

## ASSESSMENT OF INCREMENTAL HOUSING DEVELOPMENT IN KAFANCHAN, KADUNA STATE, NIGERIA

**\*Emmanuel GABRIEL<sup>1</sup>, Ayodele IBUOYE<sup>2</sup> and Abdulhafeez IBRAHIM<sup>3</sup>**

<sup>1</sup>Department of Environmental Management, Kaduna State University, Nigeria

<sup>2</sup>Department of Estate Management, Kaduna State University, Nigeria

<sup>3</sup>Department of Building, Kaduna State University, Nigeria

\*Corresponding author: Gabriel Emmanuel,  
gabriel.emmanuel@kasu.edu.ng

DOI: <https://doi.org/10.5281/zenodo.18274308>

### Abstract

*Incremental housing development is the gradual and piecemeal improvement or expansion of dwelling units by households. This study investigates the changing aspects of incremental housing development in Kafanchan, with a view to discovering the factors responsible for this decision and development. The objectives of the research include assessment of socio-economic characteristics, stages of incremental housing development, willingness to pay for installment building approval, payment approach for building approval and analyze the challenges encountered by the developers of incremental houses in Kafanchan. Numbers of buildings in the wards were calculated. Kafanchan A 1,010 buildings, Kafanchan B 1,728 buildings, Kaninkon 4,350 buildings, Maigizoh 2,887 buildings and Takau 867 buildings. These amounted to 10,842 buildings and 7% of the buildings representing households were sampled. Descriptive analysis was used to analyse incremental housing development in the study area. Results revealed that more than 50% of the residents in the study area were low-income earners and poor because their monthly income is below the international poverty line, which is \$3.00 per person per day which is equivalent to ₦4,378 per person per day in Nigerian currency. Majority of the inhabitants of the study area were willing to make payment for building approval on quarterly basis. Findings revealed that, the main challenges encountered by housing developers include rising cost of land, complex land acquisition process and scarcity of land with the necessary infrastructure for development among others. The paper recommends that the Government should intensify poverty alleviation and entrepreneurial schemes in the state. The Government should design policies that will be favourable to low and medium-income earners. Government, Non-Governmental Organisations, Faith Base Organisations and individuals should assist in providing more infrastructural facilities in the study area.*

**Keywords:** Incremental housing; Developers; Wards; Approval and Infrastructure.

### INTRODUCTION

Incremental housing is an approach where homes are constructed or expanded in phases, beginning with a basic, affordable core and adding rooms or floors as family income and resources grow and improving housing quality over time for low-income households. The word incremental in this

context means a gradual process of housing development at the economic pace of the owners. Incremental housing is a step-by-step process of housing development that begins with a core house and is gradually upgraded in size and or quality over time under the owner's control with regards to household needs and resources (Goethert, 2010; Gabriel,

2017; Gabriel, Mande & Akande, 2020). The process offers home owners a wide range of flexibility to enlarge and improve their houses in response to changes in their family size, structure, and financial capabilities. Therefore, the novelty of the housing produced through this mechanism lies in the process itself rather than its outcome (Hamid & Elhassan, 2014; Fasakin et al., 2019).

Urbanization and its attendant challenges seem to be the genesis of problems of housing in most parts of the world. Residential land use among the various competing urban land uses is the largest consumer of land in urban areas (Oduwaye, 2001). Two of the most critical urban development issues facing Nigeria are the financing of urban infrastructure and the institutional arrangements for housing delivery in urban centres (Jiboye, 2011; Aluko, 2010; Ebekozien, Abdul-Aziz, & Jaafar, 2019a; Ebekozien, Abdul-Aziz, & Jaafar, 2019b).

Popoola et al. (2015) pointed out that housing goes beyond the materials used in construction, but also refers to a collection of facilities that makes the designed building efficient, functional and livable by human and individual standards. Housing represents a place of satisfaction and safety, characterized by human protection, a place of human abode and dwelling. However, apart from the problems of the inability to mobilize sufficient funds into the National Housing Fund for increased housing stock, other reasons for poor housing provision in Nigeria are poor access to land, shortage of availability of cheap building materials, poorly developed local building materials base, absence of infrastructure on land for housing development and secure tenure. Attempts to solve these problems cumulatively add to the total cost of owning a house especially by the urban low income earners. Combating these problems makes

low and middle income urban residents to embark on incremental housing development. This phenomenon can be observed in Kafanchan being a growing town especially at the urban fringe.

Therefore, this study investigates the changing aspects of incremental housing in Kafanchan, with a view to discovering the factors responsible for this decision and development. The means of achieving this aim are to assess the socio-economic characteristics, stages of incremental housing development, willingness to pay for instalment building approval, payment vehicle for building approval and analyze the challenges encountered by the developers of incremental houses in Kafanchan, Kaduna State, Nigeria.

### ***Literature Insight***

Incremental housing plays a significant role in urban growth in the Global South and offers practical solutions to housing shortages (Van Noorloos et al., 2021). However, they noted that existing literature often focuses narrowly on aspects such as ownership, construction materials, and local conditions, without fully situating incremental housing within broader urban and regional systems. They propose a redefined framework incorporating land, finance, infrastructure, materials and labour to better explain the progress or stagnation of housing improvements. Incrementalism in housing according to Alam (2023), is common in the Global South as a process that allows owner-builders to meet their housing needs gradually while managing resources over time.

