# A Study of the Impact of Rural-Urban Migration and Urbanization on Public Housing Delivery in Enugu Metropolis, Nigeria

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#### **Abstract**

Globally, urbanization is now like a tidal wave sweeping the entire world and its impact is felt more in developing countries like Nigeria, where urban growth is marked by a dramatic shift with emphasis from rural to urban centers. Rural-urban migration which is one of the effects of urbanization has had grievous implications for urban housing delivery in Nigerian cities. Thus, the steady increase in her population over the years and its effect on the housing sector have become a problem of serious concern. Therefore, this research investigates the impact of urbanization and migration from rural areas on housing delivery in the city of Enugu in order to develop sustainable measures that will address the issue. It utilized a qualitative research method of direct observation and review of literature in which primary and secondary data were collected. The research results highlight some of the effects of Urbanization in the study area to include; gross housing shortage, increase housing rent and high land value in the city resulting to the emergence and expansion of many squatter settlements at the periphery of the city, incidence of haphazard situation of developments, change in land uses, violation of planning guidelines, suboptimal amenities and inadequate infrastructure as well as slum conditions. The study also identified 14 peri-urban squatter settlements with an estimated total population of 62,733 people; an indication of about 5.5% unaccounted spill over population with over 11,082 households in the city. Furthermore, it was observed that the current public housing provision in the city of Enugu over the period 1999-2020 is skewed away from low-income earners, who constitute a significant portion of the city's population. Conclusions and recommendations in the report include a call for strategic and comprehensive government intervention in the housing sector, as well as a demand for local building materials and a better use of union housing cooperatives with single digit interest loan for housing finance to ensure adequate provision of affordable housing to the growing population in the city.

Keywords: Urbanization, Migration, Cities, Public housing, Enugu metropolis

### 1. Introduction

As people continually relocate in search of improved living conditions, housing has long been a major issue in every human settlement; however, rapid urbanization coupled with the trend of rural-urban drift, has exacerbated the problem. Urban sprawl is becoming a major feature of the developing countries with global demographic growth (Nnaemeka-Okeke 2016). Available statistics suggests that the majority of global population growth over the next decade will be accounted for by three countries: China,

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India, and Nigeria (Muggah, 2016; Okeke et al., 2021), indicating an impending global population explosion if not controlled. Again, speculations of World Bank reveals that there are approximately 12 to 15 million additional households in cities of third world countries every year, necessitating a corresponding number of housing units. Thus, Nigeria is a typical example as most of her cities are experiencing rapid urbanization and are also faced with mirage of challenges include traffic congestion, inadequate provision of basic services, extreme poverty, affordable housing deficit, declining infrastructure, and rising environmental pollution etc (Okeke et al., 2020). As opined by Udeh and Okeke (2018), one of the most pressing issues confronting many Nigerian cities is the deterioration of human living conditions, which has contributed to a rise in the number of deaths and diseases attributed to pollution as well as poor sanitation; hence poor housing conditions may be associated with lower incomes.

Since the end of the Nigerian civil war in the 1970, no aspect of society has aroused the passionate concern of reforms more constantly than the massive population increase, the housing condition and the living standard of the urban poor; these profound changes have led to the proliferation of modern-day slums (Okeke, 2021). Located in Africa, are majority of the world's slums. There are approximately 195.5 million slum dwellers, amounting to 61% of its urban population (UNDP, 2010); While Nigeria has a large number of Africa's slums and the 9th largest urban population in the world (Okeke et al., 2020). Huge population increase mainly due to the effect of galloping urbanization and massive rural exodus encourages thousands of rural dwellers to flock daily to urban areas where they think there are 'green urban pastures' to seek education and employment. The UN 2030 agenda for sustainable development seeks to eradicate poverty and achieve sustainable development for all by 2030 (Nnaemeka-okeke etal., 2020), enshrined in it, are emphasis on the improvement of lives of slum dwellers. In Nigeria, the Federal government policy on Housing for all by the year 2020 was promulgated in 1991 as an attempt to meet with housing needs of her teeming population, over 50% of who reside in urban areas (Federal Republic of Nigeria 1991), although efforts towards this course have been futile.

