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An Appraisal of the Determinants of Housing Development and Infrastructure Performance in Ibadan, Southwest, Nigeria

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ABSTRACT

Against the background of high incidence of urban fringe development in the world, this paper appraises the determinants of housing development and infrastructure performance in the urban fringe of Ibadan, Southwest, Nigeria. Multistage sampling technique was used in selecting four Local Government Areas out of the six suburban LGAs of the city. Google earth and ground trotting were used in capturing and selecting seven hundred and forty-two new houses. The questionnaires administered on house owners were harvested on the spot. The information collected includes socio-economic and demographic characteristics of residents as well as characteristics of infrastructural facilities. The study utilised both descriptive and inferential statistical analyses; Facility Availability Index (FAI) and Facility Functionality Index (FFI) were used to compare respectively residents' perceived levels of availability of, and functionality of facilities or infrastructure across Local Government Areas. The study shows that the significant house type in the area was Brazilian-style bungalows (43.4%) and flat type bungalow (36.9%). 18.30% of the houses were uncompleted and were inhabited. The determinants of housing development in the area were accessibility to cooperative societies (74.5%) and income (17.8%). Level of availability of infrastructural facilities was low with overall FAI of 0.8, while the functionality of the facilities was generally very poor (FFI = - 0.58). Strategies were proposed to enhance good and livable housing, as well as functional infrastructure.

Keywords: Urban fringe development, determinants of housing development, infrastructure performance

INTRODUCTION

Growth is a dynamic process characterized by some features. Over time, growth has changed from a prevailing state to new levels, particularly, human settlement growth. There is gradation in the development of human settlement, for example, from hamlets and villages to towns and cities. In these habitations, the nature and efforts of individuals, the ingenuity of human communities and the entire culture of the world fuse together. Here also, exists the past and present combined that lays the foundation for the future (Doxiadis, 1968).

In the developing countries with rapid urban growth and transformation of human habitation, urban planning is facing a wide range number of social, economic and environmental problems. Though, it is widely believed that urbanisation and

growth are linked and regarded as important features of national development, most cities in Africa experience rapid rate of urbanisation with little or no economic growth of the cities and without industrialization (Adeboyejo and Abolade, 2007) which poses challenges to development.

The quality of housing is generally very poor, often manifested in general dearth of internal facilities and conveniences. Infrastructure such as water supply and electricity are virtually inadequate. The quality inadequacy of most houses also stems from the poor physical state of the buildings. The buildings are often unsafe and insecure (from fire and collapse) and do not provide adequate shelter from weather elements. The environment in which the buildings are located is squalid in most cases.

This generally leads to slum conditions through combined effects of natural ageing of the buildings, lack of maintenance and neglect, wrong use of the buildings, poor disposal of sewage and solid waste, wrong development of land and increasing deterioration of the natural landscape (Olotuah, 2005).

However, the problems of housing in the urban centre is at the risk of increase population; this has resultantly contributed to the problem of achieving a good housing environment because of the population growth which lacked commensurate provision of affordable housing unit, especially to the low income earners (Bonney, 2004). This has therefore, generated series of problems on people such as affordable housing, habitable accommodation, lack of potable water, problems of indoor and outdoor air quality (poor ventilation), poor sewage and sanitation and overcrowding among others. Consequently, these have become issues of major concern to the extent that it has brought serious implications on man's health. This manifested in several health problems such as cold, cough, skin infections, anxiety, depression, social dysfunction, aggressiveness and paranoid feelings among others (Bonney, 2004).

