

The Environmental Impact of Slum Morphology in Core Area of Ado-Ekiti

¹, Adeoti Sanmi, ² Akintunde T B , ³ Isreal Taiwo

^{1,2} Department of Urban and Regional Planning, School of Environmental Studies,
The Federal Polytechnic Ado-Ekiti, Ekiti State. Nigeria.

³ Department of surveying and Geo informatics School of Environmental Studies,
The Federal Polytechnic Ado-Ekiti, Ekiti State. Nigeria

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ABSTRACT

Unplanned and spontaneous urbanization particularly in developing countries has trapped many people as slum dwellers. The morphology is poor housing with polluted environmental condition coupled with its attendant poverty and insecurity. This paper takes into account the various socio-economic and planning constraints of the slum morphology of the core area of Ado Ekiti to address the environmental impact. The method of the study is based on a sampled design questionnaires for a head of household, the distribution and collection across the study area and the administrative analysis with presentation of data in tabular format. The finding of analysed data revealed that most of the buildings do not only lack basic infrastructure and accessibility but are mostly weak structurally. The environmental effect includes indiscriminate dumping of solid waste, air pollution and their various health hazards. This made dwellers to have diversity of livelihood assets and potentials. Therefore, in order to solve the problem of the unhealthy and unpleasant faced by the inhabitants of the study area the paper comes up with recommendations to address the problems that underlie urban poverty in terms of employment, income health shelter and access to urban infrastructure.

Key word Urbanisation, Slum morphology, Environmental Impact, Urban poverty and policy measures

I INTRODUCTION

Generally the term morphology is a form mostly used by geographers and other social scientists to explain and assess site, location and land use patterns particularly in the context of rural or urban areas, or both. It is also a term for the analysis of layout settlement, like house-type, the architecture functionality and street circulation

systems. These make each city to exhibit its own morphology which is determined by sets of entities, objects, amenities and infrastructure. Hence, urban morphology is about the study of urban tissue, or fabric so as to discern the underlying structure and components of the built environment.

As urban morphology relates on the spatial structures and characters of a metropolitan area this also creates diverging area of interests for study. Amongst these areas of interests and major features of urban morphology is slum. As there is no single and accepted definition of what a slum area is; hence various definitions reflect different orientations of various disciplines which include sociology, demography, economics and physical planning. At the same time, different societies define slums in different ways, even among people in the same discipline. Thus, the physical planners' definition of a slum in the United States of America or Great Britain is bound to be different from that of a developing country such as Nigeria. This is a reflection of the varying levels of socio-economic development which characterizes different countries in the world.

The early school of thoughts considered slum as a bulk of traditional housing in dilapidated condition, which are unsuitable for habitation. [1] According to [2] a slum is noted to be a densely populated urban area marked by crowding, dirty run-down housing, poverty, and social disorganization. As pointed out in [3] urban slum communities are also considered as areas that possess inadequate access to safe water, inadequate access to sanitation and other urban infrastructure, poor structural quality of housing, overcrowding, and insecure residential status, or a subset of these characteristics.

The fact that slum is significantly heterogeneous in nature has made it to be the focus of discussion for many scholars particularly in the

area socio-economics dimensions and the environmental urban slum. However, this paper aims at providing information on slum morphology of the core area of Ado Ekiti. In order to achieve this aim the slum density, the socioeconomic lifestyle the physical characteristics and the environmental condition of the slum area were taken into consideration

II CONCEPT AND LITERATURE REVIEW

The concept of this study is Factorial ecology which is a new quantitative paradigm of 1970s. It was based on a multivariate analysis of three major factors usually known as socio-economic status, familism and ethnicity. These factors of current reality made socio-economic status to take into account income, education and occupation and measures the extent to which households are well endowed with these indicators. The familism is concerned with the family or household type and urban lifestyle in term of apartment to live while ethnicity usually represent the separation of particular ethnic or religious groups.

