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AWARENESS OF THE 2020 FLOOD AND GOVERNMENT POLICY RESPONSE IN THE SOUTH-SOUTH REGION

BY

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ABSTRACT

This research examined incidents of flood in Nigeria and the nature of response by relevant government agencies. It explored the occurrence and extent of implementation of government policies with regard to mitigating the impact of the 2020 flood in Nigeria. The study assessed the awareness of victims in Rivers, Bayelsa and Delta States and explained policies of government towards addressing the problem in Nigeria. It also ascertained whether the strategies were implemented. The study used both primary and secondary sources of data to obtain relevant information for analysis and adopted the Systems Theory as theoretical framework. It presented the data in Tables' and applied the simple percentage method of data analysis to explain results obtained, while content analysis was used to explain responses from Ministries and Agencies. The responses from the field show that 100% of the victims were affected by the flood, while the relevant Ministries/Agencies responded to the situation within the limits of their capacity. As part of the findings, relevant government Agencies and Ministries made frantic efforts to carry out their statutory responsibilities in the matter of flooding. They were, however, constrained by a number of factors that were external and internal in nature. Specifically, lack of sufficient funds and trained personnel hindered these Agencies and Ministries from operating at full length towards addressing the problems created by the flood. Among the recommendations made in the study is the need for government to restructure these Agencies and Ministries, as well as ensuring that local government authorities be mandated to set up Local Emergency Management Agencies (LEMA).

Keyword: Flooding, Awareness, Policy, Response,Examine.

INTRODUCTION

Incidents of flooding and erosion have become frequent in Nigeria. In 2019 alone, about 23 states were affected. The number increased to 32 in 2020. In those natural disasters, families vacated their homes. Properties were also destroyed, in addition to loss of livelihoods and a large number of people died either from the pains of the losses or from direct or immediate shock and hazards associated with the floods. The 2020 incident was, largely, attributed to the opening of the Lagos Dam in Cameroon. Electricity in northern Cameroon is mainly generated from this Dam. Cameroon, in the past, experienced inadequate rainfall, which, predictably, affected the production capacity of hydroelectricity in the Lagos Dam (Jide, 2020). The situation made the management of the Dam retain as much water as possible in its reservoirs. With changes in climate, rainfall increased meaning that more water can now be stored to boost hydroelectric power generation. Expert analyses of the situation revealed a threat or risk posed to the Dam by increasing rainfall regarding its water storage capacity. It has to be opened to avoid over filling. But this has meant a lot for Nigeria and Cameroon. Due to the nature of the environment, water released from the Dam cannot easily find its path within Cameroon to the Atlantic Ocean through water bodies. Instead, it flows into River Benue from the highland of Cameroon. Since River Benue is naturally steep, this leaves the lowland planes of Adamawa, Plateau, Benue, Kogi, Delta and some other States flooded with high volume of water (Jide 2020).

In 2011, the Nigeria Meteorological Agency (NIMET), predicted increase in rainfall in most parts of the country. By this warning, government at the

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various levels of federal, state and local were expected to take appropriate measures to tackle the effects of, the consequences of the impact of the rainfall. The intensity of rainfall for 2020, as predicted by NIMET, was expected to be higher than the previous year. As it was clear that increase rainfall was the reason for opening the Lagos Dam, Cameroonian authorities rightly informed the Nigerian government of the opening in the said year.

The 2011 and 2020 floods affected socio-economic activities of people. For instance, about 200 villages in Afijio Local Government Area of Oyo State were cut - off from other areas in the State as a result of the 2020 flood. It affected farm settlements, and washed away the popular EleramBridge that links the affected villages in the local government area with other communities, thereby making it difficult for locals to transport food items to markets in the communities (Feyisipo 2020). In Kogi State, no fewer than 73,000 people in nine local government areas were displaced.

The most affected local government areas were: Ibaji, Ajaokuta, Lokoja, Kogi and Kotonkarfe. In Edo State, over 20 communities were affected. Worst hit included the following villages: Yiluwa, Dochi, Ofukpo, Agbabu, Iguzi-Ofukpe, Udaba, Unudoboh, Udaba-ogho, Aneghette, Ilushi, Urho, Urhowa, Inyelen, IfekuIsland, Ekweshimimi. Many of these affected areas were farmlands that the State government had given to some Vietnamese rice farmers for the cultivation of rice to reduce the N356 billion Nigeria spends annually as the second largest rice importer in the world (Oziorunva and Egbejule, 2020). In Kano State, flood affected nine local governments, claiming 12 lives. The local governments affected were: Bagwai, Bebeji, Gabasawa, Garun, Malam, Karaye, Nasarawa and Sumaila. The flood affected 220 houses, and numerous farmlands and livestock in Bauchi State. Misau, Giade, Shira and Jama' were some of the local government areas affected by the flood in that State (Abutu, 2020). The impacts are said to have been felt by people in their economic and social lives. Bayelsa State was cut off from other parts of the country when the Patani section in Delta State and the Okogbesection in Rivers State, along the East/Westroad, became impassable (Mboji, 2020). In Taraba State, 34,395 victims were said to have occupied 27 camps scattered across the six affected local government areas of the State. Karin Lamido Local Government Area had 16, 582 internally displaced persons. It was followed by Lau Local Government.

