

Effects of Population Growth on Sustainable Development in Rivers State, Nigeria

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Abstract

The study investigated the effects of population growth on sustainable development in Rivers State, Nigeria. Five hundred and eighty nine copies of questionnaire were administered on the residents of the study area to elicit information on using stratified, random and convenience sampling techniques. Descriptive statistics involving frequencies and percentages were used for data analysis. Results show that females were 54.5% and the more than 70% had stayed for more than five years in the study area. Analysis also shows that majority (93.9%) agreed that population living below national poverty line is increasing while 60.6% agreed that poor governance has led to more crime in Rivers State. More than 55% of respondents agreed that both health and educational facilities were not available and accessible to residents; and that population growth is becoming higher (96.4%). More than 60% of respondents agreed that the environment in terms of the atmosphere, land, oceans, freshwater, biodiversity, consumption and production patterns were not in adequate and proper form in recent times. The study concluded that most of the indicators of sustainable development in Rivers State are not adequately in place amidst the growing population. It therefore recommended among others that access and availability of better housing and living conditions, access to safe water and good sanitation, efficient waste management systems, safer working environments and neighborhoods, food security, and access to services like education, health, welfare, public transportation and child care are examples of social determinants of health and good governance should be addressed by government at all levels.

Keywords: Population growth, Sustainable development; Rivers State, Indicators

Introduction

The entire world is experiencing unprecedentedly rapid demographic change (Bongaarts, 2009); which has to do with the huge change in human population. Population change by size and growth has continued to be one of the most important events concerning sustainable development in Nigeria, especially given the current predicament of the nation's economy which is dwindling almost on a daily basis (Jack and Uzobo, 2017). It was reported in Max (2015) that the human population between 1990 and 2000, has increased from 1.5 to 6.1 billion. Also, the Department of Economic and Social Affairs of the United Nations (2015) reported that the world's population reached 7.3 billion as of mid-2015, implying that the world has added approximately one billion people in the span of the last twelve years. Sixty percent of the global population lives in Asia (4.4 billion), 16 percent in Africa (1.2 billion), 10 percent in Europe (738 million), 9 percent in Latin America and the Caribbean (634 million), and the remaining 5 percent in Northern America (358 million) and Oceania (39 million).

China (1.4 billion) and India (1.3 billion) remain the two largest and most populated countries of the world, both with more than 1 billion people each, representing 19 and 18 percent of the world's population, respectively (United Nations, 2015; Jack and Uzobo, 2017). At present, it is growing by 1.18 percent per year, or approximately an additional 83 million people annually. The world's population is projected to increase by more than one billion people within the next 15 years, reaching 8.5 billion in 2030, and to

increase further to 9.7 billion in 2050 and 11.2 billion by 2100 (Department of Economic and Social Affairs of the United Nations, 2015).

This recent development in population growth according to Ebingha et al. (2019) has triggered concern throughout the world, and has posed serious challenge to individual country's socio-economic development. The problem of population, according to United Nations Population Information Network (POPIN), is not simply a problem of numbers; it is a problem of human welfare and development (POPIN, 2013). Nigeria, over the years, has been facing lots of social, physical and economic problems due to the rapid population growth caused by high fertility levels and these have been having issues with sustainable development. With an estimated population of over 190 million people in 2017 and a population growth rate of 2.6 per cent per annum, Nigeria is Africa's population giant and the seventh most populous country in the world (UN, 2017).

Over the period from 1991 to 2006, the total population of Rivers State increased by close to 3 million people. The last official census showed that 5,198,716 people were living in the state, of whom 2,673,026 were male and 2,525,690 were females. Adults and adolescents aged 15 to 64 years accounted for 61% of the population in the state (National Population Commission (NPC), 2017). The total area of the state was 11,077 km² and the population density as at 2015 was 635.89 inhabitants per square kilometre. Given the annual exponential growth rate of the population at 3.0 percent, the population of the State increased to 5.2 million by 2006 from 2 million in 1991, and was estimated to be 7 million in 2016. The high fertility rate, which led to having high number of young persons who are future parents has always contributed to the population growth of a particular place. According to Odey and Akpanke (2020), population may increase or decrease based on the number of births and death, likewise the inflow and outflow of migrants.

