

The Pattern, Direction and Factors Responsible for Urban Growth in a Developing African City: A Case Study of Ogbomoso

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ABSTRACT The study focuses on the pattern, direction as well as factors responsible for urban growth in a developing African city. It identifies the pattern and direction of growth in the study area as well as factors responsible for the observed trend of growth. The study adopts the use of structured and well-designed questionnaire. The questionnaires were administered to cover the core, (high density) intermediate (medium density) and low-density area. Then questionnaire were administered to residents in every 5th building along eight major roads that take off from the city centre. It also covers surrounding villages that fall within 10km radius, from the city center. A total of 708 questionnaires were administered based on 20% of the overall buildings counted on both sides of the major roads considered. Data were also obtained from vegetation and land use map of Nigeria on a scale 1:250,000. These maps are imageries taken in space for 1978 and 1995. Maps of Ogbomoso for both 1914 and 1949 were obtained and digitized using Arc view3.2 to determine the pattern and direction of the city growth. The findings reveal that the pattern and direction of growth is in all directions but more concentrated in the Northern direction along the Ogbomoso-Ilorin road axis. The major factors responsible for the growth of the city as indicated by the respondents are urbanization (83.4%) education development (96.9%) and transportation (97.5%). In conclusion, Government should make effort in conjunction with planning agencies to put in place a functional master plan while incentives such as site and services should be provided to facilitate orderly development of the city.

INTRODUCTION

The entire world particularly the developing countries have witnessed unprecedented changes in population size. This has been a major concern to government and policy makers because it has continued to overstretch the available resources and physical facilities. Likewise, it poses problem in making adequate provision for basic necessities like infrastructures and the likes, most especially, the newly developed areas in the city. The third world cities have been identified as the major affected regions where the population size is very alarming. For example, Falade (1988) noted that in Nigeria, towns and cities have continued to witness unprecedented growth both in population and spatial sizes. He remarked further that Nigeria has been ranked among the foremost rapidly urbanizing countries in Africa.

Urban growth is described as the rate at which an urban area increases and expands in size, strength, technology, and population. Generally, increase in population of urban areas is the basis for urban growth. Urban developments coupled with technological advancement, innovation and population increase have played a significant factor responsible for the influx of people into the town. This is because quite a large number of

people flock from rural areas within the region and other urban centers to search for employment and better living standards.

Population increase and urban development clearly need space for expansion to accommodate excess population and other land uses such as industry, recreation centers residential, public use, and transportation among others. All these ultimately call upon land in the countryside to fulfil their purposes but the unfortunate thing is that this growth or newly developing land uses meant to accommodate new development and excess population does not adhere to expected land use standards probably because most of these cities lack master plan. As a result of these, the pattern and direction of growth of most of these cities particularly developing nations have a similar characteristic of haphazard nature of development with the exception of Government Reservation Areas that are properly planned after the British and Europeans standards. The pattern, direction as well as factors responsible for growth differ from one city to another. For instance the work of Salami, (1997) on Ibadan revealed a lateral expansion of the city. Also the work of Montgomery (1962) on the same study area at that period revealed that the growth of Ibadan was towards the eastern part because of the

location of University of Ibadan. Consequent upon these variations in pattern and direction of growth for different period, there is a need to conduct studies for different cities in order to have in-depth knowledge and arrive at different variables or factors responsible for growth of cities.

The major thrust of this paper is to identify the pattern and direction of growth in Ogbomoso and factors responsible for the observed trend of growth in the study area.

Review of Relevant Literature

Several factors are responsible for urban growth, most especially, increase in population. This was also noted by Best, (1970); he remarked that there is a correlation between population changes and urban growth pattern. Oyesiku, (1995) also remarked that growth depends on the natural increase on the part of the total population that is already in urban but it is affected more by difference in the natural level between rural and urban areas. He identified further two major factors responsible for urban growth; these are natural increase and rural urban migration. According to Adedibu et al (1998), it was established that there are two major forces shaping the pattern of development of any city in the world. One is centrifugal nature while the other is centripetal force. Moreover, it was added that factors that constitute the later force dominate the development of most of the developing world cities while centrifugal force is often associated with cities in the developed world. Another factor given by Adindu and Ogbonna, (1998) for urban growth was rural unemployment, increased rural poverty, deteriorating living condition, declining soil fertility and unchecked rural urban migration. According to him, all these are responsible for people's movement out of rural land to urban center. Salami, (1997) also remarked that among factors responsible for growth in Ibadan region includes urbanization, associated population increase, nature of urban uses, the landscape configuration, location of development scheme, government policy and pattern of route development. Route development serves as a major force in reorganizing land use. (Nkabwe 1984) He remarked further that it is the pivot for economic growth, population expansion and overall progress of any region.

