ASSESSMENT OF THE COMPONENT OF POPULATION GROWTH IN BAUCHI METROPOLIS NIGERIA

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ABSTRACT

This paper is built on the knowledge that, proper administrative planning requires up to date data on the changes of population of an area, the record which is lacking in Bauchi metropolis. Considering rapid urbanization rate and massive movement of people into Bauchi city from neighboring north eastern states of Yobe, Borno and Adamawa as a result of Boko haram insurgency, the need to understand the driving force for population change in Bauchi city is necessary for social, economic, political and administrative planning purposes. Hence this paper compared the natural increase in population and net migration in metropolitan Bauchi. Out of 108 wards in the metropolis, a total of 71 were randomly selected for data collection on in-migration and out-migration. In each ward the homes of migrants were identified with the assistance of ward heads (Mai-anguwa). A total of 1420 questionnaires were randomly administered to migrants and non-migrants heads of households. Concerning information on natural increase of population, this work relied on available data (August 2018 to September 2019) obtained from eight (8) vital registration centers in the metropolis. Independent t-test was used to compare the birth and death rates as well as in-migration and out-migration. Simple percentage was used to describe the status of natural population increase and net-migration. The study showed that, there is a significant difference in both birth and death rates as well as in in-migration and out-migration and that the urbanization in Bauchi metropolis is caused more by natural increase than migration. The study recommends further investigation on forces of population changes in the state capital.

***Keywords**:* natural increase, migration, urbanization, Bauchi

Background of the study

Bauchi as one of the states in north eastern Nigeria with largest population is in recent times witnessing one of the most rapid urban transformation. From the independence days in 1960 to year 2015, the population of the state as a whole has increased seven fold with majority of the inhabitants living in urban spaces (USAID, 2017). It was also stressed that the current pace of population increase in the state will continue to be the same if mitigating measures toward components of population change is not handled efficiently (USAID, 2017). At current population growth rate of 3.6% in the state, it is projected that by year 2050 the state's population will hit 26 million people the figures which requires proper planning for the population to access quality education, sanitation, healthcare, job opportunities, hygienic water and other social services. Glaeser and Xiong (2017) believed that, although urbanization is associated with overall increase in earning and standard of living, in developing countries of Africa the narrative could not be

guaranteed due to the rate of population increase.

Since 1950's, the populations of most urban centers in Nigeria have been growing substantially. According to David Waugh "the twin processes of migration from rural areas and high rate of natural increase in population (resulting from high birth rates and falling death rates) have resulted in the uncontrolled growth of many cities in developing countries" (Waugh, 1995:384). Additionally, the emergence of insecurity in north eastern Nigeria following the Boko haram insurgency made Bauchi town in particular as one of safer heaven to the thousands of displaced in the region. Similarly, the city is attracted to surrounding villages for employment, social and recreational services among others. Although a good understanding and availability of data on the changes of population figures is critical to administrative, economic, and social planning, such information are grossly lacking in the state. More importantly, the government in many developing countries such as Nigeria seems unaware of the dynamics underpinning the urbanization process the scenario leading to issues in policy formulation and implementation (Ferrel, 2018). It is against this backdrop that this research is aimed to assess the effects of natural increase in population and net migration on population growth in Bauchi metropolis. The main objective of the research is to:

i. Estimate crude birth and death rates in the metropolitan Bauchi.

ii. Estimate the net migration in Bauchi metropolis

iii. Compare natural increase in population and net migration in the metropolitan Bauchi.

Research Questions

This research work has been structured to answer the following questions: -

i. What is the crude birth and death rates figure in Bauchi metropolis?

ii. To What extent the in-migration and out-migration, birth rate and death rate in Bauchi metropolis differs?

iii. What is the difference between natural increase in population and migration in the metropolitan Bauchi?

