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On the Relationship between Residential Property Rental Values and Infrastructure Provision in Abaji City F.C.T, Nigeria

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ABSTRACT

Property value is dependent upon many features related with that property such as physical features of the property: location in relation to accessibility and other neighbourhood infrastructure does affect value. Those attributes are usually provided by the State in the case of a State and Local governments through their various policies and services. This study focuses on the relationship between residential property rental value and the available infrastructural facilities in residential properties in Abaji, F.C.T Nigeria and analysed their influence in the determination of the rental values of the properties. Data for this work were collected through structured questionnaire and administered based on stratified random sampling (i.e. zones of traditional and non-traditional residences). Data collected for the assessment include, house structural characteristics, in-house and environmental facilities. Analysis of data was done by factor analysis with statistical package for social science (SPSS 10.0) and excel package. The results depict that; compound houses and bungalows dominate Abaji City which together contributed about 66.1% of the total stock of houses. The study revealed that, there is positive relationship between the type of building and rental value, 36.4% variations in annual rental are predicted by building types and 28.4% variations in annual rent are predicted by the accessibility to houses in Abaji City. Based on the findings, one of the recommendations made is that, building regulations must be in operation or enforced by the appropriate officers of local

authority to prevent further development of ram-shackle buildings in the area. Secondly, constant improvement on the infrastructural facilities such as roads, drainage, water, waste disposal and electricity supply is necessary for sustainable development.

Keywords: *Residential property, Infrastructural Provisions, Rental Values, Abaji Nigeria*

INTRODUCTION

World Health Organization (1991) defines housing as residential environment which includes, in addition to the physical structure that man uses for shelter, all necessary services, facilities, equipment and devices needed or desired for the physical and mental health and social well-being of the family and individual. Residential accommodation transcends ordinary shelter and thus comprises of the facilities and other aspects of the social environment which links man with his remote and immediate neighbourhood. It includes bedroom, toilet, bathroom, kitchen, open space, drainage, water supply, refuse disposal, good road networks, recreation parks, hospital and many more. The availability of some or most of these facilities, by and large, affects the rental value alongside other determinants. Residential properties are both consumption and investment good (Henderson and Loannides, 1987). As consumption good it is acquired for owner occupation. Also, the housing good (property) may be to maximize optimum return from outright sale or letting. If this is the case, the price of the residential property becomes very important to the landlord and the occupants. Hence investment in this type of property is regarded as a considerable source of wealth for many individuals (Hillard and Petersen, 1994; Reed, 2001). The physical characteristics of the property such as number of bedrooms, age, size, various amenities and services have been noted to help determine the rental price for landlords as they set rental prices for residential properties (YuZhou and Haurin, 2010; Sule, 2012). In addition, external factors such as population, income, traffic congestion, proximity to work, access to public transportation, proximity to higher institution and environmental characteristics may have significant impacts on rent (Simans et al, 1989; Bello, 2012). Therefore, any serious investigation into the nature and behaviour of residential

property price should recognize that property as a commodity is not a single good, but a complex bundle of services or potential services which operate in many dimensions (Greaves, 1984; Bello, 2012). Olujimi (2010) opined that improved infrastructural facilities would enhance the rental value of residential properties through which the invested capital could be profitably recouped. Therefore, it will not be out of place to assess the relationship between the infrastructural provision and the rental value of residential properties of Abaji City, F.C.T., Nigeria.

Statement of the Problem

Housing is one of the three basic needs of man. Yet housing need, more than most other human needs, largely remain unsatisfied in almost all developing nations of the world, Nigeria inclusive. The question is what constitutes an ideal environment for housing. Environment is said to be anything that can be seen, felt and touched and can influence individuals and likewise influence property rental values. Hence, the questions now are: Is there any association between the quality of a house and its rental value? Is there any relationship between accessibility and house value?

Aim of the Study

The aim is to assess the relationship between infrastructure and residential property rental value of Abaji city.

Specific Objectives of the Study

1. What are the types of residential houses in the study area?
2. To find out the type of infrastructure facilities available in the study area.
3. To find out the influence of infrastructural facilities of the area on property rental value.

