

Impacts of Covid-19 Pandemic on the Biophysical Environment

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Abstract: This study investigated the impact of COVID-19 pandemic on the biophysical environment. Survey research design was adopted for the study. The entire Nigerians made up the population of the study. One thousand five hundred (1,500) respondents were selected across the six geopolitical zones using the purposive sampling procedure. Data of the study were collected via a questionnaire titled: Impacts of COVID-19 Pandemic on the Biophysical Environment Assessment Scale (ICPBEAS). The instrument was designed in a close-ended four-point Likert scale format. Data obtained for the study were analyzed using the descriptive statistics of frequency counts, mean (\bar{x}) and simple percentage. The study revealed that COVID-19 pandemic has both positive and negative impacts on the environment. However, the negative impacts are more than the positive impacts. The COVID-19 pandemic has adverse impacts on the biophysical, cultural, economic, political and social aspects of Nigeria's environment. Based on the findings of the study, the following were recommended among others: Nigerians, irrespective of class and social status, should be more conscious of how they use the biophysical environment knowing that degradation, pollution, and desecration of the environment can affect the health and wellbeing of all citizens; and government should exhibit a higher degree of sincerity in implementation of sociopolitical, socioeconomic, and sociocultural policies aimed at alleviating hunger and poverty in the country.

Keywords: Environment, COVID-19, Pandemic

I. INTRODUCTION

Globally, the year 2020 was ushered in with great hope and prospects. Unfortunately, the year cannot be forgotten in a hurry because of the global plague, nicknamed COVID-19 pandemic, which irrespective of location, race, technological advancement, and nationality affected the biophysical, sociopolitical, socioeconomic, and sociocultural aspects of the environment. COVID-19 pandemic is traceable to Wuhan in the Hubei province of China where the first case of the pandemic was reported in the later part of 2019 (Obioma, Reuben & Elekwachi, 2020). The acronym "COVID-19" was coined in February, 2020 by the International Committee on Taxonomy of Viruses and the World Health Organisation from the words *corona*, *virus*, and *disease*, while the number 19 represents the year that it emerged (Elflein, 2020; Ebonyi & Abok, 2020). It is comprised of group of viruses that can be transmitted between animals and people, causing illnesses that may range from the common cold to more severe respiratory syndromes which

can result in sudden death of affected person (Ebonyi & Abok, 2020).

Between December 2019 and March 2020, several people were infected, and died of COVID-19 due to its contagious nature, and the fact that it transmits from person to person. This prompted the World Health Organization (WHO) to declare it a pandemic in March 11, 2020. WHO recommended social distancing, regular hand washing as well as prompt testing and treatment as measures to curb the spread of the pandemic? However, increase number of infested people across the world, particularly the developed and developing countries such as USA, UK, France, Brazil, among others, led to the lockdown of nations as suggested by WHO (IsDB, 2020). In response to this, governments across the world called for border closure and restriction of movement within countries. African leaders were not left out in the fight against the disease as stringent measures were taken in line with the recommendations of WHO. Among these measures were ban on all public gatherings, closure of public institutions, suspension of air flights, shutdown of ports, borders, cities and towns, restriction of peoples' movement, and the launch of testing programmes to identify, isolate and treat infected persons.

In Nigeria, the first case of COVID-19 infested person was recorded in February 27, 2020 in Lagos State. This propelled Nigeria Centre for Disease Control (NCDC) to carry out daily tests on sampled persons across the country. As at April 2020, the number of COVID-19 confirmed cases in the country increased to 190 with 2 fatalities in twelve States including the Federal Capital Territory (FCT), Abuja (UNDP, 2020). The fear of spread of the virus prompted the Federal Government to declare lockdown in Abuja, Lagos and Ogun States, followed with restriction of human and vehicular movements across the country (Obioma, Reuben & Elekwachi, 2020). Daily increase in confirmed cases across the country led to total lockdown of the nation under which social and economic activities were restricted. The lockdown posed numerous impacts on the biophysical, sociopolitical, socioeconomic, and sociocultural environments. The present study investigates the impacts of COVID-19 on the aforementioned environments in Nigeria.

Objectives of the Study

The study specifically investigated the:

- i. Impact of COVID-19 pandemic on the biophysical environment.
- ii. Impact of COVID-19 pandemic on the socio-political environment.
- iii. Impact of COVID-19 pandemic on the socio-economic environment.
- iv. Impact of COVID-19 pandemic on the socio-cultural environment.

