

THE IMPACT OF URBANIZATION ON EDUCATIONAL LAND USE IN SULEJA, NIGER STATE, NIGERIA

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Abstract: Urbanization has impacts on social change and modernization which are parts of a continuum rather than empirically separate issues. Suleja has been surrounded with growing settlements whose influence constantly threatens the infrastructural facilities. There has been difficulty monitoring the extent and rapidity of the changes occurring within the area. The research aimed to assess the changes in educational land use in Suleja between 2009 and 2019 and also to identify the magnitude of the change. 375 questionnaires were administered in a proportion of interval of houses based on arrangement in the study area to acquire the socio-economic characteristics of the area. Population data was also used to analysis growth pattern(s) in the area and field survey was carried to ascertain the numbers of schools in the study area. It was discovered that 4708sqm of land was used for educational purpose as at 2000 and there was an increase to 8552sqm as at 2012 and 127431.8sqm in 2019. The study also noted that majority of schools within the residential areas are private owned. It also noted that majority of private own school were within the residential areas. It was therefore recommended that a New Master Plan for Suleja should be developed because the only available one was developed in 1986.

Keywords: Education, infrastructural facilities, land use, population and urbanization.

1. INTRODUCTION

The United Nations in 2019 approximated that over fifty percent of the population of the world (4.2 billion people) presently reside in urban area and by the year 2041, this population figure will rise to 6 billion people (United Nations, 2019). Urban areas are recognized to have multifaceted roles in every society. They are the center of economic growth as well as technological development of several countries, while at the same time performing the role of a breeding ground for inequality, poverty, communicable diseases and environmental hazards (Kuddus et al., 2020).

Environments of urban areas have been connected to a series of human health challenges, and as the rate of urbanization increases, new issues surface to define these environments, and the understanding of both the negative and positive repercussions on health (Andrea, 2015).

The urban centers are constantly increasing globally. This is as a result of the many benefits which the city provides. The city provides a meeting point for entrepreneurs, innovators, financiers and academics. Cities provide opportunities, economies of scale and a future with more choices. They are also noted for providing the attraction of improved health care, education, employment and way of life; and they disproportionately contribute to the economy of a country. On the other hand, fast and most times unplanned urban expansion is often times connected to environmental degradation, poverty and population demands that outweigh the capacity of services (Makinde, 2012). These circumstances put the health of humans at risk.

The State and Federal Governments of Nigeria in the early part of 1970 became highly conscious of their responsibilities in providing education for their citizenry. Additional educational institutions were established by both the State and Federal Governments, and additional funding was made available to voluntary agencies and scholarships and bursaries given to students were increased. However, the disagreements between the diverse voluntary agencies and government still persist because the government did not make it clear who was or should be held accountable for what and who was in-charge of what. Most likely, it was in an attempt to eliminate these conflicts that made the state and federal governments to initiate the strategy of gradual take-over of educational institutions from the different voluntary organizations from the middle part of the 1970s, an activity which was uncompleted until the early part of 1980. About the middle part of 1980, the authorities had started experiencing bumpy situation in the financial management of these schools and the situation is such that presently certain state governments are ready to transfer the management of these schools when they see the capability and willingness of proprietors to accept responsibility of managing the schools again, with every financial burden involved in the management.

A study conducted by Adewale (2004) has revealed that education expansion in Nigeria is dominated by the latter approach earlier discussed and that social demand for education is given minor consideration in most parts of the country. However, the Universal Primary Education (UBE) was aimed at satisfying the social demand for education by the people resident in various parts of Nigeria. Consequently, a social demand approach which ensures educational expansion is related to the direction of population growth, the flow of pupils from lower-educational level and the degree of utilization of educational capacity. This can be used to estimate the demand for educational facilities in urban areas.

Adewale (2004) opined that input-outputs remain the parameters upon which equity is measured. Equity between districts in the facilities allocation determines equality of inputs. This view has been persuasively presented by Onwuameze (2013) who believe that while input and output could be used as parameters to assess the measure of the standard for the provision of public facilities as services in an area. This approach is a weak measure of equity. Nonetheless, the issue of equity could be made operational by adopting some socially imposed minimum standard by which patterns of location of facilities could be considered. Consequently, it becomes clearer that among the most important challenges stampeding educational development in this country at present is related to control and responsibility and the disagreements between the federal, state and local authorities in the management and control of education at different levels in Nigeria.