On the other hand, the 2030 Agenda for Sustainable Development adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries – developed and developing – in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. Sustainable development has become a ubiquitous development paradigm which catchphrase for international aid agencies, the jargon of development planners, the theme of conferences and academic papers, as well as the slogan of development and environmental activists (Ukaga, et al., 2011). The concept seems to have attracted the broad-based attention that other development concepts lacked, and appears poised to remain the pervasive development paradigm for a long time (Shepherd et al., 2016; Scopelliti et al., 2018). Thus, development is known to be an evolutionary process in which the human capacity increases in terms of initiating new structures, coping with problems, adapting to continuous change, and striving purposefully and creatively to attain new goals (Peet, 1999; Du Pisani, 2006; Mensah, 2019). Sustainable development has become the buzzword in development discourse, and has been associated with different definitions, meanings and interpretations. Taken literally, sustainable development would simply mean “development that can be continued either indefinitely or for the given time period (Dernbach, 2003; Lele, 1991; Stoddart, 2011). Brundtland Commission Report defines sustainable development as development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs (Brundtland Commission 1987; Schaefer & Crane, 2005). Cerin (2006) as well as Abubakar (2017) argues that SD is a core concept within global development policy and agenda. It provides a mechanism through which society can interact with the environment while not risking damaging the resource for the future. Thus, it is a development paradigm as well as concept that calls for improving living standards without jeopardising the earth's ecosystems or causing environmental challenges such as deforestation and water and air pollution that can result in problems such as climate change and extinction of species (Benaim & Raftis, 2008; Browning & Rigolon, 2019; Mensah, 2019). The crave for attainment of sustainable development has led to the development of various tools and measures

for structuring and conducting sustainable development policy analyses (Ogujuiba et al., 2013). Most of these tools and measures emphasize the importance of frameworks that synchronize the principles and dimensions of sustainable development.

Human Development Index (HDI) which is a composite tool that measures the average achievement of a country in three dimensions namely longevity, educational attainment and the standard of living. Since 1990, the Human Development Report has been ranking countries according to their achievements in human development (UNDP, 2015). Others are Human Poverty Index, Gender-related Development Index (GDI) and Gender Empowerment Measure (GEM). Rapid population growth continues to be recognized as creating a demographic poverty trap in the poorest countries, reflecting the impact of poverty on the ability to make investments, as well as the treadmill effect of the ever-increasing levels of expenditure required for the provision of basic social services (ECA, 2006).

The rate of population growth and global environmental change has received significant public attention over the years. Population growth became a global public policy issue during the mid-twentieth century as mortality declines in many developing nations were not matched with reductions in fertility, eventually leading to an unprecedented growth rates (Jack and Uzobo, 2017). On the other hand, concerns about environmental change has been at the forefront since 1970, with apparent levels of environmental degradation fuelling public concern with the scope of contemporary environmental transformations and the advent of satellite imagery aiding environmental research (Hunter, 2000). Right now, the pair for example populace issues and environmental concerns are frequently fused within the discussion on sustainable development pointed toward tending to the requirements and yearnings of the present populace without trading off the prosperity of people in the future. In addition, ecological activism worried about the Earth's natural resources is innate in the possibility of sustainability. Environmental specialists and population researchers have reached the resolution that one way to deal with reducing ecological pressing factor might be to lessen the effect of people through population adjustment. This is based with the idea that fewer individuals mean less tension on land, air, and water environments (Hunter, 2000; Jack and Uzobo, 2017).

