

Factors Affecting Adoption of Incremental Housing Development Strategy for Home Ownership: The Case of Staff Members of Obafemi Awolowo University, Ile-Ife

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Abstract

In the traditional African society, home ownership is very important. At the same time, the need for more access to capital needed for housing construction has forced many residents to build incrementally. This study examines factors affecting the adoption of incremental housing development (IHD) strategy among Obafemi Awolowo University staff to provide information that could enhance housing delivery. The research employed a survey design, administering a close-ended questionnaire to 144 academic and non-academic staff. The findings identify several factors hindering the adoption of IHD, including the high cost of building materials, land acquisition, and lack of finance. The results suggest that most respondents need help accessing credit facilities and traversing the complex legal system to secure formal land titling. The study concludes that addressing these challenges is crucial for promoting IHD and enhancing the overall housing conditions of low-income households in Nigeria. Therefore, The study recommends that governments focus on improving the overall financial and mortgage systems to make it easier for low/middle-income earners to access credit and finance for housing.

Keywords: Housing, housing delivery, incremental housing development, OAU, Nigeria.

1. Introduction

In many African societies, a man is regarded as complete once he builds a house. This underscores the importance of home ownership in African societies. Housing has been considered a key factor that provides the basic living elements for individual households. As a fundamental aspect of human existence, it has become a deep focus of city design and socio-economic policy (Greene & Rojas, 2008). Over the years, as population increases, housing has been a significant concern for governments, international organisations, and non-profit organisations (Aliyu *et al.*, 2017; Park *et al.*, 2018).

In recent years, there has been an increasing population growth in African countries, resulting in a corresponding housing shortage (Wibowo & Larasati, 2018). A report by UN-Habitat (2016) and UNPD (2004) shows that, by 2030, Africa's urban population is expected to surpass its rural population. The result is seen in the rapid growth of the total number of dwellers within each housing unit and the massive growth of informal housing settlements in urban areas and their periphery. This has awakened the government's concern about implementing different strategies to provide quantitative housing facilities. However, these strategies are constrained by inadequate funding, bureaucracy issues, lack of political will, corruption, and sectarian manipulation (Aliyu *et al.*, 2017; Aliyu *et al.*, 2011; Chinyere, 2019). As a result, the populace now resorted to building their houses incrementally. With this strategy, housing is not seen as a finished product but rather as a process where potential homeowners can participate in designing their houses

according to their needs and financial ability (Alananga & Kusiluka, 2015) and building houses in gradual and manageable phases (Magigi & Majani, 2006).

Incremental housing development is a process that integrates different stages based on the self-help activities of the owner(s) (Amoako & Boamah, 2017; Nwuba, 2015; Park *et al.*, 2018; Zulu, 2010). This informal housing development and expansion is often the de facto housing delivery model in neighbourhoods occupied by low- and middle-income earners. Accordingly, Wakely and Riley (2011) established that 70 per cent of the urban dwellers in emerging cities develop their houses incrementally. For instance, in Nigeria, accessibility to homeownership is mainly through an incremental building process often achieved through equity financing or personal savings. It is against this background that this study examines and provides answers to the following research questions;

- I. What are the different stages involved in incremental housing development strategy?
- II. What are the factors affecting incremental housing development strategy in the study area?

2. The Concept of Incremental Housing Development

Incremental housing development (IHD), as a concept, has been discussed and analysed by various authors in the literature. Studies such as those conducted by Baqutayan *et al.* (2015), Park *et al.* (2018), and Roberto (2003) have argued that incremental housing development (IHD) focuses on design strategies that allow for a progressive expansion and improvements of housing units. Such houses are inhabitable even when construction is incomplete, thus addressing the immediate housing needs of the occupants. This approach helps reduce the initial cost of housing development as low- and middle-income earners struggle to meet necessities such as food, clothing and education. Authors such as Ronald and Chiu (2010) and Wibowo and Larasati (2018) have established that IHD considers the dynamics involved in land acquisition, finance, infrastructure, building materials, and labour. This implies a step-by-step approach towards housing construction. Such construction spans a reasonable period in terms of quality and size (Hasgöl, 2016). However, this reflects the function of several factors, such as those embedded in individual household income and expenditure metrics.

2.1 Stages Involved in the Incremental Housing Development Process

Incremental housing development describes an open-ended housing supply mechanism where housing units grow incrementally over a range of time as the income or demographic of the household increases (Alananga & Kusiluka, 2015). This process begins with land acquisition, often done through an informal system. Then, the building is constructed incrementally at the rate determined by the household's resources, priorities and requirements (Hasgöl, 2016). Low- and middle-income households are known to build their houses incrementally.