Area with 8,588. Other Local Government Areas affected were ArdoKolo, 3,762, Wukari, 2,933, Gassol 1,342 and Ibi 1,188. The National Emergency Management Agency (NEMA) had reported that about 27 persons lost their lives as a result of the incident (Adetayo, 2020). On October 1, 2020, two children died as a result of excessive rainfall in Niger State. On September 3, 2020, there was another flood incident in Taraba State. Affected were Lau, Karim Lamido and Gasollocal government areas. In the same vein, on September 12, 2020, Kaduna and Bauchi communities were seriously affected by flood leading to displacement of more than 1500 Kano residents. On September 21, 2020, flood in Niger State claimed 47 human lives and rendered thousands homeless. 50 communities and local governments were said to be affected. The National Emergency Management Agency (NEMA) confirmed the registration of 88,740 internally displaced persons (IDPs) in Adamawa, Benue and Taraba States. In Delta State, the government confirmed that 42, 271 internally displaced persons were in 18 relief camps scattered all over the State (Agada, 2020). In Rivers State, flood ravaged Ahoada-West, Ahoada-East, Ogba/Egbema/Ndoni Local Government Areas displacing thousands in more than one hundred communities (Notable Outcome, 2020). From Jigawa, Taraba, Kano, Kaduna, Benue, Nassarawa, Plateau, to Delta, Anambra, Enugu, Rivers and Bayelsa States, flooding remains a major source of concern. In Cross River State, cocoa, cassava, yam, maize, melon farms, mango, orange, pear, pineapple orchards, vegetables, bananas and other plantations were washed away in communities such as: Ayiomor, Ugbem, Agwagune and Umon communities in Biase Council. Residential houses, bridges and farmlands in Enyi-Boje, KachieBojeAsu ben Boje, Katabang, Orimekpang-Aymekang, Buanchor, among others in Bje and Abo wards of Boki Council, as well as Calabar South, Calabar Municipal, Abi, Yala, Ogoja, Obudu and Odukpani Councils were affected. Over 18,000 yam farms, over 10,000 livestock, cassava, vegetable, cocoyam, melons and other cash crops worth millions of

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naira were destroyed, while parts of the Afi mountain Range rolled down the valleys, bringing down rubbles, rocks and heavy boulders tearing down vegetation, houses, bridges and other structures along its paths covering' over two kilometers(Ozioruwa-Aliu, 2020). Counting the economic losses suffered by people in the affected areas, Nda, a resident, in Kogi State was reported to have lost goods worth about N3.5 million in his cold room to the floods (Nwogu, 2020).

In Sokoto State, about 50 houses in Tangaza and Goronyo Local Government Areas were affected. Twenty-Five of the houses damaged were in Keta village of Goronyo Local Government Area. In Oke-Ekoro, Sango area of Ogun State, heavy rainfall resulted in the death of a nineyear old boy (Folarin, 2020). Also, about 100 houses collapsed in three communities in two local government councils of Zamfara State, following a ravaging flood caused by torrential rain (Ibrahim, 2020). Flood caused by torrential rain that persisted for 12 hours rendered over 50 families, including the village head of Wuma community in Jigawa State homeless (Akubo, 2020). In Borno State, a 75 minutes heavy rainfall in Maiduguri destroyed several houses and roads in the metropolis disrupting Muslim Jumat prayers in mosques, with over 6,500 worshipers unable to perform their prayers (Musa, 2020). In Bauchi State, flooding recorded in the first week of August claimed one life and damaged no fewer than 14 houses. Similarly, in Kano State, there was a harvest of destruction after a heavy rainfall that rendered residents of Zango and Kawagi in Nassarawa Local Government Area homeless. The rain also affected the YankabaBadawa cemetery where more than 40 corpses were reportedly unearthed (Mohammed, 2020). In Akwa-Ibom State, Gully erosion cut off a major road in Oron community into two. A residential building belonging to one Emmanuel Edem was submerged (Ibrahym, 2020). It was also reported that 18 hours of rain disrupted social and economic activities in Benin City, Edo State. Power supply was disrupted, property worth millions of naira were destroyed (AIT World News, August 20, 2020). 35 million people were also reported to be under threat of hunger in the country following the devastating effect of desertification. This statement was credited to the Permanent Secretary, Ecological Fund Office (ECO), Engineer GoniShoikh (Adanikin, 2020). Erosion threatened residents of Auchicommunity in Edo State as schools were closed down. Some churches and mosques were also submerged. (Otabor, 2020). Floods seem to be a major threat to the welfare of people in Nigeria, even beyond 2019 and 2020. The Nigeria Meteorological Agency predicted intense rain in 2020. In Gombe State, several roads were washed away after flash rainfall caused gully erosion. The Gombe-Duku and Gombe-Bauchi roads, were among those seriously affected (AIT World News, September (2020).