METHODOLOGY

The methodology adopted to achieve the above objectives is the use of well-structured questionnaire. The questionnaire were administered to at least one resident in the building that fall on either side of the eight major roads that radiate from the center of the town dividing the town into eight major sectors. These roads were taken because they are major routes along which the development takes place. The questionnaires were administered to cover the core (high density), intermediate (medium density) and low-density area. It also covers surrounding villages that fall within 10km radius from the city center.

A total of 708 questionnaires were administered and a systematic sampling technique was used to select every 5th building that fall on either side of the eight major roads. In order to get the interval picked and total number of building to be sampled, the total number of the building on either side of the road were counted to be 1640 and 20% was selected to represent the number of building to be sampled. Data were also obtained from vegetation and land use map on scale 1:250000. These maps were procured from the Ministry of Agriculture and Natural Resources, Federal Department of Forestry, Abuja. The maps were derived from the following imageries Landsat MSS1976-1978 SPORT XS, Landsat TM (1993-1995), ERS-1 SAR (1993-1995) and JER S-1 SAR imagery (1993-1995). Maps of Ogbomoso 1914-1949 were also obtained from Nigerian Baptist Theological Seminary Also the author-updated maps for Ogbomoso up to 2003.

Method of Analysis: The data from the maps were extracted using Geographical Information System with ARCVIEW 3.2 package. This was used to extract and overlay to determine the pattern and direction of growth. Data from the questionnaire were analyzed using Statistical Package for Social Scientist (SPSS).

Study Area: Ogbomoso is the second largest city in Oyo state. The city is a medium sized city because of its population size, which is a little but below a quarter of a million. Her population was tremendous in the 19th century and early years of 20th century as a result of dwellers and refugees that were seeking solace. The twentieth century social, economic, and political change

contributed to the growth and physical expansion of the town. In addition, the coming of colonial administrations, missionaries, the establishment of schools, the expansion of trading activities and relatives peace that reigned in the city after the inter-tribal war are some of the factors that are responsible for the rapid growth of the town.

In 1950, the built up area of Ogbomoso as noted by Popoola (1998), covers the traditional area, which was about 576 hectares in 1970, the landmass increased from about 1,024 hectares (about 100% increase over 1950 figure) to about 2,432 hectares (more than double in less than 10 years). In 1990, Oyo State University of Technology, (now Ladoke Akintola University of Technology) was sited in the town. This contributed to its rapid growth both in population size and spatial extent. Since that time, the city has increased its expansion up to date. The observed trend of growth in the city triggers the growth direction as well as pattern of development.

FINDINGS AND DISCUSSIONS

The map (Fig. 1) showed the spatial growth pattern of Ogbomoso for years 1914, 1949, 1978, 1995 and 2003. An examination of the maps readily

revealed lateral expansion of the city in all directions, but more importantly, the growth was more pronounced in the northern direction of the city (that is towards Ogbomoso north local government and Surulere local government), followed by eastern direction (where Oriire local government area is located). This is also shown in Table 1. This illustration indicates the locational direction of urban growth where the highest percentage of respondent is recorded in Oghomoso-north, followed by Surulere, Orire, Ogbomoso- south and Ogo-Oluwa local governments. The factor responsible for this predominant development in Ogbomoso-north is the siting of a notable institution Ladoke Akintola University of Technology. This encouraged development of other uses especially residential land use as well as the fact that people prefer to live very close to their place of work. The presence of this institution has led to the establishment of many hostels, and even quite a large number are still under construction. This has virtually claimed the initial predominant land use, which is farming. The socio economic status of resident in that area has also increased and infact many people are moving towards this direction (northern direction) to secure accommodation.