The projected population of Nigeria is over 200 million with majority of its residents in urban areas. This has implication for the quantitative urban housing deficit which would jump to over 18 million units (Oyedele 2019); given the rate at which new urban shelters are being provided in the country (Mabogunje, 1975; Osuide, 2004). As existing affordable housing units are inadequate, the urban poor are forced to find shelter where they can, often where no one else chooses to live. This trend gave rise to the emergence of squatter settlements at the urban peripheries of cities of developing countries. It follows therefore that rapid urbanization when characterized by housing shortages lead to haphazard developments and slum condition and these have persisted in our cities especially in Lagos and Enugu for instance that are imperial municipalities well-known worldwide and are ranked 25th and 553rd among the world's largest cities (Nigerian demographic profile, 2013).

It therefore becomes pertinent to properly plan for land uses which are dedicated towards ensuring adequate allocation of lands to housing. Residential land use in Enugu occupies about 54% of the total landmass as contained in the Enugu master plan of 1979. However, from anecdotal evidences government's interventions in solving housing problems in the city has been concentrated on providing housing units that are not affordable to the urban

poor in the society. It was observed that only 2% of the population live in low density areas, 28% in medium density and 70% in high density areas. This highlights the fact that the high-density residents amounting to almost three-quarter of residential land use contain slum and blighted settlements. The current study investigates the impact of urbanization and migration from rural areas to urban centres on housing delivery in metropolitan Enugu, Nigeria in order to evolve sustainable measures that will address the issue. The following specific objectives were used: (i) to understand the concept of housing (ii) to determine population growth of the study area (iii) to highlight the Urban Public Housing provision in Enugu from 1999-2020 (iv) to discuss the effect of urbanization and rural-urban movement on housing delivery in Enugu urban. By revealing the population's growth increase due to urbanization and suggesting possible control measures for urban housing issues, this research is considered valuable in regards to the ongoing discourse on how to manage urban overpopulation in developing cities and improve the housing condition of urban areas in the Global South. Therefore, findings are intended to add to the current body of knowledge and guide housing designers, urban managers and government stakeholders on how to address the rising issue of housing shortages in urban residential neighborhoods as a result of migration.

# 1.1 Context of the Study

Enugu, a city founded in 1915 after the discovery of a coal mine is located between latitudes 06°21°N and 06°30°N, and longitudes 07°26° E and 07°37°E (see figure 1), having a total land area of 556 km² (Okeke et al., 2020). It was known as "Enugwu Ngwo," a Nigerian hill town of Ngwo extract from Igbo ethnicity, that derive their name during the colonial-era coal mining.

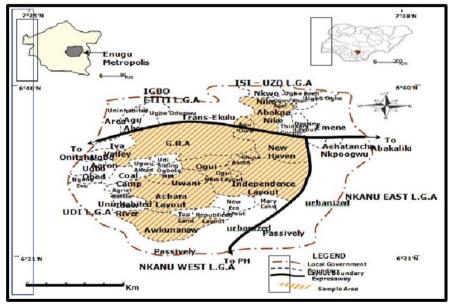


Figure 1: Map of Enugu urban the study area Source: Geographical Map of Nigeria, 2014.

An understanding of the city's historical background from the colonial coal mining era to its current state will help elucidate on the incidence of rapid urbanization and a growing rate of rural-urban migration into the city. It is situated in Nigeria's geopolitical zone of the south-east. In addition, the city grew and spread into the regions of other indigenous villages such as Ngwo, Nike, Amaechi, and others in the neighborhood. Since 1929 when it was the capital of the eastern Provinces, Enugu has served as an administrative center in various roles, and it is currently the capital of Enugu State, which it assumed since 1991 (Okeke et al., 2021). Enugu is still known as the "Coal City" despite the fact that coal mining no longer flourish in the city. The growth of this city had been tremendous from its initial size as coal miners camp (the present-day coal camp residential neighborhood) in 1921, on an area of 151 miles (243 km) and the population of around 3,170 residents. This settlement attained a township status under Laggard's Ordinance in 1917 and have grown from a population of 62,764 in 1952 to 505,280 people spread within 18 neighbourhoods across the city in 1991 to 722,664 in 2006 census with over 159, 306 houses (NPC, 2006) and projected to 1.2 million in 2022. The distribution of this population by neighbourhoods in the city is as shown in table 1.

