

Rethinking Strategies for Managing Environmental Scarcity and Conflicts in Nigeria

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Abstract

Threats to human security include environmental scarcity which has the potential to impede peace and development by negatively affecting livelihoods, ecosystems, and ecosystem services either alone or in conjunction with other variables. Globally, environmental health and human livelihood have been hampered by the pervasive problem of environmental pollution. The oil and gas industries in Nigeria were mostly responsible for the country's environmental scarcity challenge. Nigerians can lessen indoor air pollution by switching from burning wood to biogas, a type of biofuel that is created organically from the decomposition of organic waste. Therefore, the importance of government policy in protecting the environment against excessive and indiscriminate human exploitation of natural resources cannot be overemphasized. Under the best of situations, policies are great tools for improving everyone's quality of life in the community. The objective of this study is to evaluate the strategies for managing environmental scarcity and conflicts in Nigeria. By giving up-to-date estimates of the global economic effects of air pollution, this research contributes to the body of data in favour of air quality control. Many detrimental impacts of air pollution can be seen on people's health, the environment, and their capacity to earn a living. The paper concludes that communities that experience environmental shortage may be more susceptible to the effects of storms, floods, and other natural disasters.

Keyword: Environmental Scarcity, Degradation, Ecosystems, Government Policy, Pollutants

Introduction

Environmental scarcity denotes a declining availability of renewable natural resources such as freshwater or soil, due to degradation of the environment by air and other sources of pollutants, resulting in a decline of the overall amount of limited natural resource available to each individual. Air pollution and environmental scarcity are often related to one another and intertwine. Air pollution, especially the emission of greenhouse gases and other pollutants and different poisons, essentially contributes to environmental scarcity. However, processes like deforestation, water scarcity, and resource extraction (gas flaring, illegal refinery, oil bunkering, and other industrial waste) increase air pollution due to environmental scarcity. The exploitation of high-value natural resources, such as oil, gas, minerals, and timber, has frequently been cited as a major cause of violent conflicts all over the world. Additionally, there is a growing level of competition for diminishing renewable resources like land and water (Homer-Dixon, 1994).

The relationship between humans and the environment is interdependent. The natural environment provides man with unquantifiable benefits that are not measurable in monetary terms. These benefits include clean air, potable water, food and medicine. The environment also absorbs some level of chemicals and slow floodwaters Franco, Shanahan & Fuller 2017). The environment also bear mineral resources such as gold, diamond, silver, iron and tin ore among others, crude oil and gas as well as sea creatures and animals. The part of man is the responsibility to tend and care for the environment, but the rate at which the environment has suffered due to increasing human activities such as industrialization and urbanization is now so alarming globally. The environment is challenged by over-population, burning fossil fuels, and deforestation. Changes like these have triggered air pollution, soil erosion, poor air quality, and undrinkable water. According to Osah and Osah (2017), increasing human activities have had a great impact on the environment. Despoliation occasioned by

exploration activities by oil multinational companies, recklessness in the usage of the environment by locals is capable of jeopardizing life. The huge effect which are numerous are not limited to loss of bio-diversity, destruction of forest based societies and climate change and global warming present multiple social, economic, environmental and security problems (Budnukaeku, & Hyginus, 2021; Panda, & Maity, 2021; Osundina & Osah, 2017).

Nigeria is blessed with a vast arable landmass, and one of the world's largest deltas. The Niger Delta located in southern most part of Nigeria is blessed with ecological structures of sandy coastal ridge barriers, mangroves, permanent and seasonal swamp forests and lowland rain forests. The delta is blessed with huge deposits of oil and gas which has sustained Nigeria's economy since the 1950s. The states that make up the Niger Delta states are nine of 36 states namely Abia, Akwa-Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers. There are problems of ecological dislocation compounded by the activities of multinational oil companies operating in the area. Consequently, conflicts exist in the region mainly as a result of the environmental irresponsibility and despoliation occasioned by the activities of extraction and transportation of crude oil. This has made the area a hotbed of insurgency since youths from the area engaged in sustained militant fights in an economic war to bring the government on its knees. Thus this study located in Bayelsa and Edo States is apt as the volume of gas flare, illegal refining and bunkering of crude is on the increase. The study therefore sets to interrogate the strategies for managing environmental scarcity with a view of proffering solutions to the environmentally induced conflicts in Nigeria.

