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ASSESSMENT OF ADEQUACY OF URBAN INFRASTRUCTURE AND ITS IMPACTS ON RESIDENTIAL PROPERTY VALUES IN ILORIN WEST, KWARA STATE, NIGERIA.

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Abstract

The vital determinant of the status of any urban area is the condition of its infrastructure, a major indicator of neighbourhood quality and a critical driving force for socio-economic improvement. This paper is therefore set out to assess the status of urban infrastructure and its influence on property values in Ilorin with specific attention on Ilorin West Local Government Area of Kwara State. The study employed the use of structured questionnaires administered on sample size of 148 residents in the selected neighbourhoods which is approximately 37% of the total sampling frame of 400. The data collected were analysed with simple descriptive statistics. The study revealed that the provision of infrastructure enhanced property values within the study areas. Some parts of Ilorin with poor or inadequate infrastructural facilities command relatively lower rental values than some parts with availability of infrastructure. It is recommended that government by way of Public Private Partnership concept should earnestly embark on adequate provision, rehabilitation and appropriate maintenance of the infrastructure facilities to improve social life and property values within the study areas. This would lead to availability of more suitable accommodation for the citizenry and enhance value to both government and private sector.

Keywords: Infrastructure, Rental value, Tenants, Property, Urban area

Introduction

Infrastructure is recognised as underlying, being the foundation for sustaining an enabling environment for economic development. It is widely regarded as the key to urban development, and its deficiency is a major obstacle to development. Tomlinson (2001). In line with the above assertion by Lemo in (2006) states that, the development of the nation's economy cannot be divorced from the availability of infrastructure. The provision of infrastructure is then generally agreed to be an appropriate field of government's economic activities in addition to the traditional roles of assurance of law and order. Infrastructure has a profound influence on the health, welfare, social attitude and economic productivity of individuals. Infrastructure consists necessary services, facilities, equipment and devices needed or desired for the physical and mental health, social well being of a family and individuals. (World Health Organisation, 2009).

Abdulateef (1997) and Babarinde (2000), one of the genuine parameters for assessing the status of urban system is the state of infrastructure and the efficiency of any form of human activity system, including an urban area, largely depends on the provision of efficient infrastructural facilities and services. As a result of this, it is evidenced that, the significance impact of infrastructure in the proper functioning of an urban area cannot be

overemphasised. Boye (2000), Ajakaiye and Lemo (2006) agreed that, infrastructure is the basic and physical facility that brings about the development of the nation's economy, this is because, educational, institutional, technological infrastructure and other categories of infrastructure drive the economy of the nation, facilitates economic activities and adds to the economic output in terms of Gross Domestics Product (GDP). It is evident that a myriad of factors such as the prevailing economic conditions, government's legislations and policies, availability and state of infrastructure provision come into play to influence local property values. In carrying out this study, all other factors were assumed constant while urban infrastructure was isolated and examined in relation to property values.

Statement of the problem

Without any bit of misgiving, infrastructural facility brings about enrichment of property values of any state and its sound and good condition can encourage property investors which, in return, will facilitate and accelerate property investment.

The quality of property and availability of infrastructural facilities, such as, good road network, water supply, regular electricity supply among others and value of properties are related. This invariably means that, the infrastructure has a noteworthy influence on the value (Capital or Rental Value) of property in any location. It is not out of place that, basic infrastructural facilities both within and without, of housing environment go a long way to determine property and rental values, but there is unacceptably low residential property values in the selected neighbourhoods and without any iota of doubt the main reason is due to poor infrastructure . This research problem is a course for action because of the challenges encountered by the property investors and some other individual landlords in the selected neighbourhood of the study area to recoup their invested capital as well as the challenges faced by the prospective tenants to get befitting accommodation with adequate infrastructure. The incongruity observed in Ilorin West Local Government of Kwara State as regards rental and capital values is that, properties in locations where there is infrastructural facility command high value, this is enormous and a serious course for concern.