Statement of the Problem

Incidents of flood cause severe damages to the environment. It also results to loss of lives and property of the affected individuals. The topography of the South- South region makes it prone to be adversely affected by the flow of excess water attempting to find its way into the Atlantic Ocean.

The responsibility of any government is to provide and protect the lives and property of its citizens. In this regard, governments initiate programmes and policies aimed at addressing the challenges the people may face- be it natural or man-made. Such initiatives lead to the establishment of institutions and agencies to implement government policies and strategies. Most often, government institutions have been accused of inefficiency, thereby treading the policies of government in promoting the welfare of the citizenry ineffective. As a result, there is negative Awareness of flood on the lives of the affected persons. It is as a result of this that the effective implementation of natural disaster policies such as flood becomes imperative to mitigate the effects on the citizenry.

Aim and Objectives of the Study

The aim of the study is to examine the Awareness of the effects of flooding on citizens in Nigeria and how government has been able to respond to such incident. The specific objectives are:

1) Examine the Awareness of flood among affected

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individuals in Nigeria;
2) Explain the policies of government towards addressing the problem of natural disasters in Nigeria.
3) Investigate if the policies were implemented; and
4) Ascertain whether the policies, made meaningful impact on the lives of the citizens.

Research Questions:

1. What is the Awareness of affected individuals about flood in Nigeria?
2. What is the nature of government policies regarding natural disasters?
3. What are the implementation strategies?
4. Are these strategies adequate to address the problems of flooding Nigeria?

Theoretical/Conceptual Framework

There are several approaches to natural hazard theory. Three (3) main approaches identified are. Dominant, Behavioral and Structural Theories (Smith, 1992).For the Dominant/Technocratic View, the blame is assumed to lie with nature; hence it appeared logical that the control, monitoring and prediction of natural events would provide effective solution. The aim is to contain nature through environmental engineering works which include zoning, building codes and fail-safe structures such as flood embankment (Thanahathai, 2020).

The Behavioural Approach looks at ways people can avoid disasters by modifying their behaviours. This patterns their lives and activities in a manner that would make them conform to positive rules/principles that necessitate a conducive environment.

The Theoretical Framework for this study is anchored on the Systems Theory. It was propounded by David Easton (Easton: 1965).Easton'sbehavioural approach to politics proposed that a political system could be seen as a delimited and fluid systems of steps in decision-making and that changes in the social or physical environment surrounding a political system produce "demands" and 'supports" for actions or the status quo directed as inputs towards the political system through political behaviour.

Literature Review

The literature highlights the following: Flood and Policy Response; Public Policy and Development; Environment; and Climate Change Governance. In addition, it explains approaches to tackling the problem of flood at local, state, national and multilateral levels. The subject of sustainable development is also discussed in the literature. Views of scholars and their approaches to the issues are examined in this chapter. Natural disasters such as flood, erosion, desertification, drought, hurricanes, amongst others happen in many parts of the world. They have long-standing history of occurrence. There have been attempts to address the problem by governments, agencies and organizations. Oosthoek (2020), reviewing the Dutch River System avers that after the surge flood of 1953, the Dutch water authorities decided to embark upon an ambitious plan to reinforce and increase the height of all dikes and levies in Netherlands. This was one of the major steps introduced to tackle the challenge of the flood faced at the time. As the situation changed, the government evolved a dynamic approach to solving the problem.

Research Design

Understanding the awareness of victims on incidents of flood and government policy response can be enhanced by interpretative designs. The study triangulated at different stages of the work, including the nature of data, methods of data collection and analysis. This is based on the overall need and importance of both qualitative and quantitative data in addressing the objectives and the research questions.

Population of the Study

The study focused on local government areas that were affected by the 2020 floods in Rivers, Bayelsa and Delta States.

The population area in the aforementioned states is 11, 015, 676. This is the sum of the population of the three (3) states under study. The breakdown, according to the 2003 Population Census figures is as follows: Rivers-5,198, 716; Bayelsa-1,704, 515; Delta- 4,112,445. The Census figures give a community by community breakdown of the population. Choice of states is based on geography and the topography of the Region while the choice of the

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population area is based on non- probability sampling. This enabled the researcher to deliberately choose the sample from the population as representative of the population.

