COMBATING THE CHALLENGES OF URBANIZATION AND URBAN INFRASTRUCTURAL DEVELOPMENT IN KARU LOCAL GOVERNMENT AREA OF NASARAWA STATE

By

Prof. Francis O. Onu

Department of Sociology, Faculty of Social Sciences, Nasarawa State University
PMB 1022, Keffi, Nasarawa State, Nigeria
E-mail: Fonu2015@gmail.com; Phone: +234-8033424673

And

OCHE Innocent Onuche
E-mail: onuoche@yahoo.com GSM: +234-8065296663.
Dept. of Sociology, Faculty of Social Sciences,
Bingham University Karu, Nasarawa State, Nigeria.

Abstract

Cities have experienced dramatic growth as a result of rapid urbanization, globally. This study examined urbanization and the pattern of infrastructural development in Karu local government area of Nasarawa state. While cities in Nigeria as well as other parts of the world are becoming dominant as both centre of production and consumption, rapid growth of Nigeria cities has seriously outstripped the capacity of most cities to provide and maintain adequate basic services to their residents as this increasing rate does not correspond with infrastructural provision and maintenance of existing infrastructure. This has necessitated undue pressure and challenges on urban infrastructure. The study adopted survey research design and cluster sampling was used to select respondents from Mararaba, Ado and Masaka in Karu Local Government Area. Questionnaire was the instrument used for data collection. Descriptive and inferential statistics were the statistical tool used for the analysis. The descriptive statistics involved the use of frequency and simple percentages while the inferential statistics involved the use of Gamma and Z score which shows the direction and strength of relationships between variables in the study and the test of significant. Two hypotheses were tested by this study. The result shows a strong and positive relationship between urban population and social infrastructure. The study also revealed that housing and social infrastructure like: roads network, healthcare facilities among other are grossly inadequate while the available ones are in deplorable and bad conditions due to urbanization. The study concluded that urbanization and population growth within urban areas has a negative effect on the environment, the available infrastructure and residents of Karu local government area of Nasarawa state. The study recommended that the state government should enforce proper planning and development control policy in the area and effectively implement infrastructural development to ameliorate the challenges confronting the area as a result of urbanization and population growth.

Keywords: Urbanization, Infrastructure, infrastructural development, urban policy.

Introduction

Globally, cities have grown rapidly with an unprecedented increase in number and sizes. These fundamental increases have far reaching consequences for human life and civilization (Philip and Leo, 1985). Urbanization is the geographic concentration of people in non-agricultural activities in any urban environment in various sizes and form. It is also considered as a given proportion of the total population that is concentrated in urban settlements. Urbanization includes: population diffusion, occupational differentiation, physical and structural expansion of an area (Onu, 2014).

The 2005 revision of the United Nation (UN) world urbanization prospect report shows that the global proportion of urban population rose from 13% (220 million) in 1900 to 29% (732 million) in 1950 to 49% (3.2 billion) in 2005. The report projected that the figure is likely to rise to 60% (4.9 billion) by 2030. Furthermore, the UN state of the world population 2007 report, argued that, majority of people worldwide will be living in towns or cities for the first time in history. This is referred to as the arrival of the "Urban Millennium" or the "tipping point." With regard to future trends it is estimated that 93% of urban growth will occur in developing nations, with 80% of urban growth occurring in Africa.

The growth rate of urban population is more pronounced in Nigeria than most other countries in the continent of Africa (Adeniyi, 1995). The United Nation (UN) in 2002 estimated that Nigeria population was about 120 million and would be about 160 million in 2020. With 2020 less than seven years away, the population of Nigeria has surpassed this estimation going by the census figure of 140 million released in 2006 by the National Population Commission (NPC). The United Nation (UN) experts further predicted that, between 1990 and 2050, the number of people living in urban areas will double to more than five million and that 90 percent of that growth will be in developing countries. In the case of Nigeria, the former minister of housing and urban development, MobolajiOsomo puts the rate of migration in Nigeria at 5.5 percent per annum. This rate as she projected further will double in 2015 (Osomo, 2004:9). Nigeria is urbanizing at an astonishing pace. The share of Nigeria urban population increased from 19 percent in 1963 to 20 percent in 1970, to 31 percent in 1991 and 38 percent in 1993 (Bilyaminu, 2014). The 1991 census report showed that, the states in Nigeria with the largest proportion of urban dwellers in excess of the

national average are Lagos (94%), Oyo (69%) and Anambra (62%). Others include Osun (56%), Edo (45%), Ogun (45%) and Kwara (43%) while states with the lowest proportion of urban dwellers are Jigawa (7%), Taraba (10%), Akwa- Ibom and Kebbi (12%).