CONCEPTUAL REVIEW OF INFRASTRUCTURE

The Oxford Advanced Learner Dictionary defines infrastructure as the basic systems and services that are necessary for a country or an organization for example buildings, transport, water and power supply and administrative systems. Onokerhoraye (1984) identified infrastructure as “a service in which the various levels of government in the country as well as the various communities are collectively involved in its provision”. He went further to state that it also includes the services provided by voluntary agencies and private individuals for the benefit of the community at large. Furthermore, infrastructure has been described to include the aggregate of all facilities that enable a society to function effectively. By providing the physical facilities, which move people, goods, commodities, water, waste, energy and information, infrastructure provides an enabling environment for economic growth and enhanced quality of life. Infrastructure is therefore universally regarded as the engine that drives the city. The linkages between economic activity and infrastructure continue to grow stronger and more critical as economic activity becomes increasingly more complicated and global in scope, (Babawale, 2004). William Morish and Catherine Brown (n.d.), as quoted in Akujuru (2004), described infrastructure, as “the systematic framework which underpins a community’s ability to fulfil its mission of providing a base for its citizens to be productive and to nurture social equity. Omuojine (1997), as also quoted in Akujuru (2004), described it as the stock of fixed capital assets in a country for example roads, railways, airports, hospitals, water ways, power stations, water works, and telecommunication network. It serves as a slender threads that weaves together human needs and values with those of the environment. Literally, it refers to fixed facilities or installations traditionally provided by the public sector. Omuojine (ibid), classifies it as follows:

1. Transportation, including roads, railways, airways, airports, seaports and waterways;
2. Water supply including water works and dams,
3. Electricity including power stations,
4. Telecommunications including postal, telephone, telex,

5. Health including hospitals, maternity homes and health centers,
6. Sanitation and solid waste disposal,
7. Drainages and embankments.

State of Infrastructure in Nigeria

The state of infrastructure in Nigeria has remained a matter of concern given the importance of infrastructure in the economic well-being of the populace and the growth and development process of the economy. It seems a well-known fact that infrastructural facilities in this country are grossly inadequate to meet the needs of industries both old and new and the population. Oke (1999) as quoted in Ogunyomi (2006), observed that existing industries have to provide their own water by digging boreholes, generate their own power through the provision of stand-by generators for electricity supply. For new investments, project cost has to include the cost of providing these utilities in the new factory site. Furthermore, some urban and most rural roads are in a state of disrepair and in consequence, not motorable. He revealed that Nigeria loses about N80 billion annually due to bad roads. Where some of these infrastructure facilities are available, they are epileptic in terms of performance therefore not reliable.

The Study Area

Abaji Area Council is one of the six area councils that make up the Federal Capital Territory (FCT). A greater part of what is now Abaji Area Council was excised from Niger and former Kwara States to form part of the FCT in 1976. The Area Council was created in 1986. It is made up of Abaji and Yaba Development Areas. The Council has a total land area of about 1,100 square kilometres with a population of over 58,642 inhabitants based on 2006 population census. The resident ethnic groups of the area include Egbira, Ganagana, Gbagyi, Bassa, Hausa and a significant population of other ethnic groups from all over Nigeria. They are predominantly farmers, hunters, fishermen, and traders. The Area Council is made up of 10 (ten) Political wards; Abaji North East, Abaji South East, Abaji Central, Nuku/Sabon Gari, Agyana/Pandagi, Rimba/Ebagi, Alu/Mamagi, Yaba, Gurdi and Gawu. The Council is made up of Executive and Legislative arm headed

by the Honourable Chairman. There exist seven Departments through which activities of the Council are carried out namely; Administration, Agriculture, Works, Education, Finance, Health and Environmental Sanitation Departments. There exists two Chiefdom in the Council; Abaji and Yaba Chiefdoms headed by the Ona of Abaji who is the President and Chairman of the FCT Traditional Council of Chiefs and the Etsu Yaba who has the third class status.

METHODOLOGY AND ANALYSIS

A structured set of questionnaires was used to gather information from the primary sources- the residents of the Area Council. This was compliments by the use of secondary data mostly from the author’s previous work. The sampling technique used for this research is stratified random sampling. Samples were drawn from two major zones, i.e. zone of traditional residence and zone of non-traditional residence (source: author’s previous work). These two zones represents four political wards that harbour- the seat of Abaji Area Council of FCT-Nigeria. Due to homogenous nature of traditional residence, the systematization had been each house in every five houses, while various type of residential houses were sampled from the non-traditional residence, 100 questionnaires were distributed in each zone. The data collected for the study had been analysed by SPSS (regression analysis).