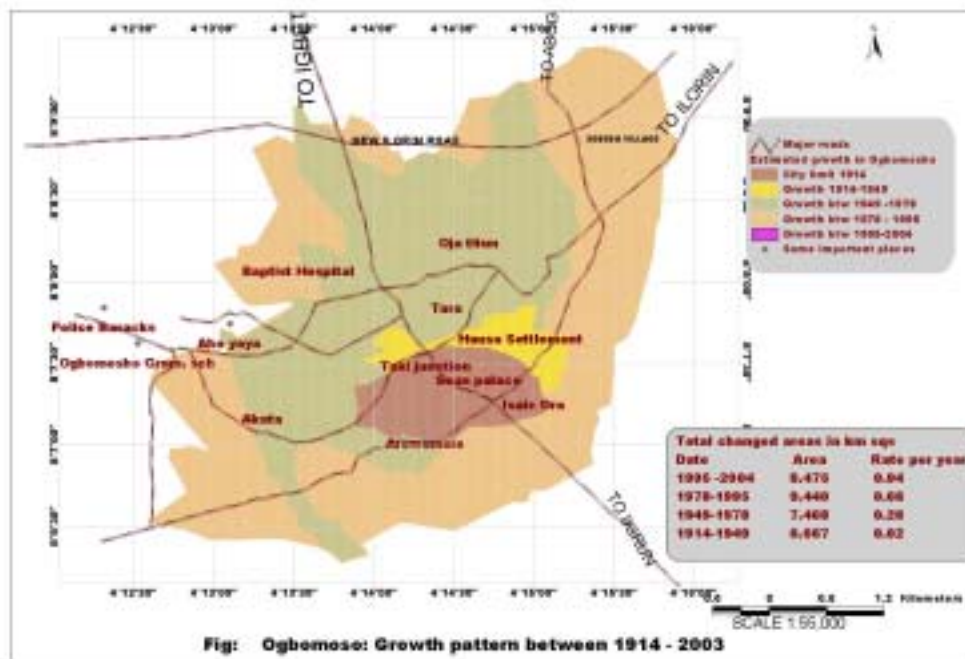


Fig. 1. Map of Ogbomoso showing the pattern of growth between 1914 and 2003

Table 1: Locational direction of urban growth

		<i>Ogbomoso North</i>	<i>Ogbomoso South</i>	<i>Surulere</i>	<i>Oriire</i>	<i>Ogo Oluwa</i>	<i>Total</i>
Urban	%	73.9	25.5	0.6	0	0	100
	No of Respondents	241	83	2	0	0	326
Rural	%	0	1.6	51.8	46.1	0.5	100
	No of Respondents	0	6	198	176	2	382
Total	%	34	12.6	28.2	24.9	0.3	100
	No of Respondents	241	89	200	176	2	708

Source: Author's Field Survey (2004).

Other limiting factor that has contributed to the decline in spatial growth in other directions is the location of leper colony along Arada road. People are scared of building towards the settlement because of the contagious nature of the disease. Similarly, along Oyo - Ibadan road, the farm settlement at Owolaake has limited the growth of that area because the area has been designated mainly for agricultural purposes.

Projected Population Figures, Population Growth rate and Land Absorption Coefficient: It is clearly shown in Table 2 that population size and the rate of population growth increases as the year advances. This implies that increased in population size has affected the size of the town. This indicates that the town must have encroached into the surrounding villages. Land absorption coefficient also revealed that there has

Table 2: Projected population figure, population growth rate and land absorption coefficient.

<i>Year</i>	<i>Projected pop. figure</i>	<i>Pop growth rate%</i>	<i>Land absorption coefficient (LAC)</i>
1914	81,449	0.06	-
1949	130,551	2.3	0.0000136
1978	329,640	2.5	0.0000177
1995	8,730,276	5.0	0.0000012
2003	12,898,594	5.0	0.000002

Source: Authors Field Survey (2004)

Table 3: Major occupations of community dwellers

		<i>Farming</i>	<i>Trading</i>	<i>Artisan</i>	<i>Civil servant</i>	<i>No response</i>	<i>Total</i>
Urban	%	3.00	25.7	10.2	63.8	11.9	100
	No of Respondents	1	83	33	206	3	326
Rural	%	88.7	2.5	1.6	3.1	0	100
	No of Respondents	339	25	6	12	0	382
Total	%	48.2	15.3	5.5	30.9	11.9	100
	No of Respondents	340	108	3	218	3	708

Source: Authors Field Survey (2004)

been increase in the land absorbed by a unit increase in population but reduced slightly between 1995 and 2003. The reason for this decline is the small range between 1995 and 2003 compared with other years calculated.

Major Occupation of Urban and Rural Dwellers: Major occupations of urban and rural dwellers are as shown in Table 3. The Table showed the percentage of the predominant occupation both in urban and rural area. The principal occupation in urban is civil servants (63.8%) while that of rural is farming (88.7%). The reasons for the high percentage of those engaged in civil service and workers in other tertiary institutions in Ogbomoso city are not far fetched. The siting of institutions like LAUTECH, Baptist Theological Seminary and Baptist Hospitals coupled with the addition of five local governments, have offered employment opportunity to many people in the city and its neighborhood. Also these developments serve as a force of attraction into the city and this is one of the factors responsible for growth of the city. All these development have undoubtedly played a major factor in the increase in the population size in the city. This implies that as the population increases more space is needed to accommodate the excess population; therefore the city is expanding and encroaching to rural land. In addition, the low percentage (3%) record for those engaged in farming is partly because most of the land formerly used for agricultural purposes have been encroached upon due to urbanization and are replaced with other land uses.