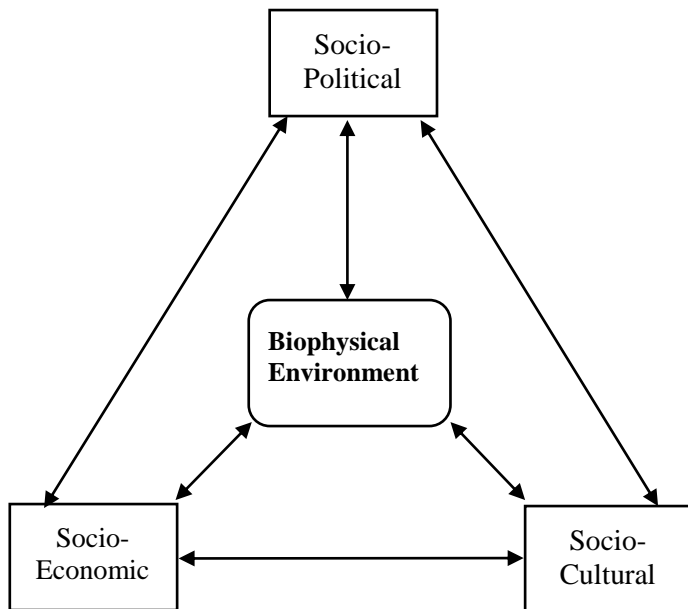
Research Questions

In line with the objective of the study, the following research questions were raised:

- i. To what extent has COVID-19 pandemic impacted on the biophysical environment?
- ii. To what extent has COVID-19 pandemic impacted on the socio-political environment?
- iii. To what extent has COVID-19 pandemic impacted on the socio-economic environment?
- iv. To what extent has COVID-19 pandemic impacted on the socio-cultural environment?

II. CONCEPTUAL FRAMEWORK

The framework of this study is graphically presented thus:



This study presents biophysical environment as a central-system within which exists three sub-environments – sociopolitical, socioeconomic, and sociocultural – which depend on one another for survival, and function systematically for the enhancement or otherwise of the biophysical environment. Undoubtedly, any flaw within each of the sub- environments would invariably hinder the effectiveness of the biophysical environment.

Previous Studies

This section captured some early relevant studies related to the present study.

Albert-Makyur, Enwere, Okorie and Bukar (2020) disclosed the impact of COVID-19 pandemic on political economy of Nigeria, and recommended, among others, urgent government’s implementation of appropriate economic measures to free the nation’s economy from over-dependence on oil. Obioma, Reuben and Elekwachi (2020) observed that socio-economic and psychological impacts of COVID-19 pandemic posed public health risks in Nigeria. The study recommended sincerity from government towards fighting the pandemic. On their part, Datonye and Tamuno-Wari (2020) revealed the effects of the COVID-19 pandemic on the economy, education, health, mental and socio-cultural well-being of the Nigerians, particularly children. The study recommended that policies and interventions should be set up urgently to ameliorate the effect of the pandemic on Nigerians. This study agreed with the study of Ebonyi and Abok (2020) who submitted that the impact of the pandemic on Nigerians is far-reaching, including social, economic, psychological, and political disturbances. The study also discovered that despite government’s efforts towards curtaining the pandemic, public servants are sabotaging the efforts as palliatives meant for masses are being hoarded for selfish use. In support of this, Eranga (2020) asserted that insincerity among public servants is the bane of government’s failure in providing palliatives to vulnerable Nigerians. According to the study, in spite of Federal Government of Nigeria’s struggle to alleviate the effects of the lockdown due to COVID-19, the distribution of palliatives was politicized.

Furthermore, Sheriff (2020) submitted that COVID-19 pandemic affected political, social, cultural and religious activities of Nigerians. According to the study, the lockdown as a result of the pandemic has led to massive loss of jobs and unemployment, increase in the prices of commodities, rise in poverty rate, that exacerbated malnutrition in Nigeria. Directing the lens to the socio-cultural aspect particularly to education sector, Nantwi (2020) disclosed that COVID-19 pandemic has limited education growth and development across the globe, particularly in African countries where educational technologies and facilities are inadequate to engage students during the lockdown period. The study recommended investment in technology, provision of educational facilities, and equipment to cater for educational needs of every student. Discussing more on socio-cultural aspect, Macapagal (2020) stated that COVID-19 pandemic created mental health and psychological problems that sometimes lead to other complications and death. To overcome this menace, the study recommended creation of awareness about the pandemic, steps to take by patients and caregivers, as well as safety measures to those that are not yet affected. Corroborating the impact of COVID-19 pandemic on the Nigerian environment, the Nigeria Centre for Disease Control (NCDC) (2020) confirmed that as at December 2020,

the number of persons who contracted the disease has exceeded eighty-six thousand (86,000); those discharged were more than fifty-eight thousand (58,000) while those dead were more than one thousand (1,000) (NCDC, 2020).

