THE SPATIAL PATTERN OF POPULATION DENSITY AND NATIONAL RECONCILIATION AND INTEGRATION IN NIGERIA

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ABSTRACT

This paper identifies areas with high and medium population density as risk areas that require urgent attention. Increase in high population density has been the bedrock of high pressures on existing facilities, high rate of crime, traffic congestion, easy spread of communicable diseases, environmental pollution which can also lead to emergence of environmentally oriented diseases such as cholera. Solutions to those problems could enhance peaceful coexistence among citizens and can pave way for national reconciliation and integration. The 1991 and 2006 population and housing census data was used in the study. Cartographic representation method was the methodology used. Thematic maps of Nigeria to show spatial distribution of risk areas were produced using ArcView 3.0 GIS.The result shows that eleven (11) areas were identified as risk areas and the population density of Lagos state will rise to 4,281 persons per square mile by 2021 and by 2036 it will reach 5,441 persons per square mile. In the other risk states, it will rise to 1,201 by 2021 and 1,521 persons per square mile by the year 2036. An altitudinal urban expansion, provision of un-interrupted power supply and agricultural revolution were among the suggestions offered.

Keywords: *Cartography, Density, GIS,Integration, Population, Reconciliation*

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Introduction

Nigeria as a state has been striving to achieve national integration and reconciliation since independence in 1960. However, the efforts made still remained unrealized. The major problems this mission is facing centered on the question of minority, religious crisis, ethnic politics, resource control, unemployment amongst teaming youth and agitating for sovereign national conference. These have aggravated social and food insecurity, the deterioration of the physical and social infrastructures, disintegration of the productive sector and downfall of the living standard of vast majority (Ifeanacho and Josephine, 2009). The question of if Nigeria should continue as federal state arose due to realization of its failure by the agitators. Federalism itself is seen as the bedrock of democratic edifice for a country of Nigeria's size and bewildering diversities (Ojo 2009). Meanwhile the current security problem the country is facing hardly threatens to bring the whole edifice of democracy crashing down.

Nigeria is one of the states that exist under the imperialistic legacy of British colonial rule, which by virtue of a superior technology and economy subjugated people from diverse nationalities. The allegiance shown started to regenerate and replaced by strange believe in ethnicity coupled with other factors had bequeathed the country a number of fundamental problems one of which is the challenge of integrating in to a cohesive socio-political and economic whole (Ekanola, 2006).

Materials and Methods

A cartographic representation method that comprises of data input, data editing and data manipulation using query builder to take care of population density were used; 1991 and 2006 population and housing census data was used.

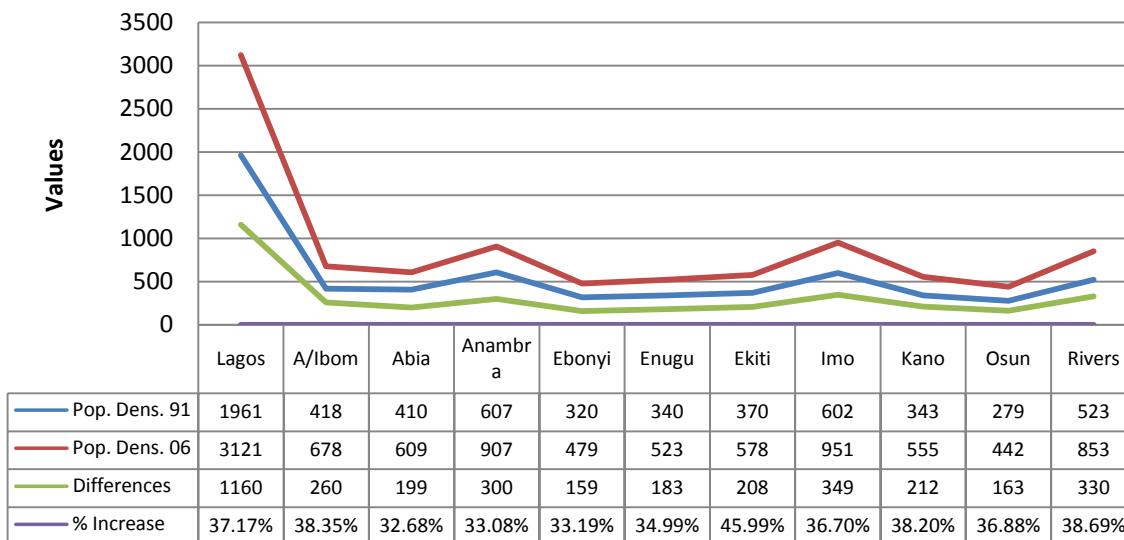$$Population\ Density = \frac{total\ population}{total\ land\ area}$$

ArcView 3.0 GIS was used to produce the data base attribute table (DB table). The vector data was also produced using on screen digitization procedure. Thematic maps of Nigeria were produced as an interface to GIS (Kraak&Ormeling, 1996), cartography is the making and study of maps in all their aspects (Robinson et al. 1995).The mean value of the distribution was

calculated and also the standard deviation to ascertain the variability of the distribution, the smallest possible value is zero, and the lower the value the less the dispersion in a data values (Walford, 1995).