The Study Area

Bauchi town is located between latitude $10^0$30' and $11^0$15'N and longitude $9^0$21' and $10^0$51'. The state has the total land area of about 49,259 km^2. The state lies at altitude of about 660m above mean sea level. Part of this area constitutes crystalline rock of central northern Nigeria while the other part consist of hill ranges developed on basement to 700.6m. Toward its eastern margin lies a central high plain (of Hausa land) area, belonging to Kerrikerri and Gombe sandstone or shale of tertiary age. Bauchi town lies within the undifferentiated basement complex with older granitic outcrops and pockets of younger granitic outcrops scattered over the area. The climate of the areas is typically a tropical savanna type characterized by alternating dry and wet condition. The temperatures are generally high due to tropicality. The mean daily temperatures ranges from29.2^{0}C in the month of July and August to 37.6^{0}C in March and April. The mean daily

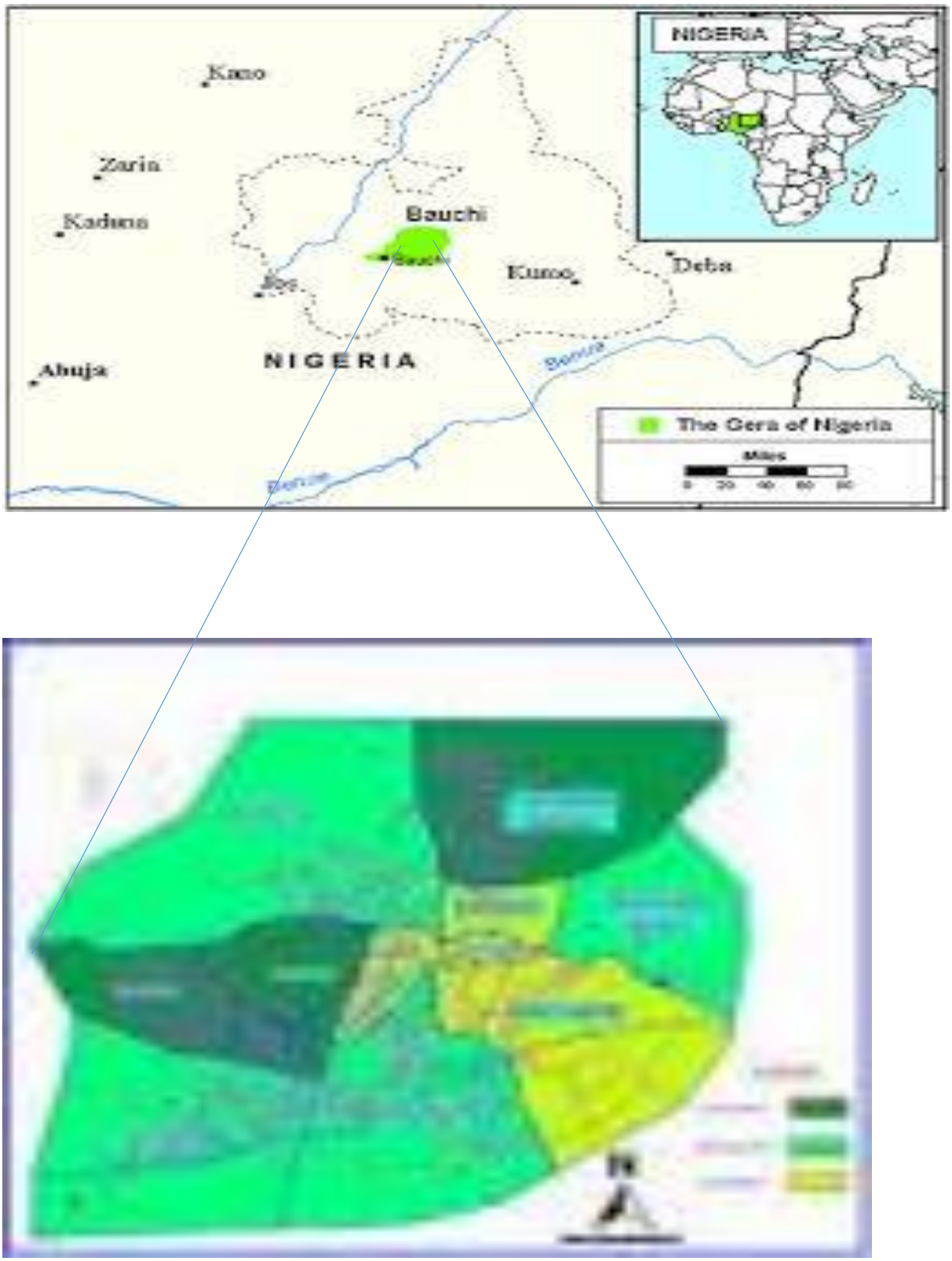

Figure 1: Map of the study area showing wards

Minimum temperature ranges from about 11.7^{0}C in December and January to about 24.7^{0}C in April and May. The rainy season months are May to September with relative humidity ranging from 37% to 68%. The rainfall amount in the state ranges between 700 mm in the extreme northern parts of the state to 1300 mm in the southern end. The variation in the pattern of rainfall due continentally factor as well as the effects of maritime (mT) which take its source from Atlantic Ocean (from the southern coast of the country). The onset and cessation of rains is fluctuating over the decades due climatic changes induced by global warming, desertification and other environmental hazards. The state has a total population of 4,653,066 out of which Bauchi metropolis is populated with about 493, 730 (NPC, 2006) . At a growth rate of 3.2% the projected population figure of Bauchi metropolis in 2018 is about 720,520 people. The main economic activities in the area includes agriculture, manufacturing industry, trade, transportation among others. The vast low fertile soil around the vicinity of the city is used for intensive agricultural production of maize, rice, millet, groundnut, and guinea corn. Irrigation farming is practiced at Kofar Gombe, Waya dam, and Gubi dam. Cattle and other livestock are been reared in small quantities at homes in the city and the large scale livestock farming is practiced at outskirt parts. The city also manufacturing industries such as water, food and beverages, meat factory, fertilizer plant, among others. Other economic activities includes transportation with the presence of private and government motor parks scattered all over the city. In particular, Bauchi is connected with three main national trunk roads. The first A3 which stretches for about 230 km within the state leading from Jos in Plateau state through Toro, Bauchi, Dararzo and Kari town which extend up to Patiskum and Maiduguri. Other roads are A237 trunk which passes from Kari through Misau and A345 trunk roaf which traverses Bauchi town through Gombe and Kaltungo in Gombe state. Trading most especially in the major markets such as Wunti market, Central market, Sabuwar kasuwa as well as many shopping molds plazas add up to the major economic base of the city. Bauchi town is a home to several government and private hospitals and clinic such as primary health centers, dispensaries, urban maternity centers, clinics, pharmaceutical shops, eye clinics among others.