Human Society and the Environment

The environment provides all life support systems to every human society and human society in turn needs to protect the environment for mutual benefit. These life support systems are built and sustained by the natural resources like fresh and safe water, fish, arable land, plants, animals, mineral resources and air, land and water. These resources often come in variable quantity and quality. Humans consequently exploit these resources for survival and sustenance. Once these resources are misused or over-used.

Homer-Dixon (1994) aptly captures that the use and reuse of the environment generate conflicts if not properly managed as scarcity of renewable resources or what is known as environmental scarcity contribute to civil violence, including insurgencies and ethnic clashes. Percival and Homer-Dixon (1989) coined the term Eco violence to underpin that environmental scarcity is responsible for some civil violence and that due to the increasing industrialization and urbanization, the use of the environment is becoming scarce.

There are three ways according to Homer-Dixon (1994) that result into environmental scarcity: Firstly demand-induced scarcity: Population growth or increasing consumption levels decrease the amount of limited natural resources available to each individual. Secondly Supply-induced scarcity: Environmental degradation decreases the overall amount of a limited natural resource, decreasing the amount available to each individual and thirdly structural scarcity: Unequal access to natural resources in a given society makes them scarce for large segments of the population. The direction of this study is however tailored toward Supply-induced scarcity as air pollution culminates into the degradation of the environment and its eventual scarcity that is cause and effect relationship. The discharge of different gases, finely divided particulates, or liquid aerosols into the atmosphere at rates greater than the environment's capacity to dissipate, dilute, or absorb is referred to as air pollution. Concentrations of these compounds in the air may have negative impacts on one's health, finances, or attractiveness. The three gaseous criteria of air pollutants that are most dangerous in cities are sulfur dioxide, nitrogen dioxide, and carbon monoxide. These pollutants are released into the atmosphere causing air pollution when fossil fuels like fuel oil, gasoline, and natural gas are burned in power plants, vehicles, and other combustion sources leading to indoor and outdoor air pollution. Other causes of air pollution are gas flaring, soot, biomass and wildfires (Oyeshola, 2019; Nathanson, 2022).

Fundamentally, environmental scarcity, resource depletion, poses an essential threat to human security. Either independently or in combination with other factors, environmental scarcity can destabilize livelihoods, negatively affect ecosystems, and undermine peace and development (UNIFTPA, 2012; Matthew, 2018). Air pollution could either be indoor or outdoor; Dust, dirt, or gases in the air of buildings like homes or workplace that could be harmful to breathe are examples of indoor air pollution. Lung conditions like asthma, Chronic obstructive pulmonary disease (COPD), and lung cancer have all been linked to poor indoor air quality.

Additionally, it has been linked to an increased risk of stroke and heart disease (Turner, Andersen, Baccarelli, Diver, Gapstur, Pope III & Cohen, 2020). The introduction of substances into the atmosphere that poses a threat to humans and other living things is referred to as "outdoor air pollution". Discharges from motor vehicle combustion, solid fuel burning, and industry are the most common sources of outdoor air pollution. Smoke from bushfires, dust carried by the wind, and biogenic emissions from vegetation (pollen and mold spores) are additional sources of pollution (Turner, Andersen, Baccarelli, Diver, Gapstur, Pope III & Cohen, 2020)

Environmental Scarcity and Conflicts

Environmental scarcity may navigate into an enabler of conflict. For instance, according to United Nations Environment Programme (UNEP) post-conflict environmental assessment in Sudan observed that regional climate variability, water scarcity, and the steady loss of fertile land were significant and fundamental factors for the conflict in Darfur (UNIFTPA, 2012). Other UNEP assessments have also acknowledged the increasing scarcity of renewable resources as a major development concern and source of rising tension. Pointing to UNEP assessment in Rwanda UNIFTPA (2012) said that the high population pressures and severe land scarcity in rural areas in Rwanda have resulted in land fragmentation, which in turn has led to over-cultivation and overgrazing, thereby, aggravating Rwanda's chronic soil erosion problem. UNEP's assessment also found that on one hand, demand-induced water scarcity has been driven by rising population levels and increasing demands for drinking and irrigation water (UNIFTPA, 2012). More so, growing competition over shrinking renewable natural resources, such as land and water, is on the rise. These by-products of environmental scarcity are being aggravated further by environmental degradation, population growth, and climate change.