These processes are staged into different sequences and broadly categorised as the unit's base-house, extension, and aesthetic customisation (Wibowo & Larasati, 2018). The base house is the initial structure representing an unfinished housing unit. The unit at this stage provides essential functionalities such as protection from natural elements (Park *et al.*, 2018). Low/middle-income earners prioritise basic construction elements such as partition walls, bathrooms, kitchens, and roofs to meet their immediate needs. Following the establishment of the base house, the extension phases unfold. These phases enable

homeowners to expand and develop their houses according to their evolving needs, utilising available resources and potluck materials to extend their houses to align with their preferences and necessities (Magigi & Majani, 2006). The final stage in incremental housing development is the aesthetic customisation of the housing unit, where homeowners focus on refining their homes' design and spatial layout (Park *et al.*, 2018; Magigi & Majani, 2006). This process averagely spans 5 to 15 years (Greene & Rojas, 2008; Hasgöl, 2016).

2.2 *Factors Affecting the Adoption of the Incremental Housing Strategy*

Adopting incremental housing strategies in developing countries such as Nigeria is influenced by various factors. Authors like Aribigbola (2008) grouped these as driving and conditioning factors. Driving factors reflect the outcomes of complex interactions between socio-economic and demographic indices, while conditioning factors concern physical and cultural values. Again, Enisan and Ogundiran (2013) identify factors such as land inaccessibility, inadequate finances and deficiencies in the mortgage system as having a negative impact on the adoption of IHD. However, a recent study by Adeyeni *et al.* (2016) and Chinyere (2019) added that the high cost of building materials and the difficulty in getting building approval hinder the adoption of IHD. While many factors have been identified in the literature affecting IHD, studies have yet to examine these factors holistically from the perspective of a developing country such as Nigeria.

3. **Research Method**

A survey research design was adopted for this study, with data sourced via close-ended questionnaires. The questionnaire was administered to the academic and non-academic staff of Obafemi Awolowo University, Ile-Ife, Osun. The University has a staff strength of 4000, comprising 1365 academic staff and 2635 non-teaching staff (staff directory of Obafemi Awolowo University, 2024). A sample size of 183 was adopted, representing 4.58% of the entire population of 4000 staff members at Obafemi Awolowo University. This sample size was chosen due to the variation in the average number of staff in their first three years of service to the University. This category of staff was excluded from the sample. The sample size helps maintain a manageable and cost-effective data collection process while ensuring a representative sample that accurately reflects the diversity of the population. Out of this sample size, 60% of the respondents were non-academic staff, while 40% were academic staff. This was done due to the variation in the average number of staff under each category. However, only 144 questionnaires were retrieved and found useful, giving a response rate of 78.69%. The data were analysed using descriptive and inferential statistics.

4. **Findings and Discussion**

This section is divided into three parts: the first part assesses the socio-economic characteristics of the respondents, the second part explores the stages that are involved in incremental housing development, the third part evaluates factors that influence the adoption of incremental housing development strategy.

4.1 Table 4.1: Socio-Economic Characteristics of Respondents

Variables	Category	Frequency	Percentage (%)
Sex	Male	68	47.22
	Female	74	51.39
	Unascertained	2	1.39
	Total	144	100.00
Marital Status	Single	26	18.06
	Married	112	77.78
	Unascertained	6	4.17
	Total	144	100.00
Age	30-39years	31	21.53
	40-49 years	68	47.22
	50 years & above	44	30.56
	Unascertained	1	0.69
	Total	144	100.00
Qualification	SSCE	9	6.25
	HND	38	26.39
	B.Sc.	55	38.19
	M.Sc.	19	13.19
	PhD	16	11.11
	OND	2	1.39
	Unascertained	5	3.47
	Total	144	100.00
Year of working experience	4 – 5 YEARS	21	14.58
	6– 10 YEARS	43	29.86
	11 – 20 YEARS	35	24.31
	21- >	44	30.56
	Unascertained	1	0.69
	Total	144	100.00
Category of respondent	Academic staff	51	35.42
	Non-academic staff	93	64.58
	Total	144	100.00
Type of household	Nuclear	112	77.78
	Extended	27	18.75
	Undisclosed	5	3.47
	Total	144	100.00
Own a landed property?	Yes	102	70.83
	No	42	29.17
	Total	144	100.00

Source: Authors' fieldwork

Table 4.1 reveals that 47.2% of the respondents were males, while 51.3. % females. From the above, it is shown that there were more female respondents than males, and the reason for this was that the female respondents were more approachable and willing to fill out the questionnaire. Further analysis shows that the majority of the respondents were within the age range of 40 to 49, which indicates that the majority were middle-aged, representing 36%, While 23.0% fall within age 50 and above, amongst other age categories. The data indicate that most of the respondents are of active age. For the respondents' working experience, 30% have a working experience of 21 to 35 years, and 29.8% of the respondents have a working experience between 6 to 10 years. 24.3% and 14.5% have a working experience of 11-20 years and 4-5 years, respectively. This indicates that most

respondents have worked for a long time at this institution. Also, the study suggests that the non-academic staff of OAU contributed 64.58% of the respondents, while the academic staff represented 35.42% of the respondents. Findings show that 70.83% of the respondents own landed properties while 29.1% stay in rented apartments.