Since the early 1960s, Enugu has evolved as a focal spot for numerous cultures and races from the countryside and organically acquired the role of Eastern Nigeria's headquarters. Government footprint is obviously felt within the metropolis as an administrative capital city. It has been classified as the 553rd largest city in the world with many tertiary educational institutions, industries, financial houses, commercial centers, and health institutions located across the city, as well as infrastructure and essential services as features drawing people from all across the country, particularly from rural areas. As a result, the city has grown significantly over the last 50 years. Most government entities do not provide housing for their employees, who are generally low and middle-income. The housing problem is exacerbated by the fact that existing decent-housing units in Enugu are not only insufficient and pricey, but also out of reach for the majority of these low-income workers (Okpalike et al., 2021). Many housing schemes in city have not been fruitful and failed because the housing problem was perceived as a simple lack of houses. Consequently, the majority of proposed solutions have been haphazard, as efforts were made to supply as many housing units as possible in the shortest amount of time. This results in ineffective targeting, chaotic development, and lack of planning, as well as poor plan execution.

#### 2. Literature Review

# 2.1 Concept of housing and a review of Public Housing Delivery in Nigeria

The concept of housing has recently garnered scholarly attention. It can be defined as the process of providing permanent physical infrastructure and social services to a large number of residential buildings in planned, decent, safe, and hygienic communities in order to meet the population's basic and special demands. (Mba, 1992; Osuide, 2004). Housing, in all of its forms, is more than just a place to live because it encompasses all of the infrastructure, social services, and utilities that make a community or neighborhood habitable. It's also a collection of human settlements centered on facilities and resources that support and sustain life.

Government policy intervention in public housing delivery right from colonial times to independent, post independent civilian and military regimes till date have all used direct construction, housing investment, site and services schemes. It was further foreclosed that public housing policy and programmes in Nigeria have suffer grossly from planning inconsistency and organizational structures, due to political instability, systemic corruption, over-centralized mechanism of decision and execution as well as poor public participation especially at the local level. Lack of financial prudence, public probity, and transparency, wasteful and ineffective administrative machinery, large scale import of foreign products, materials, manpower, and inflation, as well as an incomplete analysis of the national housing requirement, were identified as influencing factors (Onibokun, 1985; Kwanshie, 2003; Olayiwola et al, 2005; FMH&UD, 2014). In all these, urban population continue to rise steadily thereby increasing the housing problems.

# 3. Methodology

The study was informed by the authors direct experiences within the city, and a literature review research methodology employed. Mutually it utilized primary and secondary data adopting qualitative research strategy. The 19 city neighborhoods comprise the study population. Primary data were gathered through anecdotal evidence and used techniques of direct observation combined with the author's past research on sustainable city development in the twenty-first century to create a holistic view of the study area present reality. From an examination of relevant published literature on the subject topic, which were found from different online sources including journals, workshops, and conference papers; made up the secondary data. Papers were identified using search engines on e-databases like Google Scholar, the United Nations platforms, Science Direct, among others. Statistics of The National Population Commission as well as the official gazette of the Enugu State Housing Authority, were key sources of secondary data. The demographic data for Enugu metropolis were projected using Thomas Malthus' Exponential Model from 1991 to 2022. Thomas Malthus' Exponential Model which is given as:

 $Pt + n = Pt(1 + r)^n$ 

Where: Pt = population of Base Year (1991);

n = Number of years (that is 31 years);

Pt + n = Population of projected year 2022;

r = Rate of population changes in per cent /population growth rate (2.8 percent).

A typical illustration of how the existing population was projected is shown below using the Abakpa population.

 $Pt + n = 90,619(1 + 0.028)^{31}$ 

 $Pt + n = 90,619(1.028)^{31}$ 

Pt + n = 90,619 \* 2.3538

Pt + n = 213,307

Other Neighbourhood population were projected applying the same formula (see table 1). The substance of the data was analyzed thematically. Tables and text are used to present the results. On the basis of the findings, conclusions were drawn on the role of urbanization and rural-urban migration in Nigerian cities, as well as challenges of urban public housing delivery in Enugu.

