The Role of National Environmental Standards and Regulations Enforcement Agency (NESREA) on Mitigation of Flood Disasters in Nigeria

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Abstract

There are legal and institutional frameworks to manage environmental hazards in Nigeria. Despite these legal and institutional arrangements, environmental degradation is on a monumental increase in Nigeria, hence the need for this study which focuses on the role of National Environmental Standards and Regulations Enforcement Agency (NESREA) on mitigation of flood disasters in Nigeria. Floods have had serious hazardous consequences in Nigeria with deadly reoccurrences in 2012, 2013, 2018 and 2022 in Delta State, comprising of Burutu, Bomadi and Ilah communities. The research design is Descriptive method involving the use of qualitative data relying on secondary sources. The theoretical framework was anchored on Structural Functional theory and System theory. The key objective was to examine the role of public policy in the management of environmental hazards in Nigeria with a focus on NESREA. Findings from this study indicated that there are sufficient institutional and legal frameworks to manage environmental hazards (floodings) in Nigeria; environmental degradation is on a phenomena increase; environmental awareness and consciousness among the people is poor; and institutional linkages are weak to manage environmental hazards. Finally, the study recommends strengthening of institutional collaborations; promotion of Environmental Responsibility and Eco-efficiency by government; good environmental ethics among the people; and proper enforcement of environmental laws.

Keywords: environment, hazards, management, policy

Introduction

Substantive policies deal with allocation of resources to solve social problems such as environmental hazards. Procedural policies pertain to the conduct of government officials in government agencies such as the National Environmental Standards and Regulations

Enforcement Agency (NESREA) (Cochan et al, 2014). Natural disasters and hazards such as Climate Change and Global Warming, soil erosion and flooding are on a devastating increase in Nigeria and globally. Induced hazards such as pollution, population explosion, deforestation, hazardous industrialization and simple farming practices are also contributing heavily to environmental deterioration in Nigeria. Urban slums and pollution are common phenomena in Nigerian cities. The need for government to intervene through the formulation and execution of public policies becomes imperative.

Man-made or anthropogenic causes together with natural factors have done so much damage to the physical environment in Nigeria. Other countries in the global community are also affected by disastrous environmental hazards such as flooding. Some of these environmental damage are irreparable, which directly and negatively affect the welfare and wellbeing of humans. Poor environmental ethics are evident everywhere in nearly all the communities in Nigeria. The study area (Burutu, Bomadi and Ilah communities) is presently run like a "liquidating business" due to the negative activities and impacts of man, accelerated by nature. These combined effects of environmental hazards have led to environmental decay, urban slums, squalor and poverty. The glittering cities in Nigeria have urban squalor and poverty behind them. Clean air has become a rare "commodity" in these cities. Governments thus respond to these environmental hazards through formulation and execution of public policies. Environmental responsibility and Eco-efficiency cultures are often ignored by the local residents (Action Aid, 2006).

Tangibly, there are legal and institutional frameworks aimed at addressing these environmental hazards. Public institutions such as National Environmental Standards and Regulations Enforcement Agency (the focus of this study) and National Emergency Management Agency, together with policies such as NESREA Act No. 20 of 2007 and NEMA Act No. 12 of 1999, aim at managing environmental disasters in Nigeria. Despite these

institutional and legal frameworks, environmental hazards, especially flooding are on a sharp increase in Nigeria, with devastating consequences on human lives and properties. This underscores this study, aimed at investigating the Role of National Environmental Standards and Regulations Enforcement Agency (NESREA) on Mitigation of Flood Disasters in Nigeria. This paper thus highlights the role of environmental responsibility and eco-efficiency in the management of environmental hazards.

The increasing magnitude of environmental degradation in Nigeria is becoming alarming. The human and natural disasters have led to great loss of lives and properties. There are sufficient laws (public policies) and institutions for the management of environmental hazards, yet these hazards are on a deadly reoccurrence. Institutional linkages are also weak in the management of environmental hazards. This calls for this study whose objectives are to ascertain the institutional and legal framework for the effective management of environmental hazards (flooding) in Nigeria, evaluate the role of public policy in the management of flood hazards, and to examine the effectiveness of NESREA in the management of environmental hazards.