Table 4.2: Stages Involved in Incremental Housing Development

Table 4.2 shows how long it could take to develop a house using an incremental development strategy. Of the 144 respondents surveyed 102 own landed properties. Therefore, the presentation, analysis, and interpretation of findings for this objective are from the 102 respondents who own landed properties.

Stages	Less than one month	1-6 months	6-12 months	1-3 years	Above 3 years(state)
Site Acquisition	30(29.4%)	26(25.4%)	17(16.7%)	18(17.6%)	11(10.7%)
Planning approval	11(10.7%)	61(59.8%)	18(17.6%)	18(17.6%)	4(3.9%)
Clearing of site	60(58.8%)	28(27.4%)	9(8.8%)	3(2.9%)	2(1.9%)
Laying of foundation	45(44.1%)	37(36.2%)	16(15.6%)	3(2.9%)	1(0.98%)
Blockwork	13(12.7%)	39(38.2%)	34(33.3%)	11(10.7%)	7(6.8%)
Roof construction	42(41.1%)	29(35.2%)	18(17.64%)	7(6.8%)	6(5.8%)
Electrical installation	31(30.3%)	36(35.2%)	20(19.6%)	11(10.7%)	4(3.9%)
Plumbing installation	38(37.2%)	27(26.4%)	21(20.58%)	10(9.8%)	6(5.8%)
Plastering/ Rendering of walls	41(40.1%)	26(25.4%)	17(16.7%)	11(10.7%)	7(6.8%)
Painting of Walls	40(39.2%)	27(26.4%)	6(5.8%)	9(8.8%)	10(9.8%)
Finishes, eg, doors, flooring	35(34.3%)	27(26.4%)	15(14.7%)	16(15.6%)	9(8.8%)

Source: Authors' filed work

Table 4.2 presents the stages of incremental housing development, categorised by time periods. The table shows that most respondents (30%) acquired the site in less than a month, while 25.4% took 1-6 months. The planning approval stage took the longest, with 59.8% taking 1-6 months. The delay in securing planning approval could be linked to the tedious and complex processes required as part of formalisation procedures. The clearing of the site, laying of foundations, blockwork, roof construction, electrical installation, plumbing installation, plastering/rendering of walls, painting of walls, and finishes took varying amounts of time, with the majority taking 1-3 years. The table highlights the gradual nature of incremental housing development, with each stage taking significant time to complete.

Table 4.3: Factors Affecting the Adoption of Incremental Housing Development Strategy

Factors affecting the adoption of IHD	SA	A	N	D	SD	M	R
High cost of building materials	54(36.0%)	51(34.0%)	19(12.7%)	9(6.0%)	3(2.0%)	3.15	1st
High cost of acquiring land	36(24.0%)	62(41.3%)	16(10.7%)	9(6.0%)	3(2.0%)	2.88	2nd
High cost of construction	44(29.0%)	54(36.0%)	13(8.7%)	15(10.0%)	5(3.3%)	2.79	3rd
Lack of credit facilities	42(28.0%)	47(31.3%)	27(18.0%)	13(8.7%)	6(4.0%)	2.76	4th
Lack of finance from personal income	35(23.3%)	59(39.0%)	23(15.3%)	21(14.0%)	0(0.0%)	2.70	5th
Land Title registration	33(22.0%)	59(39.3%)	15(10.0%)	22(14.7%)	7(4.7%)	2.67	6th
Non-housing expenditures, e.g. school fees, bills.	25(16.7%)	64(42.7%)	22(14.7%)	15(10.0%)	7(4.7%)	2.66	7th
Stunted financial and mortgage system	45(30.0%)	51(34.0%)	26(17.3%)	12(8.0%)	3(2.0%)	2.64	8th
Poverty level	29(19.3%)	49(32.7%)	16(10.7%)	30(20.0%)	2(1.3%)	2.58	9th
Lack of available land with basic infrastructure	21(14.0%)	67(44.7%)	20(13.3%)	25(16.7%)	6(4.0%)	2.57	10th
Planning approval	36(24.0%)	58(38.7%)	25(16.7%)	15(10.0%)	4(2.7%)	2.57	11th
Land acquisition process	25(16.7%)	56(37.3%)	16(10.7%)	18(12.0%)	6(4.0%)	2.54	12th
Limited skilled manpower	15(10.0%)	51(34.0%)	23(15.3%)	34(22.7%)	10(6.7%)	2.54	13th
Lack of effective implementation strategies	21(14.0%)	55(36.7%)	34(22.7%)	13(8.7%)	11(7.3%)	2.54	14th
Problems from the Community Development Association	21(14.0%)	50(33.3%)	33(22.0%)	24(16.0%)	4(2.7%)	2.53	15th
Land inaccessibility	25(16.7%)	58(38.7%)	19(12.7%)	28(18.7%)	10(6.7%)	2.50	16th
Land use control and regulations	18(12.0%)	53(35.0%)	25(16.7%)	24(16.0%)	6(4.0%)	2.48	17th
Inadequate physical planning	18(12.0%)	53(35.0%)	25(16.7%)	25(16.7%)	9(6.0%)	2.42	18th
Property Tax	17(11.3)	53(35.3%)	32(21.3%)	22(14.7%)	10(6.7%)	2.39	19th
Youth harassment of developers	31(20.7%)	36(24.0%)	34(22.7%)	21(14.0%)	16(10.7%)	2.36	20th
Developmental control	14(9.3%)	51(34.0%)	36(24.0%)	17(11.3%)	12(8.0%)	2.34	21th
Statutory regulation and Bye-laws	14(9.3%)	52(34.7%)	27(18.0%)	26(17.3%)	8(5.3%)	2.21	22th
Lack of infrastructural facilities	25(16.7%)	47(31.3%)	36(24.0%)	11(7.3%)	8(5.3%)	2.21	23rd
Health challenge	19(12.7%)	40(26.7%)	32(21.3%)	18(12.0%)	20(13.3%)	2.10	24th