Available literatures clearly demonstrate that slums formation is interplay of many factors. These are characterised by rapid urbanisation due to rural-urban migration, urban poverty, inadequate urban housing development programmes, and lack of enforcement of planning standards and regulations, as well as poor maintenance culture [4]

The urban growth; The high rate of urbanisation and explosive urban population growth has led to the proliferation of slums For instance as the world population reached the 7 billion mark in 2011 and it is projected to climb over 9 billion by 2050, developing countries take the highest percentage. [5]. However, the proportion of the world's population living in urban areas, which was less than 5 percent in 1800 increased to 47 percent in 2000 and is expected to reach 65 percent in 2030 [6], [7] As in [8] Projections also suggest that the number of people living in Nigerian urban centres will reach 100 million by 2020. at increased rate of 5.7%. As pointed out in [9] [10] [11] about 32 percent of the world's urban population that ranged between 800 million and a billion lives in slums and this percentage is much higher in developing countries where over 60 percent of residents were slum dwellers. Studies have shown that the rapid rate of urbanization and the consequential explosion of urban population has failed to match with the social, economic and technological development changes in Nigeria [12] (Mabogunje et al 1978). In fact, the economy of the

country in which urbanization is taking place has been described as stagnant and the growth of industrialization is negligible [13] (Salau, 1992). The implication of this is unhealthy poor living conditions as of which urban the populations keep growing on a daily basis. Hence, it was estimated that the proportion of slum dwellers in Nigeria as far back as 2012 was 69% [14] (Faniran and Olaniyan, 2013:1).

The poverty indices: Increasing urban growth to the detriment of economic development and growth actually promotes urban poverty of voiceless rural urban migrants. These migrants are people of low incomes, absence of occupational skills and qualifications that have no access to adequate housing, safe water and sanitation [15] For instance, as at 2002 about 746 million people in urban areas were living on less than \$2.00 a day [16] The implication of this phenomenon is the manifestation of dilapidated building structures, very poor road network, overcrowding of people with limited access to basic social services such as water and electricity [17] This makes poverty and slums which are closely related, not only mutually reinforcing but remains the indices of slum formation

Policy Measures Many policy approaches to slums have been put in place over time. They range from passively ignoring or actively harassing men and women who live in slums, to interventions aimed at protecting the rights of slum dwellers and helping them to improve their incomes and living environments [18] However, lack of enforcement policies for urban development and management coupled with the failure to repairs and carry out housing maintenance contribute to slum formation most especially in developing countries. This is simply because development control measures in Africa are often unable to direct and manage urban development due to non-compliance of building laws by developers while issues of repairs and maintenance are foreign to many developing countries [19] [20]. At the same time the laissez fair, eviction and clearance are outdated response policies for slum upgrading as these policy measures entertained some challenging failures. [21] For instance, the Laisser- Fairer attitude of 1960s played a significant role in ever increasing low income population demanding for housing. This could be attributed to the fact that the plan to provide low income housing to reduce slum formation actually created more slums due to poor management and corruption, particularly in developing countries. It is also noted that lack of strong political will and improved local government structure made site and service

approach of 1970s to fighting urban slum became a failure as the scheme ended in the hands of middle and high income groups [22]

III THE STUDY AREA AND METHOD

The study area is the core area in Ado Ekiti the capital of Ekiti State in Nigeria. The city which is centrally placed within the state has the location around latitude $7^{\circ} 4'$ north of Equator and $5^{\circ} 15'$ east of Greenwich Meridian.

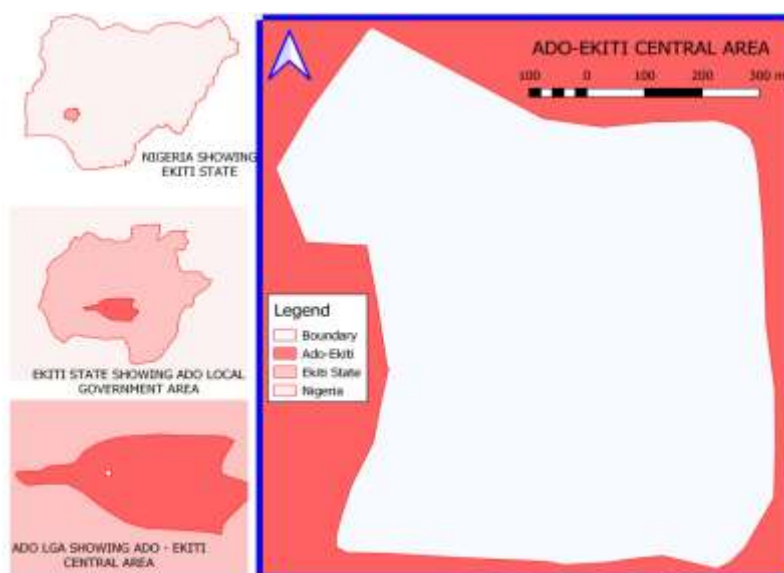


Figure 1 Maps of the Study Area

The rapid population growth of the city does not only contribute to the spatial expansion but add a lot to the state and rate of physical development. This eventually made the core area of the city to be the commercial hub of the city and a house for other land uses and importantly, the study focuses of the slum environment.

