

The Effects of Urbanization on Landuse Pattern in Bori, Rivers State Nigeria

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ABSTRACT: This study has addressed the effects of urbanization on the land use pattern of Bori. The study objectives were to examine the land use pattern in Bori as at 1972 when the Master Plan for the settlement was prepared; examine the land use changes that have since then; describe the characteristics of the migrants into Bori and their reasons for moving into the place; and recommend ways to deal with the effects of urbanization, especially on land use. The study used both primary and secondary data. The main instrument used to collect primary data was a pre-coded household questionnaire administered face-to-face to a carefully selected sample of 150 heads of households. Primary data were also collected through personal observation, interview of key informants and photography. Secondary information was obtained from published and unpublished sources, including the internet. The Master Plan for Bori, prepared in 1972 was found particularly useful. Analysis of questionnaire data was carried out with the aid of the computer, using the Statistical Package of the Social Sciences (SPSS). Results were summarized using simple summary statistics, especially percentages, sometimes presented as charts and tables. Hypotheses were tested using the Chi Square test of independence between two cross-tabulated variables. The study found among others that the population of Bori had grown from 6,000 persons in 1972 to 23,741 in 2013, with in-migrants constituting 26.7% of the population. The latter were mainly people in the active age groups, with low education and mainly traders. The study further found that with the influx of migrants and the natural increase of population, there was more demand for land for residential development as well as for other uses; thus large part of the area once covered by forests had now been converted to mixed use – residential – commercial – farmland, constituting 49.6% of the total land area as at the time of the survey. The study thus concluded, among others, that the present unorganized development and land use pattern in Bori is as a result of the absence of a Town Planning Authority to regulate and control developments in the area and also recommended, among others, that a Local Planning Authority should be established and made functional in Bori by the employment of Town Planners and other development professionals to regulate development and that the Master Plan for Bori should be urgently revised to properly organize land use and provide a basis for development control to accommodate the recent growth trend.

Keywords: Land-use, Land-use pattern, Master Plan, Migration, Urbanization,

INTRODUCTION

There is a natural tendency that every human being relocates from their present area of residence in search of greener pastures, trade and business from one particular environment to another in order to satisfy their wants which include food, shelter, safety, clothing, financial and other material wants.

This leads to the inflow of people from rural to urban areas. The effect is that there is a high pressure on and struggle for available natural and material resources.

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Relocation of people from rural to urban areas affects both urban and rural land uses. Historically, in the world all countries have fought against the problems of rural under - development. These problems have been tackled through various rural, developmental strategies to an extent that in

the developing world, the issue of rural under-development has gained much significance.

Presently third world countries like Nigeria are in the mêlée of developing their rural areas. The essence is to create a situation where rural areas are identified by average population of agricultural productivity and presence of essential facilities and services. The struggle to develop rural areas in Nigeria is one that started years ago. The country has taken various identifiable steps to fight the problem but it seems intractable

Consequently the limitation can be achieved through any effort that goes to satisfy the needs of the people by improving quality of living, communicating level, industrial level and social well-being. The presence of these necessities in the right proportion and location determined growth as well as development when it is supported by sound economic base and improved production techniques.

The possible problem on how to provide suitable environment for the teeming masses in the rural areas i.e. rural-urban migrants remains troublesome changes for the environments, properly develops as well as folks agrarian

life is seriously affected in rural areas as the labour force that cultivates and harvest food crops have migrated to urban areas in search of white collar jobs to do or work in an established food producing and/or processing industries in the rural cities which has over the years brought an erroneous competition with rural farming.

In fact there is continued deterioration of agricultural economy.

Apart from political instability in rural villages created by rural migration, there are also serious economic changes, poverty, environmental degradation, loneliness and inequality experienced in most rural areas.

GOAL OF THE STUDY

The goal is to examine the effects of urbanization on land-use pattern on the people of Bori in Khana Local Government Area of Rivers State.

OBJECTIVES OF THE STUDY

In specific terms, the study has the intent:

1. To examine the nature of the existing land use pattern in Bori
2. To identify the factors that influences urbanization.
3. To assess the effects of the land-use pattern on the people.
4. To explore the role of urbanization on land-use pattern

STATEMENT OF PROBLEM

Migration is one of the factors that cause population change in any given society. The factor that the migrants settle in impoverished city centres that leads to urban sprawl that makes development to encroach into the periphery and as a result of outward shift, suburbanization sets in.

However there is the daunting challenge of rapid urbanization with dire consequences ranging from lateral expansion, sprawl in uncontrolled manner and the attendant social and economic vices in Bori town today.

