

Assessing the Adequacy of Public Housing Infrastructures in Lagos, Nigeria

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Abstract— the provision of infrastructural amenities is an important ingredient in housing development and formal housing supply, thus adequate provision of housing facilities are regarded as critical facilitator for economic development and key to improving the quality of life in any community irrespective of size. While there is a plurality of housing issues, the problem of infrastructure in housing remains prominent especially when mass housing schemes are considered. The failure of some of these housing schemes has revealed that housing provision goes beyond the ordinary provision of shelter for needs of man. Hence, the need to approach the situation in a pragmatic way, with a focus on the infrastructural provision – an important aspect of housing that is often left to fate – in most common housing schemes in developing countries – like Nigeria. The aim of this study is to assess the adequacy of infrastructure provision in housing projects. This study adopts mixed method approach. A structured questionnaire was developed to harvest data from residents, developers and interested owners. Interviews were conducted with (e.g. 5) staff of development companies, professionals of the built environment and executives of community development association. The study underscores the need to consider relevant infrastructures for housing improvement and development in Nigeria with a view to ascertaining the sustainability of the housing environment and from this a conclusion would be drawn and recommendations in generating sustainable housing provision.

Keywords—public housing, infrastructural amenities, sustainability of housing environment, economic development facilitator

I. INTRODUCTION

Infrastructure generally refers to the systems and fundamental facilities required to serve an area, city or country. They are typically roads, water supply, electricity, sewers, etc. that enable, sustain or enhance the standard of living of people; it is the enterprise or the products, services and facilities necessary for the economy to function properly. Providing infrastructural amenities for housing means birthing

the first basic amenities and services required by every household in place for several activities and pursuit. However, this happen to be one of the most intricate problems cities face in developing countries such as Nigeria as they are not able to provide these infrastructures for the teeming urban population. Infrastructural development in many nations is one of the required bases of evaluating the accomplishments of the government and it is also the basis of the establishment of good governing administration. It proves that whenever people are denied of fundamental infrastructure, the outcome is impoverishment leading to urban communities with the greatest number of poor individuals. Housing provision and housing infrastructure are intertwined. Without infrastructures, housing cannot be sustainable and hence should be treated integrally. An ideal urban neighbourhood should be provided with good roads, drainage networks, electricity and portable water supply, good waste management system and security. The condition of these services in Nigeria urban neighbourhood contradicts the principle of sustainability in urban housing. A sustainable housing development would not only have environment friendly and energy efficient buildings, it would also have access to employment, schools, shops, places of entertainment, primary health care, and it would be accessible by public transport [1].

Subsequently, the supply of adequate Infrastructural amenities is a significant part in housing provision particularly in developing nations like Nigeria. This emerges a need for a research into the condition of infrastructural supply in mass and public housing developments revealing the current situation of infrastructural decline, its causalities and the establishment of probable sustainable solutions to attain the right standard of living for people. One significant part of urban housing problem is the poor condition of the provided infrastructures [2]. Findings on housing supply tend to concentrate more on issues of policy, fund, and financial aspects of housing procurement issues, for example, infrastructures are dealt with en-passant. However as the interest for quality housing increased, researchers are looking out for approaches to present housing from a comprehensive point of view. The role of infrastructures in housing provision cannot be overemphasized what's more, ought not to be dealt with as a very late thought. The study goes for assessing

housing infrastructural provision in a selected housing estate as a case study with a perspective to give policy makers and other stakeholders the required information needed for achieving sustainable development in the housing sector and environment.

A. Research Questions.

1. What are the effects infrastructural developments have on the provision of housing?
2. What is the relationship between infrastructural development and provision of housing?
3. What is the level of Nigeria government's commitment towards infrastructural development in the country?

B. Objective of Study

The main objectives of this paper include:

- i. To assess the adequacy of public housing infrastructure in a selected public housing estate in Lagos state, Nigeria.
- ii. To evaluate the level of occupants satisfaction with the infrastructural amenities available.
- iii. To evaluate the maintenance services rendered by the management authorities in relation to the occupants level of satisfaction.

