



## Strategies for Sustainable Low-Income Affordable Housing needs in Abuja Municipal Area Council (AMAC): Policy, Issues and Challenges

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### ABSTRACT

Inadequate housing supply is one of the most pressing issues confronting both industrialized and developing countries today, and satisfying housing needs is vital. The primary goal of this research is to determine whether income, education, gender, family size, and constraints such as high building material costs, high housing rents, and so on influence the desire of Abuja Municipal Area Council (AMAC) residents to live in the slum settlements of Nyanya, Kubwa, Gwarin-Pa Housings, Kado Housings, Karmo, and Gwagwa Settlements, located within AMAC. As a result, the environments are polluted and human health are jeopardized, necessitating the need for affordable housing for these groups in order to avoid environmental disaster. A semi-structured questionnaire survey design was used, as well as oral interviews with legislators, professionals, bankers, small number of staff in Public works department of Federal Capital Development Authority FCDA Abuja and construction contractors. To discover the source of the significance, a hypothesis was applied. The following null hypotheses were statistically tested:  $HO^1$ : There is no discernible difference in income levels or preference for slum living between AMAC inhabitants and slum dwellers.  $HO^2$ : There is no discernible difference in educational attainment or proclivity for slum life between AMAC inhabitants and slum dwellers.  $HO^3$ : There is no significant difference in the population (gender) of AMAC residents and slum dwellers, nor in their inclination to live in slum areas. According to the findings of the study, household groups could not afford to rent a house in the city capital due to low minimum wage (contributed based on their educational background), large family size, and other factors; as a result of these policies, they were forced to live in slums with no infrastructure, running clean water, waste removal, or sewage services. As a result, low-income affordable housing is required in AMAC, Nigeria's new federal capital, to mitigate the environmental and health devastation caused by these households in their slum houses, and future affordable housing research is required.

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### I. INTRODUCTION

Cities can provide safe and stimulating environments for its citizens without putting undue strain on natural resources or habitats. A prosperous city achieves numerous goals, such as appropriate housing, a healthy working environment for its citizens, adequate water and sanitation supplies, garbage collection and disposal, paved roads, and other infrastructural services. This shows the knowledge of how sustainable built environment (land, water, and climate) interacts with the sustainable biological environment (local flora and wildlife) Many cities in developing countries lack appropriate affordable housings for low-income residents, and their living conditions are commonly referred to as slums. Ankeli, Dabara, Omotehinshe, Lawal, (2017).



Figure 1: Abuja Slums Part of the Central Area.  
Source Author's Photograph, 2021

When the urban population grows rapidly with little or no care for the environment, environmental problems become even more significant. Most developing countries, including Nigeria, have seen an increase in urban populations without a corresponding increase in the infrastructure and facilities essential for a healthy urban environment, which frequently occurs with little or no effective pollution management see figure 1 above. "Shelter for All" has been a fundamental goal of international development groups for the past three decades. Unfortunately, due to several restrictions, it has become extremely difficult for some developing countries in Sub-Saharan Africa especially Nigeria, to offer homes to low-income group. The Abuja Municipal Area Council's (AMAC's) housing dilemma arose since most low-income housing schemes were put in place during political time and global unpredictability, rather than a strategy for fundamental change. Because improvements have been made to prevent disasters rather than to solve the housing difficulties faced by the urban poor, housing policy has been viewed as reactive rather than proactive (Olotuah and Abraham, 2013). The Development Control Department within the Municipal Area Council in Abuja, for example, focuses on building control rather than urban planning in the federal capital city, urban infrastructure, growth control, zoning, subdivision regulation, community planning, sanitation, economic development, and waste disposal were all issues that needed to be addressed see figures 2, and 3 below that show the deplorable living condition and informal expansion by the Urban Poor.



Figure 2: Precarious and deplorable living condition of the Urban poor (Prone to outbreak of Epidemics), 2021. Source Author's Photograph, 2021



Figure 3: Urban Expansion by Informal Settlement. Source: Public Works Department FCDA, 2021.

According to Aduwo, Edewor, and Ibem, (2016) Nigeria's extensive rural areas require affordable housings and basic sanitation rather than ineffective macroeconomic policies and inadequate infrastructure. Land availability, low-cost construction materials and supplies dominated by foreign building materials, income inequality, big family sizes among low-income groups, occupancy ratio significant shelter-influencing factors, and strict government financing policies that do not meet the income rule of 6,000 are all factors that influence housing supply for the group see figures 4.



Figure 4: Degraded neighborhood at Gwagwa prone to waterborne diseases and Malaria

These restrictions, compounded by the slums of Nigeria, have resulted in environmental degradation in many Sub-Saharan African towns. As a result, this study examines work, resident status (age), education, and family size as important factors influencing urban housing quality metrics. Poor facilities, water supply, and solid waste management are just a few instances of the devastation that has ensued in some metropolitan areas where family planning is non-existent, and families with children aged 8 to 12 sharing rooms to save money on rent, see figures 5. While some people choose to live in slums with their large families due to the exorbitant cost of available units that are out of reach for the urban poor see figure 6.