SA = Strongly Agree, A = Agree, N = Neutral, Disagree, SD = Strongly Disagree, M = Mean, R = Rank.

Table 3 outlines the factors affecting the adoption of incremental housing development. These factors are discussed below in three categories based on their mean scores:

Category 1: Most Significant Factors (Mean 3.15-2.66)

These factors are the most significant hindrances to adopting incremental housing development. The high cost of building materials (3.15) is the most significant factor, followed closely by the high cost of acquiring land (2.88) and the high cost of construction (2.79). The lack of credit facilities (2.76) and lack of finance from personal income (2.7) also significantly affect the adoption of incremental housing development. Significant factors include non-housing expenditures such as school fees, utility bills, rental payments (2.66), and land title registration (2.67).

Category 2: Moderate Significant Factors (Mean 2.64-2.48)

This category includes factors that are also significant but to a lesser extent than those in the first category. Stunted financial and mortgage systems (2.64) and poverty level (2.58) are significant factors. Lack of available land with basic infrastructure (2.57), planning approval (2.57), and land acquisition process (2.54) moderately affects the adoption of IHD. Limited skilled manpower (2.54) and lack of effective implementation strategies (2.54) are additional factors in this category. Moreso, problems from the community development association (2.53) and land inaccessibility (2.5) are considered under the last part of this category.

Category 3: Less Significant Factors (Mean 2.42-2.1)

This category includes less significant factors that still affect the adoption of incremental housing development. Inadequate physical planning (2.42), property tax (2.39), youth harassment of developers (2.36), and developmental control (2.34) are factors in this category. Statutory regulation, bye-laws (2.21), and lack of infrastructural facilities (2.21) are less significant factors. Health challenges (2.1) are the least significant factor affecting the adoption of incremental housing development.

5. Conclusion

The study identified several factors hindering the adoption of incremental housing development among the staff of Obafemi Awolowo University. The high cost of building materials was the most significant factor, primarily due to the considerable gap between supply and demand and the reliance on imported materials. The long and complex process of obtaining planning approval was another significant challenge. These findings are consistent with the broader literature on the challenges of incremental housing development (Adeyeni et al., 2016; Chinyere, 2019; Festus & Amos, 2015; Enisan & Ogundiran, 2013)

Compared with other housing development strategies, IHD is distinct from other housing development strategies in several ways. For instance, public social housing programmes often involve large-scale, centralised housing projects that often exclude low/middle-income earners at the point of allocation, even though such programmes are targeted to meet their housing needs (Chinyere, 2019; Festus & Amos, 2015). Similarly, sites and services projects involve the provision of serviced plots of land to households, which may not necessarily address the housing needs of low-income households due to their inability to afford such plots of land. Incremental housing development, by contrast, allows

households to build and improve their housing incrementally based on their own needs and resources.

In line with its findings, this study recommends that government at all levels provide financial support to low/middle-income households through initiatives like the National Housing Fund. Moreover, simplifying the land titling process and offering affordable credit facilities are vibrant steps that will promote incremental housing. Investing in housing infrastructure, addressing regulatory barriers, and enhancing legal frameworks are essential to overcoming these challenges.

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