III. METHODOLOGY

The study adopted the survey research design. This design was adopted because it is a design in which information is collected without changing the environment (i.e. nothing is manipulated). The population of the study comprised of entire residents in Nigeria. One thousand five hundred (1,500) respondents were selected across the six geopolitical zones using the purposive sampling procedure. Data of the study were collected through a questionnaire titled: Impacts of COVID-19 Pandemic on the Biophysical Environment Assessment Scale (ICPBEAS). The instrument was designed by the researchers in a close-ended four-point Likert scale format. It consisted of two sections – A and B. Section A focused on the bio-data of the respondents, while section B contained questionnaire items on the subject under study. The scales contained the following rating scores: Strongly Agree (SA) – 4 points; Agree (A) – 3 points; Disagree (D) – 2 points; and Strongly Disagree (SD) – 1 point.

An online survey tool, Google Forms, was used to administer the instrument to respondents. It was distributed through social media - Facebook, Twitter, and WhatsApp as well as emails. Data collected with respect to research questions were analysed using descriptive statistics of frequency counts, simple percentage, and mean (\bar{x}).

IV. RESULTS AND DISCUSSION

Specifically, the study investigated the impacts of COVID-19 pandemic on the biophysical, sociopolitical, socioeconomic, and sociocultural environments in Nigeria. Hence, results of the study are discussed under each of these sub-headings:

Biophysical Environment Impacts

The study revealed that COVID-19 pandemic has negative impact on the biophysical environment. Looting and vandalization of public and private properties have caused general pollution and degradation of the environment and some monuments and aesthetic sensibilities of the biophysical environment were desecrated and obliterated in many States of the country. COVID-19 pandemic also led to unprecedented deaths among citizenry which led to congestion of morgues across the country. Unreported non-COVID-19 deaths are more than COVID-19 reported deaths due to lack of human and medical resources. There is also pressure on environmental resources as many returned to the use of fuelwood and charcoal for domestic energy due to economic hardship which prevented those to use cooking gas and kerosene. In addition, COVID-19 pandemic lockdown made many Nigerians to explore agricultural resources indiscriminately.

However, in spite of the negative impacts highlighted above, COVID-19 pandemic lockdown also favoured the biophysical environment to some extent. The study revealed general improvement on climatic conditions during COVID-19 lockdown as there was significant decrease in industrial and transportation activities which resulted in decrease in amount of toxic fumes emitted on the atmosphere. Wanton killings of aquatic and terrestrial life species also decreased during COVID-19 lockdown.

The above implied that impacts of COVID-19 pandemic on the biophysical environment in Nigeria are two-sided, positive and negative. However, the negative impacts overshadowed the positive impacts as noted by Macapagal (2020) who submitted that COVID-19 pandemic created mental health and psychological problems that sometimes lead to other complications and death. NCDC (2020) also submitted that as at December 2020, the number of persons who contracted the disease in Nigeria were more than eighty-six thousand, while more than one thousand people died of the disease.

Sociopolitical Environment Impacts

It was discovered that the COVID-19 pandemic has negative impact on socio-political environment of the country. This is shown in irregularities in policy formulation process, political meetings, public relations, and human relations of governments across the three tiers of government. Several statutory democratic meetings were cancelled due to the spread of the COVID-19 virus. Functions in most government offices were limited as public servants from levels 1 - 12 were given compulsory leave during the pandemic lockdown.

In addition, government's incomes decreased drastically. Nigeria government's income depends greatly on oil revenue and during the pandemic lockdown; prices of crude fell in the world market. Federal Government's fiscal and export revenues were affected hence government functions were impacted negatively. In spite of this, government's expenditures increased as she spent unbudgeted billions of Naira on interventions to cushion hardships of economic lockdown as well as provide equipment and facilities to fight the pandemic.

Another aspect of the impact of COVID-19 pandemic on sociopolitical environment in Nigeria is that it exposed numerous weakness of the governments at all levels. For instance, it revealed that government of the federal cannot cater for its citizenry and that the existing health facilities are grossly inadequate. Uneven distribution of the palliative is an example. Many Nigerians got nothing from the government palliatives. In short, criteria for selecting the vulnerable among Nigerians were not followed as the distribution was politicized. Not only politicization of distribution, the palliatives were also hoarded in many States and local government areas as revealed in recent vandalizations and lootings of government warehouses across the country. It was established that COVID-19 pandemic exposed the degree of corruption among public servants in the country.

