



Infrastructure Management

Elixir Infrastructure Mgmt. 55 (2013) 13155-13159

Elixir
ISSN: 2229-712X

A Comparative Analysis of the Relationship between Housing Quality and Neighbourhood Type in Selected Formal and Informal Residential Neighbourhoods of Minna, Niger State

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ARTICLE INFO

Article history:

Received: 21 November 2012;

Received in revised form:

13 February 2013;

Accepted: 21 February 2013;

Keywords

House,
Quality,
Residential,
Neighbourhood.

ABSTRACT

The importance of qualitative housing units and by extension, the general environment on the life of individuals, communities and even nations at large, can never be over-emphasized. But unfortunately, achieving these have become nearly impossible, especially in the third world countries, despite the adoption of various national and international policy frameworks like Agenda 21 and the UN Habitat II. Thus, human settlements have become the avenues through which the physical environment is abused and misused to the detriment of the present and future generations. Among the chief problems bedeviling human settlements is the non implementation of development plans leading to the poor state of housing units and the surrounding environment, which in one way or the other, affects the residents psychologically and health-wise. Therefore, this paper assessed the relationship between housing quality and neighbourhood types in the relatively new formal and informal neighbourhoods of Minna. In order to achieve this, four neighbourhoods were randomly selected from each of the formal and informal areas. Consequently, a total of 97 questionnaires (representing 10% of the total population i.e. the housing units) were proportionally administered and the phi-coefficient technique of hypothesis testing was employed. The result of this showed that there is no statistically significant relationship between neighbourhood types and housing quality, i.e. the housing and environmental conditions of the selected formal and informal residential neighbourhoods are not statistically significantly different. Therefore, the paper recommended the computerisation of all land titles and documents in Minna in order to have a comprehensive data bank on land matters. It also recommended the development of a more pragmatic housing policy and programme where resources from both the public and private sectors would be mobilized in order to massively improve the conditions of the existing housing stock as well as the construction of new ones.

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Introduction

Man, it is said, is greatly influenced by his environment; he is thus considered as a product of his environment. But the condition of his immediate physical environment (especially housing) could greatly affect him negatively or positively. In view of this, it is generally believed that a healthy housing unit should be part and parcel of the modern man's environment. Owing to this, the role of a healthy housing unit as an important agent of enhancing human development cannot be overemphasized. This is because, it is supposed to address humans' health, social, physical and cultural needs. Jinadu (2004) also emphasized the need for the provision and availability of the facilities and services that would ensure that these needs are met.

But over the years, especially in the developing countries, housing units have not been able to guarantee the aforementioned human needs. This could be as a result of the high poverty levels, cost of building materials, the problem of land acquisition, lack of/non-availability of viable mortgage institutions and the inability of governments to sustain their

various housing policies and programmes. This problem is evident not just in the housing industry, but also in land administration and management. Thus, ensuring the effective administration and management of land has become an herculean task due to the non implementation/availability of master plans and the problem of multi jurisdictional function of land management, (i.e., the influence of the traditional institutions and many government agencies on land matters within the same jurisdiction, thereby leading to conflicts and lack of coordination).

Despite these challenges faced by the housing sector in virtually every developing country, especially in sub-Sahara Africa (Groves, 2004), housing is still considered as an indispensable "human need". Thus it was declared by the United Nations (UN) as well as many nations of the world (Leckie, 2007), as a basic human right which governments and Non Governmental Organisations (NGOs) must ensure its attainment by all. Nigeria has also, at one time or the other developed different National Housing Policies and Programmes, but it is

still struggling to ensure the provision of this all-important component of the human environment to its citizenry.

Owing to this, the tripartite of government, private institutions and individuals, have been at the forefront of housing provision in Nigeria, but this has only succeeded in causing the problem of land dichotomy between the formal (“government layouts”) and the informal (“native lands”) neighbourhoods. This paper was therefore premised on the comparative study of the relationship between housing quality and neighbourhood type in some relatively new formal and informal (that were hitherto designated as formal) neighbourhoods of Minna. It will as well assess the negative effects of human activities on the environment in both types of neighbourhoods.