More importantly, one of the major challenges facing developing countries is to provide an equitable standard of living, adequate food, clean water, safe shelter and energy, a healthy and secured environment, and educated public, and satisfying job for present and future generations (Iganiga & Unemhilin, 2011). Of all these necessities, the first and most basic to human life and survival is enduring food security: which may be defined as a situation in which majority of the populace of a country have access to domestically produced food at affordable prices at all times (Akinboyo, 2008). Historically, there has been a close correlation between economic growth and environmental degradation. As communities grow, so the environment declines (Ogujuiba et al., 2013).

According to Jack and Uzobo (2017), population growth is the immediate culprit of high poverty and environmental degradation, demographic issues such as distribution of population, age composition, migration and urbanization are being neglected in the planning for sustainable development. Although SD and urbanization are global challenges but the rapid urban expansion in Nigeria without effective environmental consciousness means that in virtually every urban center, a substantial proportion of the population is at risk from natural and human-induced environmental hazards. It is based on this backdrop that this study seeks to examine the effects of population dynamics on sustainable development in Rivers State, Nigeria.

Materials and Methods

The study was carried out in the entire Rivers State. Rivers State is found in the sub-equatorial region which has a tropical climate with a mean ready temperature of 30⁰C a relative humidity of 80% – 100%, and a

mean yearly rainfall of about 2,300mm. The rainfall is always high but varies with seasons (Mmom and Fred-Nwagwu, 2013). The warmest months are from January to May, and all have more than 20 days with a temperature of 32⁰C or above, however, the tropical climate is moderated by the influence of the Atlantic Ocean. The area is also characterized by heavy rainfall from April to October ranging from 2000mm to 2500mm. The drier months of December, January and February are not also free from occasional rains. The state has relatively still air conditions, the prevailing winds being basically south-westerly and north-easterly. However, the town lies in a rather calm area and statistics show that 47% of the time there are no winds at all. Only for 2% of the time is wind speed between 5 and 17 m/s; and only very rarely does it exceeds 17m/s. The study area is underlain by the Coastal Plain sands having its place from the Pleistocenic Formation (Nwakoala and Warmate, 2014). The sediments are deposits comprising of gravel, clays, peats, sands and silt from the River Niger. However, peat forms from the animal and vegetal remains which are found in shallow pits. Gravels and pebbles constitute the last part of the sub-surface rock types and settle at the river channel floors (Peterside, 2007). Rivers State is made up of both upland and riverine areas. The topography in the uplands ranges between 15 and 40m above the sea level while the mean elevation of about 15m is found in the riverine areas. The northern plain terrace is dry while the southern plain is a terrace consists of minor lonely islands of stable ground in the delta area which is continuously being restructured by strong tidal and flood currents. Tropical rainforest is found in the inland part of Rivers State and mangrove swamps towards the coast the Atlantic Ocean. The vegetation is nourished with high rainfall and high temperature, which provide favourable condition for the growth of a varieties of tall and big trees like mahogany, Obeche, Afara and abundance of oil palm trees and several other species of economically valuable plants such as raffia palms, Abura, ferns and grasses (Eludoyin et al, 2013). Drainage of the study area is poor because of the presence of many surface water and heavy rainfall between 2000mm and 2400mm (Mmom and Fred-Nwagwu, 2013). According to Udom et al. (2002), rainfall serves as the major recharge source. It is discovered that there are seasonally-flooded areas and tidally-flooded areas in Rivers State and thus, practising agriculture becomes limited and difficult; and also nucleated urban settlement is restricted. The main drainage pattern in Rivers State is largely controlled by the Bonny River, its tributaries and creeks. It is a major feeder to several creeks and creeklets, which together drain the various outcrops of relatively higher land, which are largely surrounded by the mangrove swamps (Bell-Gam, 2002; Fashola et al., 2013). These creeks can be sub-divided into three sections: the headwaters, which are usually freshwater streams, the brackish in between them and the saltwater. Due to the discharge of clay and silt into the river channels, rivers are mostly turbid during the wet season. Most of the rivers in Rivers State have drainage densities of 1.5km suggesting that the meandering channels are twisting (The Niger Delta Budget Monitoring Group (NDEBUMOG), 2007). The width of drainage systems towards the downstream in the freshwater zone increases (NDEBUMOG, 2007). However, Bonny River, New Calabar River, creeks and streams drain River State; all enter into the Atlantic Ocean through estuaries (NDEBUMOG, 2007). There is prominence of rivers bank levees and valley side slopes due erosion and deposition (NDEBUMOG, 2007). Rivers State is made up of silty-clay soil (Etu-Efeotor and Akpokodje, 1990). Freshwater loams and sandy loams, fluvial marine sediments and mangrove swamp alluvial soils made up the three major groups of soil in Rivers State (NDEBUMOG, 2007). Rivers State with a population of about 5,185,400 people occupies a landmass of 11,077 sq. km (National Population Commission, 2006). The capital city, Port Harcourt only has witnessed enormous growth in its population, since its inception. Over the years the city has grown in leaps and bounds from a population of about 7,000 persons in 1914 (Obinna *et al.*, 2009) to population of 5,185,400 according to the 2006 census (National Population Commission, 2006). There are varieties of ethnic groups being found in Rivers State and these include Okrika, Ikwerre, Engenni, Ekpeye, Kalabari, Abua, Ogoni and Andoni. The major type of profession among the people of Rivers State is farming. In addition, fishing is another occupation widely practiced in the riverine areas of the state.