Figure 5: Unhealthy Living Condition in dwellings  
(water source exposed to epidemic)



Figure 6: Street in one of the neighbourhoods Slum, Toilet on the right and Houses on the left

There have been several studies on AMAC/Nigerian low-income housing issues, but the most of them have focused on studying the policies that contribute to the systemic issues. This study looks at a number of successful housing projects in the United States (e.g., Hope 8, Hope VI) that have improved residents' living conditions. Community land trusts, deed-restricted owner-occupied dwellings, and limited-equity flats (condominiums) have all been investigated as housing options that require less government assistance. The study investigates how these approaches could be applied to AMAC's housing situations while taking the country's political issues and topography into account. As the population expands, so does the amount of solid waste created, which has an impact on human health and the environment figures 7.



Figure 7: Abuja Slum Architecture. Source: Buzznigeria.com (retrieved: Nov. 2021)

In addition the new federal capital of Nigeria attracts people from different parts of Nigeria for job search, suitable living and security. These contribute to its heavy population growth without sustainable housings, thus forcing low-income and non-educated residents to settle for slums at Nyanya, Kubwa, Gwarin-Pa Housings, Kado Housings, Karmo, and Gwagwa Settlements. Since AMAC's growth exceeded the infrastructural capacity, these slums lack social infrastructure and government services like fire service, police-post, running water, electricity, and solid waste management.

Abuja Municipal Area Council's (Nyanya, Kubwa, Gwarin-Pa Housings, Kado Housings, Karmo, and Gwagwa Settlements) settlements in reality lack sustainable solid waste management, which inhibits the effective use of organic waste as compost solid waste segregation is a problem that has received little attention. Furthermore, due to overcrowding, with insufficient centralized system for collecting solid waste similar see examples in Figures 8 and 9. According to Peter, Adewale, and Adegioriola, (2019), slums are breeding grounds for fires, sickness, and a variety of social disorders that imperil the general public. "Pollution has no political boundaries, thus it affects both humans and the environment."



Figure 8: Makeshift Toilet Facilities to Households living in Urban Slums, Source: Abdullahi et al (2020)



Figure 9: Cement House Opposite Makeshift House in Karmo

## II. LITERATURE REVIEW

The impact of population growth in developing countries on low-income urban housing and the environment is an essential planning factor in providing homes for low-income urban households. As a result, Luise, (2020) argued that in Ghana, crowding was defined as 2 or more people per room, while overcrowding was defined as 2.5 or more people per room; according to his findings, overcrowding affects 44.5 percent of all West African families. For toxic circumstances, this condition has substantial short-term and long-term implications. The present living conditions at AMAC are far from ideal. With some perceived insufficiencies from different governments in AMAC's housing and services policies since its inception in 1991. However, in developing countries, both population and poverty are fast increasing, particularly in the Abuja Municipal Areas Council of the Federal Capital Territory FCT, despite economic progress. (Ukpong and Eni, 2014) stated that "There should be some caution in solid waste services across sub-Saharan Africa, due to population growth that affects consumption patterns." Population growth is the expansion of the cities, but due to poor housing and per capita income it has no impact on financial resources. It then leads to slum dwelling, due to a lack of solid waste management, the solid waste generated by the residents causes environmental devastation Ukpong and Eni, (2014) added that provision and control of affordable housing, urbanization and population growth should be regulated, solid waste management can make a significant contribution to reducing the atmospheric emissions. Housing is particularly inaccessible to all low-income groups in Nigeria's urban centers, especially in Abuja, the FCT. The housing situation has worsened as a result of mass migration of low-income people to this metropolis in search of a more sustainable way of life. In order to improve the situation of low-income urban housing, the government should be able to supply low-income housing and new dwellings for existing population growth.

To put it another way, successful urban planning will address the need for urban infrastructure construction and maintenance, service provision, growth management, zoning, subdivision control, urban design, wastewater management, industrial development, and waste disposal. As a result, most Nigerian cities' urban infrastructures are inadequate, with most public spaces plagued with decaying dwellings example see figure 10.