In the South African context, Wilcox (2025) examined low-income housing in Alexandra, Johannesburg, where urbanisation, the legacy of apartheid, and governance inefficiencies exacerbate shortages. Using the K206 housing project as a case study, the research found that residents actively adapt and reshape housing interventions, particularly

when dissatisfied, thereby challenging top-down planning models. The author calls for interdisciplinary solutions that prioritise community perspectives and agency. Incremental housing development has been widely discussed by scholars, especially in relation to urbanization and housing shortages in developing countries. Turner (1976) argued that housing is best understood as an “open-ended process” rather than a finished product. He explained that most households in low-income urban areas build their houses incrementally, adding rooms or improving facilities as resources permit.

Tipple (2000) described incremental housing as the gradual and piecemeal improvement or expansion of dwelling units by households. He noted that this process is common in developing countries because it allows families to spread the costs of construction over time. Gilbert (2004) emphasized that incremental housing is not simply a survival strategy but a rational approach by low- and middle-income households to secure long-term housing stability in the absence of affordable formal housing schemes. UN-Habitat (2010) defined incremental housing as a self-help housing approach where households start with a basic core unit or a plot of land and progressively expand their homes as income and resources improve.

Ferguson (2011) noted that incremental housing provides flexibility for households to adapt their living spaces to changing needs, but also highlighted the risks of poor building standards and lack of urban planning associated with the practice. Smolka (2014) observed that incremental housing reflects the resilience of low-income households in the face of housing market exclusion, and argued that governments should recognize and support it through enabling policies and infrastructure provision. From these perspectives, incremental housing

development emerges as both a solution to affordability problems and a challenge to urban planning. While it enables households to own homes gradually, it often results in unregulated settlements, environmental issues, and infrastructural deficits when not guided by policy interventions.

Turner (1976) seminal work in the 1970s, based on his observations of informal settlements in Peru, revolutionised the understanding of self-help housing. Turner (1976) argued that the conventional view of housing as a product or commodity (a noun) was flawed. Instead, he proposed that housing should be seen as a process (a verb). For Turner, what housing does for people (in terms of security, empowerment and social mobility) is more important than what it is (its physical form or compliance with official standards).

The central principle of his theory is dweller control or autonomy. He contended that when households have control over the design, construction, and management of their homes, they can create environments that better suit their specific needs and financial capabilities. Incremental housing is the quintessential example of Turner's theory in action. He argued that the role of government should not be to provide finished housing units, which are often expensive and inappropriate, but to act as a facilitator to providing access to land, infrastructure, and credit, thereby enabling people to build for themselves. However, housing infrastructural autonomy is the provision of technical facilities to a building independent of support and services from the public. These sources include, individuals, owners of layout and development associations. The spatial differentiation is the distinctions among the residential zones with special focus on housing infrastructure (Gabriel, 2017).

While Turner focused on the process of building, the Peruvian economist De Soto

(2000) focused on the legal status of the resulting asset. De Soto's central thesis is that the primary reason capitalism fails to benefit the poor in developing countries is their inability to convert their assets into active capital. He argues that millions of poor people own assets (including their incrementally built houses), but because these assets are held with defective or informal titles, they constitute "dead capital."

Without a formal, legally recognised title (such as Certificate of Occupancy in Nigeria), a house cannot be used as collateral to secure a loan, it cannot be easily and securely sold or transferred, and it cannot be leveraged to start a business. This legal invisibility locks the poor out of the formal credit market (De Soto, 2000). De Soto's theory is highly relevant to this study because it directly explains two of the major problems faced by incremental builders in Kafanchan: insecure land tenure and lack of access to formal finance. While Turner celebrates the autonomy of the informal process, De Soto highlights its critical economic limitations.

## **METHODOLOGY**

### ***Study Area***

Kafanchan is a town in southern Kaduna state in the north-central Nigeria. It is the Headquarter of Jema'a Local Government Area of Kaduna State. It is located within Latitude 9°33'30"N to 9°36'30"N and Longitude 8°16'0"E to 8°20'E. It is situated at an elevation 733 meters above sea level. As a result of the 1976 Local Government reforms, Jema'a became a Local Government council of its own, with its headquarter in Kafanchan. Kafanchan is a town in southern Kaduna State in north-west Nigeria. It is the location of the junction station of the Nigerian Railway Corporation (NRC) and it sits on the line connecting Port-Harcourt, Enugu, Kuru, Bauchi and Maiduguri. Kafanchan is bounded in the East by Kagoro in Kaura Local