The aim of the study is to assess the changes in educational land use in Suleja between 2009 and 2019 in order to ascertain the impact of urbanization. To achieve this aim the following objectives were pursued:

- (i) Analyze the condition of educational land use between 2009 and 2019.
- (ii) Identify the magnitude of changes that occurred between 2009 and 2019.
- (iii) Assess the impact of urbanization on the educational land use.

2. THE STUDY AREA

Suleja is a city in Niger State, it lies between longitude $9^{\circ}11'N$ and $7^{\circ}11'E$ and latitude $9.183^{\circ}N$ and $7.183^{\circ}E$ (Fig 1). It has a population of 40,019.0 as at 2006 Population Census and it was projected to 545,219 as at 2019. Suleja is located at the northern part of Abuja, which is most times confused as part of Abuja due to its proximity to Abuja, coupled with the fact that it was formerly referred to as Abuja prior to the Government of Nigerian adopting the name in 1976 from the Emir at that time Mallam Sulayman Barau for the new Federal Capital Territory. It came into existence in the early part of the 19th century through Mohammed Makau, the previous Hausa Emir of Zaria and his subordinates that escaped from the Fulani jihadists preoccupied with conquering the northern part of Nigeria.

2.1 The Socio-Economic Environment

The socio-economic life in Suleja area is in transition from rurality (extractive based) to semi-urban life due to its characteristic location as a rural-urban fringe. In Suleja agricultural land use is gradually giving way to semi-urban commercial life (urban sprawl). This is not unconnected to the influence of the location of the Federal Capital Territory (FCT). The demand for residential houses by FCT workers and allied professionals within and outside the town actually is calling for the development of social services and other infrastructure. Cottage industries and retailing activities are on the increase in Suleja which act as a pull to population concentration in the area. Along the major Minna/Suleja road are concentrations of roadside hawkers and allied commercial activities.

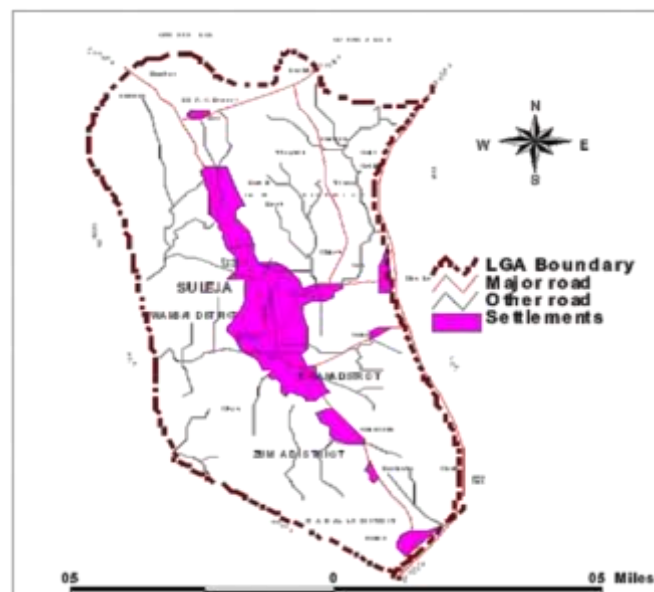


Figure 1 Suleja Local Government Area
Source: Suleja LGA, (2019).

3. MATERIALS AND METHODS

3.1 Source of Data Collection

The data for this study was collected from two major sources: primary and secondary. The primary data was obtained through field survey/personal observation and questionnaire. A projected population of Suleja as at 2019 which is 545,219 was used to calculate the sample size using Yamani's Formula

$$n = \frac{N}{1 + (Ne^2)}$$

(Yamani, 1967 as cited in Eboh, 2009) where n = sample size, N = population and e = level of significance i.e. 0.05. Therefore n = 399.7

For the purpose of this study 400 questionnaires were administered using Simple Random Sampling Technique. Interview was conducted with organizations responsible for planning and management of the environment, Niger State Urban Development Board (NUDB), Niger State Ministry of Housing and Environment, National Population Commission. Information obtained include urban land development, method of management of urban land use, educational land use and government effort towards development control.