Figure 10; View of the core area of neighbourhoods in Gwagwa/Karmo. The high derelict houses is noticeable at the back of the photo. Source Author'

According to (Panagopoulos, 2016), and Chukwuma-Nwuba, (2018) the developing countries in the world consist of about 141 nations, including 42 of the poorest countries, 86 non-oil exporting countries, and 13 or more are petroleum exporting countries (OPEC). These countries are located in Asia, the Middle East, Africa, and Latin America. Absolute poverty, significant unemployment, and low per capita income characterize the economies of developing countries. "In Nigeria's major cities, the percentage of households in one room and the number of persons per room demonstrate the severity of the shortage" (Eunice Tamoh Anu, 2017) as indicated in Table 1 overcrowding is defined by the United Nations as three or more people per room, (Adeoye, 2016). While Dukku, (2018) discusses the same issue. Taylor, 1988) investigates the impact of planning paradigms imported from the West in general, and Europe in particular, on the development ambitions of governments of the developing countries, They stymie national efforts at economic, social, cultural, and political progress. His research focuses on the formation and development of human settlements in developing countries in Africa.

**Table 1: Housing Conditions in Selected Urban Centres in Nigeria**

Survey of Housing Conditions in Selected Urban Centres in Nigeria		
Town	Household Occupying One Room (%)	Average Number of Person Per. Room.
Lagos *	74.2	4.1
Ibadan- Oyo *	48.1	3.2
Oshogbo- Ogun *	36.4	2.2
Ilorin- Kwara *	38.2	2.6
Kaduna- Kaduna *	73.5	3.8
Jos- Plateau *	74.1	3.7
Rivers- Port Harcourt *	51.5	2.4
Benin City- Edo *	48.0	2.2
Warri- Rivers *	69.1	2.6
Kano- Kano *	59.9	2.4
<b>Abuja Municipal Area Council (AMAC) **</b>	75.2	4.0
<b>Nyanya Settlement **</b>	80.5	6.1
<b>Kubwa Settlement **</b>	65.2	4.5
<b>Gwarin-Pa Housings **</b>	70.5	3.5
<b>Kado Housings **</b>	75.2	4.5
<b>Karmo Settlement **</b>	85.5	6.8
<b>Gwagwa Settlement **</b>	75.2	5.0

**Sources:**  
 \* Niser; University of Ibadan- Survey of Housing Conditions in Selected Urban Centres in Nigeria. (Preliminary.  
 \* Third National Development Plan 1975-80, Vol. 1 pp.307  
 \*\* Field Survey of Housing Conditions in Seven Urban Centres of the Federal Capital Territory, Abuja, Nigeria. (Survey by the Researchers in 2019-2020).

Adoption of European standards in housing construction and neighbourhood development encouraged the substitution of locally available materials for more expensive imported building materials. As a result, the price rose beyond the reach of all but the wealthy. Unfortunately, because low-income groups cannot afford

decent housing, they are forced to live in slums. The author's harshest criticism is reserved for land reforms. They contended that the spread of capitalist forms of land ownership triggered the systematic eviction of many indigenous communities, and reduced them to grinding poverty as a proletarian mass dependent on the colonialist elite's grace and favour. Despite the struggles of many African developing countries for independence, the incoming indigenous leadership adopted "colonial models" of land use control and urban development. Instead of seeing an equitable release, governments have manipulated land ownership and control to maintain social class and perpetuate their own form of elitism.

Knowledge on how to design and use novel building materials that may be manufactured locally is often limited to a small number of laboratories and research institutions Iwuagwu, (2019). According to the Jones, (2017), the majority of low-income people are restricted to low-quality structures built in informal settlements and overcrowded households in which families share a small area or a dwelling with others Figure 11. Housing shortages are attributed to a lack of affordable land, building materials, skilled labor, and other housing system inputs Timothy, (2015). According to the World Bank, while existing poor environments affect a considerable proportion of the urban population, they may become negligible compared to future shortfalls created by population growth that outstrips current supply and mechanization. Significant dysfunctions, such as widespread homelessness and street sleeping, may become chronic in Sub-Saharan Africa unless future supply more closely matches the rising demand.

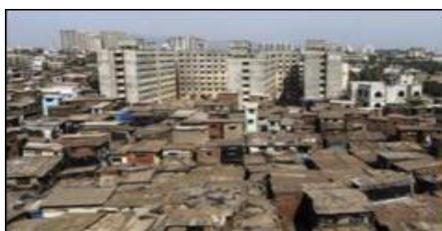


Figure 11: Poor Housing Condition in Urban Centre of Abuja, Nigeria. Source Abdullahi et al 3020

## **2.1 THE NECESSITY FOR HOUSING**

There is little doubt that housing, along with food and clothing, is in desperate need. It is acknowledged as a basic human requirement. By the year 2023, more than one billion people will be living in urban areas in most of the developing countries (Sharp & Salter, 2017). The vast majority of these individuals will be impoverished. The impending urban population expansion will take place in cities that are already in dire physical, economic, and social difficulties. Ninety percent of all urban households earn less than \$50 per month in the United States, unemployment rates range from 15% to 20% of the workforce. Almost half of all urban households do not have access to piped water. In terms of absolute numbers, illiteracy may be on the rise Liu, Zhang, Liu, Li, and Wu, (2017).