Furthermore, several studies have shown that the rapid rate of urbanization in Nigeria and urban infrastructural development are not in tandem. Infrastructural development is the establishment or provision and continuous maintenance of the basic physical and organized structure needed for the operation of a society or community enterprise, or the services and facilities necessary for an economy to function. This infrastructure covers a wide range of services and facilities namely; electricity, water, roads, waste disposal, drainages, communication, primary and secondary health services, schools and housing as key ones. It requires large lump sum of investment; this perhaps justifies the reason why citizens usually look forward to their government for provision and monitoring of facilities and policies to control the growth of cities and maintenance of these facilities.

A rapid increase in urban population of any magnitude is supposed to correlate or correspond with infrastructural provision and improvement (Mabogunje, 1968). But the rate of urbanization, the provision and maintenance of urban infrastructure in Nigeria, Nasarawa state and Karu local government areaspecifically contradict this assertion. The Abuja master plan was projected to cater for 3.1 million people in a land of about 8,000km^2 when it is fully developed by the target year, 2000 (MFCT, 1992). The nation's capital, hit a population of over seven (7) million as at 2010 (Olayiwola, 2010). An increase that more than doubles the projected 3.1 million targeted population. This increase, is seriously straining the available infrastructure originally designed and planned for 3.1 million people. This straining of urban infrastructure and the pattern of infrastructural development is also telling on Nasarawa state, particularly Karu local government area that shares boundary with the nation's capital, accommodating bulk of the Abuja's workforce. As it stands today, with a growth rate of 40% per annum, Karu local government area of Nasarawa state have been rated as one of the fastest growing urban centre in the world (Peace work, 2005).This has posed an immense challenge on the environment, residents, the available infrastructure and their nature andpattern of development. Housing and

associated facilities such as water, electricity, roads and schools are also inadequate to the extent that millions of people now live in substandard and sub-human environment, as well as high concentration on the available infrastructure.

Research Questions

The following questions served as a guide to this research work:

i.   Does the nature and pattern of urbanization affect development in Karu Local Government Area?

ii.   How does the increasing rate of urban growth impact oninfrastructural development in Karu Local Government area?

iii.   Does the present state of infrastructure contribute to the pattern and nature of development of Karu Local Government Area?

iv.   How do measures taken by the government on infrastructural development affect the residents of Karu local government area?

Objectives of the Study

The main objective of this study is to examine urbanization and pattern of infrastructural development in Karu Local Government Area of NasarawaState. The specific objectives for this study are to:

i.   Investigate the nature and pattern of infrastructural development in Karu Local Government Area.

ii.   Examine the increasing rate of urban growth on urban infrastructural development in Karu Local Government Area.

iii.   Examine the contribution of urban infrastructure to the pattern and nature of development in Karu Local Government Area.

iv.   Examine the effects of measures taken by the government on infrastructural development on the residents of Karu Local Government Area.

Research Hypothesis

Based on the statement of the problem, research questions and objective of the study, this study tested the following research hypothesis:

Hypothesis one

H_1: Urbanization has a significant relationship with the nature and pattern of housing in Karu local government area.

H_0: Urbanization does not have a significant relationship with the nature and pattern of housing in Karu local government area.

Hypothesis two:

H_1: Urban population has significant effect on social infrastructure in Karu Local Government Area

H_0: Urban population does not have a significant effect on social infrastructure in Karu Local Government Area

Literature Review (Urbanization and Urban Infrastructure)

Urbanization is the expansion of towns and cities and how it affects her values, movement of people into cities and behavioural pattern in conformity with people or groups in cities. From a more succinct and scholarly point of view, Henslin (2008) conceptualized urbanization as the process by which an increasing proportion of a population lives in cities. In a similar vein, Mabogunje (1968) viewed urbanization as a process whereby human beings congregate in relatively large number at one particular spot of the earth's surface. The emphasis of this definition is on large number and locality undergoing urbanization process; however, Wirth (1938) conceptualized urbanization as a relatively large, dense and permanent settlement of socially heterogeneous individuals. Goldthorpe (1988) also viewed urbanization from another perspective, as an integral part of the development process. He argued that even by definition, one country is recognized as develop than another if a higher proportion of its people lives in towns or urban area. While the United Nation (UN) (2005) definition of urbanization clarifies and simplifies

our understanding; according to them, an urban centre or urbanization is a city that has 20,000 or more population, largely characterized by non-agrarian economic activities. From the various definitions, Wirth, (1938) and the United Nation (UN) (2005) definition of urbanization will be adopted by this study as it broadens our understanding of what constitute urbanization beyond relatively large proportion of people occupying a permanent settlement but also included socially heterogeneous individuals which is in tandem with the area under study.