#### 4. Results and Discussion

The decision to migration is a collective act of wisdom on the part of an individual since it is majorly instigated by economic reasons and a better quality of life, both of which are assumed to be abundant in urban areas. However, housing availability and provision has been adhoc and not been commensurate, resulting to overcrowding in the built environment. As a result, the pace and extent of population movement, as evidenced by literature (Okonkwo 2003; Ibem 2011; Nnaemeka-Okeke 2016; Okeke et al., 2020; Adewale et al., 2020;) and visible in Enugu, has not matched government's ability to cope with the additional burdens of residents need for housing resulting to other issues of environmental concern. In Enugu urban the growth and spread of higher institutions of learning and the establishment of manufacturing plants like food industries, pharmaceuticals companies, automobiles houses, plastics, beverages shops, mineral water, and breweries, among others are magnet of rural-urban drift. The population of Enugu was 505,280 in 1991, with an annual growth rate of 2.5 percent, while the 2006 national population census revealed a population of 722,664 with an annual growth rate of 2.85 percent (National Population Commission, 2006). The city's population is currently estimated to be above 1,196,713 people.

Furthermore, the figures from the city demographic statistics have revealed that the population of Enugu increased by 217,384 people over a 15-year period (1991-2006). Subsequently, over the next 16 years (2006-2022), it experienced an incremental growth with 474,049 migrants (a 90 percent increase). This means that, like many third-world cities, the metropolis is on its way to exceeding 2 million people by 2030. This buttress the fact that there has been an unprecedented growth in population since the beginning of the 20th century (UNESCO, 2020). The submission tends to support Wei and Yuzhe's (2020) study, which claims that in Chongqing, China; housing conditions are deteriorating despite geometrically increasing population statistics, culminating in urban squalor and blight. The expected population growth means that the government and stakeholders should be prepared to quadruple their efforts to address the expanding population.

Table 1: Projected Population of Enugu metropolis

Sn	Ni alah assala a d	Total Land Area	Neighbourhood	1991	2022
	Neighbourhood	In Hectares	Density	Population	Population
1	Abakpa	50.2	High	90,619	213,307
2	Asata	sata 45.0		21,828	51,378
3	Iva valley 50.3		High	8,891	20,927
4 Akwuke 16.6		16.6	High High	3,326 25,994	7,828 61,184
5	Coal camp/Ogbete 34.0				
6	Ogui new Layout	44.3	High	41,237	97,063
7	Emene	Emene 53.5		79,033	186,027
8	Gariki 98.7		High	19,662	46,280
9	Obiagu	43.0	High	5,487	12,915
10	Amechi Awkunanaw.	67.47	High	13,441	31,637
11	Nike 138.2		High	34,501	81,208
12	2 Achara Layout 955.0		Medium	50,427	118,695
13	13 Maryland 40.4		Medium	4,666	10,982

Sn	Neighbourhood	Total Land Area In Hectares	Neighbourhood Density	1991 Population	2022 Population	
14	Uwani	ani 61		31,875	75,027	
15	New Haven 48		Medium	18,753	44,140	
16	Idaw river	750	Medium	3138	7,386	
17	GRA	233.3	Low	19,600	46,134	
18	Independence Layout 30.5		Low	24,466	57,588	
19	Trans Ekulu	103.9	Low	11,474	27,007	
	TOTAL	251346		505,280	1,196,713	

Source: National Population Commission (1991). Projected to 2022 by the Researcher

Hence, the population distribution across the neighborhoods in the city according to the National Population and Housing survey of the National Population Commission are as shown in table 1 and these did not capture the squatter settlements. The implications of the population trend in Enugu as depicted in table 1, is that the city has exploded to the extent of creating an imbalance between the rate of population growth and housing provisions. The newly added residential layouts since the end of the War in 1970 include; New-Haven layout, Independence Layout, Idaw-River Layout, Real estate, Trans-Ekulu housing estate, Maryland, and Thinker's Corner Layouts. Houses in the new residential layouts are occupied by a high proportion of middle and high-income migrants. This has not been able to solve the housing problems in the city. As a result, many residents still live in blighted and slum areas within such neighbourhoods as Obiagu, Asata, Ogbete, Ogui and Abakpa-Nike neighborhoods within the city; while many others who are mostly low income earners, resign to taking shelter wherever they can and many reside at squatter settlements such as Ugbo-Odogwu, Ugwu Aaron, Ugwu Alfred, Ikiriki, idaw-river, Ngenevu, Ugbo Paul, Ugbo Owa, Ugbo Oye, Ugbo Ezeji, Ogwuagor, Ugbene, Ugwu bottle, and Ugbo Geofrey at the periphery of the city from where they come to adjourning formal neighbourhoods for daily businesses as depicted in table 2. These squatter settlements were spill over populations from the adjourning formal settlements that make up the urban neighbourhoods of which 50% are high density, 14% medium density and 36% partly medium and partly high-density neighbourhoods of the Enugu. Low density areas are not affected as the high-income residents easily affords decent housing in the city and thus lives wherever they choose.

