Environmental Disaster Management in Delta State: A Public Perception

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Abstract

The earth as a planet is constantly going through continuous series of change, very often than not most of the changes are devastating and very injurious not just to human health but such that pose a serious disruption of the functioning of the health of a community or a society. Environmental disasters could be natural or anthropogenic. Environmental disasters that are natural are in several cases compounded by anthropogenic activities. These disasters can originate from strong winds, earth movements and floods, hence they are termed geo-hydrological disasters. Nigeria, amongst other countries are bedeviled by varying kinds of environmental disasters chief amongst them is flooding which causes severe property and economic damages and loss of lives especially in lowland areas such as in Delta North, Delta State. In a bid to mitigate the impact of environmental disaster, both the Federal and State Government proactively instituted a myriad of agencies saddled with the responsibility of forecasting and management of environmental disasters. However, the effectiveness of these agencies will be in jeopardy without the involvement of the populace. It is against this backdrop that this research set out to evaluate public perception of environmental disaster management and the willingness of the masses to abide by directives from the relevant authorities. The research result showed that the residents of Delta North are very satisfied with the dissemination of early warning information prior to the occurrence of flood incidences, which the respondents acknowledged to be the major environmental disaster occurring in the area. The willingness and rate of adherence to early warnings and instructions from relevant authorities like the Nigerian Meteorological Agency was also very satisfactory. The improvement in response to disasters was rated as very satisfactory as well. It is therefore recommended that

the efficiency in early warning be sustained and improved upon. While continuous adequate collaboration with Stakeholders is of paramount importance to enhance synergy and confidence of the populace.

Keywords: *Environmental Disaster, Disaster Management, Emergency Management Agencies, Delta State, Delta North.*

1.1 INTRODUCTION

According to the United Nations International Strategy on Disaster Risk Reduction (UNISDR, 2009) disaster is any serious disruption of the function of a community or a society involving widespread human, material, economic, or environmental loses and impacts which exceeds the ability of the affected community to cope using its own resources. Sudmeier-Rieux, Sandholz, Nehren, Rharade, Bayani, and Ford (2017) environmental disasters kill people, destroy infrastructure, damage ecosystems and undermine economic development. The damage caused by these disaster arises mainly as a result of their magnitude, which ranges from flooding, landslides, earthquakes, to windstorms and are classified as geo-hydrological disasters based on their sources.

Climate change is a factor expected to aggravate existing disaster risks in many regions of the world. Therefore, there is increased need for proactive disaster management initiatives which include efficient and effective monitoring and forecasting amongst others. This necessitates the need for instituting specialized organs of government to function in the area of monitoring, forecasting, mitigation, remediation, response, reconstruction and resettlement in the event of a disaster occurrence. All this functions put together constitute environmental disaster management.

Lamidi and Benson (2014) puts disaster/emergency management as an important area of governance which aids in the protection of the citizens from consequences of varying form of disasters, damages, and threats. This preventive measure, however, eulogizes mitigation against risks; preparedness for any form of threats; quick response to any form of problem; and methods of recovery after disasters. Disaster management can to be said to be the articulation of measures relating to the systematic observation and analysis of disasters to improve prevention, mitigation, preparedness, emergency response and recovery. Essoh and Abutu (2018) citing Blanchard (2007) listed eight emergency management principles which are summarized below. According to them, emergency management must be:

- Comprehensive
- Proactive
- Risk driven
- Sustainable
- Collaborative
- Coordinated
- Flexible
- Professional

The continuous cycle of planning and implementation of emergency management focuses on:

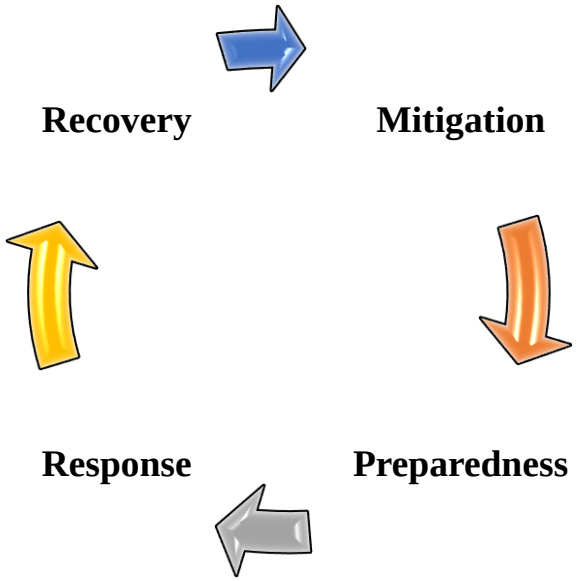

Figure 1: Emergency Management Cycle

Mitigation
Mitigation is a highly cost-efficient method for reducing the impact of hazards. This includes activities that prevent, reduces the intensity of an emergency, or reduce the damaging effects of unavoidable emergencies. Mitigation measures are initiated before emergencies.

Preparedness
Preparedness is a process of continuous planning, organizing, training, equipping, exercising, evaluating, and improvement. It include plans or preparations made to save lives and to help response and rescue operations.

Response
The Response phase includes the mobilization of identified emergency workers, other first responders, and resources. The efficiency of the response phase is largely determined by the preparation phase, plans and procedures from the preparedness phase are executed in this phase.

Recovery
Recovery is a post emergence measure initiated to restore affected areas and livelihoods to normalcy.

1.2 Environmental Disasters in Nigeria and Delta State

The occurrence of environmental disasters in Nigeria have lasted for decades. Nigeria, like every other country is prone to different types of hazard, both natural and man-made. However, the coordinated management of disaster in Nigeria is novel. The coordinated management of disasters in Nigeria began with the promulgation of Decree No. 12 of 1999 establishing the National Emergency Management Agency (NEMA), this led to replication at State level giving birth to various SEMAs (State Emergency Management Agencies) throughout Nigeria. Before this time the Federal Government of Nigeria had established in 1976 the National Emergency Relief Agency

(NERA) to coordinate its disaster response activities. The Agency was purely a relief organisation focusing only on post disaster management. Until recent times environmental disaster management in Nigeria has been mostly reactive rather than proactive. This can be attributed to the uncoordinated nature of disaster management before the inception of NEMA. Various MDAs (Ministries; Departments and Agencies) of the Government involved in disaster management lacked synergy and coordination with inadequate framework for disaster management. The absence of synergy, lack of coordination and poor performance of responding agencies led to an erosion of public confidence. The masses who are supposed to be stakeholders in disaster management seem not to have faith in the capability of disaster management agencies in the country. This can be attributed to issues of corruption as seem in diversion of relief materials, as reported by Edeh for Vanguard Nigeria (2018, Feb. 17th) and lack of capacity for early warning and response as seen in the 2012 flood episode and other disaster events in the past 20years.

In over 20 years the most devasting floods disaster in Nigeria occurred between July - October 2012 killing about 363 people, and displacing over 2.1 million people. Kogi, Taraba, Adamawa, Benue, Plateau, Delta, and Lagos States were the most affected States. In September 2015, flooding led to several loss of lives in 11 States, sweeping away properties and destroying farm lands. On the 17th of July 2018, National dailies such as The Guardian Newspaper and The Nation Newspaper reported the occurrence of a severe flood case in Jibia Local Government Area of Katsina State killing over 40 people, over 250 livestock and destruction of housing units in excess of 200.

Similarly in Delta State incidences of flood disasters of these magnitude are prevalent over the years. Sahara Reporters (2018, September 6) reported that flood sacked the people of Aika and Abala-Oshimili coastal communities in Ndokwa East Local Government Area. In an earlier report same Sahara Reporters (2017, July 22) reported a case of severe flooding in Asaba, Delta State leading to loss of documents, several properties and homes. Aljazirah news online (2019, June 15) reported another case of death of a Junior Secondary School Student as a result of flooding in Asaba, Delta State. The flooding in this part of the country have been described as an annual event which leaves nothing but devastating impacts especially in communities of Delta North.