While the urban centres are battling with the problem of housing quality, the urban fringes are developing rapidly (Adedibu, 1998; Odunjo, 2014). This corroborates the submission of Johnson (1972) on the growth of the urban fringe of Western Europe and North America.. It also supports the submission of Simon (2008) on the growth of suburbs in the world, and Australian Bureau of Statistics (2013) on the growth of urban fringe in the country. In their submissions, they noted that the suburbs are rapidly developing and becoming part of urban centers. Australian Bureau of Statistics particularly noted that, the urban fringes such as Melbourne and Melton in the country show wild annual growth. The influx of people into such areas is clear and demonstrates the success of such areas. Such successes include the urban fringe early planning, infrastructure development as well as affordability of housing. The most affordable of the region was Melton, where the median house price was \$275,000 while in Melbourne, the competition for housing was very hot. The combination of a very strong population growth, a better managed housing strategy and a forward thinking Australia's financial system have been the key to development. In the case of India; housing strategy, including land and

housing finance were provided at an affordable price by government in the urban fringe (National Housing Strategy, India, 2013).

In Nigeria, there is gap in the literature on factors of fringe development; though, a lot of scholars have worked in the area. Adedibu (1998) for example, noted the growth of the suburbs of Ilorin, Adesina (2002) examined the geography, while Adesina (2007) discussed the landscape of the area. Also, Olabode et al (2010) studied the management of the urban fringe. As observed by Aguilar and Ward (2003), rapid urban growth has led to an increasing growth in the urban fringe and despite its importance, Simon et al (2006) and Huchzermeyer and Mbiba (2002) maintained that the urban fringe is understudied. Among the reasons given for fewer studies on the urban fringe is partly due to the divisions on academic disciplines that focus entirely on areas that have rural or urban aspects. This rural-urban dichotomy does not give room for a proper description of the area where the urban and rural areas meet. Thus, the urban fringe needs to be studied; the empirical investigation of the determinant factors of housing development as well as infrastructure performance need to be investigated, especially in a country like Nigeria, where quality housing is a problem.

METHODOLOGY

The Study Area

The study area is the urban fringe of Ibadan, the largest indigenous city in Africa and the capital of Oyo State in Nigeria (Dosumu, 2002; Odunjo, 2014). It is made up of eleven local government areas, five of which are within the inner city (Figure 1). These are Ibadan North-West, Ibadan North-East, Ibadan South-East, Ibadan North, and Ibadan South-West. The remaining six encompassing local government areas are Akinyele, Lagelu, Egbeda, Ona-Ara, Oluoye and Ido local government areas. Ibadan lies at latitude 7° 23' E and Longitude 3° 56' E. It is located at the transition zone between the forest and grassland areas of the country (Oloyede-Kosoko and Akingbogun, 2013).

Ibadan is one of the traditional Yoruba centres whose urbanisation predated European colonisation of the country. The city grew organically for a long time before conscious controlling measures were introduced and it expanded in all directions especially, along the major roads linking the rural

hinterlands and other cities such as Oyo, Iwo, Lagos and Abeokuta. Ibadan witnessed rapid growth in 1946 when it became the headquarters of the defunct Western Region of Nigeria. This brought an influx of expatriates and Yoruba sub-ethnic groups

who came to avail themselves of the varying opportunities available in the town. The city grew from a population size of 175,000 in 1890 to 200,000 in 1911; 238, 075 in 1921, 459, 196 in 1952 and 1,783, 962 in 1981 (Ayeni, 1994).