Stratified sampling and simple random techniques were adopted to select the communities used for this study. The entire Rivers State was divided into the 3 senatorial districts from where five communities were selected randomly. The selection was restricted to the urban centres within the State. For the Rivers South

East Senatorial District, Onne, B-Dere, Bodo, Opobo and Obigbo were selected. For Rivers West Senatorial District, Ahoada, Omoku, Abua Town, Mbiama and Degema were selected. For Rivers East Senatorial District, Choba, Igbo Etche, Rumuodumaya, Ogu and Abuloma were selected.

Forty households were sampled using systematic and convenience sampling techniques in each community. A convenience sample is a non-probability sample (Saunders et al., 2012) which can prevent large budget, time and resources that may allow for creation of a large randomized sample (Scout, 2016). Thus, the total number of respondents was 600. As a result, 600 copies of questionnaire were administered using random sampling technique. The questionnaire administered was aimed at eliciting information on how the residents of these communities perceived the problem of population growth to affect sustainable development in Rivers State. Information was also sought on the social and economic characteristics of the respondents. Out of the total number administered, 589 copies (98.2%) were retrieved and used for further computation. The data collected were subjected to descriptive analyses involving frequencies and percentages with the use of Statistical Package for Social Sciences (SPSS) version 22.

Results and Discussions

Socio-economic Status of Respondents

The socio-economic characteristics of respondents are presented in Table 1 whereby 45.5% were males while 54.5% were females. In terms of the age of respondents, 4.9% were less than 21 years old while 23.1% were between 21 and 30 years. In addition, 17.3% were between 31 and 40 years, 30.9% were between 41 and 50 years while 15.1% were between 51 and 60 years and 8.7% were respondents above 60 years old. The occupations that were identified in the study area included farming, craftsmanship, civil service and trading. Of total respondents 27.7% were farmers, 22.8% were fishermen, 16.1% were artisans, 22.4% were civil servants while 11.0% were traders. Furthermore, the educational status of respondents reveals that 21.2% had no formal education, 27.0% had primary education, 23.9% had secondary education, while 15.6% had tertiary education, 2.7% had quranic education and 9.5% for others.