The Case of Chiapas, Mexico in 1994 concerning the Zapatista Revolutionary Movement is as a result of three instantaneous factors that include the rising grievances among farmers caused largely by worsening environmental scarcity, a weakening of the Mexican corporatist state by rapid economic liberalization, and efforts by churches and activist peasant groups to change peasants' understandings of their predicament brought about the insurgency by the Zapatistas (Howard and Homer-Dixon, 1995). Growing population on a limited land base causes what Homer-Dixon calls demand-induced scarcity. That the oil and gas industry in Nigeria accounts for about 90% of the nation's revenue, prompted Elenwo and Akankali (2014) to posit that same percentage can by the same token be claimed to account for a correspondingly overwhelming proportion of environmental challenges, the nation has to contend with especially within the South-South region, Nigeria where most of the oil is produced. Amnesty International, (2018) asserts that, many international oil companies have exploited Nigeria's oil reserve from across the Niger Delta the heartbeat of south-south region in Nigeria, resulting in over two million barrels of oil spills in 2,976 separate oil spills since 1976, about 300 oil spills occur in the region every year. In 2011, for instance, a spill at Shell's Bonga oil fields alone released 40,000 barrels. Over 350 farming communities were affected, and 30,000 fishermen were forced to abandon their livelihoods (Amnesty International, 2018) and (ICIR, 2021).

The insurgence of militant groups in 2004 such as; the Movement for the Emancipation of the Niger Delta (MEND), and Niger Delta Avengers due to underdevelopment, widespread oil pollution, a lack of livelihood options, and a largely unresponsive attitude government (Oshita, Alumona, & Onuoha, (2019). Their frustration over their plight was shown by ventilating their anger against government and oil companies via targeting of oil pipelines and kidnapping of foreign oil workers for ransom. Militancy in the Niger delta according to

Nwogwugwu, Emmanuel & Egwuonwu (2012) was instigated by the combined activities of the oil producing companies and the government this has created a state of insecurity in the region which has affected the Nigerian economy especially the inflow of foreign direct investment which is needed for achievement of economic development. However, in 2009, roughly 26,000 militants agreed to a ceasefire, and the government led an amnesty process that makes payments and offers opportunities to ex-militants, intended to prevent a return to militancy. Although this program seems fragile as the original conditions giving rise to the militancy have not been fully addressed. There is also no concrete exit-plan for this enormously expensive Programme. Nonetheless, there is relative stability to this day as the Presidential Amnesty Programme (PAP) is still operating (Ibaba, & Arugu, 2013). The fear that those not currently benefiting from this PAP may be worming up for the next version of militancy in the region may not be out of place. The early warning sign mechanisms are essential to identify potential problems that could eventually result in violent conflict.

According to Homer-Dixon and Blitt (1998) people living in poor countries depend more on local renewable resources for their daily livelihood and it is assumed that they are often unable to adapt to environmental scarcity due to insufficient human capital, weak markets, and corrupt governments. Although, according to Oluwole (2022) the latest data from the World Poverty Clock (WPC), indicate that India has now surpassed Nigeria as the nation with the highest number of extremely poor people. However, the latest statistics of WPC, shows that Nigerians living in extreme poverty was pegged at (70,677, 758) representing 33 per cent of the population, the highest in Africa (Oluwole, 2022). The population of poor people in Nigeria is increasing, as WPC projected it to surpass 83 million by the end of 2022, just as her overall population projection has continue to be on the increase since the 2006 population census. This is what Malthusian theory postulated as a time bomb for any nation, where population size is usually increasing speedily, hunger and malnutrition is a frequent critical problem (Dalby, 2002). Excessive exploitation of limited available natural resources such as arable land, freshwater, and fisheries, coupled with unfavorable world markets, have raised questions to know how possible it will be for food production and distribution can improve fast to match the pace of population growth.

The need for policies of government to help safeguard the environment from excessive and indiscriminate exploitation of natural resources by humans cannot be overemphasized. Policies, therefore, are courses of action proposed or implemented by a governing body that under the best circumstances, are exceptional resources for making the lives of everyone in the community better. The concept "environmental scarcity" encompasses all these three foundations; Environmental change, population growth and unequal social distribution of resources. Resources can be roughly divided into two groups: non-renewable resources, like oil and iron ore, and renewable resources, like fresh water, forests, fertile soils, and the earth's ozone layer. The latter category includes renewable goods such as fisheries and timber, and renewable services such as regional hydrological cycles and a benign climate (Homer-Dixon, 1994); (Mitchell, & Thies, 2012).