Urban infrastructure on the other hand has no single acceptable definition. It is commonly defined in terms of its features (Siyan, 2006). While there is no universally accepted definition of urban infrastructure, there is a broad agreement about what it is and what it is not. The term is often defined as the basic physical and organizational structure needed for the operation of a society enterprise, or the services and facilities necessary for an economy to function (Olowononi, 2006:117). The term infrastructure from the understanding above typically refers to the technical structures that support the economy or a portion of it to function.

Furthermore, the term urban infrastructure has been used in a broad sense to mean collectively: the transportation of people and information; the provision of public services and utilities such as water and power, and the removal, minimization and control of waste, and environmental restoration. However, Donald (1974) defined it as the physical structures and facilities that are developed or acquired by public agencies to enhance governmental functions and provide water, power, waste disposal, transportation or similar services to facilitate the achievement of common social and economic objectives. In addition, Fox (1994) viewed urban infrastructures as those services derived from a set of public work traditionally provided by the public sector to enhance private sector production and to allow for household consumption. Nubi (2003) also describe infrastructure as the aggregate of all facilities crucial to creating an enabling environment for economic growth and enhance quality of life. They include housing, electricity, pipe-borne water, drainage, waste disposal, roads, sewage, health, education, telecommunications and institutional structures like police station, fire fighting stations, banks and post office. It is simply the engine needed to derive the city. Irrespective of the forms of definitions offered, the common element include physical structures, facilities or

[6]

utilities that are in place by private or public involvement and expenditure aimed at facilitating the effective functioning of the society.

In addition, Siyan (2006) identified two major components of urban infrastructure. They are: Economic infrastructure; and Social infrastructure. According to him, the economic infrastructure, comprise power/energy, telecommunications, water supply, sanitation and sewage, solid waste collection and disposal, and postal services. All of these make up the public utilities under the economic infrastructure. While the public works still under economic infrastructure comprises public works like Roads and dams, canals works for irrigation and drainage. The social infrastructure is a system of social services, networks and facilities that support people and communities wellbeing. Community wellbeing requires a wide range of services and facilities to be properly planned and incorporated. The social infrastructure framework (SIF) addresses five broad social sectors namely: Health and social care, education; libraries and community services, recreation and leisure services.

It is worthy to note at this juncture that, urban infrastructure generally in Nigeria is inadequate and the available ones are in poor quality when compare to the ones in the developed or emerged world of Europe and America. The problem has to do with lack of investment and maintenance culture. Most of the urban resident in Nigeria lack safe drinking water and sanitation, outage of electricity supply, poor road and other transportation mode (Madu and Okechukwu, 2010). One could conclude that, lack or inadequacy of infrastructure has greatly impeded development in our urban areas.

Theoretical Consideration/ Framework

In seeking to explain the challenges of urbanization on urban infrastructural development, the concentric zone theory which sprang from the ecological theory championed by Burgess (1923) and his associates Shaw (1929) and McKenzie (1930) from Chicago school was adopted. The theory drives inspiration from the Darwinian law of species in biological science where plants and animals are studied in their natural inhabitant; exist in an on-going balance of nature, a dynamic equilibrium in which each individual must struggle to survive. The history of America is a process of invasion, dominance, and succession by the white into the territory of the red Indians. And in cities one cultural or ethnic group may take over an entire neighbourhood from another group, beginning with

shift of only one or two residents. Similarly, business or industry may move into and ultimately take over a previously residential neighbourhood.