The length of residency of the respondents revealed that 8.8% of total respondents had been residing in the study area for just less than 5 years while 25.1% had been residing between 5 and 10 years, 47.0% have lived in the area between 11 and 20 years and 19.0% have lived in the area for more than 20 years. The household size of respondents in the study area show that 17.5% of total respondents had 2-5 persons, 44.7% had 6-8 persons, 32.4% had 9-11 persons while 4.6% had 12-15 persons and 0.8% had 16 persons and above. It is also presented that 29.0% of respondents had monthly income of ₦20, 000 and below, 25.1% had between ₦21, 000 and ₦40, 000, 14.9% had between ₦41, 000 and 60,000 while 24.8% had between ₦61, 000 and ₦80, 000 and 6.1% had ₦80, 000. The analysis therefore shows that more than 50% of the respondents earned more than ₦40, 000 as their monthly income. The analysis shows that 1.7% of respondents had no child while 10.9% had 1-2 children. In addition, 26.7% had 3-4 children, 34.8% had 5-6 children, and 22.9% had 7-8 children while 2.9% had more than 9 children.

Table 1: Socio-economic Status of Respondents

Socio-economic Characteristics	Frequency	Percentage (%)
Gender of Respondents		
Males	268	45.5
Females	321	54.5
Total	589	100.0

Age of Respondents (Years)	Frequency	Percentage (%)
Less than 21	29	4.9
21-30	136	23.1
31-40	102	17.3
41-50	182	30.9
51-60	89	15.1
Above 60	51	8.7
Total	589	100.0

Occupation Status	Frequency	Percentage (%)
Farmer	163	27.7
Fishermen	134	22.8
Artisan	95	16.1
Civil Servant	132	22.4
Trader	65	11.0
Total	589	100.0

Educational Status	Frequency	Percentage (%)
No Formal	125	21.2
Primary Education	159	27.0
Secondary Education	141	23.9
Tertiary	92	15.6
Quranic Education	16	2.7
Others	56	9.5
Total	589	100.0

Length of Residency (Years)	Frequency	Percentage (%)
Less than 5	52	8.8
5-10	148	25.1
11-20	277	47.0
Above 20	112	19.0
Total	589	100.0

Household size	Frequency	Percentage (%)
2-5	103	17.5
6-8	263	44.7
9-11	191	32.4
12-15	27	4.6

16 and above	5	0.8
Total	589	100.0
Household monthly income (₦)	Frequency	Percentage (%)
20,000 and below	171	29.0
21,000 – 40,000	148	25.1
41,000 – 60,000	88	14.9
61,000 – 80,000	146	24.8
Above 80,000	36	6.1
Total	589	100.0
Number of children	Frequency	Percentage (%)
None	10	1.7
1-2	64	10.9
3-4	157	26.7
5-6	205	34.8
7-8	135	22.9
9 and Above	17	2.9
Total	589	100.0

Perception towards sustainable development

Table 2 presents responses on the awareness of poverty level in Rivers State. It is shown that 93.9% of respondents agreed that population living below national poverty line is increasing. Also, 75.5%, 64.1%, and 76.4% agreed that level of income of individual is not equal, more households are living without electricity or other modern energy services and proportion of urban living in slums is high respectively. However, 77.4% disagreed that the proportion of potable water accessibility and availability is high in the recent times.

Table 2: Poverty Level

Indicators of Sustainable Development	SA	A	D	SD	Total
Population living below national poverty line is increasing	354 (60.1)	140 (23.8)	55 (9.3)	40 (6.8)	589 (100)
Level of income of individual is not equal	187(31.7)	258 (43.8)	74 (12.6)	70 (11.9)	589 (100)

The proportion of potable water accessibility and availability is high in the recent times	74(12.6)	59 (10.0)	111 (18.8)	345 (58.6)	589 (100)
More households are living without electricity or other modern energy services	91 (15.4)	287 (48.7)	49 (8.3)	162 (27.5)	589 (100)
Proportion of urban living in slums is high	355 (60.3)	95 (16.1)	113 (19.2)	26 (4.4)	589 (100)
Total					

The mode of governance in the study area is presented in Table 3 whereby 59.2% of total respondents disagreed that people are engaging themselves in bribery to survive and 60.6% agreed that poor governance has led to more crimes in Rivers State.