According to White, (2014, p.836) "Scarcity is tied to the overexploitation of natural resources. It is also increasingly linked to the consequences of global warming." The rising of the Earth's temperature over a relatively short time span is referred to as Global warming. Climate change defines the interconnected effects of the rise in temperature. The changing sea levels and changing ocean currents, from end to end to the impacts of temperature change on local environments affect the endemic vegetation and wildlife in varying ways, such as; the death of coral also called polyps, as a result of temperature increases in sea water or a changed migration patterns of birds (White, 2014). The mismanagement of land and natural resources is contributing to new conflicts and obstructing the peaceful resolution of existing ones (UNIFTPA, 2012; Swain, 2015; Teixeira, 2021). The management of land and natural resources is one of the most critical challenges facing developing countries today. The intensification of the use of fragile and marginal ecosystems has led to progressive degradation and continued desertification of marginal agricultural lands even in years of normal rainfall in Nigeria, especially in South-South region and being the heartbeat of Niger Delta region of Nigeria also has to content with the challenges of oil spillage and air pollution. The biggest source of air pollution in Bayelsa and

Edo States is gas flaring. Oil firms are destroying the Niger delta's ecology through uncontrolled gas flaring. Gas flaring occurs 24 hours a day and some are said to have been burning for over thirty years, resulting in the production of hydrogen sulphide Nwogwugwu, Emmanuel & Egwuonwu (2012).

When coal and oil are burned, they release particles that can pollute the air, water, and land. Some of these particles are caught and set aside, but many of them are released into the air resulting in air pollution. Renewable energy on the other hand, emits carbon dioxide and other greenhouse gases that contribute to global warming and therefore result in or has the propensity to aggravate environmental scarcity. These several sources of air pollution, as earlier stated, has the capacity of leading into a number of potentially destabilizing social effects, such as decrease agricultural production, stagnation of economy and mass movement of citizens from affected area to areas of perceived opportunities (Bingham, 2001). The unending problems with resource distribution and their impact on peaceful coexistence in Nigeria are as a result of the exclusive arrangements in place that frequently leaves majority of the population living in penury and turning them into willing tools for conflict instigation in the Nigeria (Alao, Ndem, Olusegun, Nwogwugwu, and Ojo, 2012).

Air Pollution

The World Health Organization (WHO, 1990) defined air pollution as limited to situation in which the outer ambient atmosphere contains materials in concentrations which are harmful to man and his environment. Therefore, the indoor or outdoor contamination of the environment by any chemical, physical or biological agent that alters the natural characteristics of the atmosphere is air pollution. Also Oghenejoboh, Babatunde, & Nwaukwa (2007) noted that about 80% of polluted Air which is a person's daily intake by weight may have negative effects on human health as well as other negative outcomes. Air is considered to be polluted when its natural functions are disrupted. Gaseous and particulate pollutants are the two primary categories of air pollutants. Examples of primary pollutants include carbon monoxide, the majority of nitrogen oxides, and sulfur oxides. These are contaminants that are easily spread through modern cycles and into the environment. Secondary pollutants, on the other hand, include things like ozone and the products of photochemical reactions, which are chemical reactions between primary pollutants and other agents like sunlight. Due to the fact that they are primarily the result of human activities, primary pollutants are referred to as anthropogenic. One of the anthropogenic activities is the burning of natural gas (referred as gas flaring) produced from crude petroleum. Nigeria currently flares over 75% of the approximately 1.78 billion cubic meters of associated natural gas that could have been used to generate electricity and other forms of energy. Nigeria currently has one of the world highest gases flaring rate (Oghenejoboh, Babatunde, & Nwaukwa, (2007).

Breathing clean, fresh air has become nearly impossible due to the rising number of pollutants in the air. Everyone has been concerned about their health as a result of the causes of air pollution. Over 17 billion people worldwide die each year from air pollution, the leading cause of environmental destruction. That amounts to an average loss of 2.2 years when calculating (Inkoom, & Obrumah, 2015). Hence the need for policies, which have to be prepared carefully to effectively and successfully guide a unit, community, or nation against the impact or effect of environmental scarcity. Homer-Dixon, (1994, p. 1) opined "if such "environmental scarcities" become severe, could they precipitate violent civil or international conflict?"