Table 2: Identified squatter settlements and adjourning formal neighbourhoods in Enugu

Sn	Identified squatter	Adjourning formal	Density of adjourning formal	
	settlements	neighbourhood settlements	neighbourhood settlements	
1	Ugbo-Odogwu	Trans Ekulu	Medium	
2	Ugwu Aaron	Trans Ekulu	Medium	
3	Ugwu Alfred	Trans Ekulu / Iva valley	Medium/High	
4	Ikiriki	Idaw river	Medium/High	
5	Idaw-river	Achara layout / uwani Amechi Awkunanaw.	Medium/ High	
6	Ngenevu	Coal camp/Ogbete	High	
7	Ugbo Paul	Abakpa	High	
8	Ugbo Owa	Abakpa	High	
9	Ugbo Oye	Abakpa	High	
10	Ugbo Ezeji	Abakpa	High	

	Identified squatter settlements		Density of adjourning formal neighbourhood settlements
_	Ogwuagor	Č	High
	Ugbene		High
13	Ugwu bottle	Iva valley /Trans Ekulu	Medium High
14	Ugbo Geofrey	Trans Ekulu / Iva valley	Medium/High

Source: Researchers' Survey, 2019

The estimated population of these identified 14 peri-urban squatter settlements is about 62,733 people and over 11,082 households. This amounts to over 5.5 % of the current officially estimated population of Enugu metropolis (Neighbourhood watch 2013). The over 80% low-income families residing in these parts of the city do not enjoy decent housing units due to reasons of non-affordability. In all, while the high and medium income groups usually occupy decent housings in the housing estates provided by the government and some private developers, the low-income groups are denied access to decent housing using price mechanism. This is even for the so-called low-cost housing schemes initially designed for the group, thereby aggravating the housing problem in the city and increasing the trend on the emergence of squatter settlements at the urban periphery of the city. This is because the urban low-income residents are pushed to places where no one would ordinarily want to live.

Table 3: Some recent Urban Public Housing in Enugu (1999-2020)

Sn	Housing Provision	Neighbourhood	Housing Type
		Density	
1	Ebe-Ano	Low density	5-bedroom duplex with boys quarters
2	Golf course	Low density	5-bedroom duplex with boys quarters
3	Harmony	Medium density	2-bedroom flat
4	Maryland estate	Medium density	2-bedroom flat
5	Zoo estate	Low density	5-bedroom duplex with boys quarters
6	Liberty estate	Low density	5-bedroom duplex with boys quarters
7	Trans ekulu housing	Medium density	5-bedroom duplex and 4-bedroom bungalow with boys quarters
8	Coal city estate	Low density	5-bedroom duplex with boys quarters
9		Medium density	5-bedroom bungalow with boys quarters
10	Transparency	Low density	Block of 4-bedroom flat
11	WTC	Medium density	Block of 2-bedroom flat (4 housing unit)
12	Rangers 1	Low density	3-bedroom bungalow
13	Rangers 2	Medium density	3-bedroom semidetached bungalow
14	Citadel estate phase 1	Low density	Block of 4 flat terrace
15	Citadel estate phase 2	Low density	Block of 4 flat terrace
	, ,	Low density	Block of 4 flat terrace
	T <del>ri</del> nity	Low density	Block of 4 flat terrace
	Sand view	Medium density	1- and 2-bedroom flat/ 3 suspended floor semi detached
19	Coal city view	High density	3-bedroom semidetached bungalow
20	Valley	High-Medium/Low	4 housing unit per plot
21	Valley 2	High density	4 housing unit per plot
22	Fidelity estate	Low density	4-bedroom duplex
	Liberty phase 1	Low density	5-bedroom duplex with boys quarters
24	Liberty phase 2	Low density	5-bedroom duplex with boys quarters

Source: Enugu State Housing development authority (2020)