Table 3: Mode of Governance

Indicators of Sustainable Development	SA	A	D	SD	Total
People are engaging themselves in bribery to survive	116 (19.7)	124 (21.1)	230 (39.0)	119 (20.2)	589 (100)
Poor governance has led to more crimes in Rivers State	254 (43.1)	103 (17.5)	147 (25.0)	85(14.4)	589 (100)

The awareness of health status of individual is presented in Table 4 and the analysis shows that 66.2%, 62.5%, 54%, and 73.4% of respondents agreed that access to sound health facilities is becoming more difficult, the mortality rate of children is under control, immunization against infectious childhood and adulthood diseases is regular, and morbidity of major diseases such as HIV/AIDS, malaria and tuberculosis is under respectively. In addition, it is revealed that 64% disagreed that the life expectancy level is higher now while 67.6% disagreed that the nutritional level of people is adequate.

Table 4: Health Status

Indicators of Sustainable Development	SA	A	D	SD	Total
Access to sound health facilities is becoming more difficult	201 (34.1)	189(32.1)	98(16.6)	101(17.1)	589 (100)

The mortality rate of children is under control	254 (43.1)	114 (19.4)	108 (18.3)	113 (19.2)	589 (100)
The life expectancy level is higher	108 (18.3)	104 (17.7)	147 (25.0)	230 (39.0)	589 (100)
Immunization against infectious childhood and adulthood diseases is regular	213 (36.2)	105 (17.8)	120 (20.4)	151 (25.6)	589 (100)
The nutritional level of people is adequate	102 (17.3)	89 (15.1)	241 (40.9)	157 (26.7)	589 (100)
Morbidity of major diseases such as HIV/AIDS, malaria and tuberculosis under control	325 (55.2)	107 (18.2)	95 (16.1)	62 (10.5)	589 (100)

The analysis in Table 5 shows the awareness of education as an indicator of sustainable development in Rivers State. The analysis shows that 60.7% agreed that qualitative education for individual is not adequate for the residents of Rivers State, 60.9% disagreed that adult literacy level is improving while 59% of total respondents disagreed that educational facilities are adequately available and accessible.

Table 5: Awareness on Education

Indicators of Sustainable Development	SA	A	D	SD	Total
Qualitative education for individual is not adequate	233 (39.6)	124 (21.1)	110 (18.7)	122 (20.7)	589 (100)
Adult literacy level is improving	110 (18.7)	120 (20.4)	221 (37.5)	138 (23.4)	589 (100)
Educational facilities are adequately available and accessible	124 (21.1)	117 (19.9)	247 (41.9)	101 (17.1)	589 (100)

The analysis on the awareness of demographics and natural hazards is shown in Table 6 which reveals that 72.7% of respondents agreed that level of dependency is higher among the people of Rivers State, 96.4% agreed that population growth rate is becoming higher, 75.2% agreed that percentage of population living in hazard prone areas are becoming higher while 67.7% agreed that disaster preparedness and response are not put in place

Table 6: Demographics and Natural Hazards

Indicators of Sustainable Development	SA	A	D	SD	Total
Level of dependency is higher	301 (51.1)	127 (21.6)	128 (21.7)	33 (5.6)	589 (100)
Population growth rate is becoming higher	489 (83.0)	79 (13.4)	10 (1.7)	11 (1.9)	589 (100)
Percentage of population living in hazard prone areas are becoming higher	186 (31.6)	257 (43.6)	117 (19.9)	29 (4.9)	589 (100)
Disaster preparedness and response are not put in place	159 (27.0)	240 (40.7)	102 (17.3)	88 (14.9)	589 (100)

The awareness of respondents on the environment (atmosphere, land, oceans, freshwater, biodiversity, consumption and production patterns) is presented in table 8 and it is revealed that 82.5% agreed that there is element of climate change being experienced in Rivers State, 70.7% agreed that that ozone layer is depleting due to much human activities, 81.8% agreed that air pollution in urban areas is affecting the health of residents in Rivers State, and 66.1% agreed that the rate of landuse change and landuse status is occurring more rapidly in the recent times. Furthermore, 67.2% agreed that forest depletion causes problem among different groups, 40.7% agreed that population concentration in the coastal area has been increasing over the years, 70.8% agreed that water quality in the coastal area is undergoing serious pollution, 63.4% agreed that the aquatic lives in the marine environment has reduced in abundance and diversity due to pollution, 76.9% disagreed that the proportion of the protected marine area is very high while 68.9% disagreed that terrestrial biodiversity is secure under serious protection measures, and 61.7% disagreed that there is no threat to the biodiversity due to population dynamics.