The industrial revolution led to the development of factory-based production. Before that, production was done in people's homes with simple machines or hand tools, resulting in the application of smaller quantities of chemicals and the production of limited quantities of products. The shift toward powered, specialized machinery, factories, and mass production of goods and services was brought about by industrialization. Automobiles and other more energy-efficient modes of transportation are commonplace today because of industrialization. Our homes are better, our healthcare is better, and our means of communication are better and faster. In addition, industries alleviate personal and national poverty by providing employment and income. Air pollution, on the other hand, is intrinsically linked to these industrialization benefits because it occurs either

directly or indirectly through the use of these products. For instance, the nitrogen oxides that the exhaust pipes of the cars we drive that run on fossil fuels pollute the air (Ezeanokwasa, 2019).

Sources of Air Pollution

Outdoor and indoor air pollution cause respiratory and other diseases and are important sources of morbidity and mortality. Commonly, pollutants are categorized as solid, liquid, or gaseous substances that come from a fixed or mobile source, are released into the air, travel through the air, contribute to chemical and physical transformation, and then return to the ground. It is impossible to list all of the potential sources of air pollution or the actual harm they cause. But few which are more vulnerable are discussed thus:

Gas flaring: The practice of burning natural gas during oil extraction, known as gas flaring, is the result of market and economic constraints, as well as a lack of appropriate regulation and political will. Despite significant early progress, the 2022 Global Gas Flaring Tracker, a leading global and independent indicator of gas flaring, finds that reductions in absolute flare volumes and flaring intensity have stalled over the past decade. Some nations have seen impressive reductions, but others have seen alarming increases. In 2021, the top ten flaring nations were responsible for 50% of global oil production and 75% of all gas flaring. For the past ten years, seven of the top ten flaring nations have maintained this position consistently in Venezuela, Algeria, Nigeria, the United States, Iran, Iraq, and Russia. Globally, upstream oil and gas facilities burned 144 billion cubic meters of gas in unnecessary flares in 2021, producing 400 million tons of carbon dioxide equivalent (MMtCO_{2e}) emissions, of which 361 MMtCO_{2e} was CO₂ and 39 MMtCO_{2e} was methane (Worldwide Bank, 2022).

According to Chuwah, and Santillo, (2017), Nigerian oil production sites flare roughly 8 billion cubic meters of gas annually. Gas flaring is known to cause the production of air pollutants like particulate matter (PM), ozone (O₃), nitrogen oxides (NO_x), volatile organic compounds (VOC), sulphur dioxide (SO₂), and certain metals. The research that is now available reveals that the gas flaring Bayelsa and Edo States has significantly impacted air pollution concentrations, agricultural output, the nutritional value of harvested products, as well as other environmental factors and the region's physical infrastructure. Increased prevalence of respiratory ailments and other related health issues might result from gas flares and the air pollution they cause. Additionally, the biodiversity of the environment can be substantially impacted by air pollution from gas flares. Gas flares have also contributed to human-induced environmental scarcity, in addition to the influence that acid precipitation and acidic particle deposition on various ecosystems have had on aquatic life and soil microorganism in communities. Localized and uneven spatial distribution of air pollutants caused by gas flares can have a big impact on local weather patterns (Chuwah, & Santillo, 2017).

Combustion of fossil fuels: For the production of electricity and road transportation, fossil fuels like coal and oil add a lot of carbon dioxide, nitrogen, and sulfur dioxide to the air. When coal is used as a fuel, the main pollutants that are produced are sulfur dioxide, nitrogen oxides, and fly ash. Oil combustion produces oxides of nitrogen and sulfur dioxide, two major pollutants, while coal combustion produces particulate air pollution. In a similar vein, sulfur oxides (SO₃ and SO₂), particulate matter (fly ash and soot), and oxides of nitrogen (NO₂ and NO) are significant air pollutants produced by power plants. Acid rain originates primarily from these pollutants and other chemicals that are closely related to them. Traffic and industry release particulate matter (PM) into the atmosphere, scattering the visible portion of sunlight's rays while internally heating the air below the PM surface in the infrared and far-infrared portions of the spectrum. The air outside is being heated by the sun's rays, and the air inside is being heated by industry and traffic, the PM surface acts as a shield or barrier, preventing heat diffusion from traveling in either direction. Humans have introduced enough CO₂ into the atmosphere over the past 150 years to raise its levels to levels not seen in hundreds of thousands of years. Air pollution frequently prevents photosynthesis, which has a significant impact on the evolution of plants and has serious implications for air purification. Additionally, it causes acid rain, atmospheric precipitation in the form of rain, snow, or fog, and frost, which is produced when fossil fuels are burned and converted through contact

with atmospheric water vapor (Chuwah, & Santillo, 2017; Oyeshola, 2019).