The possible problem on how to provide conducive environment for the rural dwellers i.e. rural-urban migrant remains nagging changes for the environments to properly develop as well as individuals agrarian lifestyle is seriously affected in rural areas as the labour force that do cultivates and harvest food crops have migrated to urban areas in search of perceived better jobs.

THE SIGNIFICANCE OF THE STUDY

The importance of this study is such that it has given an insight into the effect of migration in land-use pattern in urban and rural communities and to know what kind of strategies that are available for most migrants to adopt,

and how this adoption will enhance their performance on the urban and rural development and addresses the problem of under development.

The study has been of immense help to the migrants, government, and corporate bodies particularly the government on how to provide substantial housing and social amenities to the migrants at suitable pricing strategies for the facilities.

It will also bring to the notice of the public how government policies can be of help to check and balance the efforts of high rental value on residential accommodation as a result of influx of migrants. The role of pricing strategies with residential property accommodation can help in ensuring the survival of ever increasing movement of people from rural areas like village to urban area like town. Also, it will enhance their knowledge on how adequate facilities and implementation and suitable policies can be used as a means to achieve their aims and objectives.

Furthermore the importance of this study is for effective and robust comprehensive physical and regional planning policies or strategies that would help the government on rural development policies on the regional economic and industrial policies that will ensure the rural people earn more within their immediate surroundings and at the same time, deter the rural immigrants from migrating into the city, thereby reducing the impact of migration on land use pattern in the rural areas.

SCOPE OF THE STUDY

The geographical scope of the study is the whole territory of Bori, which is the headquarters of Khana Local Government Area (LGA). The study focuses on in-migrants rather than on the total population of indigenes and in-migrants in Bori. The study refers to aspects of life in Bori such as infrastructure and basic amenities, such as roads, electricity, pipe-borne water, affordability of housing, industries for employment, and empowerment.

LITERATURE REVIEW

The effects of the migration of people on land use patterns all over the world have created a serious problem for government agencies at the local, state and national level, non-governmental agencies, community based organizations concerned with improvement of rural areas. Nevertheless, it is significant that when a question is asked about the drawbacks of urban life, the replies obtained are centered on the following economic and social reasons: the influx of people from rural to the urban areas; resultant high cost of housing and shortage of employment. There is inadequate housing, rise in slums development, poor sanitary condition, upsurge in social vices, menace of

traffic congestion, urban sprawl and its associated nuisances.

One problem in the towns is that everybody wants to go and build there in spite of land scarcity, whereas there is enough land in the villages and hamlets Ebirim (2005).

MIGRATION

The inability of available opportunities within the immediate environment of man to satisfy his unlimited economic, social, cultural and physical expectations at a given point in time has often been behind man's desire to move to other places. Therefore, from earliest times, men are known to have moved either individually or in groups to new places in search of food, wealth, better environmental conditions or security.

Migration is one of the major causes of population changes in a given society, since migration involved the movement of people from one place to another. Thus migration most times involves movement of people from one location to another seemingly location of prime in order to find a job and/or for agricultural purposes. Ogiunwo (1979) defined migration as the movement of people in and out of the city. Nevertheless, migration can be seen as the movement of people from one locality to another locality that is suitable for the migrant. Migration therefore tends to arise with people due to economic and social changes, especially when such is associated with establishment of growth like commercial centre in an area over a period of time.

CAUSES OF MIGRATION

A number of factors propel people to migrate. Many of these factors are discussed in the theories of migration.

Economic consideration: Constitutes the most discussed cause of migration. There is a desire inherent in men to seek greener pastures anywhere such opportunities exist outside their community of origin. In Nigeria, the widening gap between rural and urban incomes has encouraged rural-urban migration. Unemployment, under-employment or dissatisfaction characterizes many rural areas.

The rising expectation and changing values of the people have created new demands for goods and services, which an increasing number cannot obtain in their districts of origin, and they are therefore obliged to migrate to areas where their expectation can be met.

Economic considerations in migration are sometimes analyzed in terms of push-pull factors. Bad or oppressive laws, heavy taxation, an unattractive climatic, uncongenial social surroundings and compulsion (slave trade,

deportation), all have produced and are still producing currents of migration, Udo (1982).

Among other well-known factors that stimulate migration are: desire for better educational facilities, desire to escape from an inferior social status imposed by the community, the need to escape punishment from crimes committed in the local community, and desire to move to an area with more varied recreational and cultural activities or to join his/her spouse.

TYPES OF MIGRATION

Internal Migration: Movements from one administrative unit to another within the same country remain the major source of population distribution. In Nigeria since it is within the same country, the migrants are not required to be registered or granted entry or work permits to enter their new destinations.