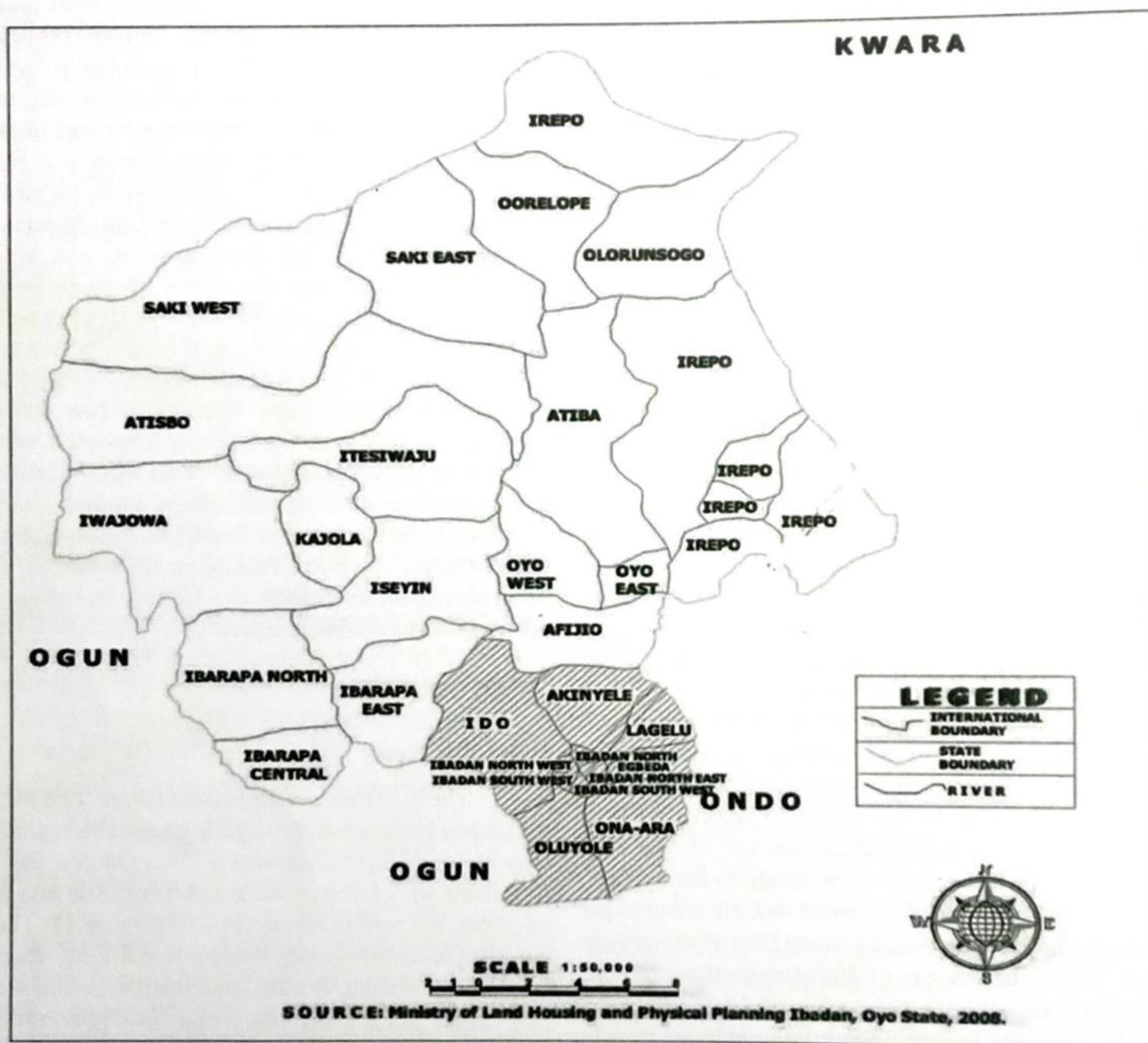


Figure 1: Ibadan Region in the context of Oyo State

Source: Oyo State Ministry of Land, Housing and Physical Planning (2008)

Data Collection and Analysis

The sampling technique used for the study was multistage random sampling. Ibadan city was purposively selected for the study. This is because it is the largest city that is occupied by black people in the sub-sahara region of Africa (Ayeni, 1994 and Dosumu, 2002). It is one of the fastest growing cities in Nigeria. It is therefore, capable of reflecting the socio-economic as well as cultural at-

tributes of the region selected. Thus, the first level of selection is on the basis of local government areas; four local government areas (66.67%) out of the six local government areas that make up the suburban areas of the city were randomly selected. The local government areas were Oluyole, Egbeda, Ona Ara and Lagelu. Next to this, was the identification of the wards. The wards that border the metropolis were also purposively selected for the study. These areas

have ongoing developments and are the wards that receive most of the excess population and activities from the city. Having selected the wards, this was followed by the selection of communities. The list of communities in each ward was first compiled and random sampling technique was used to select 50% of the communities with ongoing developments. Where there was only one community in the selected ward with ongoing development, that community

was selected. Table 1 shows the sampled communities.