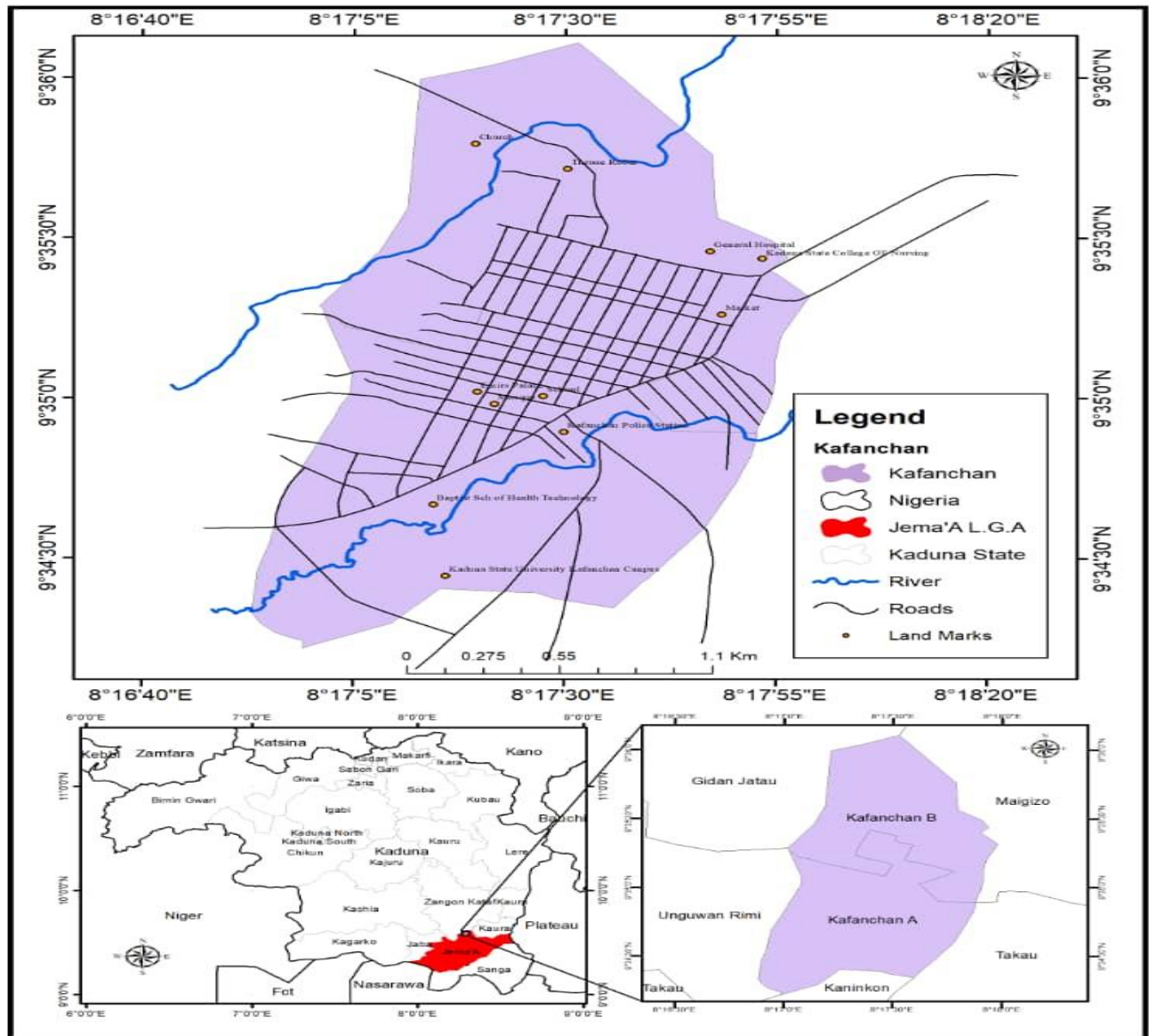
Government Area, in the North by Zonkwa and Ungwan Rimi District of Zangon-Kataf Local Government Area and in the South by Nasarawa State and in the South East by Sanga Local Government Area respectively.

According to the 1991 population census, Kafanchan had a population of 49,906 people (NPC, 1991). The population was estimated to be 115,299 people in 2024, based on a 2.57 percent annual growth rate officially determined by the National Population Commission. The town is ethnically diverse, accommodating both indigenous groups such as the Fantswam, Bajju, and Atyap, alongside settlers including the Hausa, Fulani, Igbo and Yoruba. This cultural diversity has fostered a vibrant social life and a blend of traditions, while also making the town a key commercial and administrative hub in the region. The growth of Kafanchan's population is closely linked to its role as an educational, commercial, and transport centre. The presence of institutions such as the Kaduna State University, Kafanchan Campus, and several secondary schools attracts students, lecturers, and support staff, many of whom contribute to housing demand through rental and incremental construction. Commerce is also a major activity, with Kafanchan serving as a market hub for agricultural produce from surrounding villages and as a redistribution point for goods coming from Jos, Abuja, and southern Nigeria.

Agriculture remains an important livelihood for residents, particularly in peri-urban and rural fringes where crops such as maize, sorghum, beans, groundnuts, and vegetables are cultivated. Many households combine farming with small-scale trading or informal services to sustain their livelihoods. Historically, Kafanchan was a railway town, and although railway operations have declined, road transport has become the dominant mode of movement, connecting the town with other parts of Kaduna State and

neighbouring States. A key feature of human activity in Kafanchan today is the spread of incremental housing. With limited access to formal housing finance, many households build gradually, expanding their homes as income allows. This practice, while offering

shelter, has reshaped the urban landscape, often stretching into areas lacking basic infrastructure. Other notable activities include artisanal trades, petty commerce, and service-based businesses, which reflect the dynamism of a growing urban centre.



**Figure 1: Kafanchan A & B in Kaduna State**

Source: GIS Laboratory, Department of Environmental Management, Kaduna State University, (2024).

### *Data Collection and Analysis*

The primary data for this study were obtained through the distribution of a

structured questionnaire. The questionnaire was designed for household heads or any adults residing in buildings in the study area. This paper assessed, among other things, the socio-economic characteristics, stages of incremental housing development, willingness to pay for installment building approval, payment vehicle for building approval and the challenges encountered by the developers of incremental houses in Kafanchan. The secondary data were collected from Jema'a Local Government Secretariat, Kaduna State, Ministry of Lands and Housing, Kaduna State, Ministry of Physical Planning and Urban Development, Kaduna State.