Sample Procedure

Four wards were selected from the 10 wards in Suleja. Simple systematic random sampling method was employed for the administration of questionnaires within the 4 selected wards. Within the 4 selected wards, a house is selected for the administration of questionnaire after every 10 houses.

Data Analysis

For easy analysis of the data a two way dimensional representation of statistical information (table) was drawn. The table was meant for completed questionnaires received from respondents. The response were coded and fed into tables. Digital processing of data was done using MS-Excel computer software for cross tabulation and simple correlation. Thus, statistical methods that were used in the analysis include:

- Frequency count for number distribution along the alternatives that will be provided for the respondents to choose from.
- The frequency distribution summarized into table and converted into percentage for easy usage in the analysis.

Graph Chart was used to show vegetation changes in some neighborhood over the years.

4. RESULTS

4.1 Condition of Educational Land use between 2009 and 2019

Educational Land use are evenly distributed within walking distances from homes all over the urban area. 18 different educational land use with a total land use coverage of 4708m², the schools are located within Suleja township, Kwamba and Madalla as at 2000 compared with an increase to 30 schools in the year 2012 with a total land area of 8552 m² (see Table 2) which represented an increase of 3844sqm. Furthermore, as at 2019 the schools increased to 447 with a total land area of 127,431.8m². This is linked to the increasing population of Suleja the study area. Majority of private owned educational facilities were located within the residential areas. Results showed that Comfort International School converted a residential house into school while ISBON Nursery and Primary School make use of the premises of mosque for their educational activities. In the same vein, Holyfield Secondary School and

New Angel Nursery and Primary School make use of church premises. The reason for this is as a result of the demand for land which impacts on the cost of acquiring land for establishing a school.

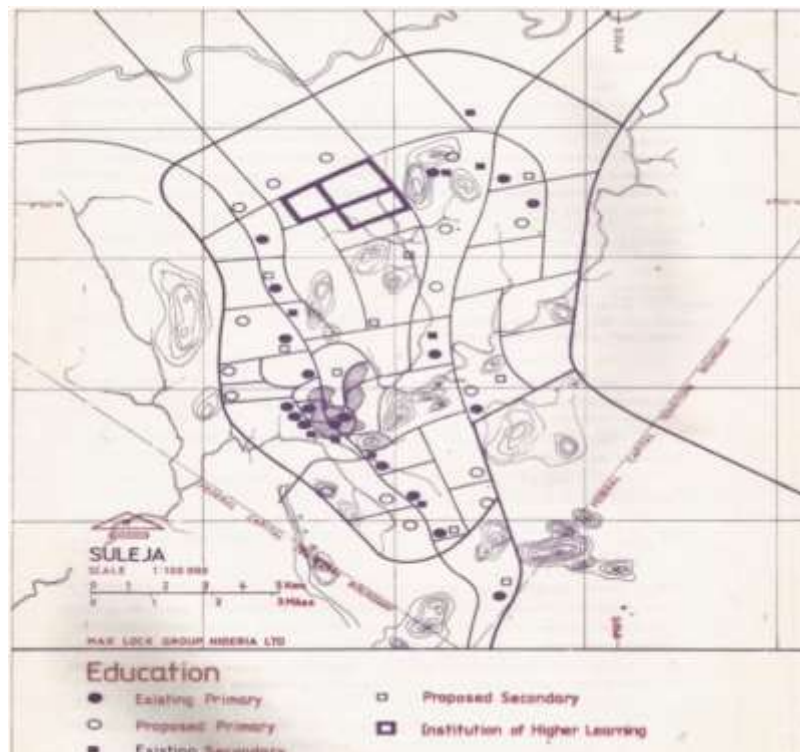


Figure 2 Suleja Educational Land use in 2009
Source: Suleja Master Plan, (1987).

Population growth in the study area changes yearly. It changed from a population of 40,019.0 as at 2006 Population Census and when projected to 2019 stands at 545,219. From the above analysis it can be clearly seen that the change in population in Suleja was very fast due to its proximity to the FCT and majority of people working in FCT preferred to stay in Suleja due to relatively cost of leaving.

4.2 Magnitude of change that occurred during the period

Table 3 showed that the population in the study area increased from 40,029 in 2006 to 545,219 in 2019. This trend indicates that population is one of the major factors of urban growth. It was observed that residential and religious buildings were converted to educational use. It was also discovered that only a few educational land were used appropriately according to the standard set in Suleja master plan by Max-lock in 1979.