II. REVIEW OF LITERATURE

Infrastructure development in Nigeria:

A. Pre-Colonial Nigeria

The Nigerian government started the provision of infrastructural amenities in 1917 when there was a township ordinance promulgated by the colonial government then. The ordinance divided Nigeria into 3 distinct classes namely: first class- harbouring the whites, rich citizens and their workers and having a heavy concentration of infrastructural amenities i.e. Lagos. Second class and third class- harbouring the middle and low income earners with little or no infrastructure available. This hierarchical class continued until 1952 when Local government councils were established to extend infrastructural facilities to rural areas. But this wasn't very effective at that time because there were little or no allocation of funds to local government for provision and maintenance of these familiarities. This remained evident in all development plans initiated since 1960 [3].

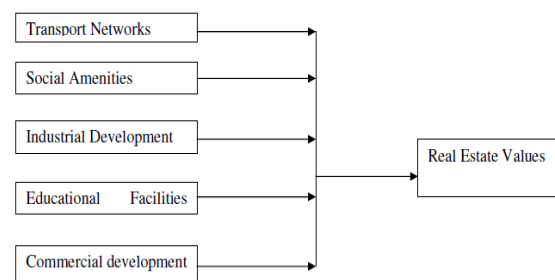
B. Present Day Nigeria

In Nigeria today, the provision of infrastructure or social services such as feeder roads, electricity grids, water supply, communication supply, good drainage and sewerage disposal are thought of by the federal, state and local government respectively to be very essential and have tried in several ways to tackle all problems relating to infrastructural amenities provision. In recent times, series of construction projects have been embarked on by concerned governing bodies to combat housing infrastructure problems which are still far from being solved and this can be said to be as a result of ineffective strategies that have been implemented [1].

C. Infrastructural Provision and Its Impacts in Housing Supply

Generally, the state of infrastructure facilities in housing is bad especially in public housing provided by the government (federal or state). The major issues affecting these projects are the fact that planning and provision of infrastructure are not thought to be important and left to the hands to the occupants or community to provide for them.

For the sake of this study, we would be considering infrastructural amenities that are required to support a housing scheme or project in a community. Infrastructure in this study is taken to be the engine needed to drive housing provisions put in place by the government, public or private involvement and expenditure aimed at improving the effectiveness of a housing environment.



III. BRIEF OF THE STUDY AREA

The study area of this paper is the Alimosho Local Government areas in Lagos State, Nigeria. It happens to be the largest of all 20 local government areas present in Lagos State occupying 1,288,714 inhabitants (Official Census, 2006) although the Lagos state government disputes this and claims that it occupies more than 2 million residents who then divided it into several Local Community Development Areas, (LCDA). Alimosho which was created in 1945 has its geographical coordinates at 6° 36' 39" North, 3° 17' 46" East. The climate of Alimosho Local Government area is a characterized by two wind masses which includes the Southwest monsoon wind and the Northeast trade wind. They are responsible for the moisture breathing air caused by the April to October rainfall and the cold and dry Sahara wind caused by the harmattan season respectively. The Alimosho Local Government Area has a number of public housing estate provided to house the growing population of the area. Some of these housing estates were studied for the adequacy of their infrastructural amenities. These estates include:

A. OJOKORO LOW COW COST HOUSING ESTATE (LSDPC), Meiran, Alagbado, Lagos

1) DATA ANALYSIS OF POPULATION AND SAMPLE SIZE

The study area population is approximately 3000 people based on a sampling technique using an estimate of 3 people in 160 flats in the housing estate. The target population was 150 being homogeneous consisting of respondents that are knowledgeable and can provide the researcher with adequate and appropriate in-depth information. The sample size is 20% of the target population since it is representative of the entire population.