Theoretical Framework

This study is anchored on two theories. The two theories are: (i) System theory, and (ii) Structural – Functional theory. These are explained below:

(v) System Theory

Easton (1953), cited in Paki et al., (2020), defined the political system as "that system of interaction in any society through which binding or authoritative allocation of value are made". A system is a whole which is made of many parts. The political system, according to Easton (1953), takes inputs from society (environment), which consists of demands and supports that are converted in the political system ("Black Box") as outputs in the form of

policies such as the National Emergency Management Agency's Act No.12, (1999). The feedback mechanisms return outputs to the system as inputs. It is thus cyclical.

In all, there ought to be a balanced and robust interaction in the political system between the input (social problems such as environmental problems presented by the people to government), institutions and personnel for policy-making such as NESREA, and the output components (government responses and policies such as NESREA Act No.20, of 2007 as an example for dealing with the environmental problems such as flood hazards). The "Blackbox" represents the authority structures of government featuring ministries and agencies. Examples are NESREA and NEMA in charge of management of flood disasters in Nigeria.

(vi) Structural-Functional Theory

The entire units that constitute the sum of a system, according to Fred Riggs, are structures. These structures perform specific functions to ensure the smooth delivery of services to the public such as ensuring a clean environment. Major proponents of Structural-Functional theory are Almond and Genco (1977). Structural-Functionalism or simply called Functionalism comprises the relations among government institutions (such as NESREA and NEMA) and subsystems such as intergovernmental relations, with the goal of achieving desired targets through an institutional arrangement that performs certain functions in order to operate efficiently. It tries to explain how structures operate in a society, the various parts, and the institutions that combine to create a stable society over time. According to Hardgrave et al (1973), the premises of structural-functional theory are (i) emphasis on the whole system as the unit of analysis, (ii) postulation of particular functions as requisite for the maintenance of the whole system. and (iii) demonstration of the functional interdependence of diverse structures in the whole system.

Flooding as an Environmental Hazard

The negative social-economic impacts of flooding are devastating. Action Aid (2006) stated that flooding is perceived as a hindrance that prevents African countries from achieving significant improvement in the lives of urban slum dwellers. According to a study by Imonikhe et al. (2020), floods, everywhere they occur, leave behind negative tales of destruction and losses. Likewise, Emeribeole (2015) reported that 20% of the population in Nigeria is at the risk of one form of flooding or the other, stating that between July and October 2012, flooding in Nigeria submerged hundreds of thousands of acres of farmland and forced 1.3 million people from their homes while over 450 lives were lost. In the same vein, *The Punch* (December 17th, 2021) reported that "80% of Nigerian farmers suffer revenue loss over flooding" as claimed by Representatives of the National Assembly. Pathetically, concerning the flooding in 2018 in Etsako East and Etsako Central Local Government Areas of Edo State, the Etsako East Council Chairman, Mr. Aremiyau Momoh said that the disaster was beyond what the council could handle, noting that no fewer than 13,000 households were affected and thousands of hectares of farmland washed off (Nwodin, 2016). Concluding, Nwodim quoted NEMA as saying that Nigeria lost about N2.29 trillion to the 2012 flood in Nigeria, while Nkwunonwo (2016) summarized the losses from the 2012 flood disaster in Nigeria as follows: 2 million displaced persons, 7.7 million people affected, while economic losses stood at N16.9 billion.

Public Policy and Mitigation of Flood Hazards

Mbiele (2010, p. 43) sees public policy as the course of action and chief tool of government, which expresses the will of the people. He stated that the major function of public policy is to provide relevant goods and services to the people so as to develop them and their environment. He further opined that public policy represents implied or expressed principles and practices by organizational leaders, which goes to act as directives to regulate and control

actions. He concluded by saying that public policy is the end product of the political system in answer to the various needs and problems of the people. Thus, public policy is public-action taken by government to serve public interests such as solving flood problems and mitigating the harsh effects of floods on flood victims in Illushi and environs. It is an embodiment of actions and inactions in dealing with social problems. In all, public policies such as NESREA Act No. 20 of 2007 and NEMA Act No. 12 of 1999, are the final decisional outputs of a political system to guarantee the welfare of the people. Public Policy is defined as anything the government chooses to do or not to do. It is the choice made by the government to undertake some course of action (Dye, et al 1972 cited in Olori, 2021). Malone, et al. (2014) cited in Olori (2021) opined that public policies are deliberate possible outcomes, designed to address perceived problems. The essence therefore of public policy administration is policy making.