Rural-Rural migration: Here the migrants leave their original homes in rural areas to alternative places located in another rural area.

Rural-urban migration: This is the movement of people from rural to urban centres. The migrants who are mostly young able-bodied men/women are repulsed by the absence of basic infrastructures as electricity, pipe-borne water, health and educational facilities to move to the urban centres where they exist. Unfortunately, some of the migrants may not have the requisite skills and training necessary to fit into the urban economy and here lies the problem. Even among those with the required training, the existing opportunities may not be sufficient. The increasing rate of urbanization is mostly as a result of rural-urban migration.

Urban-Urban Migration: The migrants leave one urban area for another. The creation of states at various times in Nigeria resulted in the relocation of civil servants from their job at former locations to new locations. These movements were triggered by economic motives.

Urban-Rural Migration: Though it exists, it is not yet a predominant population movement. In Nigeria, it involves the relocation of urban dwellers to rural areas. This may come at retirement for those in the public service, or due to business failure. Some previously urban-based politicians may also return to the rural communities to be elected as traditional rulers. It may also come as a result of increasing cost of living in the urban centres.

International Migration: This involves movement of people across international boundaries e.g. Nigeria to Britain. The migrant under normal circumstances is expected to carry his/her travelling documents on which the period of stay may be specified.

IMMIGRATION

This is a process whereby people come into a country from another country. Increased immigration leads to increase in population size. Immigration can come as a result of people coming into a country for site seeing, tourism and other sundry purposes, thereby causing increase in population.

Emigration

This is a process whereby people go out of a country to settle either permanently or on temporary basis sometimes for religious, educational, recreational purposes.

Rural - Rural Migration

This involves the movement of people from one rural area to another rural settlement or homestead. This movement is usually due to the need to eke out livelihood.

EFFECT OF MIGRATION ON LAND USE PATTERN

The past decade has witnessed a dramatic change in the way of life of the people in Rivers State in particular and Nigeria in general. People have abandoned their basic traditional methods of getting food, that is fishing, hunting and farming or by combination of those activities for the new style of life of the urban area, thereby causing increase in the urban population. This is not surprising because there are more schools, better medical facilities, industries for employment, etc. than the rural areas. There is more variation amongst people in the townships than in the rural areas – there is a far greater mix of ethnic groups and problems also arise because of this.

According to Udo (1975) in-migration has added to the continuous increase in rent over the years, largely because of the increasing number of people involved, but mainly because of the rapid growth of Tropical African cities cited in Russel (1970). The large urban centers are growing rapidly; a large number of migrants into the bigger cities have originated from smaller towns and not directly from rural areas.

Although the effect of migration on land use patterns has received so much attention in recent years, evidence from states bordering Rivers State has shown that about 20 percent of people move from one rural area end up settling at least for some time in other rural setup.

EFFECTS OF MIGRATION ON LAND USE PATTERN IN BORI TOWN

Migration has affected the land use pattern of Bori community in Khana L.G.A. in the sense that available stock of land is being diminished by the influx of people. People are constantly purchasing land in spite of its market value. There is also more pollution and the creation of slums and squatter settlements.

METHODOLOGY

THE RESEARCH DESIGN

This study was carried out at one point in time by questioning respondents where they were (*in situ*). This type of study is often referred to as “passive observational” Cook and Campbell, (1979) because it entails studying subjects passively, without manipulation.

POPULATION AND SAMPLE

The target population of this study was the total population of households in Bori Town. Obtaining the target population of households and selecting the sample were achieved in the following manner:

- i. Rapid listing of the total number of houses along each of the major streets/roads in Bori.
- ii. Noting the average number of households per house by examination of small samples of houses along the streets;
- iii. Proportionately selecting the number of households to be studied per street/road, bearing in mind that the desired sample size was 150.
- iv. Selecting the households to be studied in a simple random manner.

TABLE 1: SHOWING THE DISTRIBUTION OF QUESTIONNAIRE IN THE STUDY AREA

S/No.	Streets/Roads	Number of Houses	Average Number of Households Per House	Total Number of Households	No. of Selected Households	Sample %
1	Piagbor	45	6	270	1	0.004243
2	Gbarayeghe	30	6	180	1	0.004243
3	Hospital	50	6	300	1	0.004243
4	TTC	35	6	210	1	0.004243
5	Kenule	48	6	288	1	0.004243
6	Poly	3,000	6	18,000	76	0.004243
7	Zaakpor	72	6	432	2	0.004243
8	Kono-Boue	2,085	6	12,510	53	0.004243
9	Old Taabaa	80	6	480	2	0.004243
10	Bank	72	6	432	2	0.004243
11	Mayor	125	6	750	3	0.004243
12	Bori-PH	250	6	1,500	7	0.004243
Total		5,892		35,352	150	