Biomass: Biomass is organic, which means that it is made of material from living things like animals and plants. Plants, waste, and wood are the most commonly utilized biomass materials for energy production. The term for these is biomass feedstock. Non-renewable energy can also come from biomass energy. Hazardous gases are produced as a result of incomplete combustion of biomass. Burning wood, home garbage, agricultural residues, rubbish, and charcoal are the main sources of these emissions. In underdeveloped nations, combustion of biomass typically refers to the burning of biofuels for cooking, heating, and lighting in tiny combustion apparatus. Measures for this category are extremely challenging and unpredictable to anticipate because of the huge variations in burning conditions and types of these fuels (Fantini, 2017 Oyeshola, 2019; Nathanson, 2022).

The Theory: Eco Violence Theory

Eco violence theory as edited by Thomas Homer-Dixon and Jessica Blitt Contributions by Peter Gizewski, Philip Howard, Kimberly Kelly and Valerie Percival (1998) explores links between environmental scarcities of key renewable natural resources such as cropland, fresh water and forests is in-tandem with Percival and Homer-Dixon, Environmental scarcity theory as it forms the position they maintained while explaining the relationship between violent conflict and scarcity of renewable resources. Environmental scarcity happens within political, economic, social, and ecological boundaries (Percival & Homer-Dixon, 1998).

In line with this theory, it is important to consider the context in order to understand and analyze utilization of resources, potential social impacts as a consequence of environmental scarcities, grievances that might arise from such scarcities, and if such grievances will lead to violence. In this context, it, therefore, becomes important to consider the existing quantity of environmental resources, the vulnerability of these resources, the structure of social groups, and their economic relations (Percival & Homer-Dixon, 1998).

Val Percival and Thomas Homer-Dixon (1998), as earlier mentioned pictured three types of environmental scarcity thus: Supply-induced scarcity; Demand-induced scarcity and Structural scarcity, of which Supply-induced scarcity shape the direction of this study, this type of resource scarcity could have quite a lot of social effects on agricultural production, migration from areas with resource scarcity to area where there is resource availability, and weakened institutions, often culminating into grievances. Such grievances could result in violence if collective groups with strong identities challenge the authority of the state, and these have opportunities to perform violent action towards the authority.

Hence, these groups develop out of a shared grievance. Once this scarcity leads to a decrease in living standards of the people compared to other social groups or compared to their ambitions, and they experience that their problems are not being addressed, these social effects of environmental scarcity could lead to grievances (Percival & Homer-Dixon, 1998).

The Methods

This article relied on a mixed-method research design in interrogating rethinking strategies for managing environmental scarcity and conflicts in Nigeria, varying environmental challenges as well as an approach in global security that gives importance to human beings and their complex social and economic interactions as against the security of states.

Discussion of finding

Table 1: Influence of environmental scarcity on livelihood of people

Variables	<i>B</i>	<i>T</i>	<i>Sig.</i>	<i>R</i> ²	<i>F(df)</i>	<i>ANOVA (Sig.)</i>
(Constant)		7.923	.000	302	166.776 (1,385)	.000
environmental scarcity	.550	12.914	.000			

Dependent Variable: livelihood of people

The regression analysis result presented in table 1 reveals that environmental scarcity ($F(1,385) = 166.776$, $R^2 = .302$, $p < .005$) had significant influence on the livelihood of the people in Bayelsa and Edo states, Nigeria. This implies that environmental scarcity has about 30.2% (R Square = .302) effect on the livelihood of the people in Bayelsa and Edo states, that variables not included in the study can account for the other 69.8% not explained by the model. The result equally shows that environmental scarcity ($\beta = .550$, $t = 12.914$, $p < 0.05$) was statistically significant in influencing the livelihood of the people in Bayelsa and Edo states. Therefore, the null hypothesis is rejected and restated: The magnitude of environmental scarcity has significant impact on the livelihood of people in Bayelsa and Edo States, Nigeria.