The study dealt with a sample of 120 respondents from the Low cost housing estate, Ojokoro. Out of 150 questionnaires, 120 were responded to. This is a valid response to data analysis

Table 3.1: Response Rate

Response	Frequency	Percentage
Response	120 residents	12.5%
Non response	840 residents	87.5%
Total	960 residents	100%

2) INFRASTRUCTURE DEVELOPMENT

94% of the residents of the estate agreed and 6% disagreed with the research question that infrastructural developments have an effect on the provision of public housing in Lagos, Nigeria. This shows that majority of respondents confirm that the infrastructure developments is inadequate in relations to public housing provision in Lagos Nigeria.

Table 3.2: Infrastructure Development

	Frequency	Percentage
Yes	118	98.3%
No	2	1.66%
Total	120	100%

3) SURVEY OF INFRASTRUCTURAL FACILITIES AND SERVICES

For this study, the following key infrastructures (availability or lack of them) would be considered to have a direct impact on the quality of housing environment in Lagos, Nigeria. These facilities are important for improving the quality and standard of living of the occupants of these public housing estates. During the course of this study, it was made known that all the areas are provided with necessary infrastructural facilities, although these facilities in some cases are not adequate for the public housing dwellers as at the time of the survey. The following facilities were surveyed in the visited public housing estates:

a. ROAD TRANSPORTATION SYSTEM.

Good transport systems are a vital part of a safe and developed housing environment. From a general viewpoint,

good public transport is regularly the main method for transport for poor and middle income earners. Without it, it would be difficult to enhance their employment opportunities as their jobs would have to be within walking distances from their homes. It additionally gives them better access to other important facilities needed by them such as quality education, recreation and also health care services. For individuals with handicaps, senior citizens and youngsters public transport is likewise their primary method of mobility [4]. The field study on these estates show that the major access roads leading to the estates are in average conditions while the feeder roads to individual houses in the estate are in very bad conditions, but it was noticed that due to the government policy that mandates all local government to grade their roads, some improvements are being put to place to maintain the roads.

b. ELECTRICITY GRID SUPPLY AND DISTRIBUTION.

Electricity is a very important aspect to the development of urban areas in developing countries like Nigeria [5]. Nigeria which is one of the most populous countries in the world unfortunately has one of the lowest net electricity supply rates in the world. PHCN being the organization responsible for the supply of power in Nigeria puts all their effort in the adequate provision of electricity to service all of Nigeria. The field study carried out on the estates show that there has been an inadequate supply of electricity and there has been a power outage for about 2 weeks. The residents of both estates complained a lot about the inadequacy of electric power supply and the enormous bill being charged for electricity. It was also observed that all other facilities have been affected due to the inadequacy of electric power supply in the area.

c. WATER SUPPLY.

Water supply in Nigeria is considered to be one of the poorest in the world. Lagos state which happen to be surrounded by water from the Atlantic Ocean and the lagoon supply 81.32%. The city has an old water treatment plant located in Iju on the Ogun river. Water supply in the housing estates studied show that water is supplied by individual families. It was observed that most of the houses in the estates have no pipe borne water; the households drill boreholes and pumps in order to supply clean water for their families. This facility is not provided by the government making the burden fall on the occupants and household heads of the estates

d. DRAINAGE AND SEWERAGE SYSTEM.

Drainage systems in Lagos, Nigeria are constructed to allow the free flow of waste and rain water. But in most cases, the drainages are blocked by refuse and dirt dumped in them hence, causing pollution and sometimes flooding in the communities as there is no place for the water to flow.

Beyond flood, dumping of waste in drainage has a lot of effects such as making the environment un-conducive for occupants and visitors, stagnant water can cause infections and create a mosquito prone environment. The estates happen to be in this situation also of drainage being blocked by dirt and can lead to flooding and mosquitos' infections from stagnant water not cleaned and drained.

e. REFUSE DISPOSAL SYSTEM.

The generation and disposal of waste is an intrinsic part of any developing or industrial society. Waste, both from domestic and commercial sources has grown significantly in Nigeria over the past decade. Every time a householder shops at the store, and open market he contributes to the mountain of waste. It is possible to quote figures which show that the production of waste amounts to millions of tons. The percent of Nigeria's population living in cities and urban areas has more than doubled in the last 15 years.¹ The cities and urban areas experience continuous growth which contributes to enormous in generation of solid and liquid waste [6].