The non-probability sampling technique comprises of quota, accidental, snowball and the purposive or judgement sampling. The researcher is of the view that these States serve as a representation of the States affected by the foods during the period under study because the geography of the States, located at the Deltaic region of the country wherein the two major rivers in the country, the Niger and Benue Rivers flow into the Atlantic Ocean. The population size of study in Rivers State are communities affected by floods in Ahoada-East, 216, 747; Ahoada-West, 249, 425 and Ogba/Egbema/ Ndoni local government areas, 284, 010. In Bayelsa State the study population is Yenagoa, 353, 344, Southern Ijaw, 319, 413; Kolokuma/Opokoma, 77, 297 and Ogbia local government areas, 179, 926 while in Delta State were lbelsoko North, 144,155;Isoko South, 11 l,919;Patani, 67,707;Bomadi, 86,644;Oshimili North, 111,316, as well as Oshimili South Local Government Area, 149,603. In all the study shall cover a total of sixty-two (62) communities. The Researcher suggests that information and results from these states can provide materials for informed analysis and conclusion for the study since it would also serve as a representation of the flood incident across the country.

Sample Size and Sample Technique

Sampling is a technique of selection which ensures some objectivity in any research endeavour. The sample for the study is 1,200 individuals from the various communities being studied in this research. This figure was arrived at using the Taro Yamene's (1969) statistical Model was applied. That is S= N/1+ Nα 2

Where N= Population Size

S= required sample size

A= level of significance or error margin tolerable (0.005)

RIVERS = 5,198,716

1+5,198,716x000.25

5,198,716

1 + 12996.79

+ 5198,716

12997.76

=399,969

= 400

BAYELSA 1704,515

1 +1704515x0.0025

1,705,515

1+4261.2875

1,704,515

4262, 2875

= 399, 906

= 400

DELTA 4,112,445

1+4112,445x0.0025

4,112,445 1+10281, 1125

4,112,445

10282.1125

= 399,961

=400

The sample size for each State is 400

Therefore the total sample size for the study is 400+400+400 = 1,200.

Nature/ Sources of Data

Data for this study were obtained from both primary and secondary sources. Primary sources of data for this study include, questionnaire, and key informant interview.

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Data were also sourced from ministries and agencies of governments at both the Federal and State levels. They are: -Federal Ministry of Environment; -Rivers State Ministry of Special Duties; -Rivers State Ministry of Environment; -Bayelsa State Ministry of Environment, -Bayelsa State Emergency Management Agency; -Delta State Ministry of Environment as well as

-Delta State Emergency Management Agency.

For the secondary sources, the study relied on the extensive use of library materials such as books, academic journals, relevant periodicals, magazines and newspapers related to the study objectives. Other secondary sources of data are original documents, official government publications, gazettes, archival materials, seminar papers, unpublished theses and the internet.

Instrument for Data Collection

Research instruments are the means or tools used for data collection. They include questionnaires, interviews and published materials. This researcher administered questionnaires and relied on records/information from ministries, agencies, as well as departments governments, related to this research as major instruments of the field work. The structure of the questionnaire adopted was the open-ended and the pre-coded questions. The instruments were used to highlight the Awareness of the 2020 flood and government policy response in the states under study. The questionnaire for collecting data for this study was designed after carefully reviewing some literature relating to the study for ascertaining the policy response of the Nigerian government during the 2020 flood incidents. A total of 1, 200 questionnaires were distributed through research assistants.

Method of Data Analysis:

Tables and charts were used for data presentation, while simple percentage was used for analysis of the data collected.

Table 3.1 Distribution of questionnaires

S/N	STATE	NO DISTRIBUTED	NO OF RESPONDENT PERCENTAGE
1	Rivers	400	100
2	Bayelsa	400	100
3	Delta	400	100
	Total	1,200	100

Source: Field Study, 2020

A total of 400 questionnaires were distributed in Rivers State, 400 persons responded making a total of 100% of respondents. In Bayelsa State, 400 questionnaires were distributed and 450 returned making a total of 100%, while in Delta State a total of 400 questionnaires were distributed and 494 returned making a total of 100% of response.

Table 3.2: Socio-Demographic Characteristics of Respondents

Sex:	RESPONDENTS	PERCENTAGE
Male	886	71.2
Female	312	28.7
Total	1200	100
MARITAL STATUS	RESPONDENTS	PERCENTAGE
Single Married	186 848	14.9 68.1
Divorced	114	11.5

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Widowed	52 7.7	
Total	1200	100
Occupation of Respondents Response	No of Respondents	% of Respondents
Public/ Civil Servant	81	6.5
Trader	263	21.1
Farmer	496	48
Craftsman	268	39.8
Self-employed Others	59 33	8.2 2.6
Total	r 1200	100

Source: Field Survey 2020

Table 4.2 showing democratic characteristics of respondents indicates that 886 respondents were males representing 71.2% while 358representing 28.9 respondents were female. 186 respondents representing 14.9% were single, 848 representing 68.1% were married, 114 representing 11.5% were married while 96 respondents representing 7.7% were widowed. 81 respondents, representing 6.5% were civil servants, 263 representing 21.1% were traders, 496 representing 48%were farmers, 268 respondent representing 38.8% were craftsmen, 103 representing 8.3% were self-employed and 33 representing 2.3% fell in the group of other occupations not listed above. From the Table almost half of the affected persons were farmers who engaged in agricultural activities for sustenance. They, basically, depend on land for their economic activities. It also indicates that all the occupations in which the respondents were involved in also rely on land for their productivity.