It is this processes of invasion, dominance, and succession that drive or informed the propounding of the concentric zone theory by Burgess (1923). Burgess pointed out that cities do not merely grow at their edge. Rather, they have a tendency to expand radically from their centre in patterns of concentric circles, each moving gradually outward in zones. Zone1 according to Burgess is the central business district or "Loop." Zone 2 is the area in transition, being invaded by the central business district and business areas. This is generally the oldest section of the city. The residential districts in this zone are already deteriorating and will be allowed to deteriorate further because it is anticipated that they will be turn down in the foreseeable future to make way for incoming business and industry. Zone 2 is usually occupied by the poorest classes; including the most recent migrants to the city. Zone 3 is the zone of workers home, occupied by those who have escaped the deteriorating condition of zone 2. Beyond this is zone 4, the residential district of single-family houses and more expensive apartments. Beyond the city limit are the suburban areas and the satellite cities which constitute zone 5 - the commuter zone. Each of these five zones is growing and thus is gradually moving outward into the territory occupied by the next zone, in process of invasion, dominance, and succession.

The growth and continuous growth of the study area can be likened to Burgess analysis of urban growth and expansion through the process of invasion, succession and domination. Big businesses like banks, real estate companies, etc. buying off residential areas in Mararaba, Ado, and Masaka, transforming them into business site or centres further pushing the residents backward and expanding the city radically from the centre in pattern of concentric circle as asserted by Burgess distorting the pattern and development of infrastructure in the area. This kind of growth and expansion as captured by Burgess is not merely the growth of the city at its edge and pace but a growth that is instigated by a radical factor of invasion, domination and succession; hence the relevance of this theory to this study despite the criticisms.

Burgess's concentric zone theory has been criticized on various grounds. There was the criticism of the zonal concept. Implicit in this concept is the fact that growth takes place along the broad margin of successive zones, whereas the more observable tendency is for growth to concentrate along radial lines, that is, the route ways, which cut across the

zones. Another criticism has been the generality of the theory. Here it must be noted that, while Burgess himself believe that the zonal pattern found expression in all American cities, others who have had to defend the validity of some of his hypotheses have generally narrowed the coverage to growing commercial- industrial cities of the developed countries.

Despite the criticism of the concentric zone theory to the American situation, it is still relevant to explaining the challenges of population growth on infrastructural development in Karu local government area. The assumption of a laissez-faire economic system in which people and business compete for land and the highest bidder wins, relates clearly with the practices and evidence in Karu local government area of Nasarawa state.

Methodology

Karu local government area of Nasarawa State has a population of 205,477 according to 2006 census report. However, the 2006 census report did not capture population for localities. The study therefore, adopted the National population Commission (NPC) population projection survey 1991-1996 and further projected it to 1996-2006 and 2006-2013 respectively using the exponential method of population projection.

The projected population of the three (3) selected areas which are: Mararaba, Ado, and Masaka, are shown in table 3.1 below.

Table 1: Determination of population of the selected Areas in KaruL.G.A

Selected Areas	1991-1996 NPC population and projected population for the area	1996-2006 projected population for the areas	2006-2013 projected population for the areas
Mararaba	1,658	2,283	3,143
Ado	1,220	1,679	2,313
Masaka	5,578	7,680	10,576
Total population	**8,456**	**11,642**	**16,032**

Source: NPC Population Projection Survey 1991 – 1996. Note: 1996-2006, 2006-2013 population of the area was projected by the researcher using the exponential method of population projection

Data Presentation and Analysis

Table 2: Socio - Demographic characteristics of Respondents

Age	Categories	Frequency	Percentages
	18-28 years	42	15.4
	29-39 years	89	32.7
	40-50 years	101	37.1
	51-61years	27	10
	62 and above	13	4.8
Total		**272**	**100**
Sex	Male	169	62.1
	Female	103	37.9
Total		**272**	**100**
Marital Status			
	Single	89	33
	Married	156	57.4
	Widow	26	9.6
	Separated	-	-
Total		**272**	**100**
Educational Qualification			
	Primary school cert.	11	4
	SSCE/GCE/NECO/NABTEB	38	14
	OND/ND/NCE	41	35
	B.Sc./B.Ed./B.A/HND	81	29
	M.Sc./M.A/MBA/MPA	93	15.1
	PH D	8	2.9
Total		**272**	**100**
Occupation			
	Farmer	9	3.3
	Civil/Public Servant	132	48.5
	Self-employed/Business	101	37.1
	Unemployed	30	11
	Others	-	-
Total		**272**	**100**

Source: Field Survey, 2017.

Table 4.1 shows the analysis of socio-demographic characteristics of the respondents.