This was lastly followed by the selection of the houses and this was done with the aid of Google earth. A total of seven hundred and forty two new houses were identified in the area. Thus, 742 questionnaires were administered on the household head or his representative.

Table 1: Selected Wards, Communities and Sample Size in the Study Area

Local government	Wards selected	Communities with Developments	Selected Communities	Sample Size
Oluyole	Ward 1	Ayegun	Ayegun	22
	Ward 2	Odo-Ona Elewe, Idi	Odo – Ona Elewe	32
		-Iroko, Podo	Podo	28
	Ward 5	Idi-Ayure, Odo-	Odo Ona Nla	23
		Ona Nla, CRIN,	CRIN	22
		Toll gate, Odo-Ona	Odo-Ona kekere	47
	Ward 10	kekere		
		Arapaja	Arapaja	39
	Ward 5	Olodo,	Olodo	26
	Ward 7	Wakajaiye	Wakajaiye	32
Egbeda	Ward 9	Egbeda	Egbeda	51
	Ward 10	Alakia, Olode	Olode	34
Ona Ara	Ward 1	Akanran, Olorunda	Akanran	25
	Ward 3	Badeku	Badeku	41
	Ward 11	Odi-odeyale, Amu-	Amuloko	26
Lagelu	Ward 4	loko, Idi-Osan,	Idi-Osan	55
		Ejioku, Igbon,	Ariku	46
	Ward 5	Ariku		
		Lagelu market, Ka-	Lagelu market	35
	Ward 6	jola		
		Lagun	Lagun	24
	Ward 7	Lalupon 1	Lalupon 1	33
	Ward 8	Lalupon 11	Lalupon 11	46
	Ward 9	Lalupon 111	Lalupon 111	55
Total	17		21	742

The infrastructural facilities (variables) considered in the study are water supply (Borehole, Tap, and Well), electricity supply, road, waste collection, drainage and open space. The perception of residents on availability of, and functionality of these facilities

were assessed.

In respect of their availability, the respondents were asked to indicate whether the listed facilities were available or not. Facility Availability

Indices (FAIs) for various listed infrastructural facilities and the overall one were computed (Table 5). However, in respect to functionality, the respondents were asked to rate each of the listed variables (facilities) using Likert's scale (Likert, 1961) respectively of very functional, functional, partially functional, not functional, and not functional at all. During analysis, these ratings were assigned weight values of 5, 4, 3, 2 and 1 respectively for the listed infrastructural facilities (variables). From these, the Functionality Facility Indices (FFIs) for each of the variables were arrived at, by dividing the summation of the Weight Value (SWV) by the total number of the respondents. The SWV is the addition of the product of the numbers of responses to each of the variables and the weight value attached to each rating in each case (Afon 2000; Okanlawon et al, 2015). The FFIs thus ranged between values of 5 and 1. The mean of FFI distributions were also computed. Furthermore, the deviations about the means of each variable, and the variance and standard deviations of the distributions were also calculated to measure the scatters about the means (Berenson and Levine, 1996). The coefficients of variations were calculated to measure the scatters about the means in percentages. The FFIs in each of the Local Government Areas (LGAs) were thus computed and compared accordingly (Table 6).

RESULTS AND DISCUSSION

The research findings are presented under three sub – headings: socio – economic characteristics of respondents, determinants of development as well as availability and functionality of facilities.