It is important to state that the three states under study are States located in the South- South region of the country. Apart from its rich reserve of crude oil deposit that is the mainstay of the Nigerian economy, it is a rain forest region characterized by numerous economic and social activities with a large segment of the population engaged in farming and fishing (as indicated in the Table above)

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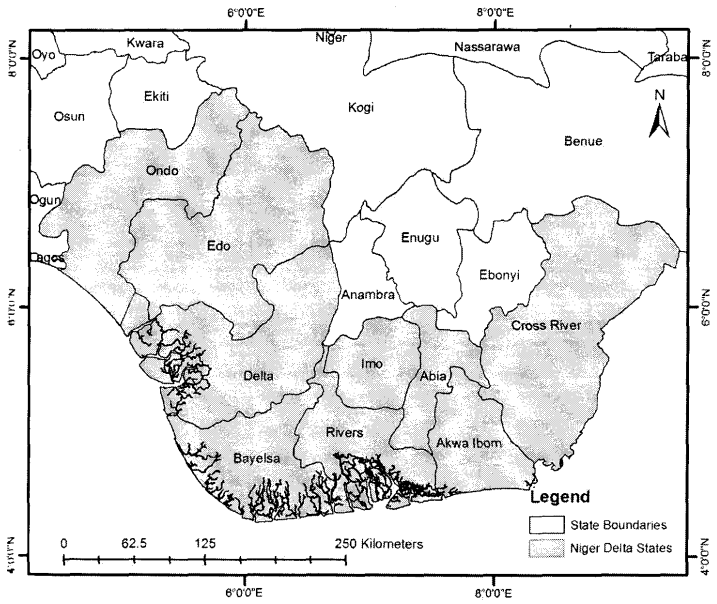

Figure 3.2 Map Of The Niger Delta

Overview:

This study examined the Awareness of flooding and the effectiveness of government response in the 2020 flood in Nigeria. It also focused on the nature of government policies on the problem of flooding, as well as the extent of implementation through the institutions/agencies responsible for the implementation of policies. Within the scope of this study, data for the analysis of the Awareness of the 2020 flood were generated from both primary and secondary sources of interviews, questionnaires, dailies and articles, journal publications. The data obtained specifically addressed the general and specific objectives of the study. They captured a viable segment of the population which provided useful information for the study.

Awareness of Flooding in Nigeria

In this section, the focus is aimed at examining the awareness of the 2020 flooding on the communities studied. This is viewed from the point of view that flooding, as explained earlier, has devastating effects on physical, economic and social infrastructure, causing severe and negative consequences on the affected population. In this regard, identification of such infrastructure affected by the flood provides a clear understanding of the impact meted out by the flood on the people. The report of the Post.

Disaster Needs Assessment of the 2020 Floods which was undertaken by the Federal Government with technical support from the World Bank, European Union, United Nations and other partners carried out a comprehensive assessment of the impact of the flood incident across the country. The following illustrations show the result of the outcome of the assessment of the study

Table 4.1: Summary of Damages and Losses Caused by the2020 Floods in Nigeria's Most Affected States

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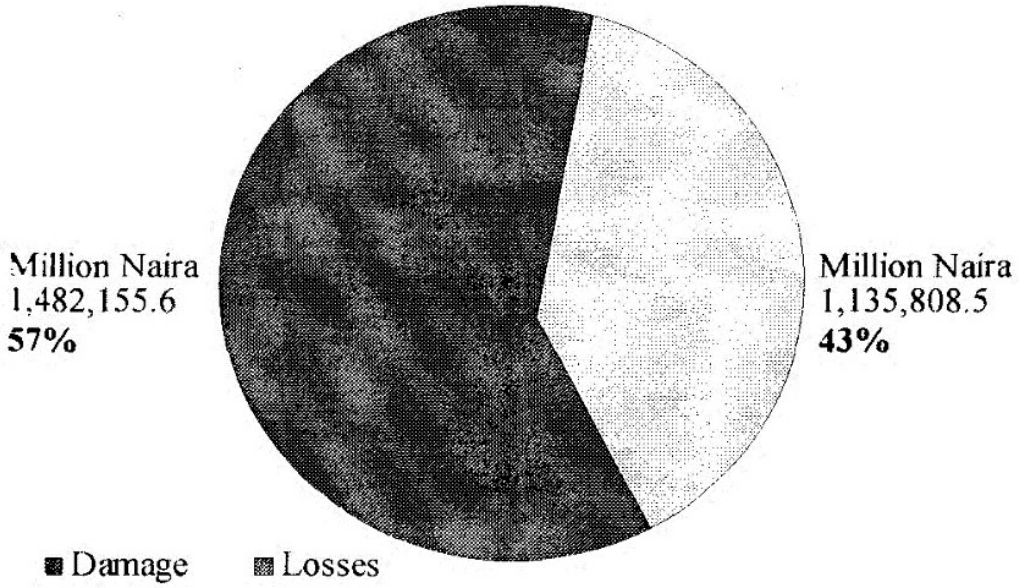
Sector	Subsector	Disaster Damage	Effective. Losses	Million Naira Total
Social		1,256,299.3	73,557.9	1,329,857.2
	Education	82,134.6	15,211.2	97,345.8
	Health	18,204.8	9,476.8	7,681.7
	Housing	1,155,959.9	48,869,9	204,829.7
Productive		147,996.5	1,037,070.0	1,185,066.5
	Agriculture	101,008.2	380,520.8	481,528.9
	Manufacture	21,795.2	74,425.0	96,220.2
	Commerce	18,693.1	357,124.2	375,817.3
	Oil industry	6,500.0	225,000.0	231,500.0
Infrastructure		54,019.6	8,013.6	62,033.2
	Water and Sanitation	12,902.2	—	12,902.2
	Electricity	329.0	8,013.6	8,342.6
	Transport	40,788.4	—	40,788.4
Cross-Sectorial		23,840.2	17,167.0	41,007.2
	Environment	23,840.2	17,167.0	41,007.2
Total	s	1,482,155.6	1,135,8083	2,617,964.0