The result shows that 15.4% of the respondents are between the ages of 18-28 years,

32.7% between the ages of 29-39 years. 37.1% are between the ages of 40-50 years.

[10]

10% are between the ages of 51-61 years while only 4.8% of the respondents are above 62 years of age. Most of the respondents are therefore in their productive years. This is the period most young people seek to explore and achieve, hence the massive movement to urban areas.

The result from table 4.1 also shows that 62.1% of the respondents are male, while 37.9% of the respondents are female. In terms of marital status of the respondents, the result shows that 33% of the respondents are single, 57.4% are married while 9.6% are widow.

Table 4.1 also shows results with respect to the educational qualification of the respondents. As shown, 4% of the respondents are primary school certificate holder, 14% are SSCE/GCE/NECO/NABTEB holders, 35% had OND/ND/NCE qualification, B.Sc./ B.ED/ B.A/ HND holders are represented as 29%, 15.1% are holders of M.Sc./M.A/MBA/MPA degrees while only 2.9%of the respondents are holders of PhD degree. The result shows a mixture of all levels of educational qualification resident in the area. Higher or lower educational qualification is not a critical requirement for moving in or residing in the area.

Finally, with regards to the occupation of the respondents, the result shows that 3.3% of the respondents are farmers, 48.5% are civil/public servant, and 37.1% are self-employed/business owners while 11% are unemployed. The result shows that most of the respondents are engaged and therefore making a living.

Table 3: Respondents response on Ways in which urbanisation has affected provision of infrastructure and maintenance

Options	Frequency	Percentages
Pressure Infrastructure	60	22
Leads to over crowing	91	33.5
Leads to slums & squatter houses	115	42.3
Increase the rate of ware and tire	6	2.2
Total	**272**	**100**

Source: Field survey, 2017.

Results from table 4.8 shows that 22% indicated that it has pressured the available infrastructure, 33.5% responses shows that the increasing rate of population growth in the area has over crowded the area, 42.3% responses shows it has led to the growth of slums and squatters houses. Only 2.2% respondents' rate indicated that it had affected the rate of ware and tire. This shows that the population growth and continuous population growth of the area is really straining available infrastructure as the area is already over-populated. This result also agrees with Jiriko, (1999) assertion that, the area lack basic necessities of life. Inadequate or absence of sewage and refuse disposal facilities have rendered people competing with rubbish heaps, fetish smells and block drains.

Table 4: Respondents view on the Infrastructure whose Effect is felt most if absent or Inadequate

Infrastructure	Frequency	Percentages
Road network	36	13.2
Hospital	59	21.7
Electricity and water	21	7.7
Waste disposal	43	15.8
All of the above	113	41.5
Total	**272**	**100**

Source: Field survey, 2017.

Results from table 4.9 shows that residents will feel the absent or inadequacy of the whole infrastructure with 41.5% respondents rate. With 21.7% indicating Hospital, 15.8% indicated waste disposal, road network 13.2% while electricity and water are represented with 7.7% respond rate as shown clearly in the table. This result further shows the absence and inadequacy of urban infrastructure which Nubi (2003) identified as important to facilitating the effective functioning of society especially urban centre like Karu local government area of Nasarawa state. But the result, did not capture Mabogunje (1968) observation that, a rapid increase in urban population of any magnitude is supposed to correlate or correspond with infrastructural provision and improvement.

Table 5: Respondents views on whether the present state of infrastructure distorted the nature and pattern of development in the area

Views	Frequency	Percentages
Distorts planning of the streets	81	29.8
Nature of housing	62	22.8
Electricity/water	11	4.4
Distorts recreational area	8	2.9
All of the above	110	40.1
Total	**272**	**100**

Source: Field survey, 2017.

Result from table 4.10 indicated that the presented state of infrastructure has distorted the planning of streets with 29.8% respondents' responses; 22.8% also indicated that it has distorted the nature of housing, 4.4% indicated electricity and water, and 2.9% indicated the distortion of recreational area. But with respondents response rate of 41.5% the results shows that the present nature/pattern of infrastructure in the area had distorted the development and maintenance of all the available infrastructures in the area.

Table 6: Respondents view on whether Population growth has affected Infrastructure in the Area

Views	Frequency	Percentages
Positively	13	4.8
Negatively	259	95.2
Total	**272**	**100**

Source: Field survey, 2017.