Socio-economic Characteristics of House Owners

Nearly three-tenths (29.9%) of the respondents were between 41 and 50 years of age. Proportions of the respondents in the remaining age groups are: Less than 21 years (3.8%); 21 -30 years (21.7%); 31-40 years (19.3%); 51-60 years (16.7) and, More than 60 years (8.3%) (Table 2). Nearly two-thirds (67.1%) of the house owners were male, and 32.9% females. More than a half (50.4%) of the house owners were Muslims, 47.7% were Christians, 1.3% were traditional African religion practitioners, while 0.1% belonged to 'Other religions'. More than seven-tenths (71.7%) of the respondents were married, 24.4% were single, 2.0% were widowed, 1.6% were

separated and 0.3% divorced. Observed high incidence of married respondents in the study area corroborates earlier observation in the peri-urban area that most of the respondents have been shown to be married (Barbara and Christine, 1969; Adeboyejo and Abolade, 2007; Odunjo, 2014). Thus, the above married house owners in the study area probably moved to the peri-urban areas to escape high cost of rent in the metropolis in search of family comfort and cheaper land as well as shelter of their own.

However, 63.3% were male headed households with 36.7% being female headed households. The fact that, most household heads are male is typical of most Nigerian communities, where most households have been found to be male – headed households (Adeboyejo and Abolade, 2007; Odunjo, 2014). About three-tenths (30.2%) of the respondents had modern/secondary/technical/teacher's grade II certificates; 25.3% had at least HND/First degree, 21.9% had NCE/OND; 17.1% had only primary education, while only 5.5% had no formal education (Table 2). Observed prevalence of literate house-owners in the study area might be due to the fact that primary education has been tuition-free in public primary schools in Southwestern Nigeria since 1955 and in public primary and secondary schools since 1979. Majority of them are likely to be teachers in Primary and Secondary schools because more than fifty per cent (51.1%) of them had either modern/secondary/technical/teacher's grade II certificates (30.2%) or NCE/OND (21.9%) certificates.

In terms of the respondents' occupation in urban fringe in the city, almost three-tenths (29.5%) were civil servants, 19.3% were traders, 12.8% were farmers, 12.1% were unemployed, 11.8% were employed in the private sector, and 11.3% were artisans, while 3.2% were retirees. When the respondents are distributed on the basis of local government areas, Lagelu local government area had the highest level of farmers (58.7%) as well as traders (38.1%). This may be because of the agrarian nature of the area. Oluyole ranks highest in terms of artisan (34.6%) and was followed by Egbeda (25.9%). Most of the civil servants also reside in Oluyole (37.3%) and Egbeda local government areas (30.2%); followed by Lagelu (22.2%), with Ona Ara having the least (10.4%).

Table 2: Socio-economic characteristics

Variable	Frequency (N)	Percentage (%)
Age (Years)		
Below 20 years	28	3.8
21 – 30	159	21.4
31 – 40	141	19.1
41 – 50	219	29.5
51 – 60	124	16.7
61 years and above	61	8.2
Missing value	10	1.3
Total	742	100.0
Gender		
Male	498	67.1
Female	244	32.9
Total	742	100.0
Religion		
Christianity	354	47.7
Islam	373	50.4
Traditional	10	1.3
Others	1	0.1
Missing value	4	0.5
Total	742	100.0
Marital Status		
Married	532	71.7
Single	181	24.4
Widow	15	2.0
Separated	12	1.6
Divorced	2	0.3
Total	742	100.0
Household Size		
4 – 6 persons	402	54.3
7 – 10 persons	183	24.6
1 – 3 persons	91	12.2
11 – 15 persons	45	6.0
16 persons and above	21	2.9
Total	742	100.0
Educational Background		
Modern/Secondary/Technical	224	30.2
Teacher's Grade II Certificate	188	
HND/1 st degree and above	188	25.3
NCE/OND	162	21.9
Primary Education	127	17.1
No formal education	41	5.5
Total	742	100.0
Employment Status		
Trading	235	31.7
Civil Service	139	18.7
Farming	92	12.4
Unemployed	87	11.7
Private Sector	85	11.5
Artisan	79	10.9
Retiree	23	3.1
Total	742	100.0
Income (N)		
Below N20,000	148	19.9
N21,000 - N40,000	137	18.5
41,000 – 60,000	57	7.7
61,000 – 80,000	30	4.0
81,000 – 100,000	21	2.8
Above 100,000	25	3.4
Missing value	324	43.7
Total	742	100.0