Source: Nigeria: Post Disaster Needs Assessment 2020 Floods Report

The Report identified four sectors covering both the social and economic spheres- social, productive, infrastructure and cross sectorial. Each sector was quantified and valued in millions of naira in terms of losses and damages. The highest value of losses occurred in the social sector with an Estimated value Nl, 185,066.5; while the least is the cross sectoral sector which involves the Environment had an estimate N41, 007.20



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The Pie Chart in Figure 4.1 shows a breakdown of the total flood effects with 57% accounting for the total damages, while 43% is the percentage losses experienced.

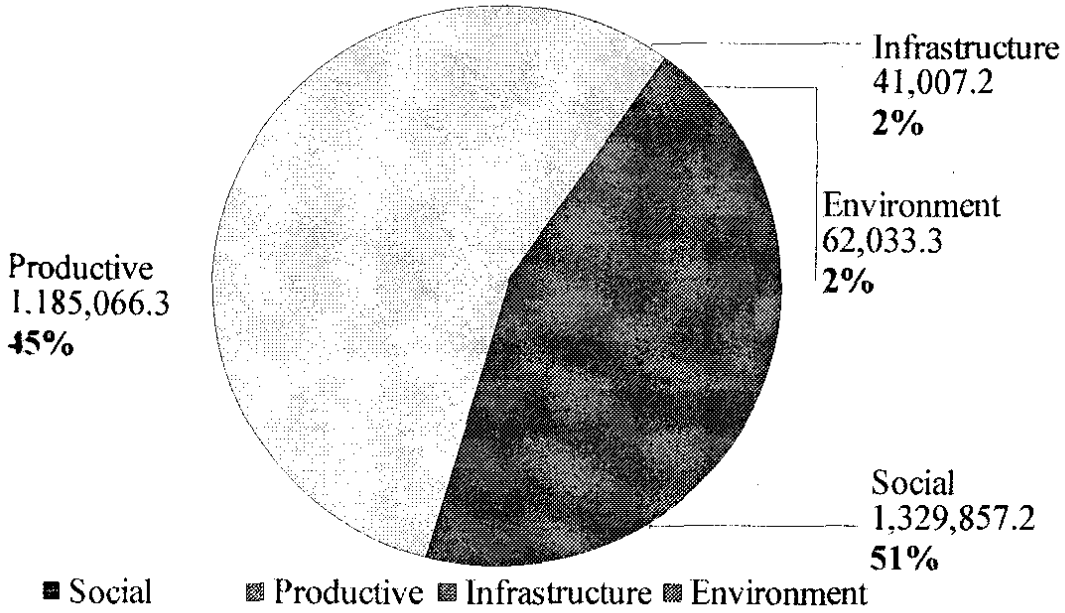

Figure 4.2: Breakdown of Total Flood Effects According to Private and Public Ownership
Source: Nigeria: Post Disaster Needs Assessment 2020 Floods Report

Figure 4.2 showing breakdown of total flood effects as it affects both the public and private sectors. These comprise social, environment, infrastructure and productive sectors. It shows that the highest effect was on the social sector which accounted for 51% of the total effects, while the productive sector followed with 45% of the effects, infrastructure and the environment had 2% apiece.