Aim and objectives

The aim of this study is to comparatively analyse the relationship between neighbourhood type and housing quality in the formal and informal neighbourhoods of Minna and the objectives are:

- Measure and compare the quality of housing units between the selected formal and informal residential neighbourhoods of Minna;
- Analyse the negative effects of human activities on the environment in both types of neighbourhoods and;
- Identify the problems faced by the agencies in charge of housing and environmental management issues.

Hypothesis

H₀: There is no statistically significant relationship between neighbourhood type and housing quality in the formal and informal residential neighbourhoods of Minna.

H₁: There is statistically significant relationship between neighbourhood type and housing quality in the formal and informal residential neighbourhoods of Minna.

Background information on the study area

Minna, the capital of Niger State, lies on latitude 9° 36' N and longitude 6° 33'E; the State is bordered to the North by Zamfara State, Northwest by Kebbi State, South by Kogi State, Southwest by Kwara State, while Kaduna State and FCT borders Niger State to both Northeast and Southwest respectively.

Materials and methods

In this research work, both primary and secondary sources of data collection were employed to obtain useful information needed for the study.

The Primary Sources – these sources which included questionnaire and reconnaissance survey were employed to obtain data directly from the field, and the data were basically used in the data analysis section of the paper.

The Secondary Sources - these included sources like maps and information sourced from relevant textbooks, newspapers, journals and the internet.

Sampling Procedure

- **Questionnaire-** Two types of questionnaires - structured (close) and unstructured (open) - were developed and administered at the household level as well as on a representative of each of the following public agencies: Niger State Ministry of Lands and Housing; Urban Development Board; Housing Corporation and Environmental Protection Agency.
- **Reconnaissance Survey (Site Visitation)** - This was carried out in order to allow for an independent assessment of the housing and environmental qualities in the selected neighbourhoods.

- **Sampling Technique-** In order to achieve a fair and balanced result, the sampling frame of four clusters was randomly selected each from the formal and informal residential neighbourhoods of Minna. The Random Sampling Technique of questionnaire administration was then used in sampling 10% of each of the clusters, which constituted a total of 113 housing units, with the informal having 69 while the formal neighbourhoods had 44 housing units respectively.

Method of Data Analysis And Presentation

The data obtained from the structured questionnaires were retrieved and analyzed using the Scientific Package for Social Science (SPSS), and thereafter, presented graphically by the use of charts. Also, the unstructured primary data of the research and the observed outcome of the reconnaissance survey were collated and analysed. But in order to find the relationship between housing condition and the neighbourhood type, the Phi Coefficient statistical test was used.

Results

This section analyzes and presents the data collected through the administration of questionnaires and the reconnaissance survey exercise carried out in this research. But of the 113 questionnaires that were sent out, 97 were filled and returned (representing 85.8%), while the remaining 16 questionnaires (4 and 12 from the formal and informal neighbourhoods respectively) were not returned.

Housing and environmental quality of the neighbourhoods

Building condition

The aim of this was not to assess the structural conditions of the buildings but rather, their physical appearance; and the criteria used were the wall, roofing, floor, window, door, ceiling toilet and bathroom conditions. But it was virtually impossible to adequately assess some of these variables because the incremental system of housing unit development is a visible feature in most third world settlements (Kamau, 2005). This system involves the occupation of a house just after the erection of the super structure and the building is thereafter completed bit-by-bit. But based on the earlier stated criteria, 87.5% of the housing units in the formal neighbourhoods were adjudged to be in good condition as against the 42.1% in the informal areas.