The area with undulated landform terrain covered about total land mass. At the same time, the area is made up of the following major quarters; Irona/Isato, Ijigbo/Eribi Igbehin/Odotu Erekeru/Aremu and Okesa/Ojumose.

The method for the study is based on data collection and administration. The data collection is from two sources namely primary and secondary. However, while the primary made use of questionnaire and personal observation through satellite imagery and photograph as data instrument, the secondary data are from relevant journals and textbook. The questionnaires of 160 for the study area was designed to collect data on socio economic variable of respondents and the physical characteristics of housing stocks as well as environmental indicators The questionnaires were to be distributed across 160 housing stocks through Stratified Systematic Sampling Technique. The administration of data collected is subjected to

descriptive analysis and presented in both graphic and tabular formats

IV RESULT OF FINDINGS AND DISCUSSION

The result of finding about the presentation and analysis of data collected in the field. These data involved the physical characteristics of housing stocks, demographic analysis and environmental issues of the study area Demographic analysis The demographic analysis for the study area is all about household size, household population and household income. Available records in table 1 indicate that the household size that fall between 6 and 8 has the highest percentage across all the study area except Okesa/Ojumose and Igbehin/Otu where the highest percentage of household size fall between 3 and 5. The household population of 5 to 10 persons dominated the study area with percentage range of 40 to 56 except in Igbehin/Otu where the household population of 10 to 15 have the highest percentage of 61 and Irona with the least percentage of 39. The average household income of less than 50,000 Naira per month formed the majority in the study area with percentage ranging between 40 and 54.

Table 1: The core Area Demographic Analysis

		Aremu/Ereguru		Okesa/Ojumo		Ogbon Ado		Igbehin/Otu		Ijigbo/Ebiri		Irona/Oriomi	
		No	%	No	%	No	%	No	%	No	%	No	%
Household Size	<3	4	14.8	2	9.1	5	14.3	2	9.1	5	20.8	7	18.4
	3-5	9	33.3	12	54.5	12	34.3	15	68.2	7	29.2	18	47.4
	6-8	14	51.9	8	36.4	18	51.4	5	22.7	12	50.0	13	34.2
	Total	27	100	22	100	35	100	22	100	24	100	38	100
Household Population	<5	8	29.6	7	31.8	10	28.6	2	9.1	6	25.0	10	26.3
	5+10	15	55.6	10	45.5	16	45.7	7	31.8	10	41.7	13	34.2
	10-15	4	14.8	5	22.7	9	25.7	13	59.1	8	33.3	15	39.5
	Total	27	100	22	100	35	100	22	100	24	100	38	100
Household income	Less 50000//M	11	40.7	7	32.0	15	42.9	11	50.0	13	54.2	20	52.6
	50000-100000//M	9	33.3	9	41.0	13	37.1	8	39.4	9	37.5	14	36.8
	Above 100000//M	7	26.0	6	27.0	7	20.0	3	13.6	2	8.3	4	10.5
	Total												

Housing characteristics This takes into account the housing form, the structural condition and the housing facilities. Based on the finding of the housing form in table 2, traditional compound housing stocks dominated the area of which Igbehin/ otu, Irona/Oriomi and Aremu/Ereguru are in fore front with 59.1 percent, 52.6 percent and 51.9 percent respectively. In term of structural condition, the plastered housing stocks are mostly

noted in the area while dilapidated structures are few in number across the study area. However, the traditional system of open defecation with open bathroom and kitchen has the highest percentage at Igbehin/ Otu and Irona/ Oriomi with 68.2 and 65.8 respectively. The semi modern facilities of Pit Toilet closed common Kitchen and Bathroom cut across the study area.