Aim and objectives

The study aimed at assessing the conditions of infrastructural facility and its impact on property values in Ilorin West Local Government area of Kwara State.

To achieve the above stated aim, the following objectives are set out to:

1 Evaluate the type, availability and adequacy of infrastructure available in the study area.
2 Examine the challenges associated with maintenance of the infrastructure and the consequential effects on property values in the area.
3 Analyse the trends in property values in line with the infrastructure provided over a specified period of time in the study area.

The Concept of Infrastructure

Several authors and professions (according to area of specialisation) have ascribed different definitions, meanings and concepts to the word infrastructure right from the time of human creation and evolution of urban town and cities. Webster Dictionary states that infrastructure are works constructed for public use. Infrastructure, according to World Health Organisation (WHO) (2000), is a necessary service, facility, equipment and device desired for physical and mental health and social well being of the family and individual. Aigbokan

(2000), broadly broken down the concept of urban infrastructure to different types which include water supply, sewerage, sanitation, urban roads, electricity drainage, waste disposal, communication and other transport system. There are different agencies, especially government agencies, which are responsible for the maintaining and management of all these infrastructures in Nigeria such agencies are Power Holding Company of Nigeria, (PHCN) Federal Ministry of Works and Transport and their state and local government counterparts. Among them also is, Environmental Protection Agency, waste management board, air and water transport authority. (Alausa *et al;* 1997). There had been series of definition of infrastructure ascribed to several authors. But the term infrastructure has been used in a broad sense to mean collectively: the transportation of people and information; the provision of public services and utilities such as water and power, and the removal, minimization and control of waste, and environmental restoration. American Society Civil of Engineer (2005). Also, Donald (1994) defines it as the physical structures and facilities that are developed or acquired by public agencies to enhance governmental functions and provide water, power, waste-disposal, transportation or similar services to facilitate the achievement of common social and economic objectives. According to Fox (1994), infrastructure is those services derived from a set of public works traditionally provided by the public sector to enhance private sector production and to allow for household consumption. Egbenta and Udoh (2008) also describes infrastructure as the aggregate of all facilities that allow a city to function effectively. It is also seen as a wide range of economic and social facilities crucial to creating an enabling environment for economic growth and enhances quality of life. They include housing, electricity, pipe-borne water, drainage, waste disposal, roads, sewage, health, education, telecommunications and institutional structures like police station, fire fighting stations, banks and post office. It is simply the engine needed to drive the city. Irrespective of the forms of definitions offered, the common element include physical structures, facilities or utilities that are put in place by private or public involvement and expenditure aimed at facilitating the effective functioning of the society.

The attributes of infrastructure

According to Akujuru (2004) infrastructure is characterized with the following features

* It requires large capital outlay; this perhaps justifies the reasons the citizens depend on government for the provision of the infrastructural facilities.

* It poses difficulties in cost recovery.

* It enjoys considerable economies of scale, which results in monopolies.

* It has a high level of externalities both positive and negative

* It possesses important network effects

* It has intermediate input characteristic

It must be noted here that, while these characteristics have generally remained true, the exact character trait will depend on whether it is urban, rural or inter-urban infrastructure or operator of the facility i.e. whether public or private, central, state or local government agencies.

The Nature of Nigeria Infrastructure

In general terms, Akujuru (2004) opined that, the major elements of Nigerian infrastructures are in a bad state. Few of them are as follows

The power sector is characterized by low generating capacity relative to installed

capacity. Currently, the electricity generation is in the region of 5,500 megawatt, while the current estimated national consumption is 6,000 megawatt. The potential demand for electricity in Nigeria has been estimated at over 10,000 megawatts. (Source: Ibadan Electricity Distribution Company, (IEDC) Ilorin Office, Kwara State)