According to the 2006 population census, the wards in the study area had the following population figures Kafanchan A

$$\frac{\text{Current population figure}}{7(\text{ppf}) \times 4(\text{hpb})} = \text{Number of buildings} \dots\dots\dots(2)$$

Thus, a sample size of 7% was used for questionnaire administration that gave 760 respondents. This proportion was reasonable given the homogeneity characterizing the study area which includes, form and age of buildings, physical conditions of housing units, condition of neighbourhood infrastructure and respondents personal profile among others. However, similar proportions of 6%, 7% and 7% were used by Fasakin (2000); Ogunleye (2011) and Gabriel (2017) in their

17,909; Kafanchan B 30,622; Kaninkon 77,081; Maigizo 51,163 and Takau 24,262 people (NPC, 2006). The projected population figures for the wards to year 2024 are shown on Table 1, based on 2.57 percent annual growth rate officially determined by the National Population Commission.

The formula for population projection is:  
 $P_t = P_o (1 + r/100)^n$   
 .....(1)

The total number of buildings in each ward was calculated using the following formula, where ppf is persons per family and hpb is households per building (Gabriel, 2017; Gabriel, et al. 2020; Gabriel & Odifiri, 2021), that is;

$$\dots\dots\dots(2)$$

respective studies. The questionnaires were administered between the hours of 4:30 – 7:00pm (evenings), when majority of the respondents were at home. Six field assistants were employed to administer the questionnaires. The questionnaire administration lasted for five months, that is, February to July 2025. Tables were used to present, interpret and discuss research findings through SPSS version 25 and Microsoft Excel.

**Table 1: Sample Size for the Study**

Serial Number	Name of Ward	Population based on Wards (2006)	Population Projected to 2024	Calculated Number of Buildings	Sample Size of Buildings (7 %)
1	Kafanchan A	17,909	28,277	1,010	71
2	Kafanchan B	30,622	48,383	1,728	121
3	Kaninkon	77,081	121,788	4,350	305
4	Maigizoh	51,163	80,838	2,887	202
5	Takau	24,262	24,262	867	61

**Source: National Population Commission (2006).**

Random sampling technique with replacement was used to select buildings in the

study area. Where the selected buildings were discovered to be buildings for commercial,



religious or/and industrial purposes on ground, they were replaced with the residential buildings nearest to it. Furthermore, the choice of respondents was not restricted to the head of household, given that the study is not strictly on household heads.

## RESULTS AND DISCUSSION

### *Demographic Characteristics: Gender Distribution*

The sex classification of the respondents within the five wards was examined. The results as displayed in Table 2 shows that 91.5 % and 94.2 %, of the respondents at Kafanchan A and Kaninkon were males respectively while 33.4 % of the respondents at Kaninkon were females in the study area. This shows that majority of the respondents in the study area were males except Kaninkon where females respondents were 33.4%. However, it was observed that at Kafanchan A and Kafanchan B, the respondents were predominantly males. The results actually showed the reality on ground

that most of the respondents in the study area were males, even though, females were noticed to be available to respond to the researchers' questions in Kaninkon ward.

Furthermore, it can be inferred that the reasons why there were more males as respondents in the study area include: traditional gender roles where men are seen as the primary authority figures in housing and financial matters. The survey was conducted during the day when many women were at home with children or engaged in household chores, making them less available or accessible to answer questions. The questionnaire was administered at times that were convenient for men who were more readily available at home in the evenings or weekends. Some of the wards in the study area have unique cultural norms or economic conditions that influence having more male respondents in the study area. The findings of this study agreed with the results of Suresh, (2024).

*Table 2: Sex of Respondents*

Sex	Male	Female	Total
Kafanchan A	65 (91.5 %)	06 (08.5 %)	71 (100 %)
Kafanchan B	114 (94. 2 %)	07 (05.8 %)	121 (100 %)
Kaninkon	203 (66.6 %)	102(33.4 %)	305(100 %)
Maigizoh	156 (77.2 %)	46(22.8 %)	202(100 %)
Takau	41 (67.2 %)	20 (32.8 %)	61 (100 %)

*Source: Authors' Fieldwork, 2025.*

### *Occupation of Respondents*

Table 3 shows the findings on the occupation of the respondents within the five wards. The results show that 80.7 %, 65.6 %, and 64.7 % of the respondents at Maigizoh, Takau and Kaninkon were civil servants respondents in these wards were civil servants. The findings showed that most of the

respectively while 45.1 % of the respondents at Kafanchan were traders in the study area. The findings also revealed that 12.4 % and 12.1% in Kafanchan B and Kaninkon were farmers, while at Maigizoh and Takau retirees were sampled because most of the respondents in the study area were civil servants.

Deductions include: the dominance by civil servants may lead to having stability and clear rules, which can lead to residents who are less transient. A high concentration of civil servants means many are involved in professional community development and urban planning, which could lead to better managed neighbourhoods. It could lead to more effective local governance, as they are familiar with and can advocate for government processes. However, the situation may also have negative implication such as, high concentration of civil servants straining local infrastructure like transportation, water, and sanitation if the area is not adequately planned

for the population size. An area dominated by one profession may lack a diverse range of businesses and services, potentially limiting job opportunities for other residents and fostering a less varied social environment. Many civil servants, particularly those in lower-paid positions, may have difficulty finding affordable and suitable housing, which can lead to overcrowding or substandard living conditions. A large population of government employees could make the local economy more dependent on government funding, which may be subject to cutbacks or changes in policy (Getu, 2018; Akinseye & Diekola, 2021).

