THE IMPACT OF URBAN HOUSING ON NATION BUILDING: MINNA IN PERSPECTIVE

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Abstract: *This study assessed the relationship between housing condition and the deterioration of urban physical environmental condition with physical planning variables in Minna town using three residential zones of varying Housing conditions and the intensity of Physical Planning. The data for this study was based on field survey and questionnaire designed to capture the physical environmental condition of housing reflected in density of occupancy, availability of water, sanitation facilities, vehicular accessibility etc, including other physical planning variables such as layout design of the settlements' building subjected to approve plans and availability of infrastructures. A review of the operation of the Government agency responsible for the physical planning and control also yielded significant information. The study indicates that the higher the housing density in the studied area, the lower the intensity of physical planning control and vice versa. Also, the higher the housing density, the higher the deterioration of the physical environment. The study concludes that there is a need for comprehensive research on the issue in order to establish an effective and sustainable intervention for nation building.*

Keywords: *Physical Environment, Housing, Density, Physical planning, Nation building*

1. INTRODUCTION

The probable relationship between housing condition and the quality of the physical environment within urban settlement has been acknowledged for a long time. However, measuring the direct impact of housing condition on the environment has been an issue of concern among researchers in various fields of environmental management. Yet, understanding the relationship between urban housing and environmental deterioration is a necessary precedent in preventing such problems.

Cities are the most visible evidence of population pressure on the environment. In developing countries, cities are growing at an unprecedented rate and the pace is accelerating. According to the United Nations Report (2003), about 60% of urban population growth comes from natural

increases among the urban resident and 40% results from migration into cities from rural areas. With migration and natural increase both fuelling population growth, the world's cities often present the starkest most dramatic picture of environmental damage and its impact on human health and welfare. The rapid growth of urban population damages the environment in several ways.

First, as cities spread they convert Agricultural land to industrial and residential use. Second, cities dwellers use more water and energy and generate more waste than rural residents, (Faniran, 1993). Thirdly, cities also use large amounts of energy to import food, water, fuel, collect garbage and treat sewage (Umoh, 2000). Fourthly, large densely settled population provide massive and concentrated amount of air and water pollution overwhelming the absorptive capacity of natural ecosystem.

The United Nation through its environmental programme, Global Environmental Outlook (2000), has warned about impending worldwide environmental damage as a result of irreversible harm to ecosystem by cities. Since the report, environmental issues associated with urbanization have received increasing attention the world over.

In Nigeria, attention paid by the Government to the environment is evident in its setting up a Federal Environmental Protection Agency (FEPA) in 1989, Federal Ministry of Environment in 1999. All states also established Ministries for Environment embedding the State's Environmental Protection Agencies. Other initiatives adopted by the Nigerian Government to protect the environment include; the Environmental Sanitation Decree of 1984, the Factory Decree No. 16 of 1987, the Harmful Waste Decree No. 42 of 1988, Endangered Species Decree No. 11 of 1985 and the National Resources Conservation Council Decree No. 50 of 1989. Most attempts at quantifying the relative role of population pressure in environmental problems have faced considerable difficulties both conceptual and empirical (Bello, 1973).

It is against this background that this study attempts to look at the impact of population reflected in the quality of housing on the environment on the one hand and the influence of physical planning and control on the other since planning has been accepted in this country as the guidance system for attaining environmentally sustainable urban growth (Arijo, 1989).

1.1 The Study Area

Minna, the capital of Niger State is situated on the Southern fringes of the North Central Plateau, the major relief feature covering a large portion of Northern Nigeria. Originally, the town is made up of four areas: Limawa, Keteren Gwari, Kwangila and Pada or Nasarawa. The town was elevated to become the Headquarters of Niger Province in 1951 and during the Murtala/Obasanjo Administration, it was made the capital of Niger State. The State was carved out of the ten Northern States in 1976. The population of the town during the 1952 census was 12,810; 59,988 in 1963, 143,896 in 1991, and after the national head count in 2006, it was 202,151. The estimated annual growth rate of the population is about 5% while the age-sex characteristics of the population include a high proportion of dependent population and the sex ratio with no significance departure from equality (Jemaku, 2007). There is also a high proportion of working class age group, who are mainly migrants. The town as a product of Colonial Administration is an amalgamation of social groups based on tribal differentiation, namely the Hausa, Nupe, Gwari, Yoruba, Igbo, etc. These social groups are associated with specific quarters reflecting the social area theory as discussed by (Palen 1987). Due to the influence of the Colonial administration the town was fairly planned. That is, the initial camps/quarters of the town were characterized by gridiron pattern, a rectangular street pattern that cross one another at right angle and at about the same interval (Cater, 1981). All

the initial camps that metamorphosed into the present day Minna have this street pattern with uniform building lines. The initial four wards form the core of the town; later extensions include Sadon Gari, Maitunbi, Tunga, and Kpakungu. These wards form the framework for our research investigation.