Until recently, the country was characterized by low Tele-density, which is in the range of one telephone line to 1,000 persons. This ratio has however improved dramatically in the last twelve years, Thanks to GSM. The long period of stagnation in the telephone sector resulted largely from the many decades of monopoly status conferred on NITEL. (Source: Nigeria Federal Ministry of Information, Capacity Review Journal (2007)

According to Federal Ministry of Information, Capacity Review Journal (2007) Postal services are provided basically by NIPOST. The performance record is not anything to cheer. Nigeria has one postal outlet to 30,000 people as against one outlet to 6,000 people, prescribed by the Universal Postal Union. The service quality of NIPOST is low so is their revenue generation capabilities. However, the involvement of Courier companies in the past two decades brought relief to many.

Only about 30% of the population in the country has access to potable water supply. There is increasing manifestation of the inability of the public sector to cope with the demand for water supply (World Bank 2009). This is true for virtually all parts of the country. However the gap is being filled through some private sector initiatives, details of which will be addressed later in this presentation.

The road network is generally in poor condition with the problem being more with the quality and maintenance than with the number of roads. A recent survey indicates that 50% of Federal roads, 70% of State roads, and 90% of Local Government roads are in very poor condition. It is important to note that 80% of Nigerian traffic (men and materials) is by road. (World Bank 2009)

The sewage infrastructure in Nigeria is also nothing to cheer about in many state of the nation expect in Federal Capital Territory. Private initiative in this area is quite enormous. They have responded well and adequately to the opportunities in this area through private investment in sewage disposal vehicles. (World Bank 2009)

The Determinants of Property Values

According to Kuye (2000), real property can only have value if it has utility, if it is scarce and effectively demanded. Real property has significance only as it satisfies man's needs and desires. It is man's collective desire for real property via satisfaction that gives rise to value. Thus, the ability of a property object to satisfy man's needs and desires together with its degree of scarcity and utility compared with others makes man to ascribe value to it. As identified Britton *et al*; (1989) the fundamental determinants property values are location, structural and physical characteristic, state of repair, facilities, accommodation details, services, properly interest and time. The factors that dictate the prevailing level of collective property values in a neighborhood at a particular point in time range from physical topography, configuration and features of the surroundings, socio-political factors; infrastructural facilities and services, government presence, class or status of occupation, economic to legal factors neighborhood attributes. They all often affect the values of properties collectively rather than in isolation, either