**Table 3: Occupation of Respondents**

Location	Farming	Trader	Artisan	Civil servant	Retired	Total
Kafanchan A	05(7 %)	32(45.1 %)	11(15.5 %)	20(28.2 %)	03(4.2 %)	71(100%)
Kafanchan B	15(12.4 %)	20(16.5 %)	25(20.7 %)	56(46.3 %)	05(4.1 %)	121(100%)
Kaninkon	37(12.1 %)	48(15.7 %)	11(3.6 %)	197(64.7 %)	12(3.9 %)	305(100%)
Maigizoh	03(1.5 %)	04(2 %)	09(4.5 %)	163(80.7 %)	23(11.3 %)	202(100%)
Takau	07(11.5 %)	02(3.2 %)	04(6.6 %)	40(65.6 %)	08(13.1 %)	61(100%)

**Source: Authors' Fieldwork, 2025.**

#### *Income of Respondents*

The examination on the average amount of money that accrues to respondents at the end of every month was also considered relevant to the achievement of the objectives of this study. As a result, the estimated monthly income of the residents was considered in ranges to accommodate a degree of precision as well as flexibility. Table 4 shows that 42.3 % of the respondents at Kafanchan A earned between ₦60,001- ₦80000 monthly, while 33.9 % of the respondents at Kafanchan B earned between ₦20,001- ₦40000 on Monthly bases. The findings revealed that 43.3 % and 18.0 % of the respondents at Kaninkon earned

₦100,001- ₦120,000 and above ₦120,000 on monthly bases respectively, however, the monthly income of the respondents is connected to the solid mineral mining activities going on in the area. The results in Table 4, revealed that majority of the residents in the study area were low-income earners and poor because their monthly income is below the international poverty line, which is \$3.00 per person per day which is equivalent to ₦4,378 per person per day in Nigerian currency (World Bank Group, 2025). This concurred with the result of Ogunseye (2023) on monthly income of incremental housing developers in Southwest Nigeria.



**Table 4: Monthly Income of Respondents**

Location	Less than ₦20000	₦20,000- ₦40000	₦40,001- ₦60000	₦60,001- ₦80000	₦80,001- ₦100000	₦100,001- ₦120,000	Above ₦120,000	Total
Kafanchan A	10(14.1 %)	12(16.9 %)	7(9.9 %)	30(42.3 %)	5(7 %)	4(5.6 %)	3(4.2 %)	71(100%)
Kafanchan B	18(14.9 %)	41(33.9 %)	35(28.9 %)	11(9 %)	3(2.5 %)	8(6.7 %)	5(4.1 %)	121(100%)
Kaninkon	2(0.7 %)	6(2 %)	6(2 %)	7(2.3 %)	97(31.7 %)	132(43.3 %)	55(18.0 %)	305(100%)
Maigizoh	14(6.9 %)	23(11.4 %)	18(8.9 %)	35(17.4 %)	69(34.2 %)	29(14.4%)	12(5.9 %)	202(100%)
Takau	02(3.3 %)	10(16.4 %)	13(21.3 %)	21(34.4 %)	07(11.5 %)	06(9.8 %)	02(3.3 %)	61(100%)

**Source: Authors' Fieldwork, 2025.**

#### *Household Size of Respondents*

Table 5 shows the findings on the household size of the respondents within the five wards in the study area. The findings reveal that 69 % and 67.8 % of the families at Kafanchan A and Kafanchan B have households of seven persons and more while at Kaninkon and Maigizoh majority 83.9 % and 84.7 % of the respondents have a household size between 4 to 6 members. Therefore, it can be deduced that the household size of the inhabitants of the study area was high which was attributed to their traditional and religious beliefs. Some implications of this situation include: Large households, particularly in in high density areas, have a higher incidence of poverty and may experience more financial strain due to stretched resources. With a higher number of members in a household, there is a greater demand for food, and the household may have a lower probability of being food secured, especially if there are limited income streams. The cost of living is higher in larger

households, which can lead to significantly lower savings and higher consumption expenditure. A large household size and high dependency ratio can decrease the per capita income available to each member, as there are more individuals to support with the same or similar income.

Overcrowding in large households leads to negative health outcomes, including a higher risk of infectious diseases and mental health issues. Crowded living conditions can negatively impact educational attainment for household members. Living in crowded conditions can lead to increased stress for individuals and may also be a source of social tension. Income limitations that force larger families into overcrowded accommodations frequently associate with other housing risks, such as poor repair, inadequate ventilation and increased risk of injury among others. Akinseye and Diekola (2021); Getu (2018) validate the findings of this study.

**Table 5: Household Size of the Respondents**

Location	1-3	4-6	7 and above	Total
Kafanchan A	6(8.5 %)	16(22.5 %)	49(69 %)	71(100%)
Kafanchan B	8(6.6 %)	31(25.6 %)	82(67.8 %)	121(100%)
Kaninkon	24(7.9 %)	256(83.9 %)	25(8.2 %)	305(100%)
Maigizoh	22(10.9 %)	171(84.7 %)	09(4.4 %)	202(100%)
Takau	27(44.3 %)	31(50.8 %)	3(4.9 %)	61(100%)

**Source: Authors' Fieldwork, 2025.**

#### *Stages of Incremental Housing Development*

The assessment of the stages of incremental housing development of the respondents at the five wards was also considered important to the achievement of the goal of this study. As a result, the stages were considered, from planning and design stage to maintenance and upkeep. Table 6 shows that 32.4% of the respondents at Kafanchan A had their dwellings at the stage of maintenance and upkeep, while 45.5 % of the respondents at Kafanchan B also had their dwellings at the stage of maintenance and upkeep. The findings revealed that 51.5 % and 28.9 % of the respondents at Kaninkon had their dwellings at the stage of initial construction and incremental upgrade respectively. However, 71.3 % of the respondents at Maigizoh had their dwellings at the stage of consolidation and finalization, while 57.4 % of the respondents at Takau had their dwellings at the stage of consolidation and finalization. The findings revealed that the study area has prospects for piece meal incremental planning approval.