The likelihoods of survival for people and other living things are at risk due to the environment's decreasing quality, which will be made worse by the global warming brought on by climate change. Other contextual elements that affect environmental scarcity include social interaction patterns, power dynamics, and the organization of economic linkages between social groupings. These variables affect how resources are used, how environmental scarcities affect society, how complaints about them are handled, and how likely it is that those complaints will lead to violence. In their varied perspectives these scholarly work of literature from Homer-Dixon and Blitt (1998) UNIFTPA, (2012); Matthew (2018), Oshita, Alumona, & Onuoha (2019); Amnesty International, (2018); ICIR, 2021) are on same page with the aggregate opinion of respondents responses from both instruments used that environmental scarcity and resource depletion are critical threats to human security, environmental scarcity and resource depletion are critical threats to human security.

Environmental scarcity, alone or in conjunction with other variables, can disrupt livelihoods, harm ecosystems, and hinder peace and prosperity. The nature of the connections between violence and environmental scarcity depends critically on the specific relationship between society and the state. In Nigeria, there is a lot of land or environment, and the vast majority of the rural population is taken care of by a centralized land system. It is accurate to argue that Nigeria has only depended on oil production and illicit mining because, up until now, ecosystems have regularly been destroyed by oil theft vandals. Without reliable, inexpensive access to land, development is impossible. If environmental concerns are properly addressed, development will advance in all areas.

Therefore, it is crucial for all tiers of government federal, state, and local to adopt a pro-active stance toward policies relating to environmental scarcity, all respondents were in unison on this. Environmental pollution is a pervasive issue that has impacted both human well-being and the health of the environment. The Nigerian environment's pollution was mostly the fault of the oil and gas companies. Once the livelihoods of people are affected it can result in Conflict and instability as environmental scarcity can contribute to resource conflicts, especially in areas where resources like water, arable land, or minerals are scarce. Competition over these resources can escalate tensions and lead to social unrest, violence, and political instability.

Reconsidering methodologies for overseeing environmental scarcity includes taking on imaginative rethinking strategy and tending to the main drivers of ecological difficulties. To improve environmental scarcity management, a few key considerations and approaches must be taken into account: encourage environmentally responsible methods of resource extraction, land use, and water management. This incorporates carrying out proficient farming procedures, capable mining practices, reforestation, and supportable fishing techniques. The goal of sustainable resource management is to maintain long-term availability by balancing resource use with conservation and restoration efforts.

The interconnectedness between air contamination and environmental scarcity should be placed in an appropriate and dispassionate point of view. Climate, water resources, and soil fertility are all impacted by air

pollution, which in turn contributes to environmental depletion. However, processes like deforestation, water scarcity, and resource extraction (gas flaring, illegal refinery, oil bunkering, and other industrial waste) increase air pollution due to environmental scarcity. A holistic and integrated approach that incorporates environmental, social, and economic considerations is required when rethinking strategies for managing environmental scarcity. We can work toward a future that is more resilient and sustainable by addressing the underlying causes of environmental problems and promoting sustainable practices.

Conclusions

The study concluded that enforcement and implementation of government policies have implications on air pollution cause-and-effect relationship with environmental scarcity in Bayelsa and Edo States. Finally, a healthy environment is essential for a healthy human existence as well as equitable and sustainable human security. It must be able to maintain ecological integrity and the efficient functioning of ecosystems. A healthy human existence as well as equitable and sustainable human security depends on a healthy environment that can preserve ecological integrity and the efficient functioning of ecosystems. Human security, which strives to shield people from the aforementioned hazards by building on their strengths and goals, emerged on the basis of this tenet (CHS, 2003). A concern for "human life and dignity" (UNDP, 1994), human security also refers to the safety and well-being of the individual or groups of people.

To address the consequences of environmental scarcity, a mix of actions is required, including sustainable resource management, climate change adaption techniques, and investment in alternative livelihoods, enhanced governance, and international collaboration, societies may aim for more resilient and sustainable lives for their citizens by adopting proactive actions to minimize environmental shortages.

To regulate the high levels of environmental tranquility, severe limitations of human activity, such as environmental agreements, treaties, conventions, norms, and laws, must not only be put into place, they must to be enforced. As crude oil activities that have not been appropriately addressed were the source of environmental deterioration.

Consequently, the significance of government policies in aiding and protection the environment from human overuse and indiscriminate exploitation of natural resources cannot be understated. As a result, policies are suggested or implemented action plans by a governing body. In the best case scenarios, policies are great tools for enhancing everyone's quality of life in the neighborhood. There are a variety of detrimental consequences that air pollution can have on the environment, human health, and subsequently, people's ability to make a living must be the priority of government.

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