According to Imonikhe, et al. (2020), the flooding in Anegbette, Osomegbe and Udakpa communities in Edo State brought untold hardships to the flood victims in the areas. They stated that in the 2012 flooding, many persons where displaced (over 13,800 households affected), buildings were submerged and farmlands were also submerged. The survey claimed that the floods lasted over two weeks. In all, the survey concluded that the people received aid from government but that the aid was grossly insufficient. This means that there was no significant difference made by the assistance offered by the government to this people. This correlated positively with the findings from Illushi and environs where government assistance did not fully mitigate the hardships suffered by the flood victims. Over 15,000 households were affected by the floods in Illushi and environs.

Pattinger (2014, p. 25) opined that considering the fact that floods do affect so many people at the same time, flood protection and defences are public goods, and so, ought to be taken care of by the government using the tax payers' money. It stated further that governments

both locally, nationally and internationally should bear the expenses of flood control and the mitigation of hardship affecting victims of the flood disaster. Also, Ebipade (2017) noted that Bayelsa State Government allocated funds for channelization and de-flooding in some places, while sand-filling others.

Public Policies (Legal and Institutional Frameworks) for the Management of Environmental Hazards in Nigeria

The legal frameworks for management of the environmental hazards in Nigeria are:

(i) NESREA Act No. 12 of 2007,

(ii) NEMA Act No. 50 of 1999,

(iii) FEPA Decree 58 of 1988,

(iv) Ecological Fund Act of 1981,

(v) Climate Change Act of 2021, and

(vi) Environmental Impact Assessment (EIA) Act.

The NESREA Act No. 20 of 2007 is the major public policy for environmental management in Nigeria. According to Henry (2013), Public Policy is a course of action adopted and pursued by government. Nigeria has other policies for addressing the negative impacts of floods. These policies, among others, according to Nwodim (2016), include National Policy on Environment and National Erosion and Flood Control Policy. The institutions, ministries and agencies on flood management, disaster control and mitigation he identified are NESREA, NEMA, State Emergency Management Agencies (SEMAs), Ministries of Special Duties, Nigeria Meteorological Agency and Ministries of Environment, Housing and Urban Development. MEHUD is the highest authority on environmental matters in Nigeria. Similarly, Amangabara (2010) opined that a good approach to flood management is application of structural and non-structural measures. According to him, structural measures are tools altering the physical

characteristics of the flood such as desiltation, while the non- structural means include raising public awareness, monitoring, early warning, planning and budgeting. In a similar vein, Atedhor, et al. (2010) highlighted some adaptation strategies which include building bridges over flooded areas, construction of flood embankments, use of rubber shoes, placing of mosquito nets on windows of houses, and raising foundations of houses.

The Ecological Funds Office in Nigeria, as well as the Economic Community of West Africa States (ECOWAS) Early Warning Mechanism for Nigeria (EWMN) also helps in strengthening emergency management teams to mitigate the effects of floods, and efficiently manage environmental hazards in Nigeria. They give a backup to NEMA and NESREA. NESREA has impacted positively on the effective management of environmental hazards.

National Environmental Standards and Regulations Enforcement Agency (NESREA) (Act No. 20 of 2007)

National Environmental Standards and Regulations Enforcement Agency (also known as NESREA) is an environmental agency of the Federal Government of Nigeria that was established by law in 2007 to "ensure a cleaner and healthier environment for Nigerians". The agency functions as a parastatal enterprise of the Federal Ministry of Environment, and is headed by a Director General, who is also the Chief Executive Officer with about 483 companies in the NESREA corporate family. Human activities that have negative effects on the environment are covered by NESREA's 33 National Environmental Regulations. The agency's authority includes process and equipment monitoring, compliance with set standards, disciplining violators of set rules, conducting public investigations, and submission of proposals to the minister for review in order to maintain environmental quality.