However, it can be deduced that the challenges of incremental housing development in the study area may include, many household heads struggling to access

loans or financing, especially for later stages of construction, which leads to delays. The rising cost of building materials can be a significant barrier for low-income households. Concerning some developers, low returns can be a challenge, though this is often less important in the context of individual incremental projects. Some of the stages may lack essential services like water, sewage and electricity, which will increase costs and complexity when upgrading, consolidation, finalization, maintenance and upkeeping. Without proper planning and supervision of the stages involved, incremental housing can lead to informal and illegal settlements with poor building quality. Furthermore, building incrementally is a slow process, and many houses remain unfinished for years due to funding gaps and other delays. Limited funds can lead to the use of substandard materials and unskilled labor, compromising the final structure's safety and quality. There is the tendency of materials being stolen from construction sites, adding to the cost and delay among others. These findings concurred with the outcomes of studies by Adeyeni, Olayiwola, Onifade and Adegbile, (2019); Greene and Rojas (2008).

**Table 6: Stages of Incremental Housing Development**

Location	Planning and Design	Initial Construction	Incremental Upgrade	Consolidation & Finalisation	Maintenance and Upkeep	Total
Kafanchan A	04 (5.6 %)	09 (12.7 %)	15 (21.1 %)	20 (28.2 %)	23 (32.4%)	71 (100%)
Kafanchan B	09 (7.4 %)	06 (5 %)	26 (21.4 %)	25 (20.7 %)	55 (45.5 %)	121 (100%)
Kaninkon	11 (3.6 %)	157 (51.5 %)	88 (28.9 %)	37 (12.1 %)	12 (3.9 %)	305 (100%)
Maigizoh	03 (1.5 %)	33 (16.3 %)	15 (7.4 %)	144 (71.3 %)	07 (3.5 %)	202 (100%)
Takau	02 (3.3 %)	05 (8.2 %)	15 (24.5 %)	35 (57.4 %)	04 (6.6 %)	61 (100%)

**Source: Authors' Fieldwork, 2025.**

*Maximum Willingness to Pay for installment building approval (Amount)*

The examination of maximum willingness to pay for installment building approval of the respondents at the five wards was also considered significant to the achievement of the objectives of this study. Therefore, a range for willingness to pay for installment building approval was given as shown on Table 7. The results on table 4 show that 32.4 % of the respondents at Kafanchan A were willing to make installment payment for building approval within ₦5,000 - ₦15000, while 45.5 % of the respondents at Kafanchan B were willing to make installment payment for building approval within ₦16,000 - ₦25,000. The findings revealed that 44.9 %

of the respondents at Kaninkon were willing to make installment payment for building approval within ₦16,000 - ₦25,000. Nevertheless, 52 % of the respondents at Maigizoh were willing to make installment payment for building approval within ₦16,000 - ₦25,000, while 41 % of the respondents at Takau were willing to make installment payment for building approval within the range of ₦16,000 - ₦25,000. The results agree with some of the findings of Ogunseye (2023) on willingness to pay for approval of incremental housing development in Southwest Nigeria.

**Table 7: Maximum Willingness to Pay for installment building approval (Amount in ₦)**

Location	5,000-15,000	16,000-25,000	26,000-35,000	36,000-45,000	46,000 and above	Total
Kafanchan A	23(32.4 %)	09(12.7 %)	15(21.1 %)	20(28.2 %)	04(5.6 %)	71(100%)
Kafanchan B	09(7.4 %)	55(45.5 %)	31(25.6 %)	20(16.5 %)	06(5 %)	121(100%)
Kaninkon	51(16.7 %)	137(44.9 %)	88(28.9 %)	17(5.6 %)	12(3.9 %)	305(100%)
Maigizoh	03(1.5 %)	105(52 %)	73(36.1 %)	14(6.9 %)	07(3.5 %)	202(100%)
Takau	12(19.7 %)	25(41 %)	15(24.5 %)	05(8.2 %)	04(6.6 %)	61(100%)

**Source: Authors' Fieldwork, 2025.**

*Payment Approach for Installment Building Approval*

The analysis of payment approach (how the payment should be made per time) for installment building approval of the respondents at the study area was considered noteworthy to the accomplishment of the objectives of this study. Table 8 shows that 56.3 % of the respondents at Kafanchan A ascribed to quarterly payment for building approval, while 46.3 % of the respondents at Kafanchan B also agreed to quarterly payment for building approval. The findings

revealed that 44.9 % of the respondents at Kaninkon subscribed to quarterly payment for building approval. Furthermore, 72.8 % of the respondents at Maigizoh were willing to make payment quarterly basis, while 67.2 % of the respondents at Takau were also willing to make payment on quarterly basis. Therefore, the results indicate that majority of the inhabitants of the study area were willing to make payment for building approval on quarterly basis.