From 1999 to 2020 as presented in table 3, public housing provision in Enugu urban has been unbalanced and perceived to be skewed away from low-income group, whose ratio is larger in the city's population. Table 3 illustrates that in recent years, the state government attention focused more on the creation of high-income housing. Although there are indications of numerous housing programs designed for low- and middle-income groups, their reality is essentially non-existent in the city's current housing provision. The current Ebeano and Golf Course Housing Estates were created with high-income individuals in mind. Harmony Estates, that was aimed to support low, middle, and high-income residents, were discovered to have been captured by the wealthy alone, leaving the city's poor housing issues unmet. Also, the coal city view and valley estates 1&2 for high density residents are in reality hijacked by the affluent group. The high cost of building and construction materials and its continuous rising market price was observed in the city. This limits the availability of low-cost homes in Enugu, necessitating the search for more environmentally friendly building materials.

Furthermore, gentrification is another developmental trait in the city, in which low-income residents are ousted from city centers by wealthy persons and many locals have become displaced as a result of this. Although gentrification is a process in which the character of a poor urban area is changed by high income earners migrating in, improving housing and attracting new businesses. However, the negative consequences of displacing original tenants, typically the urban poor have not been adequately considered in the study area. Instead, many property and housing providers has geared efforts to make quick profits and returns on investments on a short-term basis leading to the fixation and increase of high rent fees for new development within certain areas. This ultimately result in a shortage of affordable housing supply to the poor masses. Also, as the city experiences rapid urbanization and population growth as an aftermath of mass rural-urban exodus, the residential property stock shrinks to make way for commercial use, mostly along the city's major streets and avenues (e.g. Chime Avenue, Market Road, Abakaliki Road, Ogui and Okpara avenue, Agbani and Nike road, Zik avenue and a host of other major roads) contributing to a skyrocketing rent fee on other locations of residential housing; as well as violations of planning standards due to unapproved land development, increasing traffic congestion, urban sprawl, and putting a strain on the city's infrastructure. This research finding is in line with previous results by Egbenta, (2009); Echendu et al., (2020) and Okeke et al., 2021 who identified shrinking residential stock, land use change, and traffic concerns as key hallmarks of rural urban drift in Enugu.

#### 5. Conclusions and Recommendation

The research investigates the effects of urbanization and rural-urban migration on housing delivery in Enugu and discovered the following

- Figures from the city demographic statistics as presented in the result sections, revealed that the population of Enugu urban is rapidly growing unabated to approximately 1.2 million residents currently.
- The housing problem which is already acute in Nigeria as a whole has been intensified in Enugu city by massive migration from rural to urban areas evident in city's population figure.

- That the effects of Urbanization include; rising population growth, gross housing shortage, increase housing rent and high land value in the city resulting to the emergence and expansion of many squatter settlements at the periphery of the city, incidence of haphazard situation of developments, land use conversion, contravention of planning standards, poor infrastructure and facilities, as well as slum conditions.
- 14 peri-urban squatter settlements with an estimated total population of 62,733 people; an indication of about 5.5 % unaccounted spill over population with over 11,082 households in the city.
- Current public housing provision in the city of Enugu from 1999-2020, was observed to be skewed away from low-income earners which make up a major proportion of the city population

In order to make the policy of housing for all a reality by the year 2030 as enshrined in the UN sustainable development goals, the study recommends that

- Greater emphasis should be placed on proactive measures with public participation as part of its implementation profile.
- Viable institutions such as Commercial and Mortgage Banks, Oil and gas stations, insurance Houses, Breweries, educational institutions and industries in the city should be compelled to provide accommodation for their staff in various parts of the city. The example of decent staff quarters set by the Central Bank of Nigeria (CBN) in this regard is commendable and should be emulated by other employers of labour. This will help increase housing supply and ameliorate housing problems.
- There is need for effective establishment and operation of workers housing corporative scheme, as well as enhanced access to housing investment for individuals and institutions interested in building their dwelling. Such funds ought to have a single digit interest rate such as 5% or 9% at most so as to encourage developers.
- Sites and services schemes should be adopted and the provision of infrastructure such as good motor-able roads, electricity, water supply among others so as to attract the location of industries and housing schemes in the rural areas thereby creating job opportunities for rural dwellers and minimizing rural-urban migration which compounds urban housing problems.
- The adoption and promotion of local building materials should be pursued by government as a sustainable option through the involvement of both the public and private housing development sectors. One of the impediments to sustainable housing program in Nigeria identified in literature is the frequent shortage and increasing cost of building materials such as Portland cement, reinforcement iron bars, roofing sheet, plumbing and electrical fittings etc. The adaption of local building materials which are naturally available, cheap and ecofriendly should be encouraged. Special enlightenment campaign to erase the perception about traditional architecture in Nigeria as being 'backwards and primitive' despite the fact that it is cheap, practical, sustainable, attractive, environmentally responsive, readily available and abundant everywhere especially in the rural areas where land is still generally available for its excavation should be re-evaluated.
- Local Government Areas that make up the study area as the third tier of government in Nigeria should be granted autonomy, funded directly and adequately especially in rural areas, so as to enable the councils to empower the people, develop the areas and make