Table 7: Environment (Atmosphere, Land, Oceans, Freshwater, Biodiversity, Consumption and production patterns)

Indicators of Sustainable Development	SA	A	D	SD	Total
There is element of climate change being experienced in Rivers State	287 (48.7)	201 (34.1)	89 (15.1)	12 (2.0)	589 (100)
It is evident that ozone layer is depleting due to much human activities	296 (50.3)	120 (20.4)	101 (17.1)	72 (12.2)	589 (100)
Air pollution in urban areas is affecting the health of residents in Rivers State.	281 (47.7)	201 (34.1)	56 (9.5)	51 (8.7)	589 (100)
The rate of Land use change and land use status is occurring more rapidly in the recent times	258 (43.8)	190 (32.3)	48 (8.1)	93 (15.8)	589 (100)
Desertification causes problem among different groups	247 (41.9)	149 (25.3)	63 (10.7)	130 (22.1)	589 (100)
Population concentration in the coastal area has been increasing	119 (20.2)	121 (20.5)	135 (22.9)	141 (23.9)	589 (100)
Water quality in the coastal area is undergoing serious pollution	298 (50.6)	119 (20.2)	41 (7.0)	131 (22.2)	589 (100)
The aquatic lives in the marine environment has reduced in abundance and diversity due to pollution	259 (44.0)	114 (19.4)	73 (12.4)	143 (24.3)	589 (100)

The proportion of the protected marine area is very high	116 (19.7)	23 (3.9)	214 (36.3)	239 (40.6)	589 (100)
Terrestrial biodiversity is secure under serious protection measures	114 (19.4)	69 (11.7)	218 (37.0)	188 (31.9)	589 (100)
There is no threat to the biodiversity due to population dynamics	69 (11.7)	157 (26.7)	259 (44.0)	104 (17.7)	589 (100)

Suggestions to combat the problem of population growth on sustainable development

It is observed in Table 8 that residents of Rivers State suggested some solutions on how to combat the problem of population growth on sustainable development. The analysis reveals that 83.7%, 70.3%, 82%, and 79.5% agreed that availability and accessibility of educational facilities, building resilience-climate and others, controlling deforestation, and end war and conflict will resolve the problem respectively. More so, 61.0%, 61.1%, 74.2% and 67.8% of total respondents agreed that equality and representation, good governance, improve food security and improve the housing facilities respectively should be able to combat the problem of sustainable development. However, 70.3%, 65.5%, 61.7%, 76.1%, and 66.9% of respondents agreed that improvement the life of the poor, improvement of accessibility and availability of health facilities, improvement of governance and adequate implementation of policies, increase access to education, and protecting wetlands and coastal ecosystems respectively would help to combat the problem of [population growth on sustainable development. Furthermore, it is shown in the analysis that 67.4% and 71.2% of respondents agreed that protecting wetlands and coastal ecosystems and provision of adequate and proper disaster preparedness and response would resolve the problem of population growth is having on sustainable development.