***Table 8: Payment approach for Installment Building Approval***

Location	Quarterly Fee	Half a Year Fee	Annual Fee	One-time Payment	Total
Kafanchan A	40 (56.3 %)	15 (21.1 %)	11 (15.5 %)	05 (7 %)	71 (100%)
Kafanchan B	56 (46.3 %)	40 (33.1 %)	20 (16.5 %)	05 (4.1 %)	121 (100%)
Kaninkon	168 (55 %)	100 (32.8 %)	27 (8.9 %)	10 (3.3 %)	305 (100%)
Maigizoh	147 (72.8 %)	43 (21.3 %)	09 (4.5 %)	03 (1.5 %)	202 (100%)
Takau	41 (67.2 %)	08 (13.1 %)	07 (11.5 %)	05 (3.2%)	61 (100%)

***Source: Authors' Fieldwork, 2025.***

*Challenges Encountered by Housing Developers in Kafanchan*

The investigation of challenges encountered by housing developers was necessary in order to understand the dynamics of incremental housing development in the study. Table 9 shows that 56.3 % of the respondents at Kafanchan A said that their major challenge was the rising cost of land, while 75.2 % of the respondents at Kafanchan B also concurred that the major challenge was the rising cost of land, because of high population density and competition for any available land for sale. The results of the study showed that 65.6 % of the respondents at Kaninkon said that the main challenge was the scarcity of land with the necessary infrastructure for

development. Furthermore, 49.5 % and 32.6 % of the respondents at Maigizoh were with the opinion that the main challenges were the rising cost of land and complex land acquisition process respectively, while 41 % of the respondents at Takau said that the main challenge of housing development was the rising cost of land in the study area. Therefore, it can be deduced that the main challenges encountered by housing developers among others include rising cost of land, complex land acquisition process and scarcity of land with the necessary infrastructure for development.

**Table 9: Challenges Encountered by Housing Developers in Kafanchan**

Location	Rising cost of land	Outdated planning Regulations	Complex land acquisition process	Low return of investment	High interest on capital finance	Scarcity of land with infrastructure	Total
Kafanchan A	40(56.3 %)	05(7.1 %)	01(1.4%)	10(14.1 %)	12(16.9 %)	03(4.2 %)	71(100%)
Kafanchan B	91(75.2 %)	05(4.1%)	04(3.3 %)	11(9.2 %)	05(4.1 %)	05(4.1 %)	121(100%)
Kaninkon	50(16.4 %)	00(0 %)	11(3.6%)	32(10.5 %)	12(3.9 %)	200(65.6 %)	305(100%)
Maigizoh	100(49.5 %)	13(6.4%)	66(32.6 %)	03(1.5 %)	10(5 %)	10(5 %)	202(100%)
Takau	25(41 %)	07(11.5%)	15(24.6 %)	05(8.2 %)	02(3.3 %)	07(11.4 %)	61(100%)

**Source: Authors' Fieldwork, 2025.**

## CONCLUSION AND RECOMMENDATIONS

This study was designed to assess incremental housing development in Kafanchan, Kaduna State, Nigeria. The five wards within the study area show evidence of incremental housing developments. This implies that most of the buildings were in one of the stages of incremental housing development. The study revealed that majority of the residents in the study area were low income earners and poor because their monthly income is below the international poverty line, which is \$3.00 per person per day which is equivalent to ₦4,378 per person per day in Nigerian currency. This is one of the reasons for the increase in the number of incremental housing development in the study. The findings revealed that main challenges encountered by housing developers include rising cost of land, complex land acquisition process and scarcity of land with the necessary infrastructure for development among others. In line with the findings of this study, the following recommendations were suggested: The Government should intensify poverty alleviation and entrepreneurial schemes in the state. The Government should design policies that will be favourable to low and medium income earners. Government, Non-Governmental Organisations, Faith Base

Organisations and individuals should assist in providing more infrastructural facilities in the study area. Most inhabitants that are financially strong in the study area should form housing cooperative societies with the aim of assisting members in different ways in the course of developing their houses. Government should make flexible and affordable approval process for incremental housing development in the state.

## Acknowledgement

2024 TETFund Research Group. The authors deeply acknowledge the sponsorship of the research by the Kaduna State University through the TETFund Research Grant of the Federal Government of Nigeria from which this article emerged.

## REFERENCES

- Adeyeni, G. O., Olayiwola, L. M., Onifade, V. A. & Adegbile, M. B. O. (2019). Challenges to Incremental Housing Development in Ibadan Municipality. *Analele Universității din Oradea, Seria Geografie*, 29 (1), 92-101. <https://doi.org/10.30892/auog.291110-785>.

- Akinseye, R. A. & Diekola, O. J. (2021). Impact of senior civil servants on community development and urban planning in Nigeria. *Journal of Humanities and Social Science (IOSR-JHSS)*, 26 (8), 16-25. [www.iosrjournals.org](http://www.iosrjournals.org)
- Alam, A. (2023). Incrementalism, housing supply and city-making from below: Learning from Khulna, Bangladesh. *International Journal of Housing Policy*. Advance online publication. <https://doi.org/10.1080/19491247.2023.2232202>.
- Aluko, O. E. (2010). The impact of urbanization on housing delivery: The Lagos experience, Nigeria. *Ethiopian Journal of Environmental Studies and Management*, 3 (3), 64 -70.
- De Soto, H. (2000). *The mystery of capital: Why capitalism triumphs in the West and fails everywhere else*. New York: Basic Books.
- Ebekozien, A., Abdul-Aziz, A.-R., & Jaafar, M. (2019a). Housing finance inaccessibility for low-income earners in Malaysia: factors and solutions. *Habitat International*, 1 (87), 27–35. <https://doi.org/10.1016/j.habitatint.2019.03.009>
- Ebekozien, A., Abdul-Aziz, A.-R., & Jaafar, M. (2019b). Low-cost housing policies and squatters in Nigeria: The Nigerian perspective on possible solutions. *International Journal of Construction Management*, 1(1), 1–11. <https://doi.org/10.1080/15623599.2019.1602586>
- Fasakin, J.O. (2000). *A land use analysis of the operation of commercial motorcycles in Akure, Nigeria*. Unpublished PhD Research Thesis, Department of Urban and Regional Planning, Federal University of Technology, Akure, Nigeria.
- Fasakin J.O., Basorun J.O., Bello M.O., Alese B.K., Gabriel E., Enisan O.F., Ojo B., & Popoola, O.O. (2019). A dynamic e-land pricing mechanism for managing residential densities in a medium-sized City in southwest, Nigeria. *International Journal of Development and Economic Sustainability*, 7 (4), 8-26. European Centre for Research, Training and Development (ECRTD), UK.
- Ferguson, B. (2011). Incremental housing: A proactive urban strategy. *Environment and Urbanization*, 23(1), 309–329. <https://doi.org/10.1177/0956247811398602>.
- Gabriel , E. (2017). *Spatial differentiation of housing infrastructure autonomy in Akure, Nigeria*. Unpublished Ph.D Research Thesis Department of Urban and Regional Planning, Federal University of Technology Akure, Nigeria.
- Gabriel, E. & Ayo-Odifiri, S. O. (2021). Appraisal of conditional attributes of residential buildings in Akure, Nigeria. *FUDMA Journal of Sciences (FJS)*, 5 (3), 63 – 71.
- Gabriel, E., Mande K. H., Fasakin, J. O. and Akande, D. O. (2020). Spatial differentiation in sourcing facilities of residential buildings in Akure, Nigeria. *Kaduna State University, Environmental Science Journal (KESJ), Nigeria*, 2 (1), 212-224.
- Getu, L. (2018). Housing security and affordability status of civil servants Aleta Wondo town Ethiopia. *Research on Humanities and Social Sciences* 8 (3), 25- 30.