NESREA has recorded several achievements in the area of environmental compliance, monitoring and enforcement since its establishment, including the enactment of several

regulations pertaining to environmental protection, monitoring environmental compliance and enforcement actions. Despite the work of the agency, the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act No. 20, 2007 was amended in 2018 by the National Assembly of the Federal Republic of Nigeria to accommodate changes in the conditions of appointment of council members, and stiffer penalties for defaulters and other related matters (en.wikipedia.org/wiki/National-Environment-Standard-and-Regulations-Enforcement-Agency-(Nig.).

The need for public institutions in environmental issues in Nigeria became a necessity in the aftermath of the 1988 Koko toxic waste affair. This prompted the government of the time, led by former head of state, Ibrahim Badamosi Babangida, to promulgate Decree 58 of 1988, establishing the Federal Environmental Protection Agency (FEPA) as the country's environmental watchdog. Over the years, the functions of the Federal Environmental Protection Agency (FEPA) have been streamlined into the structures of the Federal Ministry of Environment, which is the policy-making body for environmental matters in Nigeria. It however became apparent that there was a need to provide more stringent controls to address the environmental challenges of the country, notable among which were desertification, rapid deforestation, coastal and gully erosion, as well as a range of man-made environmental insults such as poor environmental sanitation, air pollution and electronic waste. Furthermore, the global movement towards sustainable development in the aftermath of the Millennium Summit and the World Summit on Sustainable Development, and Nigeria's leadership in regional developmental programmes such as the New Partnership for Africa's Development (NEPAD) enhanced environmental awareness among the country's decision-makers

Flowing from the above, the National Environmental Standards and Regulations Enforcement Agency Act, 2007 (No. 20 of 2007) established the National Environmental

Standards and Regulations Enforcement Agency. It clearly states that the agency is charged with the responsibility for the protection and development of the environment in Nigeria and for related matters. Through the administration of former President Umaru Musa Yar'Adua, the National Assembly of Nigeria enacted the law establishing the agency for

> the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology including coordination, and liaison with, relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws, policies and guidelines" (nesrea.gov.ng).

Consequently, NESREA is thus an enforcement agency, charged with flood control functions among others, as stated in Sections 8 and 26. NESREA's section 26 (of the Act) provides that the agency can make regulation for prevention of floods and erosion (Adebayo, 2014).

Key Components of Disaster (Hazards) Management

Agbama (2022), classified hazards or disasters as (i) Geophysical, (ii) Hydrological and, (iii) Climatological. He also categorized disaster types into flood, hurricane, tornadoes, wildfire, earthquake and drought. He further highlighted approaches to Disaster Management and Reduction as follows:

(i) Mitigation, Risk Appraisal, Landuse planning, and Technical Prevention,

(ii) Response which entails Search and Rescue, Humanitarian aids, and Damage Assessment, and

(iii) Recovery which covers rehabilitation and reconstruction.

Tangentially, Agbama (2022) classified disaster events into two: (i) Pre-disaster events which encompass readiness, preparedness, mitigation and prevention, and (ii) post-disaster events which entails response, recovery and development. Agbama (2022) sees safety rules as principles, regulations, actions, procedures and devices aimed at lowering the occurrence of injury, loss and danger to person, property and environment. He recommended education, information, communication, sensitization and enlightenment. Notably, he identified key components of disaster management as follows: (i) Hazard Assessment Mapping, (ii) Vulnerability Assessment, (iii) Demographic Distribution, and (iv) Infrastructure, Lifeliner and Critical Facilities.

Approaches to Policy Implementation

Public Policy implementation encompasses those actions by government that affect the achievement of objectives set forth in policy decisions. Van Horn et al. (1976) identified two components of the policy decisions influencing the implementation process, which are policy resources and policy standards. According to them, policies provide financial and other resources for programmes and their administration and enforcement and where funds are inadequate there could be failure of implementation efforts. They went further to state that policy standards move beyond legislative goals, to work out how those goals shall be implemented. This profile of policy standards can be utilized to assess the quality, clarity, consistency and accuracy of national level direction. It should also be related to the interpretations by federal, state and local government implementers.