4.3 Impact of Urbanization on Educational Land use

Table 4 revealed that from the total respondents, indigenes of Suleja were 125 or represented 33 percent while, 250 or 67 percent are immigrants. This shows that the population of the study area made of both indigenes and immigrants from other parts of the state and the country in general. But the migrant are in the majority which is as a result of urban migration and the proximity of Suleja to Abuja the Federal capital city.

Table 2: Suleja Educational Landuse 2012

S/N	Schools	Landuse Size (m2)
1	Government Secondary School Suleja	220
2	Woman Day College Suleja	145
3	Day Secondary School, Suleja	200
4	Suleman Barau Technical school Kwamba	310
5	Hassan Dalatu Junior Secondary School Suleja	156
6	Zion Primary/ Sec. School Suleja Jubilee road	198
7	Technical & G S S Kwamba	318
8	LEA Primary School, Suleja	624
9	Government Secondary School Model Kwamba	418
10	St. Peters Nursery and Primary School	523
11	Solid Foundation Nursery and Primary School	167
12	Ansarudeen Nursery and Primary School	215
13	Hamdiya International Schools	231
14	Baptist Nursery and Primary School	198
15	New Faith International School	145
16	Dalhatu Model Primary School	203
17	Madalla LEA Primary School	248
18	Magaji Primary School	189
19	Girls Day secondary school Tunga suleja	342
20	Model Secondary School Suleja	453
21	Dawar Junior Secondary School Suleja	203
22	J Y B Secondary School Kwamba Suleja	456
23	Sento Secondary School Suleja	472
24	Jefap International School	342
25	Holy field Secondary School Jubilee	423
26	New Angel Nursery and primary School	145
27	Alii Islamic Model Nursery and Primary Sch	207
28	Comfort International School	102
29	Suleja Model Nursery and Primary School	310
30	ISBNON Nursery and Primary School	200
	Total	8552

Source: Authors' Field Work, 2019

As observed, 3% of the respondents agreed that educational land is not adequate in the area while 65% agreed that it is adequate and 32% agreed that is more than adequate. The analysis showed that there is adequate educational land use in the area. The study showed that most of the educational facilities in the study area were developed on different land use proposal. About 76% were developed on Residential land use, 9% were developed on Commercial land use, only 5% were developed on proposed educational land use and 10% of the respondents have no idea of whatever the land is planned for. The implications of the above findings are as follows:

- With the influx of non-indigenes from diverse backgrounds to the area, there is a positive boost on the educational standard of the area as other pupils are encouraged to enrol in schools.
- This also breeds positive competition among children of/in Suleja and environs.
- With the increase in educational institutions and number of enrolment, educationally based businesses have sprang up and striving well.
- The revenue base of the Suleja Local Government Area as increased due to the growth of the educational sector.
 - The growth of the educational sector due to urbanization provides a basis for the development of the area and creates a source employment for residents. Therefore, the growth of the educational sector is a stimulus for the development of the economy of Suleja and environs.

4.4 Urbanization Changes between 2009 and 2019

Urbanization changes regarding reliable figures and comparable defined boundaries could not be easily ascertained. The main base data is the 1991 and 2006 census figures that are reasonably comparable. Suleja town is a fairly defined area with no neatly outlying settlement that might not have been included in the population of the town. The population from 2009 and projected census figures of annual growth in 2019 for Suleja shows a steady increase as shown in Figure 3.