These implied that COVID-19 pandemic has sociopolitical negative impacts on Nigerians. This finding is consistent with the findings of Albert-Makyur, Enwere, Okorie and Bukar (2020), Ebonyi and Abok (2020), Sheriff (2020) and Eranga (2020) who established the negative impacts of COVID-19 pandemic on sociopolitical environment in Nigeria.

Socioeconomic Environment Impacts

As depicted in the conceptual framework of the study, flaw in any component of the environment has negative effect on the other components, hence, the impacts are not limited to sociopolitical environment, and socioeconomic environment was also affected by the pandemic. The study revealed that productivity, supply chains, imports, exports and other trading activities of the Nigerian economy were greatly affected by COVID-19 pandemic perhaps due to the lockdown imposed by the government. The impacts were felt across board from tourism to small and medium scale enterprises (SMEs). It showed that economic growth and infrastructural development in many States and the Federal Capital Territory were disrupted by COVID-19 pandemic.

COVID-19 pandemic has driven many into subsistence farming as a result of loss of jobs in the formal and informal job markets which led to increase in unemployment, poverty, and economic deprivation. There is also increase in prices of goods and services leading to inflation in the country. In addition, it was revealed that the pandemic has put pressure on healthcare systems and workers in the country as many people are in need of health services. Many could not access health and basic facilities particularly during the lockdown.

From the above results, it showed that COVID-19 pandemic has great impacts on socioeconomic aspect of the Nigeria environment. This finding supports the findings of Sheriff (2020); Nantwi (2020); Ebonyi and Abok (2020); Datonye and Tamuno-Wari (2020); and Obioma, Reuben and Elekwachi (2020) who respectively submitted that COVID-19 pandemic has socioeconomic impacts in Nigeria.

Sociocultural Environment Impacts

The sociocultural environment is not left out regarding the COVID-19 pandemic. It was found that due to COVID-19 lockdown, many Nigerians have experienced limited access to resources, increased stress due to job loss or strained finances, and disconnection from social support systems which engendered domestic violence and marital conflicts. Perhaps, embargo on social events, communal meetings, entertainment, and other social activities due to the COVID-19 lockdown have affected economic activities, social development and mutual coexistence among the citizenry.

Due to hardship in the country as a result of COVID-19 pandemic emotional and psychological trauma and distress among citizens are on the increase. This resulted in disruption of peace and security as social vices such as robbery, stealing, looting, and vandalization by hoodlums have increased. In addition, social distancing and quarantining as a result of

COVID-19 have weakened sociocultural networks, and value systems which provide support and enhance human well-being. Family and community lives have also been affected as domestic violence are increasing. Furthermore, closure of schools due to COVID-19 pandemic disrupted academic calendar and activities at all levels of education, and engendered teenage pregnancies, dropouts, and exacerbated criminality among youths.

The above findings showed that sociocultural environment is not exempted from the impacts of COVID-19 pandemic in Nigeria. The present finding agrees with the studies of Obioma, Reuben and Elekwachi (2020), Datonye and Tamuno-Wari (2020), Ebonyi and Abok (2020), Nantwi (2020), and Eranga (2020) who confirmed that COVID-19 pandemic had many and various socio-cultural impacts on the environment.

V. CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, it was concluded the COVID-19 pandemic has both positive and negative impacts on the biophysical environment. However, the negative impacts are more than the positive impacts. COVID-19 pandemic has adverse impacts also on the cultural, economic, political and social environments of Nigeria. Hence, the following are recommended:

- i. Nigerians, irrespective of class and social status, should be more conscious of how they use the biophysical environment knowing that degradation, pollution, and desecration of the environment can affect the health and wellbeing of all citizens.
- ii. Government should exhibit a higher degree of sincerity in implementation of sociopolitical, socioeconomic, and sociocultural policies aimed at alleviating hunger and poverty in the country.
- iii. Governments should tighten security to curb social vices such as looting, armed robbery, vandalization of property among others that could erupt due to the economic hardship brought by COVID-19 pandemic.
- iv. Nigerians, particularly public servants, should desist from selfish attitude in discharging their responsibilities. Government should be more proactive in fighting corruption, nepotism, and favoritism among others.

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