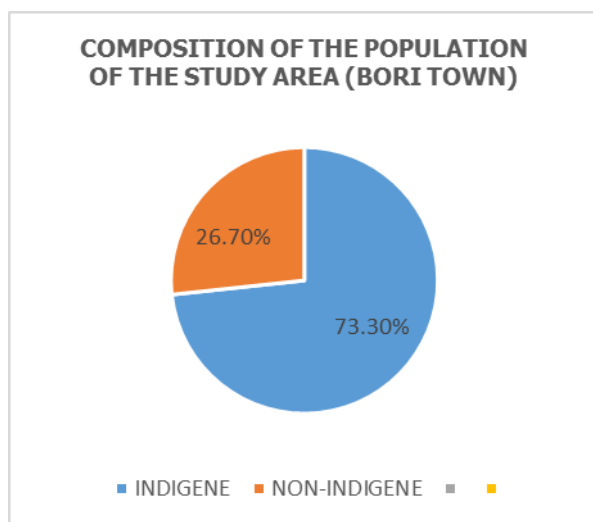
Source: Authors' field survey, 2015

DISCUSSION OF FINDINGS

COMPOSITION OF THE POPULATION OF BORI

The study measured migration into Bori by noting the number of non-indigenes in the city based on analyses of responses to the questionnaire administered to a sample of the population of Bori Town.

Fig. 1: SHOWING THE COMPOSITION OF THE STUDY AREA



Source: Authors' field survey, 2015

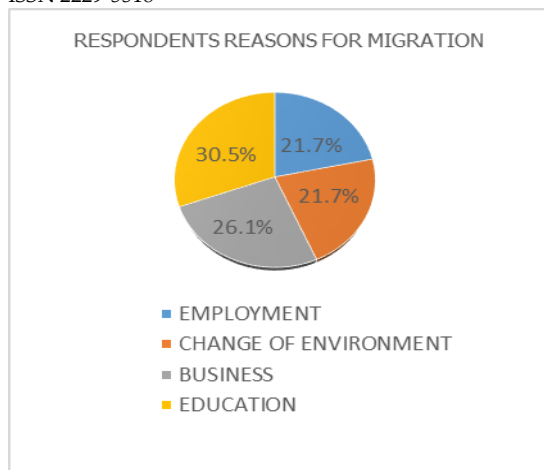
Figure 1 above shows non-indigenes or the in-migrants and indigenes accounted for 26.7% and 73.3%, respectively.

CHARACTERISTICS OF IN-MIGRANTS

ORIGIN OF IN-MIGRANTS AND LENGTH OF STAY

The research found out that 84.6% of the in-migrants came from communities within the Khana Local Government Area (Bori is the headquarters of the LGA), while 15.4% came from outside Rivers State. On the average, migrants had stayed for 36 years in the town.

Fig. 2: SHOWS RESPONDENTS REASON FOR MIGRATION



Source: Authors' field survey, 2015

Figure 2 above shows that the main reasons for in-migration into Bori were "education" (30.5%) and "business" (26.1%); but also important were change of environment and employment, accounting for 21.7% each.

TABLE 2: AGE-SEX DISTRIBUTION OF THE STUDY AREA

Age Cohorts	Male		Female	
	N	%	N	%
0 to 4	16	3.5	15	3.3
5 to 9	14	3.1	15	3.3
10 to 14	19	4.2	11	2.4
15 to 19	12	2.6	14	3.1
20 to 24	14	3.1	9	2
25 to 29	12	2.6	12	2.6
30 to 34	15	3.3	23	5.1
35 to 39	31	6.8	18	3.9
40 to 44	16	3.5	14	3.1
45 to 49	24	5.3	14	3.1
50 to 54	15	3.3	18	4
55 to 59	18	4.1	11	2.4
60 to 64	19	4	14	3.1
65 to 69	9	2	12	2.6
70 above	9	2	12	2.6
Total	243	53.4	212	46.6

Source: Authors' field survey, 2015.

AGE- SEX DISTRIBUTION OF MIGRANTS

Table 2 shows the age-sex distribution of migrant households. It is evident that the population did not show the usual pyramidal shape; rather it is loaded in the middle age cohorts as might be expected for migrants. Thus those aged less than 20 years, 20 - 49 years and over 49 years accounted for 25.5%, 44.4%, and 30.1%, of the distribution respectively.