Close to one-fifths (19.9%) of the respondents had income of less than N20, 000; 18.5% earned between N21, 000 and N40, 000 per month; 7.7% earned N41, 000 - N60, 000; 4.0% earned between N61,000 and N80,000; 2.8% earned between N81, 000 and N100, 000; while 3.4% earned monthly income of more than N100,000. Implications of the income distribution of house owners in the study area is that majority of them are low income workers living below one U.S. dollar per day (Table 2).

Determinants of Housing development

Results of analysis carried out in the selected local government areas reveals that seven (7) residential house types were identified. There are 43.40% face-to-face bungalow, 9.40% face-to-face storey building, 36.9% flat type bungalow, 6.5% flat type storey, 2.4% duplex, 0.50% boy's quarters and 0.70% other types of houses (Table 3).

More than four-fifths (81.70%) of the houses were completed and inhabited, while 18.30% were uncompleted or were still under construction; though, their owners had already packed in and were residing in these buildings. In-depth interviews identified accessibility to finance as the major reason for rapid suburbanisation in the area and this account for uncompleted buildings being already inhabited.. Investigations on the respondents' source of finance for house development revealed that close to three-quarters (74.5%) of them borrowed from cooperative societies (Table 4); 17.8% relied on personal income; 3.1% inherited the money spent on their buildings, 0.9% relied on gifts and 3.6% obtained loan from Non-governmental organizations (NGOs). In hierarchical order, the most prominent source of finance in the area was cooperative societies, followed in descending order by personal income, loans from NGOs, inherited money and gifts.

Table 3: House Types

S/N	House types	Local Government Area				Total	Percentage (%)
		Oluyole	Egbeda	OnaAra	Lagelu		
1	Face – to-face bungalow	74	35	72	124	305	43.40
2	Face – to-face storey	22	16	11	17	66	9.40
3	Flat type bungalow	78	70	46	65	259	36.90
4	Flat type storey	15	13	6	12	46	6.50
5	Duplex	10	02	5	00	17	2.40
6	Boys quarter	02	02	00	00	04	0.50
7	Others	01	00	01	03	05	0.70
	Total	202	138	141	221	702	100

$$X^2 = 25.388, \text{ d}^0\text{f} = 6, \text{ P} = 0.0000$$

Table 4: Completion Status and Sources of Finance

Sources	Completed		Uncompleted		Total	
	N	%	N	%	N	%
Cooperative societies	471	85.1	82	14.9	553	100.0
Personal income	98	74.2	34	25.8	132	100.0
Inherited money	14	60.9	9	39.1	7	100.0
Gifts	7	100.0	-	-	7	100.0
Non-Governmental Organizations	16	59.3	11	40.7	27	100.0
Total	606	81.7	136	18.3	742	100.0

$$X^2=62.899, \text{ d}^0\text{f}=5, \text{ P}=0.0000$$

Although, existing literature (Krieger and Higgins, 2002) affirmed that living in uncompleted buildings is a hazard to health, findings from the study corroborate Onibokun's 1985 submission that buildings are hardly completed before being inhabited in Southwestern Nigeria.. The idea and practice of moving into and inhabiting buildings that are not fully constructed stems from the believe among the Yorubas, as depicted in their popular saying that *"One cannot complete a house in one's lifetime"*. This implies that, building construction is an incremental process. Even, if at the point of moving in, all required facilities and services are provided, the need for amendment of structure and upgrading of facilities soon arise with improvement in owners' socio-economic status and taste. That significant number of the buildings was being inhabited affirmed the low/lower-middle income status of most house owners in the area.