such places attractive in terms of grassroots development while entrenching a proper monitoring mechanism so as to ensure efficiency in the provision and performance of basic infrastructure.

• Finally, there is urgent need for the Enugu State government to establish Satellite towns near Enugu urban. In such Satellite towns, architects and urban planners should be involved for proper planning of the towns. Some areas should be designated for construction of low-income housing with local building materials in order to ensure the affordability and sustainability of housing units.

# References

Adewale, B.A., Ibem, EO., Amole, S.A and Adeboye, A.B. (2020). Place attachment in Nigeria urban slums: evidence from inner city Ibadan. Cities 107, 102902

Echendu, I.F., Okeke, F.O. & Nnaemeka-Okeke, R.C. (2020). An investigation of challenges in the existing pattern of intra-city traffic in Enugu metropolis. Tema. Journal of Land Use, Mobility and Environment, 13(2):191-208. http://dx.doi.org/10.6092/1970-9870/6097

Efobi K.O and Anierobi C.M (2014): Urban Housing Issues in Nigerian Cities: A Case for Real Estate Maintenance as a Sustainable Option for Trans-Ekulu Housing Estate, Enugu, Nigeria. Journal of Arts and Design Studies, volume 16. www.iiste.org

Egbenta, I.R (2009) Analysis of Residential Land Use Change in Enugu Urban, Journal of Environmental Management and Safety: 1 (1) 110-123

Enugu Master Plan (1979): Master Plan for the development of Enugu city, produced by concept ecodesign. Enugu State Housing Development Corporation (2015): official gazette.

Federal Ministry of Housing & Urban Development (2014): Official gazette.

Federal Ministry of Housing and Urban Development (2012): National Housing Policy document, Abuja.

Federal Republic of Nigeria (1991): National housing Policy Statement. Official gazette, Abuja.

Ibem, EO. (2011). Public private partnership (PPP) in Housing provision in Lagos megacity region Nigeria. International journal of housing policy, 11(2), 133-154

Kwanshie (2003). Housing and Urban Development available online @ www.nigeriafirst.org. accessed on 4th October 2021.

Mabogunje, A.L (1975): The Morphology of Nigeria Cities", University Press Ibadan, Nigeria.

Mba, H.C. (1992) "The Dilemmas of Housing Programmes in Nigeria" In Mba H.C, Efobi K.O and Ogbazi J.U (editors); Principles and Practice of Urban and Regional Planning. Awka: Mekslink Publishers (Nig).

Muggah, R. (2016) "Development specialists must get to grips with fragile cities." Article prepared specifically in support of the: Cities, Violence and Order project of the Institute for Development Studies at the University of Sussex, U.K. 06 January 2016.

National population Commission (1991): Official gazette of national census. Abuja, Nigeria.

National population Commission (2006): Official gazette for the national population and housing survey. Abuja, Nigeria.

Neighbourhood watch (2013): Unpublished Levy collection records of the vigilante group for the neighborhoods in Enugu urban.

Nnaemeka-Okeke R. C (2016) Urban Sprawl and Sustainable City Development in Nigeria. Journal of Ecological Engineering Vol 17, Issue 2 Apr. 2016, pp 1–11. Doi: 10.12911/22998993/62277.