Table 10: Suggestions to combat the problem of population growth on sustainable development

Suggestions	SA	A	D	SD	Total
Availability and accessibility of educational facilities	290 (49.2)	203 (34.5)	86 (14.6)	10 (1.7)	589 (100)
Building resilience-Climat and Others	295 (50.1)	119 (20.2)	104 (17.7)	71 (12.1)	589 (100)

Controlling Deforestation	277 (47.0)	206 (35.0)	66 (11.2)	41 (7.0)	589 (100)
End war and conflict	268 (45.5)	200 (34.0)	38 (6.5)	83 (14.1)	589 (100)
Equality and Representation	259 (44.0)	159 (27.0)	53 (9.0)	120 (20.4)	589 (100)
Good governance	179 (30.4)	181 (30.7)	75 (12.7)	111 (18.8)	589 (100)
Improve food security	308 (52.3)	129 (21.9)	31 (5.3)	121 (20.5)	589 (100)
Improve the housing facilities	269 (45.7)	124 (21.1)	63 (10.7)	133 (22.6)	589 (100)
Improve the life of the poor	214 (36.3)	200 (34.0)	146 (24.8)	29 (4.9)	589 (100)
Improved accessibility and availability of health facilities	208 (35.3)	178 (30.2)	124 (21.1)	79 (13.4)	589 (100)
Improved governance and adequate implementation of policies	259 (44.0)	104 (17.7)	69 (11.7)	157 (26.7)	589 (100)
Increase access to education	309 (52.5)	139 (23.6)	30 (5.1)	111 (18.8)	589 (100)
Protecting wetlands and coastal ecosystems	270 (45.8)	124 (21.1)	63 (10.7)	132 (22.4)	589 (100)
Provision of adequate and proper disaster preparedness and response	299 (50.8)	120 (20.4)	39 (6.6)	131 (22.2)	589 (100)

Discussion of Findings

More than 90% of respondents agreed that population living below national poverty line is increasing. It is reported recently that 40 percent of the total population, or almost 83 million people, live below the country's poverty line of 137,430 naira (\$381.75) per year (National Bureau of Statistics, 2020). Poverty is the most important defining characteristic of underdevelopment and national poverty rate is one of the core measures of living standards and it draws attention exclusively towards the poor (World Bank, 2007).

Poverty and health inequalities within and between countries contribute a major part of national and global burden of disease. Among the urban poor, communicable diseases are a remaining concern, while emerging diseases like SARS and avian flu have threatened the population at large.

Many cities are affected by severe urban poverty, pervasive and largely unacknowledged. According to the 2003 Global Report on Human Settlements (UN-HABITAT, 2003), 43% of the urban population in developing regions lives in “slums”. In the least developed countries, 78% of urban residents are slum dwellers (Mercado et al., 2015).

Good governance is very vital in the efficient management of human and material assets of a nation advance her set objectives (Agwanwo and Bello, 2019). In addition, a nation’s ability to enjoy peace, security, social welfare and development is inextricably linked to good governance (Nwanegbo, 2016). The availability and accessibility of health care is poor and this shows that there is gross underutilization of effective health care, there exist large unrealized health gains in developing countries (O’Donnell, 2007). Population growth being one of the indicators of SD is poorly accessible and available in the study area. In every nation, education should be accessible for every single citizen regardless of their status or social classes and it is the core responsibility of governments to ensure this access (Amzat, 2010). Education is linked and related to nation development and thus, education is a key index of development (EFA, 2002). It has been documented that schooling improves productivity, health and reduces negative features of life such as child labour as well as bringing about empowerment” (Otiye, 2006). Due to population growth, the level of air pollution has been so high in the recent times. It is discovered that plumes of soot in the air have affected the residents of Port-Harcourt, and its environs in which the first observation was in November 2016 (Allen, 2017; Yakubu, 2017).

Conclusion and Recommendations

The study has demonstrated that most of the indicators of sustainable development in Rivers State are not adequately in place amidst the growing population. It therefore recommended that access and availability of these indicators like better housing and living conditions, access to safe water and good sanitation, efficient waste management systems, safer working environments and neighborhoods, food security, and access to services like education, health, welfare, public transportation and child care are examples of social determinants of health and good governance should be addressed by government at all levels (Federal State and Local); and more extensive studies are still required to have periodic assessment of the effects of population growth on sustainable development for the entire country.

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