Table 4: Kind of population movement in the study area

	Rural to Urban			Urban to Urban			Rural to Rural			Urban to Rural		
	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
Urban												
%	69.3	30.7	100	55.2	44.8	100	10.3	89.7	100	23.6	77.0	100
No of Respondents	226	100	326	180	146	326	64	262	326	75	251	326
Rural												
%	90.6	9.4	100	2.4	97.6	100	6.6	93.4	100	3.7	96.3	100
No of Respondents	346	36	382	9	373	382	28	354	382	14	368	382
Total												
%	80.8	19.2	100	26.7	73.3	100	1401	85.9	100	12.6	87.4	100
No of Respondents	572	136	708	189	519	708	166	612	708	89	619	708

Source: Authors' Field Survey (2004)

Table 5: Reasons for population movement

	Employment			Better Living			Industrial Development			Security			Others		
	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
Urban															
%	96.9	3.1	100	94.5	5.5	100	10.7	89.3	100	91.4	8.6	100	5.5	94.5	100
No of Respondents	316	10	326	308	18	326	35	291	326	298	28	326	18	308	326
Rural															
%	99.2	0.8	100	78.8	21.2	100	19.4	80.6	100	28	72	100	11.3	88.7	100
No of Respondents	379	3	382	301	81	382	74	308	382	107	275	382	43	339	382
Total															
%	92.5	1.8	100	86	14	100	15.4	84.6	100	57.2	42.8	100	8.6	91.4	100
No of Respondents	695	13	708	609	99	708	109	599	708	405	303	708	61	647	708

Source: Authors' Field Survey (2004)

Table 6: Factors responsible for growth

	Urbanization			Educational			Transportation			Others		
	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
Urban												
%	83.4	13.8	28	100	96.9	1.2	1.8	100	97.5	2.1	0.3	100
No of Respondent	272	45	9	326	316	4	6	325	318	7	01	326
Rural												
%	74.6	24.6	0.8	100	33.2	60.5	63	100	85.6	10.7	3.7	100
No of Respondent	285	94	3	382	127	231	382	327	41	14	382	40
Total												
%	78.7	19.6	1.7	100	62.6	33.2	4.2	100	91.1	6.8	2.1	10.0
No of Respondent	557	139	12	708	443	235	30	708	645	48	15	708

Source: Authors Field Survey (2004)

Population Movement (Mobility) And Associated Factors: It is revealed in table 4 that a higher percentage (69.3%) of the migrant move from surrounding rural arrears to Ogbomoso likewise 55.2% migrate from other urban center to the city this invariably accounts for a major factor responsible for population increase of the city. More space is required to accommodate the excess population hence the city extends to the surrounding villages. The other kinds of population movement are urban - rural and rural – rural mobility. Both reveal an insignificant percentage compared with other kinds of population movement.

The major reason why people move especially from other urban center and immediate rural area to Ogbomoso is to seek for employment as well as for security purpose and for better living. In addition, in the urban area, the finding shows that about 96.9% percent prefers to move for employment and also stay very close to their work. While 94.5 percent move for better living standard such as existence and adequate functioning of basic infrastructures such as electricity, constant water supply, other still indicated that they move because of security and safety purpose. There are categories of migrant that are rural origin, working in the rural areas, but live in the city. These categories of people that commute between their places of work and Ogbomoso do so because of amenities and better living environment, which the city offers. All these contributed to the population and spatial growth of the town.

Factors Responsible for City Growth: It is evident in Table 6 that the major factor responsible for growth is transportation (97.5%), Education (96.9%) and urbanization (85.4%). Developments spring up along transportation route; this further promotes the growth of the city. Similarly, a greater percentage of migrants relocated to Ogbomoso either for better job opportunity, business activities, and academic pursuit. All these foster development in the city. Other factors as indicated by respondents are insignificant.

CONCLUSION

The pattern of growth in the study area is lateral and its direction of growth is towards the northern direction. (i.e. Ogbomoso north local government and Surulere local government). The

major factors responsible for city growth apart from natural increase are through rural-urban migration, urbanization, transportation and educational development.

The study has shown that Ogbomoso has continued to experience unprecedented growth both in population size and spatial coverage due to rural-urban migration, educational development, residential development and pattern of transportation routes. This rapid growth has made urban area of Ogbomoso to encroach into some of the rural lands. A master plan should be prepared by government to regulate growth. Similarly infrastructural facilities, which are regarded as agents of development, should be evenly distributed at various segment of the town so as to achieve a more balanced city growth. Government should empower planner and environmentalist to implement this policy and any further unnecessary encroachment will be viewed as a failure on both policy maker and implementation team.

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