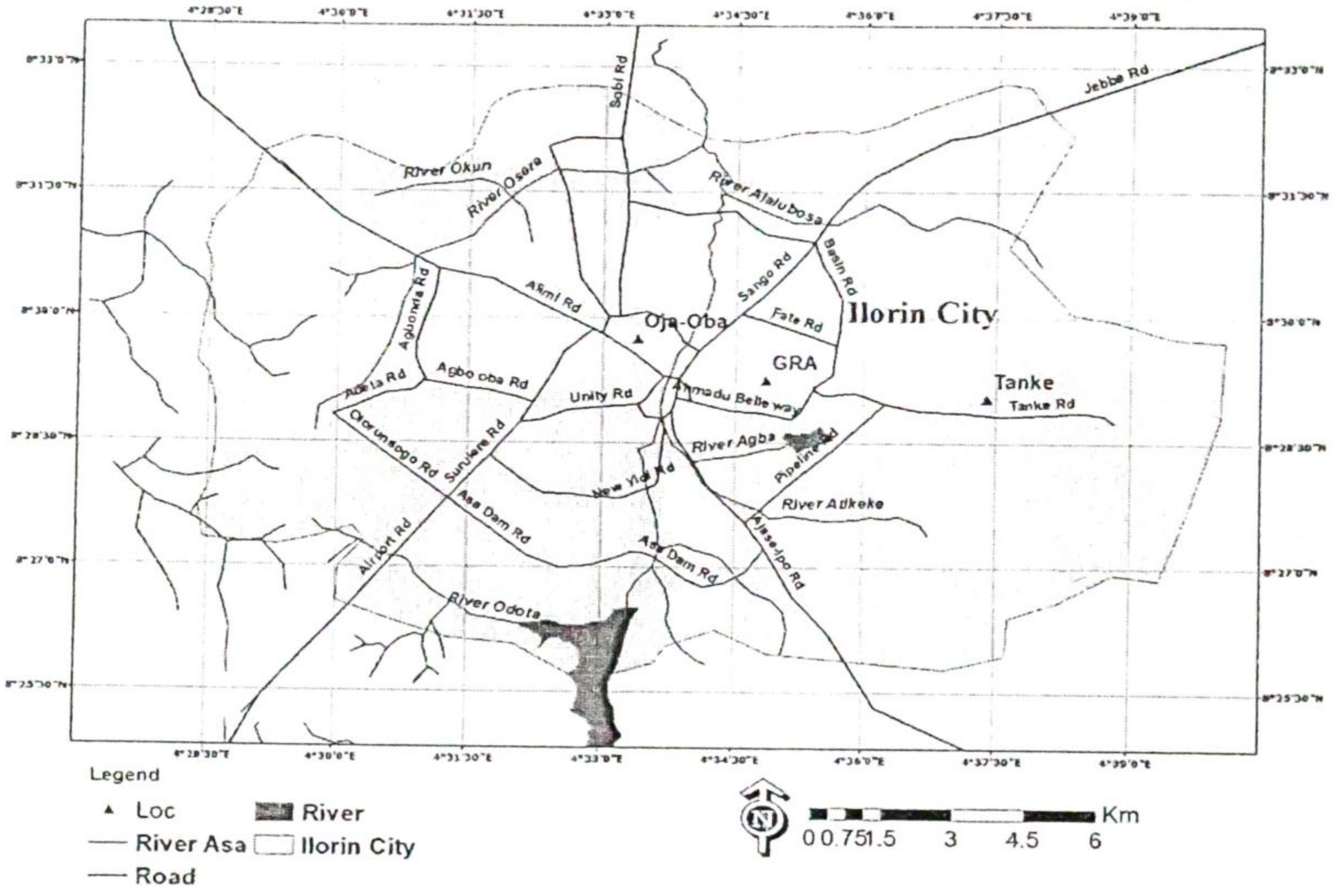
to cause 'appreciation' or 'depreciation' in property values. Several factors can cause properly value to appreciate among which are infrastructural developments and positive changes in nearby properties. (These relate to physical planning and legislation. policies). On the other hand, depreciation may occur in property values due to infrastructural degradation and negative changes in neighourhood properties.