The sex ratio was 115%, i.e. there were 115 males for every 100 females. The dependency ratio among the migrants was 53%, a relatively low dependency burden.

EDUCATIONAL ATTAINMENT OF MIGRANTS

Table 3 shows the educational attainment of migrant households in Bori. The table reveals that modal attainment among males and females was "secondary completed" for both males and females, accounting for 14.2% and 13.8%, respectively.

CATEGORIES	MALE		FEMALE	
	N	%	N	%
No Formal Education	13	8.8	8	5.3
Preprimary Education	13	8.8	11	7.2
Primary Uncompleted	8	5.4	9	5.9
Primary Completed	13	8.8	17	11.2
Primary In Progress	7	5.1	11	7.2
Secondary Completed	21	14.2	21	13.8
Secondary Uncompleted	20	13.6	17	11.2
Secondary In Progress	13	8.8	19	12.5
Nursing/Health Tech In Progress	12	8.1	12	7.8
Nursing/Health Tech Completed	15	10.2	12	7.8
Tertiary Education In Progress	12	8.2	15	10.1
Tertiary Completed	0	0	0	0
Total	147	100	152	100

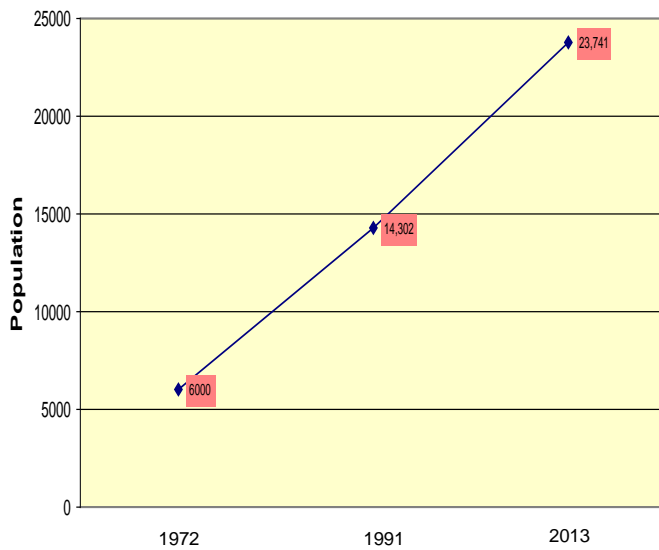
TABLE 3: EDUCATIONAL ATTAINMENT OF MIGRANT HOUSEHOLDS IN BORI TOWN

Source: Authors' field survey, 2015

URBANIZATION IN BORI TOWN

Urbanization is commonly understood to comprise two dimensions: (a) the increase in the number of urban places; in Nigeria this would mean the number of settlements that have attained a population of at least 20,000 persons, which is the smallest number of persons for a settlement to be regarded as urban, according to the National Population Commission; and (b) increase in size of an existing urban area. The latter is pertinent to this study

FIG.3: GROWTH OF POPULATION OF BORI, 1972-2013



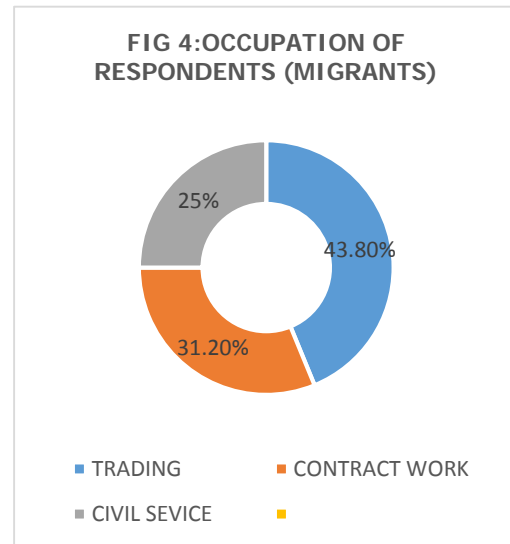
Source: Authors' field survey, 2015.

Figure 3 above shows, the population of Bori Town in 1972 was 6,000 persons, according to the Master Plan for the settlement prepared in that year. As at the 1991 national population census, the settlement had attained a population of 14,302 projected to 23,741 in 2013, using an average annual growth rate of 3%, as established by the National Population Commission for rural areas. Thus in the 41 years between 1972 and 2013 the population of Bori had grown by 296%.

This level of urbanization can be attributed to natural increase and in-migration. Some researchers like Mauldin (1980) have shown that the former is the more potent growth factor. This appears to be the case in Bori since there were about 7 indigenes to every 3 in-migrants.