Results

The results show that eleven (11) states of Nigeria were identified as risk areas with enormous population density with Lagos state at the apex.The remaining states with immense population density include Kano, AkwaIbom, Anambra, Imo, Ekiti, Osun, Ebonyi, Abia, Rivers and Enugu State.
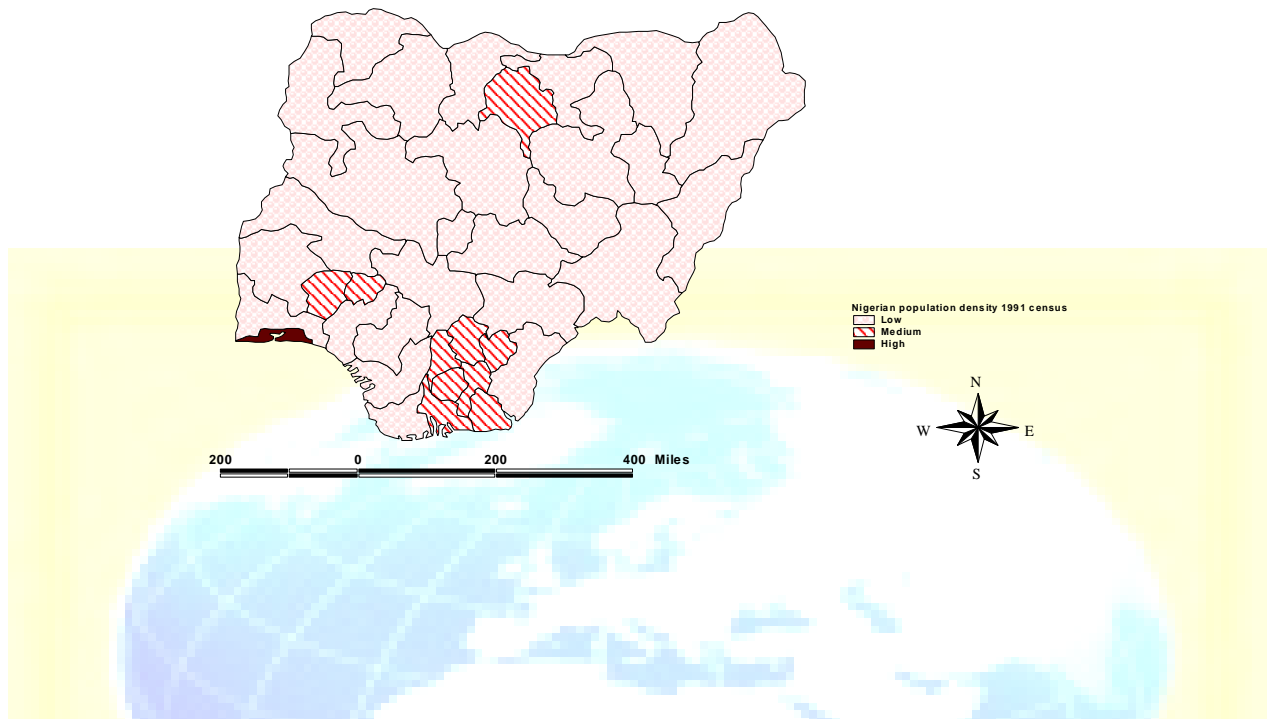
High and Medium Population Densities 1991 and 2006 Censuses