Availability and Functionality of Facilities

Individual local government area was thoroughly examined in terms of infrastructure availability and performance. A facility availability index and functionality index (FFI) was thereafter generated using a Likert scale which gives a descriptive overview of the availability and functionality level of the facilities. The indices of these Local Government Areas were compared using simple statistical method.

A cursory look at Table 5 shows that Egbeda LGA has the highest access to infrastructural facilities with the mean value of 74.5%, while the least was Lagelu LGA with mean value of 61.8%. The descending order of access to the facilities is Egbeda > Oluyole > Ona Ara > Lagelu. This may be due to the fact that a lot of housing estates are domiciled in both Egbeda and Oluyole LGAs while Ona Ara and Lagelu LGAs are agrarian in nature.

Table 5: Availability of Infrastructural Facilities across the LGAs

Facilities	Oluyole			Egbeda			Ona Ara			Lagelu			Total		
	A(x) %	NA	$x - \bar{x}$	A(x)%	NA	$x - \bar{x}$	A(x) %	NA	$x - \bar{x}$	A(x) %	NA	$x - \bar{x}$	A(x) %	NA	$x - \bar{x}$
Electricity	81	19	10.1	88.3	11.7	13.8	64.6	35.4	0.9	60.9	39.1	-0.9	72.5	27.5	5
Tap water	50.7	49.3	-20.2	61.3	38.7	-13.2	34	66	-29.7	30.6	69.4	-31.2	44.2	55.8	-23.3
Borehole	33.7	66.7	-37.2	32.6	67.4	-41.9	36	64	-27.7	34.4	65.6	-27.4	34.2	65.8	-33.3
water															
Well water	95.6	4.4	24.7	96.4	3.6	21.9	93.1	6.9	29.4	93.2	6.8	31.4	94.6	5.4	27.1
Waste	57.3	42.4	-13.6	69.3	30.7	-5.2	36.8	63.2	-26.9	33.6	66.4	-28.2	49.3	50.7	-18.2
collection															
Road	87.3	12.7	16.4	83.2	16.8	8.7	93.1	6.9	29.4	93.6	6.4	31.8	89.3	10.7	21.8
Drainage	66	34	-4.9	73.1	26.9	-1.4	51.8	48.2	-11.9	48.2	51.1	-13.6	59.8	40.2	-7.7
Open	95.5	4.5	24.6	91.9	8.1	17.4	100	0	36.3	100	0	38.2	96.9	3.1	29.4
space															
Mean	70.9	29.1		74.5	25.5		63.7	36.3		61.8	38.1		67.5	32.4	
$\bar{x}$															

A (X) – Available; NA – Not Available

As shown in Table 7, there was non-functionality of Tap water, Borehole, Waste collection and Drainage in the study area, while on the other hand; there was overall functionality of Well, Road and Open space across the selected localities. This informs that the study area was homogenously similar in functionality of facilities at the level of selected local government areas, except for Electricity supply which was non-functional in Ona Ara and Lagelu local government areas, but it was a little bit functional in Egbeda, while residents were indifferent to it in Oluyole local government area. Despite

this seemingly homogeneity, there is variation in the level of functionality and non-functionality of the facilities across the local government areas.

Both Electricity supply (-0.71) and Tap water (-0.65) were highly non-functional in Lagelu and the latter facility in Ona Ara (-0.67); Borehole was highly non-functional in Lagelu (-0.89) and Ona Ara (-0.92). Also, Waste collection was highly non-functional in Lagelu (-0.76) and Ona Ara (-0.77). In the same vein, drainage is highly non-functional in Lagelu (-0.61) and Ona Ara (-0.62). Hence, these