Table 2: Housing Characteristics

		Aremu/Ereguru		Okesa/Ojumose		Ogbon Ado		Igbehin/Otu		Ijigbo/Ebiri		Irona/Oriomi	
		No	%	No	%	No	%	No	%	No	%	No	%
Form	Compound	14	51.9	6	27.3	12	34.3	13	59.1	11	45.8	20	52.6
	Brazilia	10	37.0	11	50	18	51.4	7	31.8	10	41.7	13	34.2
	Flat	3	11.1	5	22.7	5	14.3	2	9.1	3	12.5	5	13.2
	Total	27	100	22	100	35	100	22	100	24	100	38	100
Structures	Dilapidated	5	18.5	3	13.6	5	14.3	8	36.4	7	29.2	7	18.4
	Plastered	15	55.6	11	50	20	57.1	10	45.4	12	50	21	55.3

	Painted	7	25.9	8	36.4	10	28.6	4	18.2	5	20.8	10	26.3
	Total	27	100	22	100	35	100	22	100	24	100	38	100
Facilities	Modern	2	7.4	5	22.7	3	8.6	2	9.1	5	20.8	3	7.9
	Semi mod	17	63.0	10	45.5	25	71.4	5	22.7	11	45.8	10	26.3
	Traditional	8	29.6	7	31.8	7	20.0	15	68.2	8	33.3	25	65.8
	Tota;	27	100	22	100	35	100	22	100	24	100	38	100

Environmental Issues The result of findings in table 2 clearly showed that Ogbon Ado and Igbehin/ Otu are mostly accessible to pedestrian only while area like Aremu/ Ereguru, Okesa Ojumose and Irona has much accessibility to bikes. The findings revealed that almost all the wards in the study area lack both set back and open

space standard except Okesa/Ojumose where set back is prominent and Irona with highest percentage of open space. It is also noted that open dumping of waste is a common phenomenon of the study area with highest percentage at Aremu and Irona.

Table 3: Environmental Issues

		Aremu/Ereguru		Okesa/Ojumose		Ogbon Ado		Igbehin/Otu		Ijigbo/Ebiri		Irona/Oriomi	
		No	%	No	%	No	%	No	%	No	%	No	%
Accessibility	Pedestrian only	8	29.6	3	13.6	21	60	12	54.6	6	25.0	12	31.6
	Bike movement	15	55.6	13	59.1	9	25.7	7	31.8	10	41.7	18	47.4
	Vehicles	4	14.8	6	27.3	5	14.3	3	13.6	8	33.3	8	21.0
	Total	27	100	22	100	35	100	22	100	24	100	38	100
Space Standard	Open space only	5	18.5	5	22.7	6	17.1	3	13.6	5	20.8	8	21.0
	Set back only	15	55.6	9	40.9	17	48.6	8	36.4	12	50.0	18	47.4
	Lack both	7	25.9	8	36.4	12	34.3	11	50.0	7	29.2	12	31.6
	Total	27	100	22	100	35	100	22	100	24	100	38	100
Facilities	Collection	3	11.1	4	18.2	8	22.9	3	13.6	5	20.8	4	10.5
	Burning	6	22.2	7	31.8	9	25.7	8	36.4	8	33.3	9	23.7
	Dumping	18	66.7	11	50	18	51.4	11	50.0	11	45.8	25	65.8
	Tota;	27	100	22	100	35	100	22	100	24	100	38	100

Discussion

Characterization of the area The fact that the study area is a core area and centre of commercial activities made it to be the first stopping point for many immigrants. This actually made the study area to exhibit different slum quarters of ethnic mix-up In fact many residents of

Ojumose Ereguru and Ogbon Ado which happen be the major commercial shopping area are mostly Igbo Migrants' Likewise is the closeness of Igbehin quarter to Oja Oba and the central mosque made Hausa community to be the dominant migrant of the area.