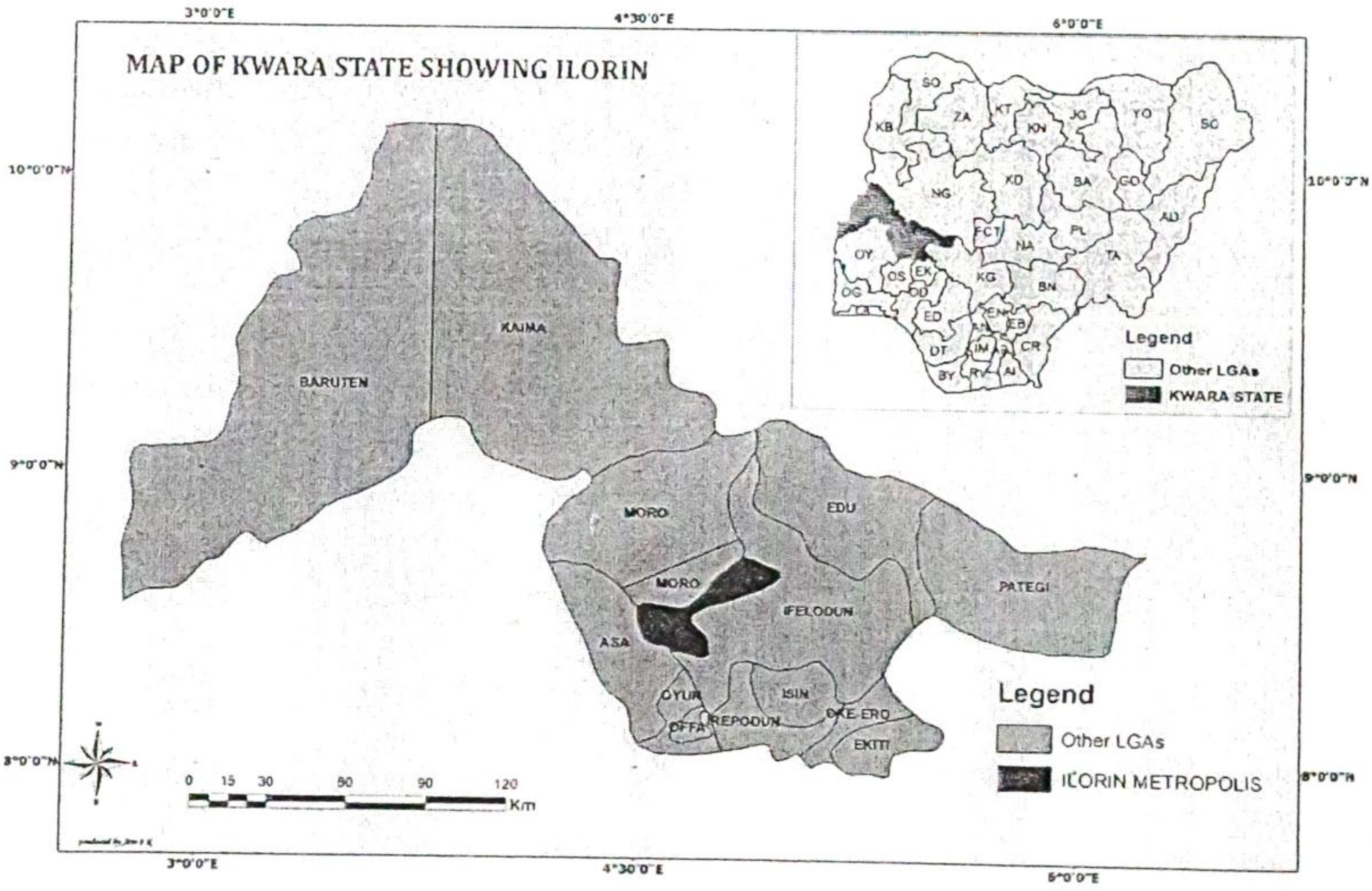
Urban Infrastructure and Property Values

It has been identified that one of the determinants of property values is infrastructural facilities, the presence of which leads to appreciation in property value. Its absence affects neighbourhood properties adversely (Briton *et al;* 1989). According to Hammer *et al;* (2000) provision of good and adequate infrastructure is central to property values. A residential user may be prepared to pay a high value for a property depending on his consideration for basic facilities such as accessibility, water and electricity Harvey and, Litchfiled (1993) also observed that areas with basic facilities such as access roads, good drainage, electricity, public water supply and telephone would attract high property values. This is in contrary to areas without any of these facilities. Thus there is a direct relationship between urban infrastructure and property values.

Study Area

Ilorin is state capital of Kwara State with three prominent Local Government; Ilorin West, (which is the center of attention in this research) Ilorin East and Ilorin South Local Government. Ilorin lies on latitude 9° 37' North and Longitude 6° 33' East and covers more than a landmass of about 535 square kilometers, Ilorin is dominated by gentle sloping plains to the central, western and southern sections traverse by some streams, drainage channels, railway lines and some other inter and intra road networks. The economic activities in the study area vary in nature and size, with a whole wide range of operations. Ranges from wholesale, retail, manufacturing, transportation, banking, tourism, general administrative and procurement services rendered by private and public parastatals. Also the property market indices of Ilorin is recently on the increase as a result of the influx of the people most especially from the Northern part of the country, and this makes the demand for habitable residential houses to increase and of course the supply has been on the decrease and this jacked up the rent. That of the rural setting is mainly of farming, petty trading, arts and craft. The major land use type in the area is residential. Others are commercial, industrial, transportation, recreation and agriculture.