To provide minimal housing, infrastructure, services, and jobs for this population, a new capital investment of more than one trillion dollars will be necessary Ana and Walker, (2016). Urban development is only one of many development priorities, including agriculture, rural development, military, and capital expenditure in most national budgets is typically far lower than operational expenses. Land is prone to speculation in most urban areas, resulting in increases in land value of tens of thousands of dollars to a rate of twenty-five percent every year Land speculation leads to inconsistencies in the urban development process. It accelerates uncontrolled urbanization and boosts the expense of public services. Most importantly, speculation keeps low-income families out of land ownership, resulting in squatting.

In most developing countries, the public sector is ill-equipped to deal with these massive metropolitan concerns. In addition with the financial issues, there is a basic lack of professional technical and administrative competencies. The public sector frequently works on out-of-date legislative foundations, harkening back to colonial times when the focus was on habitat control for the benefit of the colonial elite rather than generating development potential for the broader people. This legacy encourages the over centralization of decision-making and sustains inefficient, often unproductive administrative and managerial procedures.

## **2.2 CHALLENGES OF HOUSING PROVISION IN AMAC, ABUJA**

Within the thirty one (31) years of its existence, the FCT administration has made concerted attempts to provide accommodation for Abuja's rising urban population. To solve the region's massive housing shortage, the government has devised a variety of laws and programs. These include "provider-oriented" public-sector measures as well as "enabling" policies such as enhancing the private sector's capacity to offer homes through the housing market. Similarly, direct government provision, the self-help housing model, a land allocation

framework, an affordable housing model, and public-private partnerships have all been introduced to improve housing delivery. Affordable housing policies and services have failed to provide despite several initiatives and campaigns the strategies rarely address socio-cultural, economic, or environmental challenges. As a result, there are still questions about housing's ability to meet its socio-cultural, budgetary, and environmental goals.

### **2.3 THE NATURE OF HOUSING PROBLEM IN NIGERIA**

Despite a lack of accurate data on the country's housing stock, previous studies and observations in Nigeria show considerable quantitative and qualitative housing challenges across the country. Ankeli, Dabara, Joseph, Adeleye, and Agidi, (2016). According to (Ademiluyi, (2016), the magnitude of the housing challenges that low-income group experience is unknown to Nigerian authorities. According to Timothy, (2015), rising high rents are an indicator of dwindling housing stock. According to Olotuah, and Taiwo, (2015), the country's housing needs in 1990 were 8,413,980, 7,770,005, and 7,624,230 units, respectively, for the high, middle, and low income categories. According to Ademiluyi, (2010) housing units for high, medium, and low income groups will require to be 14,372,900, 13,273,291 and 12,419,068, respectively, in the year 2000, and 39,989,286; 33,570,900; and 28,548,633 in the year 2020. The national rolling plan predicted that the housing shortage would rise to 4.8 million to 5.9 million by 2000. To meet the housing shortage, the 1991 housing strategy estimated that 700,000 housing units would need to be built each year, indeed, the agreement stipulated that metropolitan areas would receive 60% of new housing units Adeoye, (2016); Obateru, (2015). By the time the 1991 housing scheme was assessed in 2002, this figure had risen. In 2006, 10 million housing units were required to house all Nigerians, with a national housing gap of 8 to 10 million people predicted. Regardless of the misunderstanding over the number of new additions, it is clear that there is a significant gap between housing supply and demand, which is one of the reasons why successive administrations have issued policy objectives, enunciated, and attempted to deliver new housing units. However, just a portion of their anticipated provision is always met. This could be because most government housing projects have been stymied by corruption, politics, a lack of technical employees on construction sites, and infrastructure inadequacies Zubiral, (2014).

Housing conditions have deteriorated substantially since 1980, especially in terms of service and utility availability and efficiency Olokesusi, and Okunfulure, (2014). For example, toilet facilities have more pit constructions than other superior and more appropriate facilities. This is demonstrated by the fact that the building quota increased from 25.6 percent in 1980/81 to 63.3 percent in 1993/94 and 62 percent in 1995/96. According to published data, in 1980/81, 72.4 percent of urban dwellings were linked to electricity, compared to only 54.34 percent in 1995/96, (Umar, and Kasim, 2014). Most local infrastructure and utilities, particularly those connected to water supply, road development, and sewerage, have shown the similar trend across the country. Since pre-independence, Nigerian governments have shown a keen interest in housing as a solution to the country's housing problems. Furthermore, successive Nigerian governments have taken a range of approaches to the housing business in order to bring about much-needed development and reform.