Since the proportion of in-migrants is high the study provides a description of their characteristics. Later the opinions of all respondents (indigenes and in-migrants) regarding the effects of urbanization on the socio-economic environment, including the land-use pattern are presented.

OCCUPATION OF RESPONDENTS



Source: Authors' field survey, 2015

Figure 4 presents the distribution of occupation of in-migrants. It shows that the modal occupation was trading accounting for 43.8% of the distribution, while 31.2% represents contract work (seasonal employment) and 25% of the respondents are civil servants.

EFFECTS OF URBANIZATION ON LAND USE

Table 3 shows the changes that have occurred in the land-use pattern of Bori between 1972 and 2015. These changes are described below.

TABLE 4: SHOWING LAND-USE CHANGES IN BORI TOWN FROM 1972-2015

Source: Authors' field survey, 2015

**LAND USES IN BORI TOWN
 AGRICULTURE**

As the name implies agriculture is the art of cultivating the ground, including the harvesting of crops. This was the major activity in Bori. About 85% of the inhabitants were mainly engaged in agricultural activities. Farm land was located at the periphery. Between 1972 - 2015 farm land accounted for 9.1% of the total land use of Bori as shown in plate 4 which is a land-use map of Bori as at 1972 - 2015). The Government Agricultural Centre accounted for another 9.7%. Other major land uses at that time were residential (8.4%); forest (65.4%) and administration (3.4%).

RESIDENTIAL

A residential place simply refers to a place of personal residence, or a where people live. Urbanization between 1972 and 2015 has changed the residential pattern in Bori town.

With the influx of migrants and the natural increase of population, there is more demand for land for residential developments as well as for other uses usually associated with residential uses.



Plate 1: Typical residential property in Bori Town
 Source: Authors' field survey, 2015

The result is that large parts of the area that were covered by forest have now been converted to mixed use – residential-commercial-farmland (see Plate 2)

LAND USE	OLD (1972)		NEW (2013)	
	Ha	%	Ha	%
Residential only	1,302.7	8.4	1,302.7	8.4
Administration	542.1	3.5	542.1	3.5
Education	2,80.5	1.8	280.5	1.8
Agriculture Centre	1,507.2	9.7	1,507.2	9.7
Commercial	144.8	0.9	833.1	5.4
Medical	186.6	1.2	186.6	1.2
Farmland	1,416.1	9.1	1,416.1	9.1
Mixed Uses (Residential, Commercial and Agriculture)	0	0	7,722.8	49.6
Forest	10,159.6	65.4	1,748.5	11.3
Total	15, 539.6	100	15,539.6	100



Plate 2: Typical Mixed Use – Residential – Commercial – Farmland in Bori Town
 Source: Authors' field survey, 2015

Thus while such mixed use was absent in 1972 as shown in that type of land use accounted for 49.6% of the total land area as at the time of the survey in 2015.

Urbanization has also changed the housing patterns in Bori town. Some years back, Bori was characterized as a rustic environment, mainly with low cost housing types, rent was low and the prices of building materials were moderate. All these have changed now due to urbanization. Housing patterns have become more sophisticated with complex designs emerging in the area now.

INDUSTRIAL

In Bori there traditionally has existed only light industries like palm produce processing mechanics' works etc. with urbanization, there has been a proliferation of such cottage industries which are indiscriminately located in the built-up, older parts of tin the emerging new area.

COMMERCIAL LAND USE

Apart from the traditional market in Bori a distinctive feature of urban development in the area is the presence of street trading especially along the main road serving the city of Bori-Port Harcourt Road (see plate 3). Farm produce and cheap textiles are mainly marketed.



Plate 3: Typical commercial area in Bori Town
Source: Authors' field survey, 2015

CONCLUSIONS

The rapid growth of urban areas is not peculiar to Bori: it is a common phenomenon happening throughout the country and the study has shown that the population of Bori was made up of more indigenes than in-migrants. Therefore, the urbanization or increase in the population of the settlement is more attributable to natural increase -- which is the excess of births over deaths -- than to in-migration. However, the migration component is important since more than one quarter of the population was made up of in-migrants.

The in-migrants, being relatively young, poorly educated and mostly traders have contributed significantly to the street trading now evident in the city. The in-migrants, have also affected land-use pattern in the city because in attempting to meet their accommodation needs they have contributed to the scattered residential development now evident in the city.

Urbanization in Bori has also led to the gradual colonization of land by squatters who cannot pay rent in the open market nor build their own houses on legally acquired land.