MATERIALS AND METHODS

The scope of this research is limited to birth and death registration record from vital registration centers in Bauchi metropolis and in-migration and out-migration information obtained from sampled heads of households. Both primary and secondary data were used. Data on migration was obtained through primary source while information on natural population increase was sourced from a secondary source. Out of 108 new and old wards in the metropolis a total of 71 was randomly selected for data collection on in-migration and out-migration. In each ward the homes of migrants were identified with the assistance of ward heads called Mai-anguwa in local dialect. Additional homes of the indigenes were also identified in each ward. A total of 1420 well-structured questionnaires containing enquiries on family size, place of birth, and duration in the area as well as socio demographic data was randomly administered to heads of household in sampled migrants and non-migrants homes. Concerning data on natural population increase, the record of births and deaths as used in this research is limited to information recorded from the vital registration centers in the city. Out of seven

(7) government controlled vital registration centers / units in the metropolis a total of five (5) were randomly selected. These include maternity clinic of Abubakar Tafawa Balewa teaching hospital, state national population commission's office, town maternity Bakaro, under 5 clinic Bauchi and Yalwa maternity Bauchi. Also 3 out of 5 NGOs controlled registration centers sampled are development exchange center, FOMWAN & JNI and education crisis response. This mean that the data on births and deaths used in this research is limited to information (August 2018 – September 2019) obtained from the above vital registration centers. Data on births and deaths as well as in-migration and out-migration were statistically analyzed by student's independent t-test. The resultant natural population increase and net migration was obtained through the equation below. Natural increase was worked by working a difference between total births and total deaths while net migration was obtained from the difference between in-migration and out-migration. Simple percentage was used to describe the magnitude of natural increase and migration

$$NI = B - D$$

Where:
NI = Natural increase
B = Total number of birth
D = Total number of death

Whereas the record of net migration was analyzed through:

(i) $$M = I - O$$

Where:
M = Net migration
I = Record of In-migration
O = Record of Out- migration

RESULTS AND DISCUSSIONS

This section analyzed the rate at which natural increase and net migration influences the process of urbanization in Bauchi metropolis from the data elicited from the field. It focuses mainly on comparing the magnitude of natural increase and net migration as they affect urbanization in the study area. The rate of natural population increase is universally described by fertility or birth rate and mortality or death rate in a given population. The study observed a significant difference between birth and death occurrences in the area. The data on births and deaths obtained from vital registration centers in the area for the period between August 2018 and September 2019 indicated a total of 22,999 births against 631 deaths. This value showed that birth is significantly higher than death rate in the area, taking into account that there are many deaths and births that are not registered in vital registration facilities across the area.