Table 6: Comparison of Infrastructural Facilities' Availability across the LGAs

Facilities	Oluyole	Egbeda	Ona – Ara	Lagelu	Total
Electricity	10.1	13.8	0.9	- 0.9	5.0
Tap water	- 20.2	- 13.2	- 29.7	- 31.2	- 23.3
Borehole	- 37.2	- 41.9	- 27.7	- 27.4	- 33.3
Well water	24.7	21.9	29.4	31.4	27.1
Waste collection	- 13.6	- 5.2	- 26.9	- 28.2	- 18.2
Road	16.4	8.7	29.4	31.8	21.8
Drainage	- 4.9	- 1.4	- 11.9	- 13.6	- 7.7
Open Space	24.6	17.4	36.3	38.2	29.4
Total	- 0.1	0.1	- 0.2	- 31.3	0.8

Table 7: Comparison of Infrastructural Facilities' Functionality across the LGAs

Facilities	Oluyole	Egbeda	Ona – Ara	Lagelu	Total
Electricity	0.0	0.10	- 0.2.3	- 0.71	- 0.84
Tap water	0.49	- 0.37	- 0.67	- 0.65	- 2.18
Borehole	- 1.04	- 1.09	- 0.92	- 0.89	- 3.94
Well water	1.21	1.18	1.26	1.35	5.0
Waste collection	- 0.31	- 0.10	- 0.77	- 0.76	- 1.94
Road	0.22	0.05	0.62	0.68	1.57
Drainage	- 0.23	- 0.11	- 0.62	- 0.61	- 1.57
Open Space	0.65	0.41	1.07	1.19	3.32
Total	0.01	0.07	- 0.26	- 0.04	- 0.58

local government areas: Lagelu and Ona Ara were characterised with high level of facility dis-functionality. Fifty per cent of the facilities examined were non-functional in Oluyole and Egbeda local government areas.

CONCLUSION

This study has shown the underlying factors of housing development in the urban fringe of Ibadan, southwestern, Nigeria. It also shows the level of availability of infrastructure as well as their performance. Cooperative societies emerged as the determinant factor and most prevalent source of housing development, while the level of availability of infrastructural facilities was low and performance was generally very poor.

There is thus, the need to re-invigorate the use of cooperative societies as a means of financial empowerment of the citizenry in Nigeria. Citizens need to be encouraged to join a cooperative society and more cooperative societies should be allowed to blossom, and adequately monitored to enhance their capacity to provide more loan for disbursement and logistics for housing provision to members.

Also, quantity of infrastructure as well as quality determined by the level of functionality should be improved upon. These become imperative because adequate provision of infrastructure and services would normally encourage good environmental habits and preserve the aesthetics of the city. Physical infrastructure of an area tells more of its functionality, livability and development thus, enhancing

healthy environment. Since the basic cause of residential behaviour producing environmental hazards and risks was inadequacy of environmental amenities (Afon, 201) which include infrastructure and services, more efforts and attention by government should be geared towards providing both quantity and quality facilities in urban fringe of the cities. This, through proper monitoring and sincerity, will go a long way at ensuring more healthy and livable environment. There is need for urgent need by government to improve the provision of facilities which must include water and electricity. Also, adequate waste collection should be provided. Regular and adequate electricity, which is the hub of developments, should be vigorously pursued so as to be richly supplied in the country. This, if done, will provide cheap and environment-friendly sources of energy for the provision of other facilities and services.

Instead of building in phases, the task of providing adequate and affordable houses by the owners could be tackled by the increased use of alternative building materials such as laterite bricks/stabilized laterite bricks and cement-fibre roofing material. The materials have been shown to have lower cost advantage over conventional building materials. The efforts of the Nigerian Building and Road Research Institute (NBRRI) and some local companies in Nigeria have yielded suitable equipment like VsCinva ram press, a multipurpose brick making equipment and interlocking brick press and should be encouraged. The lack of will-power and general acceptance has been the bane of the use of alternative building materials in Nigeria. Architects could set the right examples by building self- houses using the indigenous approach and by encouraging government to adopt same for mass housing schemes so that, potential house owners could utilise the material. Government should generate more employment so that, people would be able to plan their own houses as houses in the suburbs are constructed through personal effort.

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