#### **2.3.1 SOCIO-CULTURAL CHALLENGES**

In terms of the socio-cultural dimension of development, housing policies and services have not attained the anticipated result. Housing was frequently seen as an initiative rather than a process in the FCT's governmental programs. For this reason, a great deal of emphasis has been placed on achieving the objectives of the project in terms of the number of residential units to be provided. For example, such initiatives seem to neglect the socio-cultural needs of recipients, urban-poor affordable housing estates are typically low-level, and often fail to take into account the socio-cultural lifestyle of low-income communities in their design. Furthermore, inexpensive housing developments are typically located in the outskirts of the city IHEME, Effiong, and Ekung, (2015). Where there is readily available cheap ground, the impoverished are thus denied access to crucial infrastructure and services due to their geographical placement on the outskirts of the city. Isolating vulnerable people in areas surrounding the ghetto increases the danger of violence and other social vices Muhammad, Foziah and Soheil, (2016). Similarly, self-help housing initiatives were capital-intensive, with the goal of lowering construction costs through the provision of serviced parcels. Because of this, the low-income population is typically excluded from such services. As stated by Ana, and Walker, (2016), the cost of each plot is generally out of reach for the urban poor.

#### **2.3.2 ECONOMIC CHALLENGES**

Nigeria's current pro-market housing policies place a strong emphasis on public-private partnerships, assuming that housing money will come from the open market. Policymakers have been chastised for limiting financial access (Abdullahi, and Aziz, 2019) and charging exorbitant borrowing rates Udoka, (2012). Ojebode, (2016) questioned the public-private partnership approach's ability to improve housing delivery and its long-term viability. Affordability is also linked to economic sustainability, the excess concentration of housing in the high and medium income classes is addressed by the FCT's Public-Private Housing Partnership Program. This

overstatement is due to the propensity for maximization of benefits Ibem, (2016). Housing units sold by private developers in Abuja, according to Adiukwu, (2017), are found to be unaffordable to the urban poor within the city, noted that the situation had deteriorated with low income and high mortgage interest rates (more than 20%). Although about 47% of Abuja residents earn about ₦360,000 (USD \$2,250) a year, according to Sanda, and Anigbogu, (2017) the low-cost housing bungalow (under the Public-Private Partnership Program) costs about ₦115 million (USD \$718,750). This suggests a deterioration in the low-wage and high mortgage interest rates (more than 20%). The enormous cost means that housing units are inexpensive. According to Yahaya, and Ibrahim, (2020) the role of the private sector in providing public infrastructure and services makes services more costly and hinders access for the vulnerable.

Moreover, the FCT has made generous land allocations beyond its statutory stipulation. For small, medium and large housing developments, the policy requires 1-2 ha, 3-5 ha, and 6-10 ha of land. However, as submitted by Samuel, Wapwera, Mallo, and Choji, (2017), within the specification of the FCT Mass Housing Policy, only 42 developers were allocated land. Most developers received very generous allocations that far exceeded the policy requirements. Because most developers had more properties than they could develop; they used to divide into properties single plots. Because of this, the plan has become more a land system than a housing program Wen and Goodman, (2013).

### **2.3.3 ENVIRONMENTAL CHALLENGES**

Because of social, economic and political factors, Abuja is witnessing an enormous invasion of people into the city from different parts of the country. 70% of Abuja's population live in informal housing, and many face homelessness due to the authorities' attempts to curb the capital's rapid growth (CBC, 2017).

The Abuja population is estimated to be about 3,278,000 in 2020 a 5.91% increase from 2019 even though less than 50 per cent of the planned development has been achieved, Abuja faces acute housing shortages with an estimated 6 million inhabitants (Imam et al. 2008) and 9.3 per cent growth rate Emankhu, and Ubangari, (2017). This rapid urban growth has caused serious housing problems, leading to overcrowding Butsch et al., (2017), extreme housing unit insufficiency John, James, and Samuel, (2015), and slum formation Sunday, (2013). Housing delivery problems in the study area often involve methodological inadequacies Olowookere, and Ayeni, (2018). While there has been insufficient quantitative provision, the quality of existing stocks also leaves much to be desired. As noted by Ikpeme, Daniel, (2016), 87 per cent of existing residential stocks are backlogs that do not meet the minimum quality standards. Figures 12 and 13 shows clearly the poor states of housing condition in parts of Abuja Municipal Area council's satellite towns stated above as unit of analysis. These locations faced with dilapidating structures host majority of the population of the study area. The inhabitants are exposed to diseases and pathogens, hence are prone to poor state of health due to poor hygiene, lack of proper waste management system, clustered buildings, poor drainage channels, lack of quality domestic water supply, and un-conducive environment.