The results from table 4.11 shows that population growth have affected infrastructural development and maintenance negatively with a large response rate of 95.2% with only 4.8% positive respondents rate. This shows that the area has not benefits from the increasing population growth rate in terms of infrastructural development and maintenance. The results from the table also shows that, population growth has affected infrastructural development negatively in the area of Mararaba, Ado and Masaka because the areas have been experiencing rapid population increase as a result of migration (rural-urban) and infrastructural development as it pertains to the nature and pattern which is not commensurate with the population influx.

Table 7:Respondentsrating of the pattern of Social Infrastructure

Rating of social infrastructure	Frequency	Percentages
Excellent	-	-
Good	17	6.3
Average	162	59.6
Bad	93	34.1
Total	**272**	**100**

Source: Field Survey, 2017.

On the rating of the nature and pattern of infrastructure in the study area, result from table 4.12 shows that 59.6% of the respondents rated infrastructure like: roads, health care facilities etc. as average, 34.1% rated it as bad. The result also shows that only 6.3% of the respondents rated the nature and pattern of infrastructure in the area as good. With majority of the respondents rating infrastructure average and bad in the area also supported the Shelter Right Initiative (SRI) (1998) report on improving the living environment in slum settlement. According to the project report, slums area had substandard and ramshackle houses in which many residents dwell; overcrowding and congestion of living, inadequate water supply, inadequate or absent of excreta disposal facilities, absent of refuse disposal facilities, poor drainage resulting in pollution of water sources, flooding and dampness of living quarters, poor ventilation and lighting, atmospheric pollution, clustering of living houses with junk, tins and cans, lack of recreational facilities, lack of fire fighting services, crowded public schools and dilapidated school structures, insecurity and lack of accessible roads into the settlement.

Table 8: Respondents views on whether population is the cause of poor Infrastructural Development

Views	Frequency	Percentages
Strongly agree	69	25.4
Agree	154	56.6
Strongly disagree	31	11.4
Disagree	18	6.6
Total	**272**	**100**

Source: Field Survey, 2017.

Results from table 4.13 shows that 25.4% of the respondents strongly agree that the reason behind the present pattern of infrastructure in the area is due to increased population growth, 56.6% also agree, 11.4% strongly disagreed while 6.6% disagreed. This result shows that population is a strong variable among others when explaining the bad nature and pattern of social infrastructure in an urban area like: Mararaba, Ado and Masaka. The result totally captured Anorth (2008) assertion that, rapid urbanization severely strains urban housing and other infrastructure, particularly in countries with a large informal sector like that of Nigeria.

Table 9: Respondents views on whether Urbanization is the cause of Deplorable nature of Houses

Views	Frequency	Percentages
Strongly agree	59	21.7
Agree	165	60.7
Strongly disagree	18	6.6
Disagree	30	11
Total	**272**	**100**

Source: Field survey, 2017.

Table 4.15 shows that majority of the respondents responses 60.7% agreed that the highly deplorable and deplorable nature of houses in the areas is due to urbanization while 21.7% strongly agreed and 6.6% strongly disagreed while 11% responses shows

disagreed. It can be deduced from these results that urbanization is a critical variable when examining the nature and pattern of housing in karu local government area.

Test of Hypothesis

In order to draw meaningful statistical conclusion on the relationships hypothesized in the study, the following hypotheses were formulated and tested using Gamma and Z score as an appropriate statistical technique for this study.

Test of Hypothesis One

H_1: Urbanization has a significant relationship with the nature and pattern of housing in Karu local government area.

H_0: Urbanization does not have a significant relationship with the nature and pattern of housing in Karu local government area.

Table 10: The Correlation statistics Measuring Relationship between urbanization and the nature/pattern of housing in Karu local government area by respondents

Levels of Agreement	Urbanization and the nature/pattern of housing			
	Mararaba	**Ado**	**Masaka**	**Total**
Strongly agree	13	9	37	59
Agree	37	26	102	165
Strongly disagree	4	2	12	18
Disagree	6	4	20	30
Total	**60**	**41**	**171**	**272**

Source: Field Survey, 2017

Decision Rule: An obtained Gamma of .01 to .039 indicates a weak relationship. .040 to .049 indicates moderate relationship while .050 and above, indicates a strong relationship. And when an obtained Z score exceeds or equals the required table Z score at alpha level of .05, generalization can be made. But should the reverse, generalization cannot be made.