Nnaemeka-Okeke R. C, Okeke F. O, Sam-Amobi, C. (2020). The 2030 Agenda for Sustainable Development in Nigeria: The Role of the Architect. Science, Technology & Public Policy. Vol. 4, No. 1, 2020, pp. 15-21. doi: 10.11648/j.stpp.20200401.13

Okeke F. O (2021) Analysing the Role of Architects in Achieving the Sustainable Cities Goal by 2030 In University-Led Knowledge and Innovation for Sustainable Development. Edited by F. A Anyogu, C.A Eme, J. A Ogbodo published by Boldscholar Research Ltd. Abuja, Nigeria Pp. 104-112

Okeke, F. O., Eziyi, I. O., Udeh, C. A., & Ezema, E.C. (2020) City as Habitat: Assembling the fragile city. Civil engineering Journal 2020; 6(6):1143-1154. doi: http://dx.doi.org/10.28991/cej-2020-03091536

- Okeke, F.O, Sam-Amobi, C and Okeke, F.I (2020) Role of local town planning authorities in building collapse in Nigeria: evidence from Enugu metropolis. Heliyon 2020; 6(7) https://doi.org/10.1016/j.heliyon.2020.e04361
- Okeke, F.O., Echendu, F.I. and Nnaemeka-Okeke, R.C. (2021) Determinants of intra-urban travel in southeast Nigeria; evidence from city of Enugu, Transport Problem 16 (4); 185–198, doi:10.21307/tp-2021-070.
- Okeke, F.O., Gyoh, L. and Echendu, F.I. (2021) Impact of land use morphology on urban transportation. Civil engineering journal. 7(10); 1753-1773. doi: http://dx.doi.org/10.28991/cej-2021-03091758
- Okeke, F.O., Okosun, A.E., Udeh, C.A., Okekeogbu, C.J. (2020). Cities for People: The Dependency & Impact of Automobile in the Life of City Dwellers. European Journal of Sustainable Development. 9 (3); 157-178 doi: 10.14207/ejsd.2020.v9n3p157.
- Okeke, F.O., Uzuegbunam, F.O., Nnaemeka-Okeke, R.C and. Ezema, E.C. (2021) People, people, everywhere; the architectural design response for Enugu city, Nigeria. Proceedings of the DII-2021 International Conference: "Building Smart, Resilient and Sustainable Infrastructure in Developing Countries" October 2021 p. 104-129
- Okonkwo, M.M (2003) celebration of Cities: Enugu City in Focus", Lecture Delivered at the World Architecture Day, Organized by the Nigeria Institute of Architecture, Enugu Chapter.
- Okpalike, C., Okeke, F.O., Ezema C.E., Oforji, P.I. and Igwe, E.A. (2021) Effects of Renovation on Ventilation and Energy Saving in Residential Building. Civil engineering journal. Vol 7 special issue. 124-135. http://dx.doi.org/10.28991/CEJ-SP2021-07-09
- Olayiwola, L.M., Adeleye, O and Ogunshakin L (2005): Public Housing Delivery in Nigeria: Problems and Challenges. XXXIII IAHS World congress on Housing; Pretoria South Africa.
- Onibokun P. (1985) Housing in Nigeria, NISER, Ibadan 1985
- Osuide, S.O (2004) "Strategies for Affordable I-lousing Stock delivery in Nigeria" An Inaugural Lecture, Delivered at Ambrose Alli University Ekpoma, Nigeria, on Thursday 29th January 2004.
- Oyedele T. (2019) national housing fund (establishment) ACT 2018 downloaded online @ www.pwc.com accessed on 12th may 2021.
- Udeh C. A and Okeke F. O., (2018) Urban Regeneration Eradicating Urban Decay for Improved Human Settlement. Journal of Environmental Management and Safety 9, no. 1 (2018): 49–54.
- Udeh, CA. (1989): "Rural Development in Nigeria" Habitat International, Pergaman Press Plc. Vol.13, No3 pp.95-100, Great Britain.
- UNDP (2010). International Consultant to Study of Impacts of Climate Change and Disasters on Health in Urban Areas, Ethiopia. Available online: https://uncareer.net/vacancy/international-consultant-study-impacts-climate-change-and-di (accessed on 9 October 2019).
- United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020). Sustainable Development Goals 1 and 4. Available at http://data.uis.unesco.org/. Accessed on August 22, 2020.
- Wei, W. and Yuzhe, W. (2020) Exploring the Coordination Mechanism for Public Housing Supply with Urban Growth Management: A Case Study of Chongqing, China. Sustainability, 12 (4047); 1-16 doi:10.3390/su12104047