Table 1: Distribution of Questionnaires and Percentage of Responses

Zones	Number Of Questionnaire Administered	Number Of Questionnaire Returned	Percentage Of Questionnaire Returned
Traditional residence	100	49	49.0
Non-traditional residence	100	56	56.0
Total	200	105	52.5%

Source: Author’s Previous Fieldwork Analysis (2012)

RESULTS AND DISCUSSIONS

Table 2: Housing survey of Abaji City

	Frequency	Percent	Valid Percent	Cumulative Percent
bungalow	34	31.2	32.4	32.4
semi-detached	13	11.9	12.4	44.8
storey building	4	3.7	3.8	48.6
traditional compound	38	34.9	36.2	84.8
rooming (face to face)	16	14.7	15.2	100.0
Total	105	96.3	100.0	
Total	105.00	100.0		

Source: Author's Previous Fieldwork Analysis (2012)

Interpretation: - Table 2 shows that traditional compound and bungalows dominate Abaji city, which together contributed about 66.1% of the total stock houses. Others such as semi-detached, storey building and rooming houses (Face -to- face) only contributed about 30.2%.

Infrastructural Facilities Available at Abaji City

Table 3: Sources of water supply available at Abaji city

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Well	2	1.8	1.9	1.9
water tanker	25	22.9	23.8	25.7
stream/river	28	25.7	26.7	52.4
pipe borne water	4	3.7	3.8	56.2
water hawkers (mairuwa)	41	37.6	39.0	95.2
borehole dug in the house	5	4.6	4.8	100.0
Total	105	96.3	100.0	
Missing				
System	4	3.7		
Total	109	100.0		

Source: Author's Previous Fieldwork Analysis (2012)

Table 4: Road infrastructure at Abaji City

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	footpath	17	15.6	16.7	16.7
	tarred road	45	41.3	44.1	60.8
	un-tarred road	38	34.9	37.3	98.0
	tar washed off	2	1.8	2.0	100.0
	Total	102	93.6	100.0	
Missing	System	7	6.4		
Total		109	100.0		

Source: Author's Previous Fieldwork Analysis (2012)

Table 5: Waste disposal method at Abaji City

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	open space	92	84.4	87.6	87.6
	collected by agent	13	11.9	12.4	100.0
	Total	105	96.3	100.0	
Missing	System	4	3.7		
Total		109	100.0		

Source: Author's Previous Fieldwork Analysis (2012)

Hypothesis and Test of Correlation between Building Types and Rental Values

Hypothesis: 1

H_0 : There is no significant relationship between building type and rental value.

H_1 : There is significant relationship between building type and rental value.

Table 6: Correlation between Building Types and Rental Value

		ANUARENT	BLDTYPE
ANUARENT	Pearson Correlation	1.000	-.364**
	P-VALUE	.	.007
	N	54	54
BLDTYPE	Pearson Correlation	-.364**	1.000
	P-VALUE	.007	.
	N	54	105

Source: Author's Previous Fieldwork Analysis (2012)

Interpretation: Since the calculated correlation coefficient is less than the P-value, we reject H_0 and accept H_1 . It means there is significant relationship between building types and annual rental value. Correlation is significant at 0.01 levels. From this result, 36.4% variations in annual rental (ANUARENT) are predicted by building types (BLDTYPE). The correlation, which is negative, connotes that the building types determines the annual rental paid by the tenants.

Hypothesis and Test of Correlation between Accessibility and Rental Value

Hypothesis: 2

H_0 : There is no significant relationship between accessibility (road network) and rental value.

H_1 : There is significant relationship between accessibility (road network) and rental value.