## **III. GOVERNMENT INVOLVEMENT**

Although the goals for lowering government functions rely on public-private collaboration, the government's role has been encouraged to adapt rather than eliminate through collaboration. As a result, the public sector must get more involved in regulatory, operational, and control issues. Public-private partnerships are contractual arrangements that share resources and liabilities between a public agency and the private sector. Roles should be outsourced to a party that is best positioned to administer them cost-effectively in any other public-private partnership agreement Ojebode, (2016). The FMBN has now become Nigeria's secondary mortgage institution, offering money to home builders via Primary Mortgage Institutions (PMIs). Nonetheless, the bank's poor performance is troubling, since it only granted the National Housing Fund ₦4,531 billion (23.8 percent) of the budgeted ₦19 billion Anidiobu, (2018). Conversely, PMIs evaluate only middle- and upper-income populations whose monthly income can support their repayment programs. As a result, it is advised that a long-term low-interest fund be established that is easily accessible to both developers and end-users.

## **IV. METHODOLOGY**

A survey research methodology adopted revealed that among the group, there are some lapses on the part of the public and private organizations in terms of affordable housing provisions, but this was only detected among the low-income households, single mothers and young starters (new graduates from Universities and other related institutions). This study also adapt focus groups, semi-structured questionnaires, and oral interviews with authorities, professionals, bankers, contractors, some staff of public works department in FCDA, as well as personal observations, to obtain essential data. (Photographs). Residents in six slum neighborhoods in Nyanya, Kubwa, Gwarin-Pa Housings, Kado Housings, Karmo, and Gwagwaw within the federal capital territory's municipal area council were given semi-structured surveys and focus group interviews with policymakers, experts, and residents, bankers, housing developers, and contractors met face-to-face and also

involved in the interview are staff of the Federal Capital Development Authority ACDA Abuja, Abuja Development Control Department and Department of Public Works. The research's data collection began in July 2021 and ended in February 2022, with the first step being locating the study area's layout plan, which revealed the access to the municipal area council and its physical location within the FCDA. A reconnaissance survey was also undertaken in and around the six slum regions listed above to get a sense of the environment, housing problems, infrastructural services, and water and solid waste concerns.

#### **4.1 RESULTS OF HYPOTHESES**

The primary goal of this study is to examine the income differences between AMAC residents and slum dwellers, as well as their decision to live in slum areas in Nyanya, Kubwa, Gwarin-Pa Housings, Kado Housings, Karmo, and Gwagwa Settlements, as well as to see whether there are any significant disparities in income, education, population (gender), household size, or barriers to building individual dwellings between AMAC residents and slum dwellers. The first of these three hypotheses investigated the huge gap in income levels between AMAC residents and slum dwellers, as well as their decision to live in slum regions compared to low-income slum dwellers. At the 0.05 alpha level, no statistically significant differences in income were identified between AMAC inhabitants and slum residents ( $F = 1.997$ ,  $df = 69$ ,  $sig > 0.05$ ). As a result, hypothesis number one did not fail. The null hypothesis was not rejected. The second hypothesis (2) looked into the significant difference in education levels between AMAC residents and slum residents, as well as their decision to live in slums against low-income slum residents. There were no statistically significant variations in AMAC residents' choosing to dwell in slum areas at the 0.05 level ( $F = 3.569$ ,  $df = 69$ ,  $sig > 0.05$ ). As a result, hypotheses two and three were not rejected. Three (3) hypotheses were evaluated to see if there was a significant difference in gender between AMAC inhabitants and slum residents, as well as their choosing to live in slums versus low-income slum residents. At an alpha level of 0.05, there were no statistically significant changes in AMAC inhabitants' decision to live in slums ( $F = 3.556$ ,  $df = 69$ ,  $sig. > 0.05$ ). As a result, hypothesis 3 (3) was not rejected. Finally, there was no statistically significant difference in decision-making between AMAC residents and low-income slum dwellers in this study.

##### **4.1.1 TESTING THE DEPENDENT VARIABLE USING LOGISTIC MODEL**

The satellite towns considered in this study as unit of analysis as-"Kubwa, Nyanya, Gwagwa, Karu, Gwarin-Pa, and Karmo Residents' decision to live in Slums" are the dependent variable in this study. These are the characteristics that have been influenced or impacted by factors such as income, education, gender, family size, and special limits. Item 18 of the survey questions was designed to analyze any significant relationship between AMAC's residents and low-income households in Kubwa Nyanya, Gwagwa, Karu, Gwarin-Pa, and Karmo Settlements. Null hypotheses were created for statistical purposes to test for differences in the mean score on wealth, education, gender, family size, and limits among the study groups. ANOVA with an alpha level of 0.05 or lower was used to determine whether there were any significant differences in income, education, gender, household size, and specific constraints between AMAC residents and slum dwellers (0.05). If there were significant variances, the careful Scheffe's test was used to determine the cause (s).

##### **4.1.2 DEPENDENT VARIABLE FROM LOGISTIC MODEL**

An increasing number of scholars acknowledge the significance of discrete choice models in urban studies. These models are predicated on the fundamental notion that a person's utility can be divided into two parts: a systematic component **Via** and a random component **Eia** (assuming the commonly accepted interpersonal interpretation of utility maximization).