Source: Bureau of Land, Kwara State Ministry of Lands and Housing (2003)

Methodology

The sampling frame in this study was the total population of the residents in the developed residential real estate properties in the selected neighbourhoods of Ilorin West Local Government Area, which was four hundred (400) and 37% of the total population of the sampling size was drawn out by considering only those residential properties in the selected neighbourhoods of Ilorin West Local Government. And a total of one hundred and forty eight (148) were chosen by the percentage adopted and they are as follows Gari-Alimi, Taiwo-Oke/Taiwo-Isale area, Adewole Housing Estate, Unity area and Adabata. Also, five (5) practicing estate surveyors and agents within the study area were interviewed. Cluster sampling technique was employed to access information from the neighbourhoods; the assumption here was that the population is not so homogenous due to variation in location. Data from the sources above were analysed with simple statistical techniques to bring out the desired results.

Available Infrastructure

The basic infrastructure in Ilorin West is electricity, road network, drainage/sewage, health care, education, telecommunication, potable water, market and shopping centre, security and recreation. Facilities such as electricity, road network, health care, education (public schools) are provided and maintained by the government. Whereas, security services, potable water and telecommunication (mobile telephones) are collaborated efforts of both the government and private sectors. As a result of introduction of Global System of Mobile telecommunication (GSM) in Nigeria, the private operators of MTN, Globacom and Airtel have been the major providers of telecommunication services.

Results and Discussion

Maintenance culture/habit

Table 1: Maintenance Culture

Level of Maintenance	Freq. of Respondents	Percentage (%)
Excellent	-	0
Adequate Maintenance	13	8.78
No Adequate Maintenance	94	63.51
Poor Maintenance	34	22.97
No Maintenance at all	7	4.72
Total	**148**	**100**

Source: Field Survey, 2013

Most residents (63.51% of respondents) were of the opinion that the facilities were not adequately maintained and managed considering their level of performance. Only 4.72% of the respondents agreed that the facilities are adequately maintained.

Appraisal of Facilities Provided

Table 2: presents respondents assessment of the infrastructural facilities in their neighbourhoods.

RANKING	Electricity		Portable Water		Drainage/ Sewage		Telecomm unication		Road Network		Health cares		Shopping Centres	
	Fq	%	Fq	%	Fq	%	Fq	%	Fq	%	Fq	%	Fq	%
Excellent	0	-	0	-	0	-	0	-	0	-	0	-	0	-
Very Good	0	-	2	20	1	9.1	0		0	-	0	-	0	-
Good	2	16.7	4	40	6	54.5	8	72.7	2	25	2	22.2	4	40
Fair	6	50	4	40	4	36.4	3	27.2	5	62.5	6	66.7	5	50
Poor	4	33.3	0	-	0	-	0	-	1	12.5	1	11.1	1	10
Total	12	100	10	100	11	100	11	100	8	100	9	100	10	100

Source: Field survey, (2013)

Where Fq = Frequency and % = percentage

From table 2 above, it can be seen that, that perception of the respondents towards electricity is being poor with 0% followed by water with 40%. Larger percentages of the respondents assessed the provision of infrastructure as being fair while small percentage evaluated them as being good, no respondents assessed them to be excellent or perfect. One major infrastructure that stands out, as being good in terms of management and functionality is telecommunication services, voted very good by 72.7% of the total respondents. This result can be ascribed to the introduction of GSM telephone service by private operators in Nigeria.