Table 7: Correlation between Accessibility and Rental Value

		ANUARENT	ACCESSIB
ANUARENT	Pearson Correlation	1.000	.284*
	P-VALUE	.	.042
	N	54	52
ACCESSIB	Pearson Correlation	.284*	1.000
	P-VALUE	.042	.
	N	52	102

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Author's Previous Fieldwork Analysis (2012)

Interpretation: Since the calculated correlation coefficient is less than the P-value, we reject H_0 and accept H_1 . It was discovered as shown in table 7 that 28.4% variations in annual rent (ANUARENT) are predicted by the accessibility (ACCESSIB) to houses in Abaji city. The correlation is significant at the 0.05 level.

Compare Mean of Infrastructural Facilities

Hypothesis: 3

H_0 : There is no significant difference in infrastructural facilities available in the two selected zones of the city.

H_1 : There is significant difference in infrastructural facilities available in the two selected zones of the city.

NOTE: The full meaning of the variables in the compare mean table 8 are given below,

- POWERSUP – Power supply
- WATERSOUC – Water sources
- WATSPEND – Water expenses
- WASTDISP – Waste disposal

Table 8: Compare Mean of Infrastructural Facilities

	N	Mean	Std. Deviation	Std. Error Mean
POWERSUP	105	2.9524	.3768	3.677E-02

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
POWERSUP	80.299	104	.000	2.9524	2.8795	3.0253

Source: Author's Previous Fieldwork Analysis (2012)

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
WATSOURC	105	3.6857	1.3750	.1342

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
WATSOURC	27.467	104	.000	3.6857	3.4196	3.9518

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
WATSPEND	92	1.8587	1.1151	.1163

One-Sample Test

	Test Value = 0					
	t	df	P-VALUE	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
WATSPEND	15.987	91	.000	1.8587	1.6278	2.0896

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
WASTDISP	105	1.1238	.3309	3.230E-02

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
WASTDISP	34.796	104	.000	1.1238	1.0598	1.1879

Source: Author's Previous Fieldwork Analysis (2012)

Interpretation: Based on the result of analysis above, we do not reject H_0 since $T\text{-cal}$ (1.1238) is less than upper critical T - value (1.1879) and greater than the lower critical T -value (1.0598). Hence, we conclude that there is no significant difference in power supply within the Traditional and Non-traditional area. In addition, the result of analysis on water source revealed that there is no significant difference in the water source for residents of the Abaji city.

More so, the result of analysis on expenses incurred on water does not reveal any significant difference in expenses incurred by the residents of the Abaji city.

Finally, for waste disposal, the results of analysis show that the method of waste disposal in the two zones of the city does not differ significantly.

CONCLUSION AND RECOMMENDATIONS

From the analysis of findings, it was discovered that there exist a significant relationship between building type and rental value. 36.4% variations in annual rental are predicted by building types (See Table 6). Moreover analysis shows that there exist a positive relationship between accessibility and annual rental value. 28.4% variations in annual rent are predicted by the accessibility to houses in Abaji city. This simply implies that the more accessible a building the higher the rental value and vice-versa (See Table 7). However, analysis as shown in (Table 8) that there is no significant difference in power supply within the Traditional and Non-traditional area. In addition, the result of analysis on water source revealed that there is no significant difference in the water source for residents of the Abaji city. As 37.6% depends on water hawker popularly called “Mairuwa” compare to people that dug bore in their house 4.6% and only 3.7 got their daily water from public pipe born water (See Table 3). Finally, for waste disposal, the results of analysis show that the method of waste disposal in the two zones of the city does not differ significantly. 84.8% dumped their refuse in an open space (see Table 5).

In views of the foregoing, the following recommendations are hereby put forward:

1. Government should provide a better road network (Tarred road) in which virtually all the houses will gain accessibility. That is building regulations must be enforced by the appropriate officers of local authority.
2. Drainages were seen to have been blocked by waste within the City; all stakeholders should take responsibility to evacuate these wastes in order to prevent flooding of the city during rain seasons.
3. More efforts on environmental sanitation of the city are necessary before the city will be consumed by its waste, calling on environmental unit of the Abaji Area Council to exercise their power and use the resource at their disposal to clean up the City.
4. No doubt, there is an acute water problem in Abaji City. The present administration of Abaji Area Council should intensify her efforts in provision of more boreholes and embark on more water projects.
5. In addition, there should be constant improvement on the infrastructural facilities to cater for population explosion in the nearest future.

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