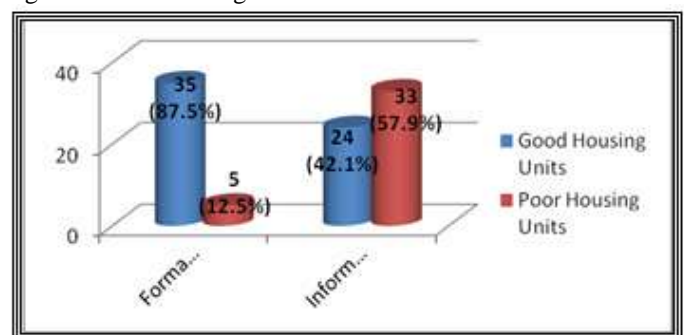


Fig. 1.1 Building Condition

Negative effects of human activities on the environment in both types of neighbourhoods

Poor drainages

Owing to the state of Nigeria’s economy and other factors, emphases are laid by the people on just having a roof over their heads rather than residing in healthy housing accommodations that would guarantee their comfort and well being. Therefore, one of the most notably absent feature in the neighbourhoods was that of drainage systems, except for those along the major streets. Thus, waste water is discharged from the houses unto the untarred roads, leading to the washing away of the road surfaces.

Table 1.1: The Randomly Selected Neighbourhoods

Formal Neighbourhoods	Informal Neighbourhoods
A1- MTP 3 (Morris Fertilizer)	A2- former MTP 100 (behind Brighter School)
B1- MTP 114 (Mona Juice/Mandela)	B2- former MTP 59A (Top Medical road)
C1- MTP 95A (Farm Centre)	C2- former MTP 47 (opp. Mona Juice/Mandela)
D1- MTP 90 (Bosso Low Cost Extension)	D2- former MTP 40 (behind Maryam Babangida Girls' Science College)

Table 1.2: Socio-economic characteristics of the respondents

Socio-Economic Data	Indices	Formal (%)	Informal (%)
Gender	Male	34 (85.0)	52 (91.2)
	Female	6 (15.0)	5 (8.8)
Educational Level	Qur'anic	2 (5.0%)	4 (7.0%)
	Secondary	3 (7.5%)	12 (21.1%)
	Post Secondary	35 (87.5)	41 (71.9%)
Occupation	Civil Servants	33 (82.5)	36 (63.2%)
	Artisans	0	11 (19.3%)
	Private Workers	7 (17.5%)	10 (17.5%)
Income Level	₦5,000-₦10,000	4 (10.0%)	3 (5.3%)
	₦10,001-₦20,000	6 (15.0%)	22 (38.6%)
	Above ₦20,000	30 (75.0%)	32 (56.1%)
Household Size	1-2 persons	6 (15.0%)	9 (15.7%)
	3-4 persons	5 (12.5%)	7 (12.2%)
	5-6 persons	22 (55.0%)	23 (40.5%)
	Above 7 persons	7 (17.5%)	18 (31.6%)

Source: Field Survey, 2011

This also causes the ponding of water which favours the breeding of mosquitoes or results in the emission of stench, as well as an eye-sore. So also, rainwater helps in the washing away of the road surfaces owing to the lack of drainage systems. Consequently, of the 97 houses sampled, only 10, representing 10.3% of the total had drainage systems barely covering the length of the houses, while their contents are eventually emptied into the streets.

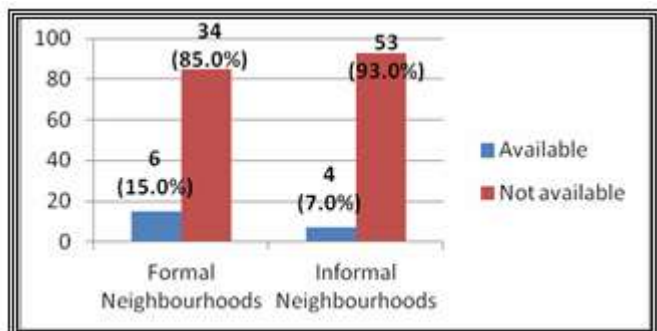


Fig. 1.2 Availability of Drainage Channels

Improper Waste Disposal

As confirmed by the State Environmental Protection Agency, the whole of Minna is not covered by their activities. Also, the concept of the 3Rs- Reduce, Reuse and Recycle is not in force in Minna, but rather, there is only waste transfer from points of generation to the points of disposal. Thus 90.0% and 93.0% of the residents of the formal and informal

neighbourhoods respectively dump their domestically generated wastes in open spaces, which in most instances were not necessarily designated for that purpose. This possesses great health risk to the residents because those sites serve as breeding ground for rodents, reptiles and insects.