2. METHODOLOGY

The data for this study was generated through administering of questionnaire designed to capture the environmental and physical planning variables of Minna town. An extensive field survey of the metropolis and the areas chosen for measurement were undertaken to assess the general environmental conditions. A review of the operations of the state agency responsible for physical planning and control also yielded first-hand information on the extent and difficulties in enforcing planning controls.

To administer the questionnaire a basic knowledge of the Urban Area of Minna was helpful guided by the assertion of (Gordon, 1983) that an Urban area is usually defined to comprise three levels within which data could be collected; the city *proper (old city)*, the *metropolitan transition area (G.R.A.) plus the new low density layouts) and the urban agglomeration (sub-urban shanties).* The three identified residential zones were subdivided into equal grids using Minna Metropolis as base map. A sample size of 10% was used. The table of random number was used to choose study areas as follows:

Old City-(i) Limawa (ii) keteren Gwari
Metropolitan Area- (i) Bosso Estate (ii) 123 Quarters
Suburban Area/Shanty – (i) Gbakungu (ii) Maitumbi.
Pilot survey and questionnaire administration were executed in the chosen areas. Two sets of data were obtained:
(i**) Urban Environmental Variable**, which include population density, water supply, toilet facilities, drainage and waste removal facilities and;
(ii) **Urban Planning Variable,** which include layout design, vehicular accessibility and proportion of buildings subjected to approved plan.

3. RESULTS AND DISCUSSION

Table- 1: Sample size and response in the study area

Area	Total no. of Houses	Sample houses response	Returned valid
Old city	324	32	30
G.R.A/Transition area	297	29	27
suburban/shanty	391	39	38
Total	1,012	100	95

Source: Author's field survey

Table-1 shows the number of houses in each zone as well as 10% of each class that was selected and served with copies of the questionnaire to generate the data used in this study. However, 94.3% of the questionnaires were returned as properly completed.

Table -2: Occupancy ration in the three zones

Occupancy ratio	Old city %	G.R.A/Transitional	Shanty/suburban
Average 1 person /room	0.9	12.40	Nil
2 person/room	1.7	34.6	Nil
3 person/room	4.6	40.1	10.6
4 person/room	57.9	8.6	38.9
5 person/room	16.2	4.3	11.9
6 person/room	7.6	Nil	21.4
More than 6 person/room	11.1	Nil	17.3

Source: Author's field survey

Table-2 shows that only 36.3% of homes in the three zones met the minimum occupancy ratio standard of 2 people per room. The remaining two zones have more than 2 persons per room. However, the disparity is even more glaring considering that in the suburban area there are no home with less than two persons per room and in the old city only 2.8% have less than two people to a room. This is to be expected since the population density in the city and sub-urban area is far higher than that of the Government Reserved Area.

Olutah, 1997, argued that housing together with developmental activities and pattern determine the environmental quality of a city. These affect urban livability and the reliability of the environment as a palpable predicator of urban liability to diseases. The disparity in the housing conditions in the three zones have been made more palpable by the situation of rapid population growth, inflated real estate values, land speculation, inadequate legislation and often multiple and conflicting legal system and inability to administer existing physical planning law as they relate to the continued development of shanty settlements in various sections of Minna town.

Galle and Macphenson (1972) have also linked the problem of overcrowding with infant mentality and infection diseases incidences. Overcrowding bring about higher chances of interpersonal contacts this enhancing chances of transmission of communicable diseases and illness. According to the United Nation Report on the environmental health of cities (2001) densely populated cities produce massive and concentrated amounts of air and water pollution as well as solid waste overwhelming the absorptive capacity of nature ecosystems. Thus, despite strenuous efforts by the refuse and waste management agency, substantial parts of all solid waste in the city

and suburban area are uncontrolled and left in the alley ways and by the roadside since the basic disposal facilities cannot go round.

Table-3: Waste composition in the three zones (kg as % of 100)

Waste composition	City	G.R.A	Sub-urban
Food serape	30	4	43
Paper cardboard	11	45	6
Textile rubber	5	30	2
Plastic Material	9	7	2
Metal	8	17	1
Glass	5	2	Nil
Ash	21	1	32
Vegetable	14	4	21

Source: Author's field survey.

Table-3 given above shows the pattern of refuse generated in the three zones. These types of refuse can be distinguished: namely the rather high refuse in the G.R .A which contains mostly, tins, plastic materials and bottles. The heavier refuse from high density areas which contain a high proportion of ash and plant fibers. The differences in the type of waste between the zones reflect the difference in standard of living and consumption pattern between the three zones.

Inadequate sanitation has been a subject of much attention from citizens, government, international done agency and the media. The inadequacy of the disposal system means more than 79% of the residents in Minna city do not have any form of waste disposal, thus refuse was simply deposited at the nearest available empty plot or by the road side. Even in the GRA less than 20% of the residents have proffer disposal facilities.