Impact of Infrastructure on Property Rental Value

Table 3: Impact of Infrastructure on Rent

Level of Impact	Respondents	% of Response
Very High Impact	70	47.2
Significant Impact	38	25.6
Low Impact	14	9.4
No Impact	26	17.5
Total	**148**	**100**

Source: Field Survey, 2013

Respondents' opinions on the impact of infrastructure provision on the rent passing on the properties they occupy show that 70 that is, 47.2% confirm the assertion. To complement this data, interview conducted among five practicing estate surveyors and agents in the area confirmed that the quality of infrastructure provided have direct impact on house rents.

Willingness to Pay Higher Rents for Better Infrastructure

Table 4: Willingness to Pay Higher Rent for Availability of Better and Adequate Infrastructure.

	Willingness to pay High Rent	%	Not willing to pay High rent	%
Electricity	128	86.4	23	15.5
Portable Water	148	100	-	-
Sewage	120	81.0	25	16.8
Telecommunication	98	66.2	47	31.7
Road network	148	100	-	-
Health Care	122	82.4	17	11.4
Shopping Centre	101	68.2	44	29.7

Source: Field Survey, 2013

The result of the survey on this question shows that almost all the respondents (80%) were ready to pay higher rent in case of improved infrastructural facilities. Top on the list of their requirements in order of preference are portable water and road network 100% followed by electricity 88%, health care 84% responses.

Trends In Rental Values (2009 – 20113)

Table 5 shows the trends of residential property rental values in the Ilorin West Local Government between year 2009 and 2013. The survey chose to give attention to residential properties being the foremost type of properties in the Ilorin.

Table 5: Trends in Rental Values of Properties in the Selected Area of Ilorin West Local Government

Area	2009	2010	2011	2012	2013
ADABATA					
Single Room	40,000	45,000	45,000	50,000	60,000
1 Bedroom Flatlet	50,000	50,000	70,000	75,000	100,000
2 Bedroom Bungalow	100,000	100,000	120,000	150,000	175,000
3 Bedroom Flat	150,000	175,000	200,000	220,000	250,000

UNITY					
2 Bedroom Flat	100,000	120,000	150,000	175,000	200,000
3 Bedroom Bungalow	175,000	200,000	220,000	250,000	275,000
4 Bedroom Bungalow	200,000	220,000	270,000	300,000	350,000
Detached House	250,000	250,000	300,000	350,000	400,000
ADEWOLE HOUSING ESTATE					
1 Bedroom Flatlet	70,000	80,000	80,000	100,000	120,000
2 Bedroom Bungalow	150,000	150,000	180,000	222,000	250,000
3 Bedroom Duplex	200,000	220,000	250,000	300,000	350,000
4 Bedroom Bungalow	250,000	250,000	350,000	300,000	350,000
Detached House	250,000	250,000	300,000	350,000	400,000
TAIWO-OKE/TAIWO-ISALE					
Single Room	40,000	40,000	45,000	50,000	50,000
Bedroom Flatlet	50,000	50,000	70,000	75,000	100,000
Bedroom Bungalow	100,000	100,000	120,000	150,000	175,000
3 Bedroom Flat	150,000	175,000	200,000	220,000	250,000
GARI-ALIMI AREA					
2 Bedroom Bungalow	80,000	120,000	150,000	150,000	165,000
3 Bedroom Flat	100,000	140,000	140,000	170,000	200,000
4 Bedroom Bungalow	150,000	160,000	180,000	200,000	220,000

Source: Field Survey, 2013

Table 5 reveals that between the year 2009 and 2011, the rent passing on residential properties in Ilorin West Local Government was a bit stable. At this period there were no cogent provision of infrastructural facilities and rehabilitation schemes. Looking closely at the table, the rental values in the area between period of 2011 and 2012 become higher. This observable fact can be attributed to the provision of more infrastructures in Ilorin West by the state government and the private sectors. This can be seen in the provision of road network in all neighbourhoods. This culminated in higher rental values of the properties within the selected neighbourhoods in the study area.