Environmental Responsibility and the Management of Environmental Hazards

Environmental responsibility, consciousness and awareness are key variables relevant to the maintenance of environmental quality. An environment of high quality will help man to thrive better. People with good environmental ethics will not build on flood plains or block

waterways which can cause flood. NESREA and NEMA are in charge of promoting environmental responsibility in Nigeria. Business activities by man trigger avalanche of environmental hazards (such as flood hazards) even when the fact is well known that "environment" is a "natural capital". The business thus provides triple bottom line benefits (Profit, People and Planet or Environment). The earth as an "asset" needs protection for her continuous survival and our sustainable development. Donwa, et al. (2011) posit that any firm that pursues profitability while it pollutes the environment is unlikely to procure future survival. Vital questions raised, to know companies committed to environmental responsibilities and those not, are as follows:

i. How do firms that produce packaging materials (e.g. water sachet) ensure that consumers do not use these materials to block water channels after use, thereby causing flooding?
ii. How does a firm dispose of its industrial wastes?
iii. Do firms engage in public sensitization to ensure that packaging materials are properly disposed so that they do not block waterways and cause flooding?
iv. Do firms engage the community to clear water channels?
v. How does a firm that emits high degree of carbon seek ways to eliminate it to prevent Climate change?
vi. How do oil companies prevent climate change caused by gas flaring?

By extension, greening the firm will help to produce long-term benefit such as securing the cooperation of the local community and spending less on agitations arising from environmental abuse. This gives rise to eco-efficiency where both economic and ecological efficiency are pursued simultaneously for sustainable development by small and large-scale

firms. Finally, according to Donwa et al. (2011), the ecosystem needs to be accorded a primer status in any human endeavor.

Eco-efficiency and Environmental Ethics

Eco-efficiency and Environmental Sustainability cannot co-exist with flood disasters which are unchecked. Environmental liabilities are imminent for environmental offenders such as those people who build on flood plains or block waterways which cause flooding. "Greening" is a way or practice of making people and organizations respond to ecological or environmental matters especially environmental problems such as flood hazards. The World Business Council for Sustainable Development sees Eco-efficiency as follows:

> Eco-efficiency is reached by delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life-cycle, to a level at least in line with earth's estimated carrying capacity (WBCSD, 1993).

From the above definition, businesses, and indeed all human activities, should contribute to Sustainable Development and become Eco-efficient. Sustainable Development involves the "simultaneous pursuit of economic prosperity, environmental quality and social equity" (WBCSD, cited in Elkington, 1999). Climate change, pollution, uncontrolled consumption of fossil fuels, wanton destruction of forest vegetation, careless reduction of the Bio-diversity of the ecosystem, reckless excavation and mining, carbon dioxide emission, etc, all have liquidating effects on the earth's sustainability through depletion of the earth's resources.

Relatedly, sustainability should meet the needs of the present and future generations. This means that man should as a matter of urgency engage in resource conservation. Resources

that are renewable should be planned and used while those that are non-renewable should be used sparingly or conserved as much as possible.

Findings

There are sufficient institutional and legal frameworks for the management of environmental hazards in Nigeria, while public policy plays a major role in the management of environmental hazards in Nigeria. In addition, National Environmental Standards Regulation and Enforcement Agency NESREA has impacted positively on the effective management of environmental hazards in Nigeria. Environmental awareness and environmental consciousness are poor in the study area: Delta State (Burutu, Bomadi and Ilah). In the same vein, Environmental Responsibility and Eco-efficiency are presently not playing any positive role in the management of environmental hazards in the study area.

Conclusion

Environmental hazards from natural and man-made causes are on the increase in Nigeria and globally. Flood disasters, in particular, have caused huge loss of lives and properties in Nigeria on a recurrent basis in 2020, 2012, 2018 and 2023. There are sufficient institutional (NESREA) and legal (NESREA Act No. 12 of 2007) frameworks for managing environmental hazards in Nigeria. Unfortunately, NESREA has achieved relatively very little in its mandate. The study is based on the following theoretical framework: Structural-Functional theory, and System theory. The Descriptive survey research was used relying on qualitative (secondary) data. The study proffered solutions to the identified environmental hazards management.

Recommendations

Institutional linkages should be strengthened for the effective management of environmental hazards by government, while Environmental responsibility, Eco-efficiency and Environmental Education should be promoted for effective management of environmental hazards. In addition, environmental awareness and consciousness should be inculcated into the people by government, community traditional leaders, religious leaders and opinion leaders. In all, environmental offenders should be severely punished according to the law, and the government should strictly enforce environmental laws to ensure compliance.

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