Discussion

From table4.16 the obtained gamma coefficient is +.33 which expresses a rather weak positive association between urbanization and the nature/pattern of housing in Karu

local government area of Nasarawa state. Again, our obtained Z score from the table above is 0.63 while the table Z score is 1.69 at alpha level of .05. Applying the decision rule to the result above, since our obtained gamma is weak (.033) and the calculated Z score is smaller than the required table value (1.96), the findings reject the research hypothesis H_1: and accept hypothesis H_0: that there is no relationship between urbanization and the nature/pattern of housing in Karu local government area of Nasarawa state.

Test of Hypothesis Two

The hypothesis is tested as follows:

H_1: Urban population has significant effect on social infrastructure

H_0: Urban population does not have a significant effect on social infrastructure

Table 11: Shows the Correlation Statistics measuring relationship between urban population and social infrastructure by Respondents

Levels of agreement	Urban population and Social infrastructure in Karu Local government area.			
	Masaka	**Mararaba**	**Ado**	**Total**
Strongly agree	30	20	19	69
Agree	73	42	39	154
Strongly disagree	12	11	8	31
Disagree	10	5	3	18
Total	**125**	**78**	**69**	**272**

Source: Field Survey, 2017.

Decision Rule: An obtained Gamma of .01 to .039 indicates a weak relationship. .040 to .049 indicates moderate relationship while .050 and above, indicates a strong relationship. And when an obtained Z score exceeds or equals the required table Z score at alpha level of .05, generalization can be made. But should the reverse, generalization cannot be made.

Discussion

The obtained gamma coefficient from table 4.17 is+.98 which expresses a strong positive relationship between urban population and social infrastructure inKaru local government area. The obtained gamma coefficient also suggests a relationship based

on a dominance of agreements. That is, there is 98 percent greater agreement than inversion between urban population and social infrastructure in Karu local government area of Nasarawa state.

Again, our obtained z score from the table is 7.15 while the required table Z score is 1.96 at alpha level of .05. Applying the rules of Z score to this result, we therefore accept the research hypothesis two H_1: and reject H_0: since our calculated Z score is greater than the table Z score. There is a significant relationship between urban growth and the pattern of social infrastructure in Karu local government area of Nasarawa state.

Conclusion

It is the conclusion of this study that urbanization or population growth within urban centres has a negative effect on the environment, the infrastructure and the residents of Karu local area of Nasarawa State. The rapid growth of this area has brought to the fore, various problems which are manifest not only in the physical forms of the area, but also in the ways they function. The area like most urban areas in Nigeria, have grown in an unmonitored and controlled manner, which has led to the manifestation of various problems such as overcrowding, housing, traffic congestion, environmental pollution as well as the general deterioration of its infrastructures, which have in turn precipitated various socio-economic and sanitary problem in the area. The awareness and the need for an urban planned programme to manage the phenomenal have become imperative.

The converging forces of urbanization, technology and environmental degradation are in serious conflict. This situation is a reflection of the poor or ineffective and inefficient urban planning effort of the management authorities. As reflected in the area, very little attention is given to urban planning which has resulted to the present outmoded and distorted structure of the area, providing little or no satisfaction from the point of view of efficiency or aesthetics.

The existing system of urban management in the study has failed to provide efficient urban administration. Common services like drainages and refuse disposal have continued to suffer serious neglect which has often given rise to the ugly sight and considerable health and environmental hazards in the metropolis. Planning for specific projects are not coordinated and integrated to meet the demands of the fast-growing population of the area now and even in the future. And as well, they fail to indicate land use patterns, population distribution, location of industries, shopping facilities etc. high ways, water mains, schools, parks, healthcare facilities, electricity, and other associated infrastructure are things that take a great deal of planning and must be related directly to the population.

Combating the Challenges

The paper recommends adequate planning and adherence to Master plan by the authorities in charge and the residents. Residential and business areas as mapped out in the master plan should be strictly developed by owners as planned.

To check the problems arising from the nature and pattern of housing in the area, there is a need to put in place building codes. The code should provide minimum standard for building construction and conditions for occupancy. And it should include factors such as lightening, ventilation, heating, sanitation and plumbing, types of materials and fire prevention and fighting. It should also cover specifications areas for a variety of commercial business such as bakeries, restaurants, shopping mall, parks, hotels etc.