Despite this rate of devastation and destruction of lives and properties which seem to have become a yearly occurrence, how willing are residents to abide by directives from professional bodies and agencies specialized in the area of forecast, mitigation and management of environmental disasters? What is the perception of the populace on the response and capacity of the Government to handle emergency cases? The Pointer news online (nd) indicated that despite repeated warnings from Nigerian Meteorological Agency and the National Emergency Management Agency for Nigerians living in the coastal communities to prepare against impending flood disaster, many took it for granted. Nonetheless, the willingness of the public to abide by professional forecast from organs such as the Nigerian Meteorological Agency (NiMet) plays a crucial role in the effectiveness of disaster management.

In Nigeria several agencies have a role to play in issue of environmental disaster management. The roles include forecasting/early warning, search and rescue, reconstruction, rehabilitation and

resettlement amongst others. The following MDAs are involved in environmental disaster management in Nigeria:

National Emergency Management Agency (NEMA): This agency was created in 1999 by promulgation of Decree No. 12 of 1999 with the chief mandate of managing disasters in Nigeria.

State Emergency Management Agencies (SEMA): Decree No. 12 of 1999 gave rise to the creation of SEMAs with same mandate as NEMA but to operate at State level. Hence it was set up by various State Governments to operate at State level.

Federal/State Fire Services: With an Act of Parliament in 1963 the Fire Brigade pulled out of the Nigeria Police and became a safety paramilitary outfit saddled with fighting fire, rescue, protection of lives and properties. It responsibilities also include humanitarian services and emergency response.

Other Supporting Agencies:
Nigeria Security and Civil Defence Corps (NSCDC)

The Nigerian Police

The Nigerian Military

The supporting agencies mainly function in the areas of search and rescue, protection of displaced persons camp, and provision of transport facilities where necessary.

Early Warning/Monitoring and Forecasting Agencies:

Nigeria Meteorological Agency (NiMet): The Nigerian Meteorological Agency came into existence by an Act of the National Assembly – NIMET (Establishment) Act 2003. The Act makes it the responsibility of the Agency to observe, collate, collect, process and disseminate all meteorological data and information.

Nigerian Geological Survey Agency: This Agency was established in 2006 by an Act of parliament. Its earliest precursor the Geological Survey of Nigeria was set up in 1919 following the disbandment of the Mineral Survey of Northern and Southern Nigeria in 1909 and 1913 respectively (www.ngsa.gov.ng/basic-page/about-us). The agency is saddled with the responsibility of providing up-to-date geosciences information and dissemination of such information when and where necessary.

Other related MDAs in Environment and Disaster Management in Nigeria:

NESREA (National Environmental Standards, and Regulations Enforcement Agency): Act 25 of 2007 provided for the establishment of the National Environmental Standards and Regulations Enforcement Agency charged with responsibility for the protection and development of the environment in Nigeria and for related matters.

NOSDRA (National Oil Spill Detection and Response Agency): NOSDRA was established by Act No. 15 of 2006 enacted by the National Assembly of Nigeria to detect and respond to oil spill cases which have been devastating the Niger Delta environment.

2.1 STUDY AREA

Delta State is located in the South-south geo-political zone of Nigeria. Delta State has 25 Local Government Areas (LGAs). These LGAs are also grouped into 3 Senatorial Districts which are Delta Central, Delta North and Delta South. Delta North Senatorial District is made up of Aniocha North, Aniocha South, Ika North-East, Ika South, Ndokwa East, Ndokwa West, Oshimili North, Oshimili South, and Ukwuani Local Government Areas (See Fig. 2). Delta North as at 2006 National Population Census had a population of 1,293,074. The climatic condition in Delta North can be described as a tropical climate with about approximately 9 months of rainy season and about 3 months of relatively dry season. The amount of rain received and the duration of the rainy season serves as a contributing factor to flooding cases in the region. The State is general known to be a lowland region. Hence, it is prone to seasonal flooding. This reason accounts for the choice of the research location.