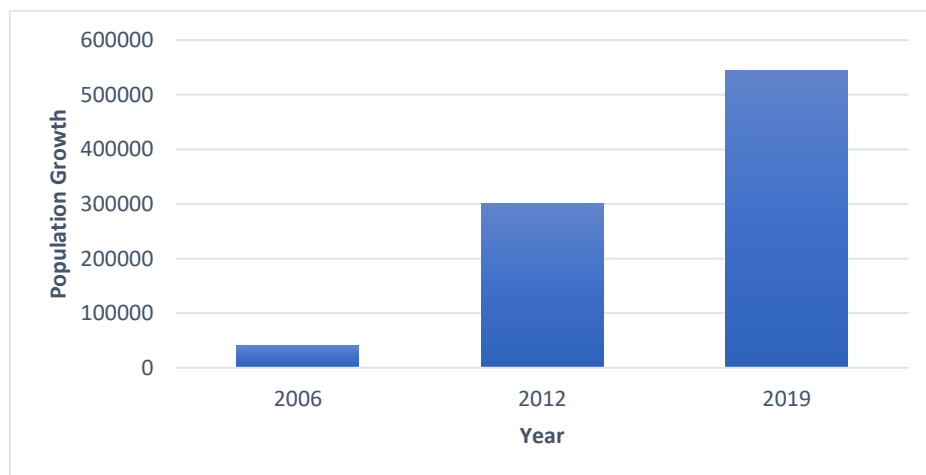


Figure 3: Population Growth in the Study area

Population growth in the study area changed yearly. There was a noticeable change from 40,019 in 2006 to 545,219 in 2019. From the above analysis it is observed that population growth in Suleja was at an alarming rate due to its proximity to the FCT Abuja. As a result, majority of the people working in the FCT prefer to reside in Suleja due to a relatively low cost of living in the study area.

Table 3: Magnitude of change that occurred under the year study

Year	Population	Educational Landuse
2006	40,019	4708sqm
2012	301,429	8552sqm
2019	545,219	127431.8sqm

Source: Authors' Field Work, 2019

From Table 3 above it can be seen clearly that population in the study area increased from 40,019 in 2006 to 301,429 in 2012 and to 545,219 in 2019. It showed that population is one of the major factors of urbanization growth. As a result, the Educational land use increased from 4708sqm in 2006 to 8552sqm in 2012 and to 127431.8sqm in 2019. Most of the residential houses were converted to educational use, and religion land use were converted to educational land use. It was also discovered that only a few educational lands were used appropriately according to standard set down in Suleja master plan by Max-lock in 1979, though Max-lock's plan was only to cover between 1979 and 2000.

Table 4: Distributions of Respondents by Level of Education

Level of education	no of respondents	Percentage
Illiterate	60	15
Primary	100	26
Secondary	195	49
Tertiary	40	10
Total	395	100

Source: Authors' Field Work, 2019.

Table 5: Distribution of Occupation of the Respondents

Occupation	Total respondents	Percentage
Self employed	95	24
Farming	111	28
Trading	104	26
civil servant	85	22

Source: Authors' Field Work, 2019

Table 4 indicates that the total respondents who are illiterates are 60 (16-20). Out of 395, 26% have primary education; 49% have secondary education and 10% have tertiary education. This means that the majority of the respondents are educated to secondary school level.

Table 5 indicates that the total respondents who are self-employed are 95 out of 395 (representing 24%), farmers constitute 28 percent, traders constitute 26 percent and civil servants constitute 22 percent. This means that majority of the respondents are self-employed, in farming, trading and other small-scale economic activities.

4.5 Impact of Urbanization on Land Use

Findings revealed that 3% of the respondents agreed that educational land is not adequate in the area while 65% agreed that it is adequate and 32% agreed that it is more than adequate. The analysis showed that there is adequate educational land use in the area.

5. CONCLUSION

Series of research have been undertaken by contemporary urban geographers and environmentalists on the impact of urbanization on educational land use, and that the changes in proposed land use plan as a result of urbanization process, other factors such as land use, lack of political will of the government and the public at large only aggravate the problems.

The negative impact of urbanization on educational land use are more than the positive effect, examples of such effect are the environmental problems caused as a result of interference with other land use category in regard to sustainable development. The problems arise from the intensity of the variables as a result of urban growth, which varies with time. Whether this is true of other environmental problems require further research. However, other environmental challenges that merit further research in Suleja urban centre include changing of proposed land use plan and urban development regulation.

5.1 Recommendations

Based on the findings of this research, the following recommendations are proffered: The government of Niger State should intensify efforts in the completion and subsequent implementation of the New Master Plan for Suleja to ensure that the different land use allocations are strictly adhered to.

Niger State Urban Development Board should endeavor to stop the conversion of residential structures to educational purposes within Suleja area. Therefore, adequate intervention measures need to be put in place by the community, government and other relevant agencies in arresting the situation of illegal land use conversion through enlightenment and enforcement of development control measures.

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