- Gilbert, A. (2004). Helping the poor through housing subsidies: Lessons from Chile, Colombia, and South Africa. *Habitat International*, 28(1), 13–40. [https://doi.org/10.1016/S0197-3975\(02\)00070-X](https://doi.org/10.1016/S0197-3975(02)00070-X)
- Goethert, R., (2010). Incremental housing: A proactive urban strategy. Boston: Brandeis University.2325.Availableat:<http://web.mit.edu/incrementalhousing/articlesPhotographs/pdfs/PagesMondayMag.pdf>.
- Greene, M. & Rojas, E. (2008). Incremental construction: A strategy to facilitate access to housing. *Environment and Urbanization*. 20 (1), 89-108. DOI:10.1177/0956247808089150.
- Hamid, G. M. and Elhassan, A. A. M. (2014). Incremental housing as an alternative housing policy: Evidence from greater Khartoum, Sudan. *International Journal of Housing Policy*, 14 (2), 181-193.
- Jiboye, A. D. (2011). Urbanisation challenges and housing delivery in Nigeria: The need for an effective policy framework for sustainable development. *International Review of Social Sciences and Humanities*, 2 (1), 176-185.
- National Population Commission (1991). Population and housing census: “Population distribution by Sex, State, LGA, and Senatorial district”, <http://www.population.gov.ng/images>.
- Oduwaye, A.O. (2001). *Residential land use and land values in metropolitan Lagos*. Ph.D. Thesis, Department of Urban and Regional Planning, OAU, Ile Ife.
- Ogunleye, M.B. (2011). *Spatial pattern of residential property values in Akure, Nigeria*. Ph.D. Thesis, Department of Estate Management, Federal University of Technology Akure, Nigeria.
- Ogunseye, N. O. (2023). Planning approval process: An analysis of property developers’ experience in Southwest Nigeria. *International Journal of Built Environment and Sustainability*. Published by Penerbit UTM Press, Universiti Teknologi Malaysia IJBES 10 (1), 17-29.
- Popoola, A., Tawose, O., Abatan, S., Adeleye, B., Jiyah, F. & Majolagbe, N. (2015). Housing conditions and health of residents in Ibadan North Local Government Area, Ibadan, Oyo State, Nigeria, *Journal of Environmental Sciences and Resource Management*, 7(2), 59–80.
- Smolka, M. O. (2014). Implementing value capture in Latin America: Policies and tools for urban development. Lincoln Institute of Land Policy.
- Suresh, Acharya. (2024). Gender role of household decision making: A case study Namobudda Kavre. *Nepal Journals Online. Kutumbha vani*, 5 (1), 100-109 <https://doi.org/10.3126/kv.v5i1.70980>
- Tipple, G. (2000). Extending themselves: User-initiated transformations of government-built housing in developing countries. Liverpool University Press.
- Turner, J. F. C. (1976). *Housing by people: Towards autonomy in building environments*. <https://www.abebooks.com/book-search/title/housing-people-autonomy-building/author/turner-john/>
- UN-World Urban Forum-Rio de Janeiro, (2010). Exploring incremental housing

as an integral urban development process. Available at: [http://www2.gtz.de/wbf/4tDx9kw63gma/InsessionPaper\\_Screen.pdf](http://www2.gtz.de/wbf/4tDx9kw63gma/InsessionPaper_Screen.pdf)

Van Noorloos, F., Cirolia, L. R., Friendly, A., Jukur, S., Schramm, S., Steel, G., & Valenzuela, L. (2020). (Re)conceptualizing incremental housing as a node for intersecting flows of city-making: Rethinking the housing shortage in the global South. *Environment & Urbanization*, 32(1), 37–54.  
<https://doi.org/10.1177/0956247819887679>

Wilcox, A. (2025). Analysing low-income incremental housing through spatial design and governance: The case of K206, Johannesburg. *A+BE | Architecture and the Built Environment*, 15(17), 1–236.  
<https://aplusbe.eu/index.php/p/article/view/448>

World Bank Group. (2025). June 2025 update to global poverty line. <https://www.worldbank.org/en/news/factsheet/2025/06/05/june-2025-update-to-global-poverty-lines>.