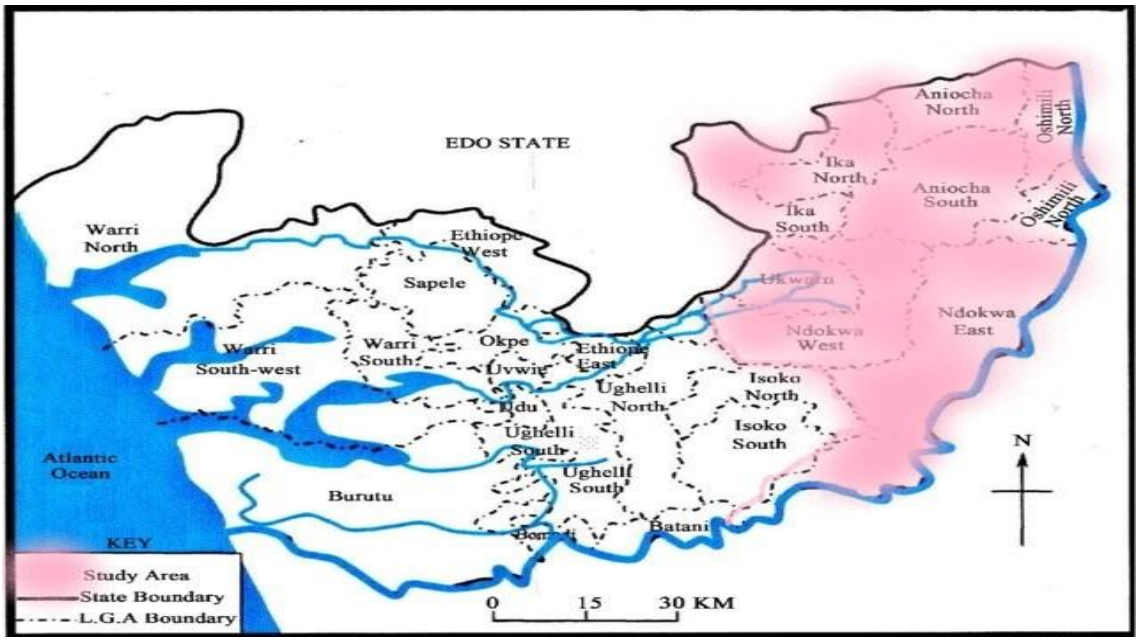

Fig. 2: Map of Delta State showing the Study Area
Source: Esinulo, Kelle, and Ogbuagu, (2016)

2.2 MATERIALS AND METHODS

The research sort to know the perception of the public on efforts made and being made by both the Federal and State Government through agencies like NEMA and NiMet in forecasting, and responding to environmental disasters. This research focuses on early warning which is in the realm of preparedness in the cycle of planning and implementation of emergency management (see figure 1). It also focuses on response to disasters. Following the purpose of the study, group discussion and survey pattern of research were adopted. A total of four hundred (400) respondents were purposively sampled in Asaba (Oshimili South LGA), Isikpti (Aniocha South LGA), Isheagu (Aniocha South LGA), Ossissa (Ndokwa East LGA), and Ewulu (Aniocha South LGA). The

retrieved data were analyzed using means and percentages, results are illustrated with chart and graph prepared with Microsoft Excel package 2013 version.