It was also observed that government layout such as Adewole Housing estate and Unity area have relevant Planning Authority with full complement of infrastructure have highest rent on virtually all types of residential property. On the other hand, Adabata and some part of Taiwo-Oke/Taiwo-Isale which are

characterized by outdated and insufficient infrastructure in the form inadequate portable water and erratic electricity supply command lower rental values.

Recommendations

There is no iota of doubt that, infrastructure exert much influence on the property values. In views of the foregoing, the following practical and workable recommendations among others are hereby put forward: Adequate concentration should be given to the quality of the neighbourhood, in terms of infrastructural provision by government; this will in turn jack up the values of the residential property in the areas that are lagging behind. Government should embark on comprehensive electrification most especially to the areas that always have erratic supply of electricity. Also, portable water should be made available and all roads rehabilitation should be done by tarring all the roads in the selected neighbourhoods suffering from poor road network especially, some that were abandoned. Public-Private Partnership should be encouraged to give way to the provision of infrastructure and correct maintenance of the available infrastructure. The local government council Ilorin West Local Government Area should be more financially empowered through better allocation from the Federal Government to enable them do more in the area of infrastructure provision in the areas.

Conclusion

From the analysis of findings and empirical observations, it is obvious that the pressure of essential infrastructure facilities and services serve as major determinants of property values. Property values tend to peak in those areas that enjoy adequate infrastructure such as easy accessibility (through road network), electricity, pipe borne water and efficient drainage system. The striking rise in residential property values in Adewole Housing Estate and some parts of Unity area is largely attributed to the provision of these infrastructural facilities.In contrast, the low rate of rental values in Adabata area can be adduced to the fair or poor state of the infrastructural facilities.

References

Abdulateef and Babarinde (2000). The Possible Impact of Infrastructure on the Property Values. *A Final Paper Submitted to the African economic Research Consortium (AERC)*, Kenya.

Aigbokan, H. (2000). Sustainable Infrastructural Development; Focus on the Developing Nations. *Journal of Sustainable Development*. 12(6).

Akujuru (2004) Issues on Urban Infrastructure Provision and Management in Nigeria Alausa et.al (1997). Function of Urban Infrastructure in National Development. *Paper presented at the 27th annual conference of the Nigeria of Institution of Estate Surveyors and Valuers at premier hotel, Ibadan 1st-6th April.*

American Society Civil Engineers (2005). Report Card for America's Infrastructure. Retrieved from www.asce.org/reportcard/2005/index.cfm on the Saturday 10th August 2013.

Boye, I. (2002). Economic and Social Implications of Infrastructure. *The environscope, The Polytechnic Ibadan Journal, Vol. 1(1).*

Britton *el ta;* (1997). *The Infrastructure and Property Values.* Real Estate

Magazine, London.

Donald, T. T (1994). The Role of Government in the Provision of Infrastructure. *Journal of Environmental Management, 86.*

Egbenta and Udoh (2008). *The Role of Cities in the Economic Growth of Underdeveloped Areas.* Housing Development and Management, Ibadan. Ibadan University Press

Fox, W.F. (1994): "Strategic Options for Urban Infrastructure Management".Urban Management Programme (UMP) Paper 17. The World Bank pp7

Hamer el ta; (2000) Effect of Population Growth on Urban Infrastructure and Services. *Journal of Anthropology and Archaeology American Research Institute policy for development*

Harvely and Litchifiled (2001). The Role of Economic and Social Infrastructure in Development; a Global View. (Excerpts from research work).

Kuye O (2000). The Principle and Practice of Property Valuation in Comtemporary Nigeria.

Lemo (1998). Planning Budgeting and Investment of Urban Infrastructure. *Nigeria Journal of Technology Research Vol. 2 (1).*

Tomlison L. (2000). Infrastructure and Urbanisation, Lagos, Sam Nig. Limited.World Health Organisation (2009). The State of the World's Cities WHO, Nigeria