Table -4: Waste supply facilities in the three zones

Water supply facilities	Old city	G.R.A	Sub-Urban
Piped water in the house	9	69	3.4
Piped water in the community	38.9	-	27
Protected wells	8.4	22.1	7.5
Unprotected wells	20.5	1.3	32.7
Drainage	Fair	Good	Poor
Waste disposal facilities at house	Fair	Yes	None
Private bin outside house	None	12	None
Unauthorized dump	79	49	86
Central dump in the area	None	21	32

Source: Author's field survey.

From the Table 4, it is clear that about 81% of the populations of urban Minna are not connected to piped water supply. There is a great deal of disparity among the three zones. Even in the areas with supply connections, supplies fail for months. The significance of wells in all the three zones as source of water supply reflects the unreliability of the piped supply. The most important housing infrastructure that is closely linked to environmental quality is water supply and sanitary facilities.

Water quality is essential to limit direct transmission of pathogens endemics. Minna town from the study are supplied far below the stipulated per capital requirement of 2 liters per capital per day (WHO, 1990). Socio- Economic progress is impossible without inadequate supplies of good water quality. Water is needed for nutrition, personal and food hygiene and modern environmental sanitation and basic processes in industry.

Table -5: Toilet facilities in the three zones

Toilets facilities	Old City	G. R. A	Sub-Urban
Water system	8.5	80	3.5
Pit latrine	75.9	-	62.7
Bucket latrine	-	-	1.1
Open space	2.8	-	20.1
Public latrine	3.2	-	4.0

Source: Author's field survey

Table 5 shows the toilet facilities in the three zones. The types of facilities clearly differ in the 3 zones. The pit latrine is common in the city and the suburban area. The bucket latrine only recorded insignificant percentage in the sub-urban area. Further, 20.1% and 2.8% of the houses in the suburban and city have no toilet facilities though better urban environmental condition in the G.R.A relative to the city and sub- urban zones.

Table- 6: Vehicular accessibility in the three zones

Variables	City	G.R.A	Sub-urban
Yes	20.9	100	59.9
No	79.1	Nil	40.1

Source: author's field work.

Arthur K. (1997) argued that adequate and standard road facilities and services should be provided to make an urban area function efficiently. In the face of ever growing car ownership and continuous conversion of residential buildings to commercials and demolishing of structure to conform to for good access roads and parking facilities have gone beyond any imaginable proportion. This is reflected in vehicles parked illegally and trader displaying wares on pedestrian path resulting in overcrowded streets.

Table-7: Layout fully by Government in the three zones.

Variable	Out city	GRA	Sub-urban
Yes	2.7	100	9.3
No	97.3	Nil	90.7

Source: - Authors field work

Table-7 shows the physical planning variable in the three zones. For G.R.A houses were built on designed layouts that are proper planning principles while 2.7% and 9.3% were found in the city and the sub-urban zones. This is a result of the fact that, most of the layout and houses in the city predate the advent of planning is further made clear where in the G.R.A 100% of all houses are accessible to vehicles.

Also, all the layouts and houses in the suburban area though of recent origin are considered as illegal. Yet the lack of accessibility in these areas constitutes one of the major sources of environmental degradation especially as it relates to the evacuation of solid waste and provision of water supply. Most access streets are neither surfaced nor drained and as a result many are cut off in the rainy season due to urban floods. Good surfacing is limited to the G.R.A. and the main arteries of the old city. Even in the dry season when there is no flooding dust is a major problem. A comparison of the sets of data presented in Table 2-5 for urban environmental variables and Tables 6 - 7 for physical planning variable indicate that the most deplorable urban environmental conditions are found in the city and the suburban area, while the G.R.A area shows the highest level of urban environmental health. At the same time it is the city and the suburban area where there is the lowest level of physical planning activities, showing that there is probably a close association between physical planning central and quality of urban environment.

Waste generation in Nigeria's urban centers has been on the increase from 9% between 1972 to1985 and 15.4% between 1985 to1990 and 52% by the year 2000 (Federal Ministry of Housing and Environment, (2000). Uncontrolled waste encourages the breeding of flies, cockroaches, rats and pollutes the air with bad odor. The pets easily transmit diseases that affect human health. At times waste contaminates water source leading to cholera, dysentery, typhoid etc. Consequently, the high housing density in the suburban areas of Minna has serious environmental and health implication.

4. CONCLUSION

From this limited study, it can be adduced that first major environmental impact associated with housing quality in Minna town is the excessive demographic growth within the city and shanty areas. Government should develop an urban or regional policy so that the total demographic growth is shared by the largest possible number of cities and towns around Minna.

The second major urban environmental issue is the lack of affordable land available that is easily accessible to low income immigrants. This result in over-crowding of the shanty areas. Thus, there is a need to make land available and accessible for the low income citizens to give room for nation building.

The third major urban environmental issue is inadequate resource for urban infrastructure including transportation, water supply and waste disposal especially in the shanty areas and for maintenance and renewal in the old city.

The fourth major urban environmental issue is the absence of design that is cheap and affordable to low income migrants in the city. From the study it is clear that physical planning is enforced vigorously in the GRA zones, while it is not in the city and the shanty zones. In order to

arrest the deterioration, physical environment planning and control should be applied in equal force in the entire zone.

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