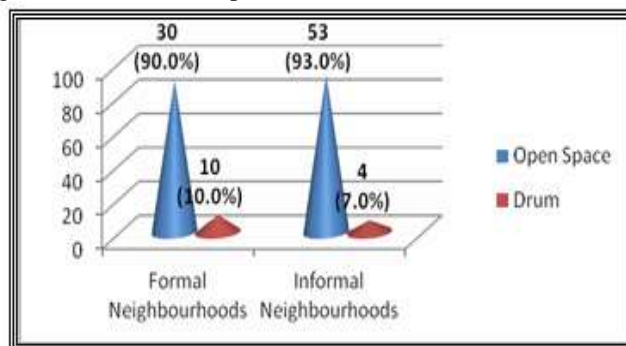


Fig. 1.3 Waste Disposal Practices

Haphazard Building Development

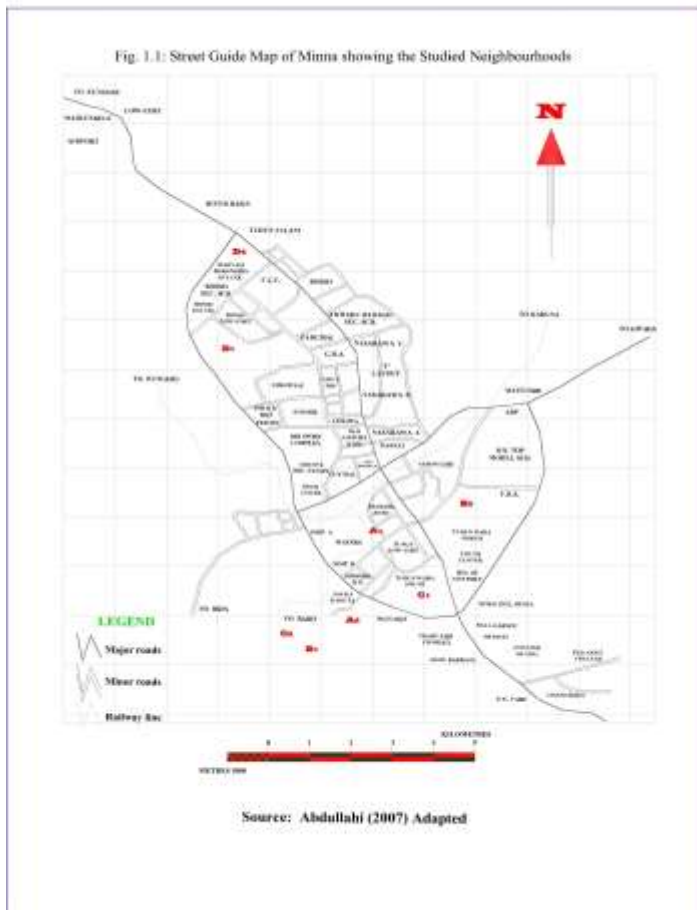
It was discovered in the course of the study that building permits are not sought in most instances by developers before they embark on housing development, especially in the informal neighbourhoods. And in cases where the necessary approval was obtained, the developer is always tempted to make some adjustment knowing fully well that the Development Control unit is not effective. As a result, buildings are constructed haphazardly, thus disregarding building specifications.