This random component denotes a person's deviation from the group average in taste, measurement errors, and the effect of missing, omitted, or unreported socioeconomic variables and choice features Nerida Hyett, (2014). The second technique is to propose a functional form that is acceptable based on prior theory thus, depending on a theory such as the neoclassical goods/leisure trade off, an economist may propose a non-linear form of the utility function Tavallaei and Talib, (2010). Perceptions of space and time, according to the geographical and psychology literatures, are non-linear in terms of objective surrogate measurements Louise, and Peter, (2012). Logarithmic power and other transformations can be used to represent the link between perception and surrogate measurements. However, in the absence of a unified, uncontroversial corpus of urban theory suited to both the problem and the variable specification under examination, this technique becomes impossible to use. It also brings up some of the previously highlighted problems about the interaction variables method. The third and most common method uses statistical transformations to "search" for the best functional form. The most common of this technique are the Box-Cox transformation and its variant are some examples Ofurum, Ogunyemi, Madumere, and Okolo, (2019). Obviously, such transformations are not a perfect substitute for direct behavioral specification, but they can provide a better starting point for building models from theory Mallo, (2017).

## **V. DISTINCT HOUSING MARKET CHOICE MODELS**

Choosing one alternative or option from a limited number of alternatives, such as whether or not to move, dwelling form (house, duplex, or flat), tenure (owning or renting), and so on, is a common phase of housing decisions. As a result, discrete choice models of mobility behavior were developed in the late 1970s (Osho and Kritsonis, (2010), location choice, Baker, Bentley, Lester, and Beer, (2016), and housing selection (Adeyeni, Olayiwola, and Oladehinde, (2016)). Despite the fact that this is a straightforward and intuitively plausible application of the discrete choice modeling methodology, models of revealed housing market behavior are far from straightforward. This is because the revealed discrete choices are a response to key qualitative and sociological aspects that were previously outside the scope of traditional home economics (Quercia, McCarthy, and Wachter, (2003)). Because housing decisions and other human activities are interdependent, as well as the intertemporal nature of housing decisions. For a variety of reasons, including widespread state intervention, cross-sectional sociological surveys are difficult to adequately penetrate the motives driving rarely reported housing preferences. Such constraints cannot be overlooked in the name of analytical simplicity or statistical elegance, and they have limited the range of acceptable empirical applications to far fewer sectors than many analysts would prefer. Others question the ability of microeconomic analysis to provide useful insights into observed housing market activity, preferring to rely on other interpretations of less obvious prevalent dynamics in the urban arena.

As we move away from the relatively uncontroversial realm of short-run travel demand forecasting, we enter a conceptual labyrinth in which no single body of theory is unrivaled as the most productive method of conducting empirical research; simply put, there are numerous competing explanations for observable behavior. This is not to say that previous research in housing economics hasn't revealed tenure preferences, residential mobility patterns, and residential location/dwelling unit preferences (Waziri, Yusof, and Salleh, (2013)). Earlier logit models revealed preferences to traditional individual socio-demographic variables, but this is no longer the case (Allenna Leonard, 2009). Recent research has created contexts for choice that include work-place location (Fadairo, (2013)), work-travel decisions (Adepoju, (2011)), qualitative aspects of previous residences (Shahraki, (2017)), the learning process (Macmillan et al., 2016), changeable housing choice sets (Emmanuel, (2012)), and public service provision (Adiukwu, 2017). However, the difficulties in identifying the theoretical premises on which any model is based and reconciling normative preferences with the vagaries inherent in cross-sectional revealed preference data remain. These challenges can be emphasized in part by continuing to improve the decision framework used to evaluate housing market activity, and current research indicates some promising potential. On a more practical level, supplementing strictly inferential model-building with a more exploratory approach may help improve revealed preference research insights. In essence, this entails a commitment to comprehending our findings in light of (a) the inherent flaws of revealed preference surveys as well as (b) competing hypotheses that may be implicated in explaining patterns in these data.

Public policy participation, including direct housing provision as well as multiple indirect incentives, is likely to result in fluctuating specification thresholds, non-linearities, and discontinuities that are not necessarily evident or intuitive. Experimenting with various functional form combinations is thus highly recommended; tenure choice analysis necessitates the interpretation of a long-term and infrequently expressed desire, which may also be influenced by personal and sensitive household circumstances. As a result, housing surveys are notorious for revealing factor reasoning and other response flaws that most other social surveys do not. As a result, tenure choice analytical models are vulnerable to erroneous and/or outlier observations.