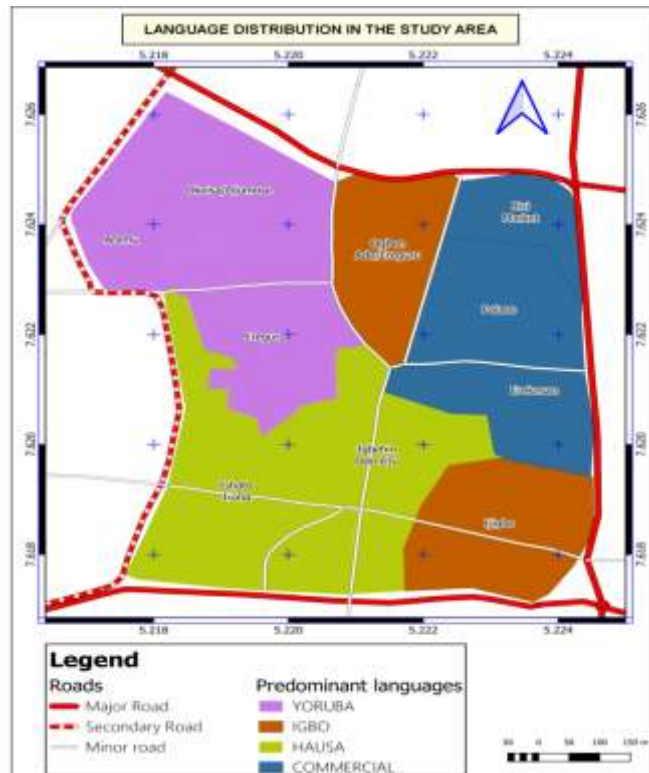


Figure 2 Ethnic Distribution within the Quarters

These areas that play a significant role in hosting new migrant also secure menial jobs with an average income of less than 50000 Naira per month for the dominant job market immigrants. This assertion is actually in line with the argument advanced that slums usually offer a wide range of employment as well as investment opportunities for low-income groups but fail to find job in the formal sector but only to evolve in low-skilled informal and sometimes illegal activities [23]. Thus, [24] was of the opinion that the outcome of housing the poorest of the poor particularly the low unskilled and unemployed are product of political thugs, the vagabond, and the delinquent of the slum area.

Importantly, Majority of the people at Irona and Igbehin are low income group that engage in meager income generating activities and find it difficult to rent house in decent and well planned areas of the cities only to settle in the affordable cost of living in the area

Therefore the job insecurity and low earnings in general place the urban poor with no choice of affordable shelter except informal housing which push them into a vicious circle of poverty. Hence slums can be seen as the most visible expression of poverty [25]. In fact, This equally supported[15] [26] views that the state poverty with meager income made most urban dwellers to find it difficult to rent house in decent and well planned areas of the city.

Environmental Challenges The arrangement and pattern of buildings in the study area is an indication of organic and unplanned development. Majority of the buildings actually lack adequate planning setback standard that made provision for only bike and pedestrian accessibility. At the same time some of these buildings are structurally weak and dilapidated as could be seen in Figure 2 below



Fig 3: Housing Condition of the Study Area

Likewise, most of the buildings particularly at Irona and Igbehin depend on detached kitchen and made no provision for modern toilet facilities. see All these are also in line with an earlier study by [27] which identified shortage of infrastructure and essential social services, decrepit or dilapidated buildings,

overpopulation and unhealthy living conditions as the basic features of slum areas At the same time These living arrangements have serious health implications on the lives of the slum inhabitants by exposing them to different kinds of ailments and diseases such as meningitis, asthma, cholera, diarrhoea, malaria among others[28].



Likewise most of the residents at Irona

The Environmental condition of the Study Area

The failure to make proper and adequate provision for the infrastructural facilities made most residents particularly at Irona and Aremu to pollute the environment with defecation and dumping of waste into drainage and illegal open dump site as shown in the figure 3. This constitutes encroachment on the drainage path, inadequate drain sections, absence of outlets, indefinite drainage outlets, lack of proper maintenance of the

existing drainage system and disposal of solid wastes into drains or drainage paths contribute to the backlog of drainage and water logging problems. This phenomenon corroborated[29] [30] assertions that polluted dirty and unhygienic environment of archaic housing structures together with dilapidated infrastructural facilities are features of urban slums in Nigeria..

V CONCLUSION AND RECOMMENDATION

There is no doubt that the state of the study area is so deplorable in term of unemployment, lack of inadequate social and recreational facilities together with the inability to manage urban facilities effectively. The failure is partly a physical manifestation of urban poverty that has not always been recognized by past policies. Therefore it has become imperative to look for the way forward that will lead to the upgrading and development of the slums area.

In other to solve the problem of this unhealthy and unpleasant facing the inhabitants of the study area, there is need for the following strategic measures.

- Provision of infrastructural facilities in these areas so as to control the compounding issue of population explosion being caused by those in search of job opportunities there by worsening the housing situation in these areas
- Promoting robust and effective national economic policies through improved income and job opportunities for the slum dwellers.
- Development of participating mechanism for all major stakeholders to create an inclusive vision for all citizens.

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