Again, the paper recommends zoning of the area. Zoning is a form of governmental regulations providing for the ordering social and economic development of an area. This should be adopted and implemented in the area by the authorities charged with such functions to regulating the use of land and buildings by restricting certain areas for industrial, business, residential, agricultural and other activities which are all missed up at the moment in the area.

Furthermore, a population-environment policy should be put in place to check the wave of rural-urban migration as well as urban-urban migration in the area, while planning for future developments, and should be guided by terrain analysis which must accommodate probable maximum growth and expansion of the area.

Existing National policies on the environment should be adopted and implemented effectively in the area as well in order to effectively manage existing and future infrastructure and the provision of social services. Enforcement of urban land use policies, housing policies and planning policies are advocated in all urban centres in Nigeria in order to establish harmony and encourages functional land use patterns. This policy should be adopted and implemented to the latter in the area of study. It should also include urban renewal action and slum clearance which the area really need at the moment.

Finally, one of the effects of uncontrolled growth in an area like Karu local government is the over burdening of the infrastructures and other public services. Responding to this problem, authorities in charge should place a moratorium on further development until planning is completed; regulations are adopted and public facilities are expanded. For example, the local government should issue an urban ordinance, declaring that no more building permits for residential and commercial construction would be issued until certain standards for the provision of public services are met. In such cases, permits should be granted or issued only if the land owners can show the availability of adequate public services facilities such as: electricity, water, drainages and excreta disposal facilities, tarred street roads, sewage and waste disposal facilities etc.

In addition, the various organs of government, non-governmental organizations, public and private stakeholders should be involve to work harmoniously through a coordinated agency in the area for effective management of the environmental problems. The Habitat agenda acknowledges the important roles which the private sector, non-governmental organization and communities play in the shaping of city. It is therefore the recommendation of this study that the management of this area should work in partnership with these actors to improve the condition of the area.

Reference

Adeniyi, E.O (1995). Administrative Framework for physical Planning in Nigeria. Ibadan: Ibadan University Press.

Bilyaminu, S.M (2014). Nigeria's Exponential Population Growth: Implication and challenges for urban development in Nasarawa State. A paper presented at the 13th International Conference of Africanist "Society and   Politics in Africa" May 27-30, 2014. Moscow, Russia.

Donald, C.S (1994). Professional Education in Public Works/Environmental Engineering Administration 5th (ed). Chicago: American Public Works and Association.

Giddens, A. (2004). Sociology (4th) Edition. London: Polity press.

Goldthorpe, J.E (1988).The Sociology of the Third World: Disparity and development. Cambridge: Cambridge University press.

Henslin, J.M (2008).Sociology: A Down-to-Earth Approach (9th ed). U.S.A: Pearson International.

Mabogunje, A. (1968). Urbanization in Nigeria. London: University of London Press.

MFCT, (1992). Abuja: 1985-1992. Lagos: Efua Media Associates Ltd.

Nubi, Y. (2003).Procuring, Managing and Financing Urban Infrastructure: Towards an Integrated Approach. Land Management and Property Tax Reform in Nigeria. In Omirin et al (ed). Department of Estate Management, University of Lagos, Akoka.NEEDs, (2004).NEEDs Development Document. Lagos: b3 Communications Limited.

Olayinola, A. (2010). Urbanization and Urban Way of Life. Ibadan: Ibadan University Press.

Onu, F.O (2012). The adjustments Strategies of the Informal Sector Operators in the Service Sub-sector in Relation to Public Sector wage increase in Karu Local Government Area (LGA) of Nasarawa State. Unpublished Ph.Dthesis, Department of Sociology, Nasarawa State University, Keffi, Nigeria.

Osomo, M. (2004).Urbanisation and the Mortgage Industry. Punch Newspaper Friday, April 7th. Vol. 29 No. 38

Peace Works, (2005). Towards a Clean Environment. Abuja: Liberty Press.

Philip, J. and Leo, F. (1995).The Study of Urbanization. New York: John Wiley and Sons Inco.

Siyan, P. (2006). Critical Survey of Nigeria's Infrastructural Development in Studies in Political Sociology (Ed) Alanana, O.O. Abuja: Chartered Graphic Press.

United Nation, (2006).World Urbanization Prospects: The 2007 Review. New York: Department of Economic and Social Affairs/Population Division 5, UN.

UN, (2002).Summary of the Programme of Action of the International Conference on Population and Development. New York.