However it pertinent to state here that the Master Plan of Bori prepared in 1972 is now obsolete and needs urgent revision to take into account present-day conditions and land-use patterns. The present unorganized development and land-use pattern in Bori is as a result of the absence of

a Town Planning Authority to regulate and control development in the area.

RECOMMENDATIONS

In Nigeria, there is no law limiting in-migration or the number of children or wives that people should have so, there is no way that the growth of Bori can be stopped. However, it is recommended that since there is no law limiting in-migration or the number of children or wives that people should have, there is no way that the growth of Bori town can be stopped.

However, it is recommended that government should continue with counseling on family planning to reduce the number of children people should have and thereby control the rate of urbanization in Nigerian urban centres.

Street trading is a problem which can be observed in all the urban areas of Nigeria. In Port Harcourt, the Rivers State Environmental Sanitation Authority has been attempting to remove these street traders from the major roads serving the city. It is recommended that similar action should be taken in Bori town.

It is highly recommended that a Planning Authority should be established and made functional in Bori town by the employment of enough town planners and other development control and built environment professionals to regulate development.

The Master Plan for Bori should be urgently revised so as to accommodate the present land use of Bori and ensure that all structures put up in the city meet the specified standards.

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MAP OF BORI TOWN EXISTING LAND-USE PATTERN IN 1973

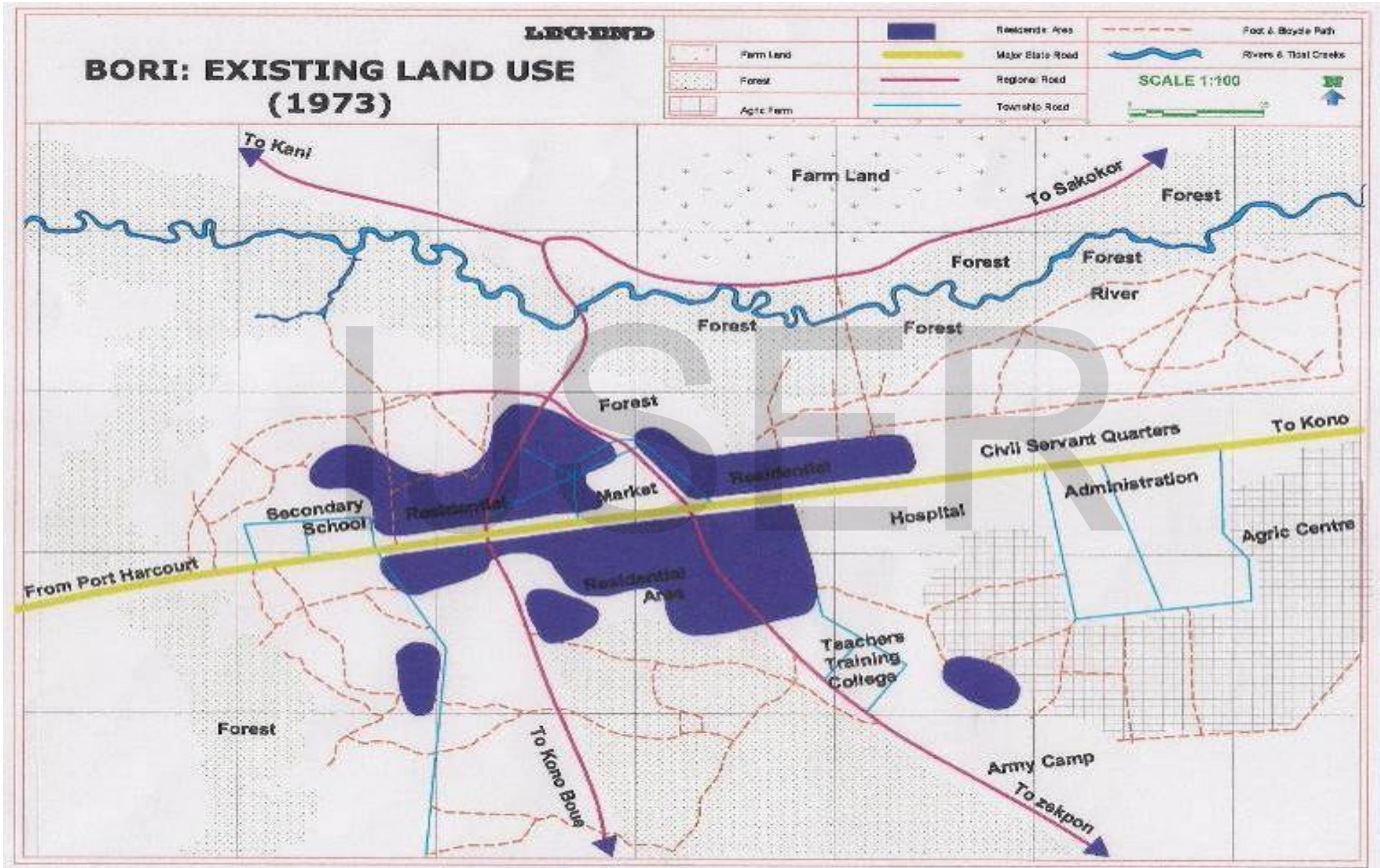


Plate 4 MAP OF BORI TOWN EXISTING LAND-USE PATTERN IN 1973

MAP OF BORI TOWN EXISTING LAND-USE PATTERN IN 2015

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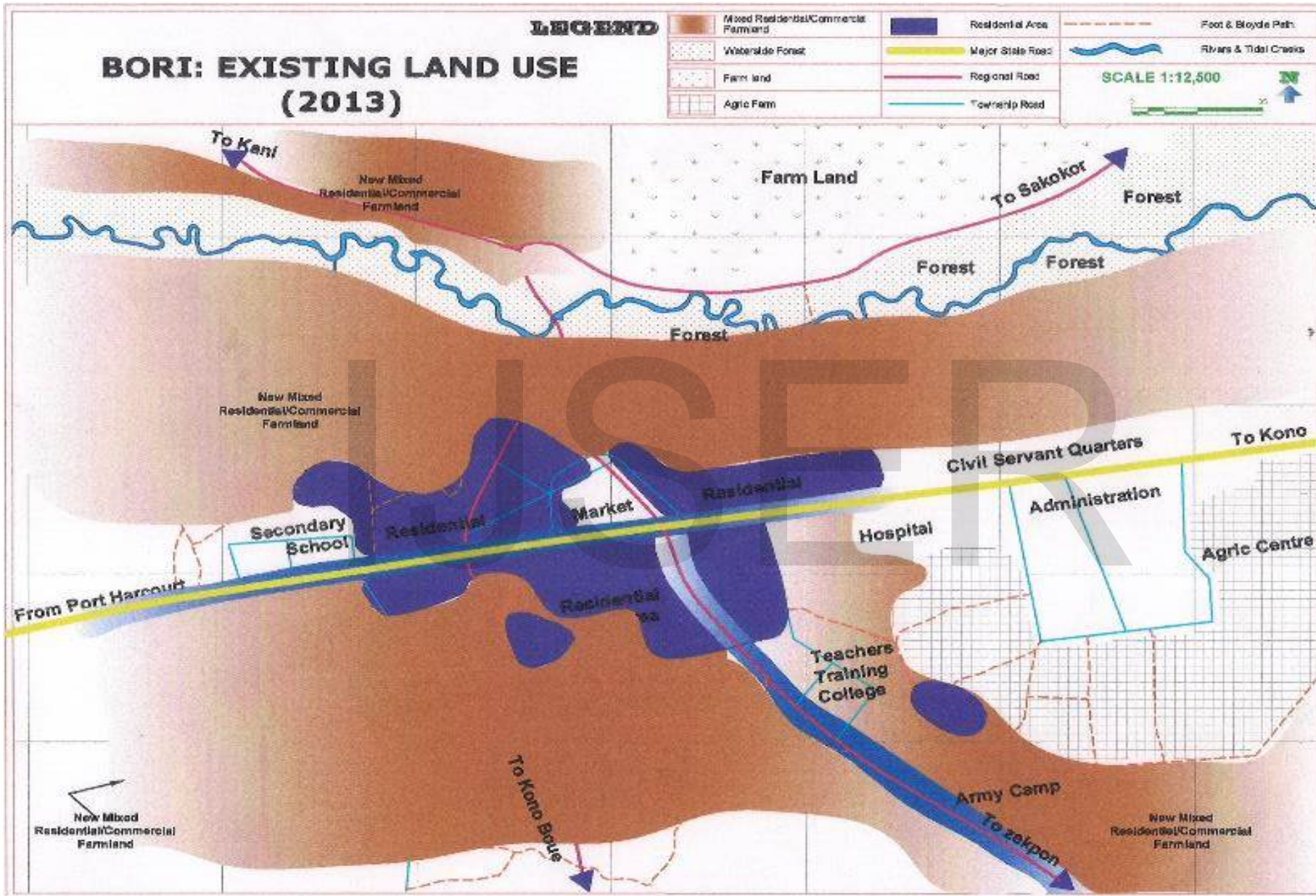


Plate 5: MAP OF BORI TOWN EXISTING LAND-USE PATTERN AS AT 2015.

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