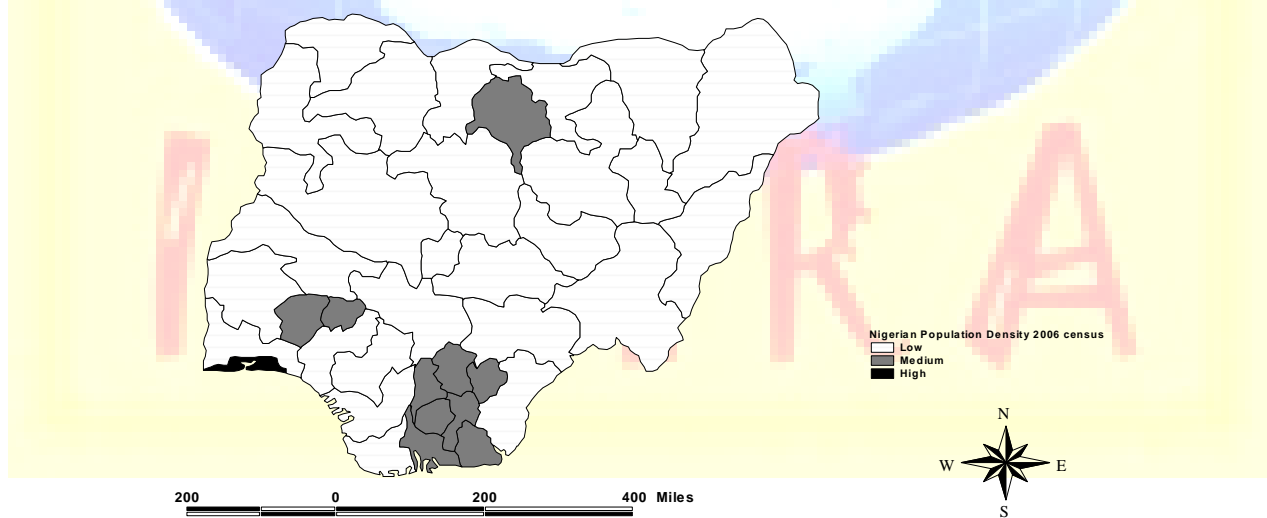|	Lagos	A/Ibom	Abia	Anambra	Ebonyi	Enugu	Ekiti	Imo	Kano	Osun	Rivers
Pop. Dens. 91	1961	418	410	607	320	340	370	602	343	279	523
Pop. Dens. 06	3121	678	609	907	479	523	578	951	555	442	853
Differences	1160	260	199	300	159	183	208	349	212	163	330
% Increase	37.17%	38.35%	32.68%	33.08%	33.19%	34.99%	45.99%	36.70%	38.20%	36.88%	38.69%

Sources: NPC 1991& 2006 Pop census.

The thematic map for 1991 data set and that of 2006 shows disperse spatial pattern with a cluster at the southeast and southwestern states. In any spatial pattern, there must be a process; pattern may be as a result of high or low values of local clustering, because pattern analysis can be a precursor to more formal and structured data analysis even though some researchers have included pattern analysis as a data exploration activity(Haining 2003).

Spatial Pattern of Population Density 1991 Census

Nigerian population density 1991 census
Low
Medium
High

200   0   200   400 Miles

N
W   E
S

Spatial Pattern of Population Density 2006 Census

Nigerian Population Density 2006 census
Low
Medium
High

200   0   200   400 Miles

N
W   E
S

The processes expected to be behind the pattern are the movement of people to urban centers to seek for greener employment. There are better opportunities in the city centers, most of social amenities could be found easily, that has been the trend yet no better legislations to take care of the alarming situations.

Descriptive Statistics

	Mean	Std. Deviation	N
Pop. Dens. 1991	561.1818	477.38262	11
Pop. Dens. 2006	881.4545	762.87120	11
Differences	320.2727	286.13427	11

Source: data analysis 2012

On average from the table above, there is an increase of about 320-population density in a period of 15 years i.e. from 1991 to 2006. This means that, additional 320 persons are to be added on one square mile area. In 1991 for instance, in every one square mile, there are about 561 persons and 881 persons in 2006 data set.

Discussions

Increase in high population density often causes high pressures on existing facilities, high rate of crime, traffic congestion, easy spread of communicable diseases, environmental pollution which can also lead to emergence of environmentally oriented diseases such as cholera. It is evident that those problems cited had since manifest in Nigerian major cities including those identified as risk areas.

Lagos state for example has about 3,121 persons living in a square mile by 2006 data analysis. It is envisage that by the year 2021, the population density of Lagos state will rise to 4,281 persons per square mile and by 2036 it will reach 5,441 persons per square mile. In the other risk states, it will rise to 1,201 by 2021 and 1,521 persons per square mile by the year 2036.

The fear now is that, the country is heading to loosing direction on security issues and social infrastructural development. It is therefore; hope that tackling security threat should be the top

priority of the present administration and then step further to embark ondevelopmental projects that could alleviate the said problems.

Recommendations

The following suggestions are offered to achieve national reconciliation and integration through solving problems posed by population density.

- ➢ Agricultural revolution:- This will greatly halt youth from moving to urban centers looking for employment.
- ➢ Altitudinal urban expansion:- More money is to be pump to estate development and to involve private investors through construction of high story buildings to maximize utilization of land ought to be subjected to agriculture. Additional space will now be produce enough for proper drainages and adequate roads.
- ➢ Provision of uninterrupted power:- With steady power supply there will be creation of many small scale businesses which can keep youth busy and hence keep away from violence.
- ➢ To embark on parliamentary system of government:- This can better be achieved through using the regional government system. The present six geo-political zones are to be used. Each regional government is to pay some amount to the central government. With this no any ethnic group will cry for marginalization and it will create a competition of development among the administrative regions.

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