3.1 ANALYSIS AND DISCUSSION

Major disaster event usually experienced within the study area

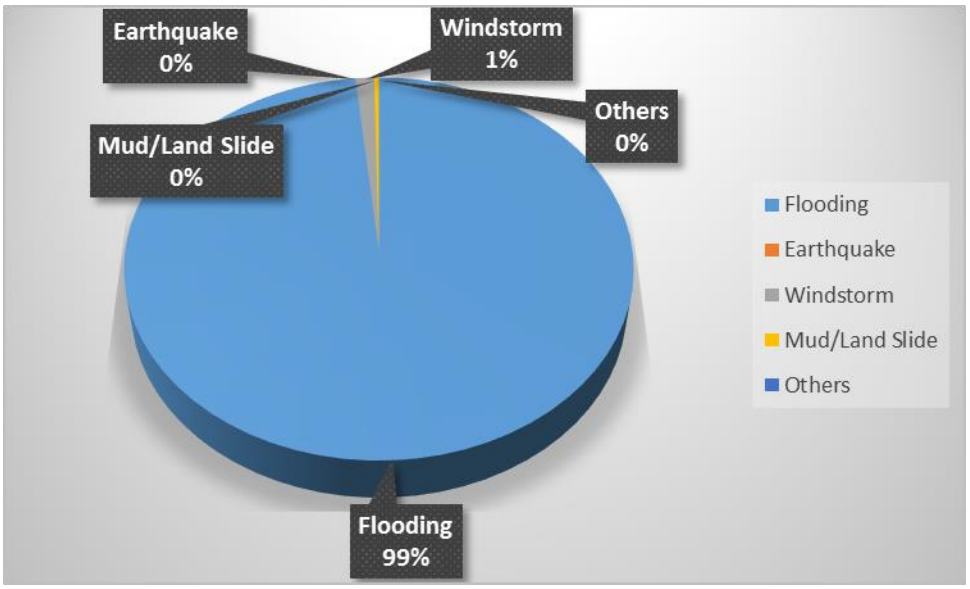

Figure 3: Major disaster occurrence in the study area.

Based on the response from the field, 99% of the respondents affirmed that flooding is a major and reoccurring disaster in the area (see figure 3). In the National Disaster Response Plan (NDRP, 2010) flooding is described as endemic in the coastal zones. Nigeria's coastal belt is low lying and is subject to flooding as a result of heavy rainfalls and ocean surge. NDRP (2010) estimated that 25 million people or 28% of Nigeria's population live in the coastal zone and are at risk from flooding. Delta State as well as other coastal States such as Lagos, Ondo, Bayelsa, Rivers, Akwa Ibom and Cross River States receive severe flooding impact.