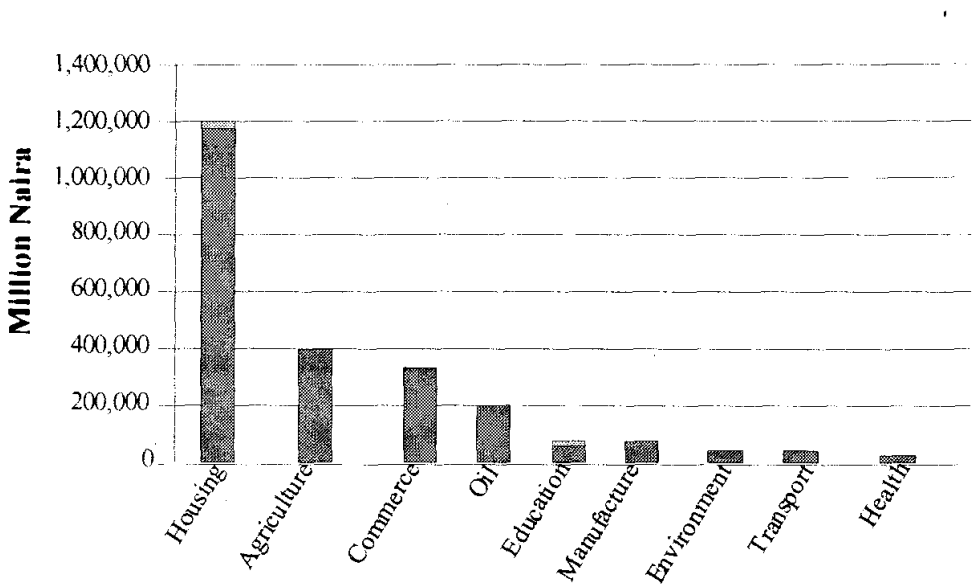

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Figure 4. 3: Breakdown of Damages and Losses among Individual Sectors of Economic Activity
Source: Nigeria: Post Disaster Needs Assessment 2020 Floods Report

The Bar Chart showing breakdown of damages and losses among individuals sectors of economic activity shows that housing was most affected followed by agriculture and then Commerce. Environment, Transport and Health sectors suffered the least damages and losses. Oil, Education and Manufacturing sectors were also affected.

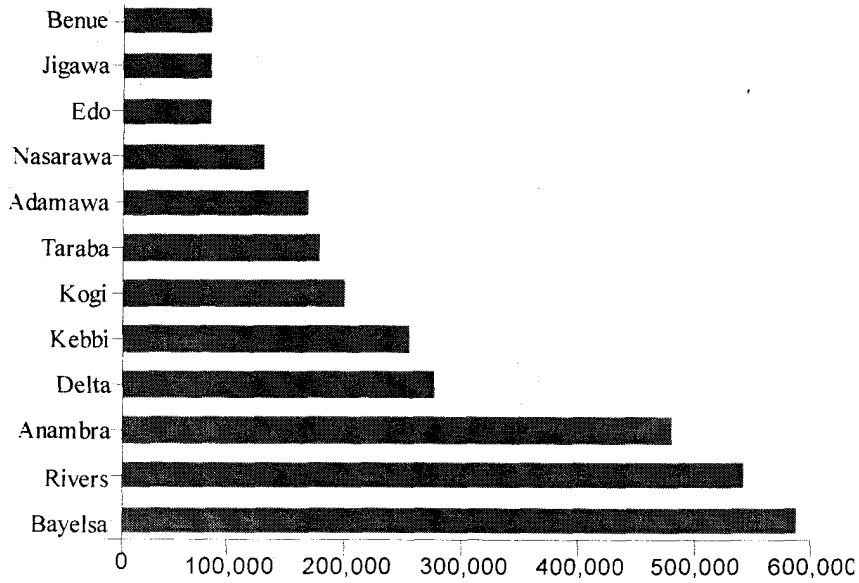

Figure 4.4 Spatial Distribution of Damage and Losses Caused by the2020Flood
Source: Nigeria: Post Disaster Needs Assessment 2020 Floods Report

The Bar Chart in Figure 4.3 shows the spatial distribution of damage and losses by the 2020 flood. The Table indicates that the States under Study were hugely affected with Rivers and Bayelsa States affected most.

Table 4.2: Impact of the Flood Disaster on Government Revenue and Expenditure

Item	Value (billions Naira)

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Total revenue before disaster	9,69.5
In per cent of GDP	23.9%
Total Revenue after disaster	9,664.8
In per cent of GDP	23.8%
Revenue loss	27.75
In percent of GDP	0.07%
Total Expenditure before	12,195.0
disaster	28.9%
In percent of GDP	.240
Total Expenditure after	30.1%
disaster	45.1
In percent of GDP	0.1%
Expenditure increase	-2,502.5
In percent of GDP	-6.2%
Fiscal Balance before disaster	-2.575.2
In percent of GDP	-6.4%
Fiscal Balance after the	-72.7
in percent of GDP	-0.2%

Source: Nigeria: Post Disaster Needs Assessment 2020 Floods Report Table 4.2shows the impact of the flood disaster on Government revenue and expenditure indicating total revenue before the disaster and total revenue after the disaster. It shows significant revenue loss as a result of the disaster. It also shows an expenditure increase as a result of the disaster. It shows a decline in Fiscal balance after the disaster.