Due to the population increase in Nigeria as a whole, the challenges of solid waste management in the country has increased drastically and has become complex. Bulk of the challenge come from the inadequate framework provided to take care of these issues. Refuse in the housing estates are being handled by the Lagos Waste Management Authority (LAWMA). The occupants of the estates pay a fee to have their dirt taken out every weekend making life easier and more comfortable for them.

IV. EFFECTS OF INADEQUATE INFRASTRUCTURAL FACILITIES ON THE PEOPLE AND THEIR ENVIRONMENT IN THE STUDY AREA.

According to the information gathered through the questionnaires distributed and retrieved from the Low Cost Housing Estates, several effects caused by provision on infrastructural facilities are recorded. The study show that inadequate infrastructural facilities affect several other aspects of life such as the increase in cost day to day transactions that might have been cheaper, hence discouraging trade and businesses within the neighbourhood. The cost of inputs used in producing virtually all goods and services required in the neighbourhood automatically also increase.

Inadequate electric supply in this neighbourhood discourages the start of small scale business opportunities for many of the occupants of the estate and also reduces the profit derived by already existing ones. This does not encourage human capital and increases the level of unemployment present in the estate since the economic factors are not available to respond to the demand. The water supply in the estate is left to individual household to provide for themselves and those that cannot do that tend to look for alternative methods like buying water that might be unsafe for their

health, thereby making them fall ill and sometimes die prematurely. This result into a huge sum of money being spent on the maintenance on health. These cost of maintenance rises considerable during dry season when water supply is inadequate and usually more prone to bacteria. Those who cannot afford making a borehole or buying from those who have in the area die of water borne diseases.

The drainage facilitates not properly maintained or blocked due to dumping of refuse in them cause an accumulation of stagnant water that eventually breeds mosquitoes and other insects making the area prone to several infections. Only the occupants who can afford medical attention and other preventive methods are safe while those who can't are left with several illnesses and possibly death.

The study also shows that the inadequacy of these facilities have increased other environmental problems such as declining biodiversity, deteriorating water and air quality through excessive use of wood for fuel. It is important to know that the adequate provision and proper maintenance of these facilities will definitely increase the quality of life in the environment.

V. RECOMMENDATIONS

The following measures are considered to be a good way in improving the standard of living and improving the adequacy of infrastructural amenities in the OJOKORO LOW COW COST HOUSING ESTATE (LSDPC), Meiran, Alagbado, Lagos and the MILLENNIUM HOUSING ESTATE (OJOKORO), Ijaiye - Ojokoro, Lagos.

- a. Provision of Estate water project
In spite of the numerous efforts to establishing rural water developments programmes by the Federal and State government in order to boost the housing development and improve the quality of life of the rural populace, the situation remains unchanged. This has adverse effects on the provision of housing in Lagos state. Government should intensify efforts in the provision of more boreholes and hand-pump wells in the study area.
- b. Maintenance of existing road networks
It was observed that most of road network linking the residences in the study area are in very bad shape. The government should embark on grading and rehabilitation of some roads in the area.
- c. Proper drainage systems
- d. Adequate supply of electricity

VI. CONCLUSION

The migration of people from the rural to urban areas has become a big deal in the cities which causes infrastructural facilities already provided to become inadequate for the

population of the area. It is important to provide basic and adequate infrastructural facilities at all levels in order to improve the standard of living of those living in that area, facilitating the growth and development of Nigeria's public housing schemes.

Rural neglect coupled with the host of other factors has adversely affected the functioning of the social, economic, political life of people. The result has been the migration of the potentially most productive and innovative individual from rural to urban areas which indirectly affects housing development, however, the provision of basic and adequate infrastructural facilities at all levels of government and private participation in infrastructure development should be considered a criteria in facilitating housing supply in Nigeria.

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