to aid interaction of people living within the environment? Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]………………………….

4. Are there infrastructures and support facilities such as clinics, Schools, shops, market, water supply, sewage and waste disposal, Water drainage? Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]………………………….

5. Are there public transportation and pedestrian friendly streets? Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]………………………….

6. Are the provision of security or police post for personal and possessions safety guarantee? Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]………………………….

7. Are the houses adequately sufficient to residence? Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]………………………….

8. Are the locations of these houses satisfactory? Yes [ ] No [ ] May be [ ] Not sure [ ] others [ ]………………………….

SECTION (D)

<u>Please tick (√) as appropriate</u>

<u>Identify the Significant Factors Militating Against Affordability of Sustainable Housing Delivery</u>

1. How would you rank the level of significance of each of the following factors militating against housing affordability?

   (1) =Very insignificant, (2) =Insignificant, (3) =Fairly significant, (4) =Significant, (5) =Very significant

S/No	Factors militating against Housing Affordability for sustainable housing development in Abuja	RANK				
		1	2	3	4	5
1	Excessive protocol and bureaucracy					
2	Collateral security					
3	Restriction of government policies					
4	High interest rate					
5	Loan ceiling and duration					
6	Funds shortage/ high cost of funds					
7	Delay in certificate of occupancy and building plan approval					
8	High cost of construction					
9	High cost of building material					
10	Land acquisition problem					
11	Route of infrastructure					
12	Manpower shortage					
13	Government Policy					
14	Poor demand					

2. Rank the major source of finance used for sustainable housing delivery in Abuja.

1. Very infrequently used (< 30%), 2. Infrequently used (30-39%), 3. Fairly frequently used (40-49%), 4. Frequently used (50-69%), 5. Very frequently used (≥ 70%)

S/No	**Sources of finance for sustainable housing delivery**	**Rank**				
		1	2	3	4	5
1	Internal Funds					
2	Loans from thrift and credit society					
3	Commercial banks					
4	Mortgage banks					
5	Insurance and Pension funds					
6	Government bonds					
7	Foreign direct investment (FDI)					
8	Shares					
9	Merchant bank					

4. Kindly scale in percentage how lands are acquired for development by your organization?

S/No	**Land Acquisition Method**	**Percentage (%)**				
		1-20	21-40	41-60	61-80	81-100
1	Government allocation					
2	Outright purchase from the land owners					
3	District heads/ traditional rulers					
4	Others					