This discussion emphasizes the importance of functional form assessment of tenure choice models, but believes that such assessment will be most successful if done with care and flexibility. We contrast conventional performance. The Box-Turkey technique for functional shape generation employs graphical procedures developed by Adiukwu, (2017). A single case study can only scratch the surface of the above-mentioned much larger research agenda. We try to capture the spirit of a more exploratory approach to tenure decision by detecting any obvious specification problems. Only after a set of models has been tested for their ability to express structure in our data are causal links proposed and causal mechanisms confirmed (Gabriel, Paschal, and Okolie, (2018)).

## **VI. RECOMMENDATIONS**

Given the significant financial commitment and the requirement for socially optimal growth, the public sector's provision of housing to low-income earners is advantageous. The government is best positioned to allocate equally available housing demand to all income categories because of its social responsibility for housing supply. Realistic policies, on the other hand, must be put in place and carefully implemented by the government, with minimal bureaucracy and politicization by government agencies in charge of project monitoring, and supervision must ensure that the programs are carried out to the letter and that the buildings are distributed to the needy groups without delay. To ensure that financial resources are spent effectively, accountability must be ingrained in government actions. They should only be given buildings that are designated

for low-income people. Other people's money should not be used to purchase them. A significant share of low-cost structures should be available only on a rental basis to low-income individuals. Rental agreements for buildings meant to encourage long-term ownership should be arranged. To give low-income earners broader access to house finance, the restrictions for Hypothecary borrowing should be loosened. Housing loans should be restored by the government, which will improve their access to public servants even more. Housing provision within the broad framework of urban development should be planned in the context of public housing plans to ensure an abundance of profit prospects (as in the cottage industry). This would boost the value of their location. In these housing plans, the government should provide infrastructure and social services.

## VII. CONCLUSION

This study addresses the accessibility of low income earners to public housing in Nigeria, with particular reference to the AMAC. It investigates the accessibility to low-income households of certain affordable housing schemes within the municipal area council of Abuja, and found it highly deplorable. Factors responsible for poor housing access by low-income earners were analyzed, and guidelines were established for adaptation by the public sector to improve the supply of affordable housing for low-income households within the municipal area council and its environs in the federal capital territory. Affordable housing schemes within the central district of Abuja, is highly deplorable, these also were analyzed, and guidelines were established.

The following are the findings of the study: For AMAC's low-income citizens, there were few low-income housing options. According to the poll, it takes a new entrant in AMAC more than eight weeks to obtain residential housing in the city, and if this need is not reached, the low-income family has no choice but to live in slums in the six units of analysis as indicated previously. The city's low-income inhabitants couldn't afford the few housing options accessible in AMAC. This is due to their low monthly incomes, and shelter is just as crucial to these low-income people as food and clothing. Because of their big family size, they are forced to live in slums, where they pay low housing rent in order to support their large family. According to the survey, the AMAC area was congested, with a density of 8 to 12 individuals per room among the four groups.

Drainage, toilet facilities, and trash collection were all badly lacking in AMAC's low-income settlements described previously. Owing to poor and inadequate medical facilities, frequent hospital visits due to recurrent diarrhea, measles, and cholera were most common among the low-income households of the six settlements described earlier. The Abuja Municipal Area Council (AMAC) has a good reputation for buildings, which has resulted in exorbitant housing rents that are out of reach for low-income residents, forcing them to live in slum areas. Financial and tax incentives should be provided to low-income people and others who want to build with a good mix of traditional and modern building materials. In this case, the National Shelter Strategy provides guidance, which will be implemented through participation in seminars and workshops led by building specialists and artisans, as well as small-scale constructor management training.

AMAC's topography does, in fact, contribute to this density. One strategy for increasing the availability of land, or more precisely, the rate, necessary for low-income housing is to build high-rise, multifamily units. Slums would be eliminated, and a clean environment would be created in their place. Most imported materials currently in widespread use in developing-country urban housing according to Wakely, (2016), might be replaced with locally produced, less priced materials. Local construction codes ban the use of materials that have traditionally been used in rural areas, while knowledge of how to develop and use novel building materials that may be manufactured locally is limited to a few laboratories and research institutions. This is the case, despite the fact that replacing locally produced building materials for imported ones would result in significant balance-of-payment benefits. Furthermore, many conventional construction materials are produced using highly advanced methods that entail the use of imported technology and consume a significant amount of (imported) energy throughout the manufacturing process as well as shipping. Small-scale, locally based, somewhat labor-intensive building materials production technologies have greater multiplier effects than large-scale, capital-intensive (and after renewable) energy technologies, and create more jobs per unit of output.

It is also recommended to develop and promote the use of locally produced building materials in order to reduce housing construction costs. It will reduce housing rental prices, allowing low-income groups to afford higher-priced housing in cities with trash collection and drainage. By encouraging the employment of indigenous specialists, as well as appropriate design and technology, in the construction of dwellings. Refocusing the secondary mortgage market, as well as restructuring and recapitalizing the Federal Mortgage Bank of Nigeria, in order to mobilize long-term, low-cost housing finance.

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