Public perception of disaster management in Delta State, Nigeria

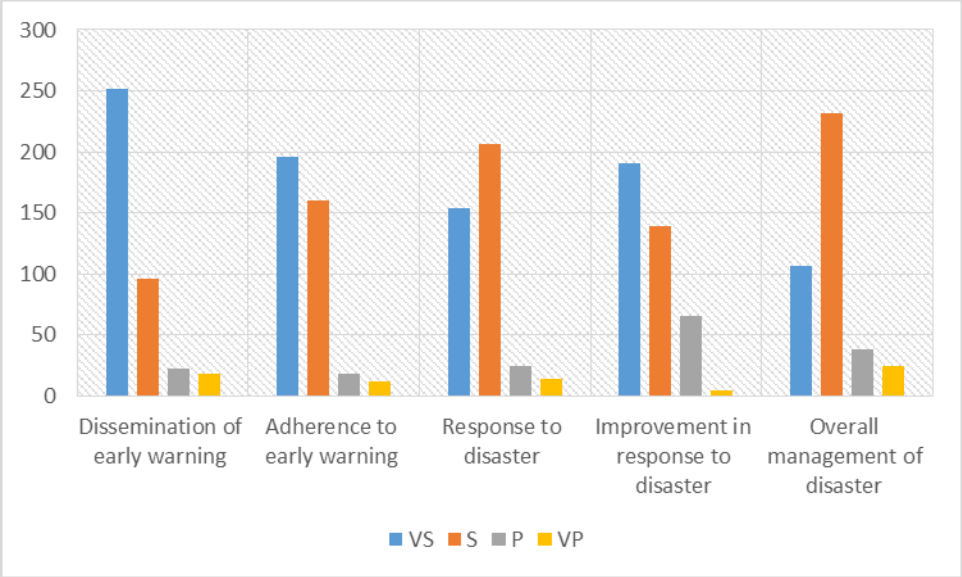

Figure 4: Response

Table 1: Result of Analysis

S/N	Issue	VS		S		Poor		V Poor		Mean	Remark
		F	%	F	%	F	%	F	%		
1		252	64.9	96	24.7	22	5.7	18	4.6	3.5000	Very satisfactory
2		196	50.7	160	41.5	18	4.7	12	3.1	3.3989	Very satisfactory
3		154	38.4	206	51.8	24	6.0	14	3.5	3.2563	Very satisfactory
4		191	47.7	139	34.7	65	16.3	5	1.3	3.2900	Very satisfactory
5		106	26.5	232	58.0	38	9.5	24	6.0	3.0500	Very satisfactory

The likert scales used are: Very Poor (VP=0.00–1.00), Poor (P=1.01–2.0), Satisfactory (S=2.01–3.00) and Very Satisfactory (VS=3.01–4.00); the explanations of the results will be based on the range which the mean lies in.

From the result on table 1, which is also depicted on Figure 4, it can be seen that the respondents are of opinions that:

1. The rate of dissemination of early warning information (before the disaster) within the area is very satisfactory.
2. The state of adherence to early warning (from relevant Government Authorities such as NiMet) by residents of Delta North Zone is very satisfactory. However, the group discussion revealed

that the high level of adherence resulted from the aftermath of the ignored early warnings of flooding in 2012 and 2015 from relevant authorities.

3. Response to disaster by Government Authorities in the area can be rated as being very satisfactory. Residents of the area buttressed that Federal and State Agencies are quick to respond to emergency cases (mostly flooding). Relief materials are constantly distributed by Federal and State Agencies as well as Philanthropists and Politicians who use it as an avenue to campaign.

4. In the last five years, the rating of the improvement in response to environmental disaster events in Delta State is very satisfactory. In 2018 the National Emergency Management Agency (NEMA) in a bid to focus more on endemic areas declared a National disaster in four flooding most-affected States including Delta State (other states are Anambra, Kogi and Niger). Five National and Territorial Emergency Operating Centers (EOCs) were activated in the same year, each covering between two and three States, to facilitate rapid response.

5. The overall management of environmental disaster in Delta State is very satisfactory. Overall management involves the phases from mitigation to recovery (figure 1)

CONCLUSION

Environmental disasters are natural events which may not be preventable but its effects can be reduced. It is therefore expedient and necessary for proper mechanism to be set for effective and efficient forecasting and response in the case of emergency. Nigeria has taken steps to advance its disaster/emergency management programme. In 2011, the country passed the National Disaster Management Framework (NDMF) to support a paradigm shift in disaster management. Earlier in 2002 NEMA in a bid for improved response and coordination developed a National Disaster Response Plan (NDRP) for the country. However, political will and commitment will be pivotal to the strides achieved in disaster forecasting and response by the various agencies concerned. The overall efficiency in disaster management will better the perception of the populace, enhance synergy and encourage increased compliance.

Recommendations

- Optimized route map can be produced to aid rapid response.
- Proper environmental and land use management to reduce effect.
- Collaboration between emergency management agencies, early warning/monitoring agencies and locals in areas of information dissemination and compliance. Such collaboration will also enhance confidence of the locals.
- Strengthening forecasting and early warning capacity.
- Improving the resilience of susceptible areas.
- Local Governments should be involved in the overall phase of disaster management as they are the closest to the residents.

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