The high birth over death rates in the area may not be unconnected to current demographic transition stage of the whole country which favor more births than deaths (Todaro and Smith, 2012). In the same vein, it was observed that there are a lot of skepticism in the revelation or discussion of deaths among the population in the area. This might be the reason why a lot of deaths are not registered officially (Obono, 2003). The changes observed in the rate of births and deaths in the study area is not widely varied to findings by many scholars in many parts of West Africa and Nigeria in particular (Garenne, 2016; Farrel, 2018). In the same vein Garenne (2016) also observed that by considering Nigeria as a whole, fertility or birth rate varies across the geopolitical zones.

In general, fertility rates among Hausa/Fulani/Kanuri ethnic groups, those who live in the North East and North West geopolitical zones, those with no formal education, majority of whom rise from the poorest backgrounds, and those from rural areas remain much higher than the national average (Garenne, 2016).

Concerning population movement in the area, there is no available and official quantitative data that shows quarterly or annual migration flow in the metropolitan Bauchi. The data used on migration is based on estimate from non-official source. However, the data gathered has shown the influx of in-migrants in to the metropolitan Bauchi. The volume of in-migration within the period under review represents 82.4% the amount which significantly outgrown the out-migration rate (17.6%). This showed that many in-migrants are prepared to continue to stay in the area. However, It was observed that, vast majority of the in-migrants who were pushed by insurgency are willing to relocate back to their areas of origin once peace in their region is restored.

Majority of the in-migrants in Bauchi city are from neighboring Tafawa Balewa, Toro and Plateau state who were pushed by incessant political and religious crisis. Other teaming in-migrants in to the city includes thousands of people from neighboring Yobe and Borno states who were displaced by Boko haram insurgency although a study by Kirwin & Anderson (2018) has shown that the desire to migrate in north eastern Nigeria has nothing to do with insecurity, instead, poverty and marginalization could be a viable driving force. Other drivers of movement includes the opportunities offered in various field of human endeavors such as businesses, jobs as well as presence and availability of social amenities and services.

Natural increase and net migration

In Bauchi metropolis, the most important driving factor for the population growth is the natural increase in population though migration also play a pivotal role in the demographic changes. Results from table 1 below revealed that about 63.6% of the urban population growth in Bauchi metropolis is due to natural increase. The remaining 36.4% is attributed to net migration. This result is consistent with the finding of Campbell and Corvalan (2007) who argue that, the most important driving factor that influences urbanization at world scale is natural increase. At current demographic transition stage, Farrel (2018) noted that Nigeria's urban population growth is predominantly accounted by natural population increase while migration and reclassification play additional role in transforming the status of urban population size. This therefore stressed the importance of attaching a significant consideration to the control of natural population increase in a similar way the migration issue is treated. Though policies toward stemming rural to urban migration in Nigeria appear to be preferred mechanism for decreasing pressure in urban areas. Ferrel (2018) noted the role the rural to urban migration played in urban population explosion. Similar observation with specific attention to micro political and social context of individual countries was made by United Nations (2004) which noted that in developing countries natural population still contribute significantly to urbanization. In contrast, Cohen (2006) argue that chief driving factor for increase in the levels of urbanization is rural to urban migration and that the rate of natural increase is slightly lower in urban than in rural area. Similar observation was also made by Bagui (2009).

Table 1: Natural increase and net migration in Bauchi metropolis

Variables	Total number	Percent (%)
Natural increase	22368	63.6
Net migration	12802	36.4
Total	35170	100

Source: Field survey, 2018

CONCLUSION AND RECOMMENDATION

Although the rapid urbanization in Bauchi metropolis can partly be attributed to massive in-migration of people from neighboring North eastern states of Adamawa, Maiduguri and Yobe who were pushed from their places of origin by Boko haram instability and those from rural areas who were pushed by unemployment, poverty and lack of basic amenities. Yet still, natural increase remained the dominant factor responsible for the rapid increase in human population in Bauchi state capital. This shows that while the efforts toward discouraging rural-urban population movement in a bid to halt rapid urbanization by agencies and government, attention toward control of population explosion through natural population increase should be given priority attention in the metropolitan Bauchi. This means that there is a need to put all necessary strategies into work to contain high birth rates in the area. The study further recommends government to support and strengthen the organizations and departments who are responsible for vital registration activities with training and logistics so that accurate and reliable data on the population will always be available for policy implementation and planning.

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