The problems faced by the MDAS in charge of housing and environmental management issues

1. The incessant court cases ensuing between the MDAs and the natives, as regards land acquisition and compensation;
2. Non implementation of layout plans due to lack of supervision on the part of the MDAs;
3. Unprecedented increase in the number of the informal neighbourhoods in the last couple of years which is as a direct consequence of the inability of the public sector to ensure effective housing delivery in the State and the illegal activities of the native land owners;
4. Non coordination of planning activities between the MDAs and the natives and;
5. The problem of lack of political will and excessive political interference in their operations as well as inadequate budgetary allocation.

Hypothesis Testing

As earlier stated, the Phi Coefficient was used in determining the statistical relationship between neighbourhood types and housing quality; but the efficiency of water sources and availability of drainage channels were not considered because they are universally problematic in virtually every Nigerian settlement. But based on the observed variables, (see figure 1.1), table 1.3 was computed.



Therefore, the following formula was used in calculating the Phi Coefficient is

$$\phi = \frac{AD - BC}{\sqrt{(A + B)(C + D)(A + C)(B + D)}}$$

Table 1.3: Phi Coefficient table of housing condition in the neighbourhoods

Neighbourhood Type	Good Condition	Poor Condition	Total
Formal neighbourhoods	35	5	40
Informal neighbourhoods	24	33	57
Total	59	38	97

$$\phi = \frac{35 \times 33 - 5 \times 24}{\sqrt{(35+5)(24+33)(35+24)(5+33)}}$$

Therefore $\phi = 0.46$;

ϕ is then converted to χ^2 (chi-square) distribution using the formula: $\chi^2 = \phi^2 N$;

Where N is 97, i.e. the number of samples

$$\text{Therefore, } \chi^2 = (0.46)^2 \times 97$$

$$\chi^2 = 0.2116 \times 97$$

$$\chi^2 = 1.9044$$

The following formula $df = (r-1)(c-1)$ was used to calculate the degree of freedom.

Where df = degree of free; r = number of rows; c = number of columns

$$df = (2-1)(2-1) = 1$$

The critical χ^2 value at $df = 1$ and $\alpha = 0.05$ is 3.84

Decision: the calculated value (1.9) is less than the critical value (3.84), therefore, H_0 is accepted.



Plate I: This access road has been made almost inaccessible as a result of gully erosion at MTP 90 (Bosso Low Cost Extension)



Plate II: A drainage network filled with dirt and litters at former MTP 47 (opp. Mona Juice/Mandela)



Plate III: A collapsed drainage network at MTP 3 (Morris Fertilizer)



Plate IV: A vacant plot of land converted into a refuse dump site at former MTP 59A (Top Medical road)

Interpretation: the alternate hypothesis is rejected and the null hypothesis is accepted. That is there is no statistically significant relationship between neighbourhood type and housing quality. In other words, housing and environmental conditions of the selected formal and informal residential neighbourhoods are not statistically significantly different.

Conclusion

It is of paramount importance that human settlements are guarded jealously in every facet, in order to ensure their sustainability. This has become necessary because settlements are riddled with many problems, which if left untracked, would grow in proportion and complexion owing to economic advancement or poverty. Thus, Nigeria should as a matter of urgency, develop a more pragmatic housing and environmental standards policy in order to ensure that its citizenry have access to human-friendly environments as well as affordable housing units.

Recommendations

Although, a number of problems have led to the present state of affairs in the human settlement development process in Minna, arresting them would require the adoption of the following:

1. The arousal of the necessary political will as well as developing the capacity-building mechanisms of both the public and private sector enterprises in the built environment in order to effectively implement the environmental/housing policy and programmes;
2. The development of a data bank that would regulate human activities within space and the computerization of land titles and documents through GIS;
3. Conveying “town hall” meetings at regular intervals in order to ensure the protection of the environment as well as sensitise the stakeholders and the general public on the importance of adhering to the building plans and standards and;
4. The review of Minna master plan and the encouragement of synergy between the MDAs involved in land administration and management.

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