Table 4.3: Impact of the Flood on Employment and Income in the Agriculture Sector

State	Working days lost in crop production	Income lost by workers in crop production (million naira)	Working days lost in fisheries	Income lost by workers in fisheries (million naira)	Total working days lost in agriculture	Total income lost of worker in agriculture

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Adamawa	1,070,935	107.3	244,416	61.1	1,315,351	168
Anambra	1,096,470	493.2	283,056	70.8	1,379,526	564
Bayelsa	2,820,685	1,268.7	2,444,112	611.0	5,264,797	1,880
Benue	1,512,610	680.6	294,816	73.7	1,807,426	754
Delta	1,367,390	615.3	2,898,720	724.7	4,266,110	1,340
Edo	218,950	98.4	1,005,312	251.3	1,224,262	350
Jigawa	285,560	128.4	1,629,408	407.3	1,914,968	536
Kabbi	2,996,520	1,348.3	617,760	154.4	3,614,280	1,503
Kogi	2,681,265	1,206.5	204,816	51.2	2,886,081	1,258
Nasarawa						0
Rivers	2,911,355	1,310.2	1,018,368	254.6	3,929,723	0
Taraba						1,565
Total	**16,961,740**	**7,257**	**10,640,784**	**2,660**	**27,602,524**	**9,917**

Source: Nigeria: Post Disaster Needs Assessment 2020 Floods Report

Table 4.3 shows the impact of the disaster on employment income in the agriculture sector. Total income loss by workers in crop production was N7, 257million, while income loss by workers in fisheries was N2,660, bringing it to a total loss of N9, 917 million. Statistics were not available for Nassarawa and Taraba States.

Table 4.4 Impact of the Flood Disaster on Employment and Income in the Commerce Sector

State	Working days lost in trade SMEs	Income loss by affected trade workers in SMEs (million naira)	Working days lost in micro-trade	Income loss of micro-trade (million naira)
Adamawa	33,000	49.5	3,236,400	2,155.4
Anambra	19,500	7.3	1,434,780	955.6
Bayelsa	10,500	16.3	12,819,840	8,538.0
Benue	0	0	836,400	557.0

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Delta	16,500	6.2	7,529,820	5,014.9
Edo	6,000	2.2	391,980	261.0
Jigawa	9,000	3.4	6,653,700	4,431.4
Kabbi	7,500	2.8	5,744,160	3,825.6
Kogi	12,000	4.5	3,860,040	2,570.8
Nasarawa	45,000	16.9		
Rivers	43,500	16.3		
Taraba	9,000	3.4	2,016,240	1,342.8
Total	211,500	93.9	42,670,440	28,418.5

Source: Nigeria: Post Disaster Needs Assessment 2020 Floods Report

Table 4.4 provides a statistics of the impact of the 2020 flood on the employment and income in the commerce sector of the economy. Rivers State had a total of 43,500 working days lost, while Delta had 16,500 and Bayelsa 10,500. As regards income lost by affected workers in Small and Medium Scale Enterprises (SMEs) recorded 16.3 for Rivers; Delta 6.3, while Bayelsa had 16.3. There was no record available for Rivers State loss in working days and income loss of micro trade workers, while Bayelsa State recorded 12,819,840 and 8,538, respectively and Delta 7,529,820 and 557, respectively.

In order to ascertain the level of Awareness of the incident on the population under study, questions were designed to identify infrastructure affected by the incident. Social infrastructures are meant to enhance the living conditions of the people. That is why governments provide them as part of their responsibility to the citizenry. They form the indices of ascertaining the level of development, as well as the commitment of government to the welfare of the people. In this regard, when incidents of natural disasters such as flood affect these infrastructure, their impact on the citizenry alter their living conditions. To ascertain this, the study attempted to find out which of the infrastructure was damaged by the flood incident.

***Table 4.5**: Which of these infrastructure was damaged as a result of the flood?*

Response	No of Respondents	% of Respondents
Hospital 564	45 Electricity 870	69.9 Public Water 521
41.8 supply Tarred roads 1010	81.1	
School	1200	97

Source: Field Survey 2020

Table 4.5 indicates that 564 respondents making a total of 45 per cent indicated that hospitals were affected by the flood, 870 respondents making a total of 69.9 per cent state that electricity was affected, 521 respondents giving a total of 41.8 percent identified public water supply (neighbourhood water scheme and mechanized hand pumps) as infrastructure that were affected, 1010 representing 81.1 per cent, while all respondents stated that the schools in the area were damaged as a result of the incident. Instructively, these are socio-economic infrastructure that have positive bearing on the living standards of the citizenry. This response highlights the main objective of this study which is to examine the Awareness of flooding on affected communities. It is worthy of note that these infrastructure outlined here are important utilities that enhance the living standard of the citizenry. They comprise health, educational and social sectors of the economy. Public utilities, such as are identified above, are provided by government for the

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socio-economic well-being of the citizenry and when these are destroyed as a result of natural disasters, such as was witnessed in 2020, they affect the living standards of the people. From all indications, a large segment of the population was affected by the incident. This necessitates the urgent need for the government to respond to the problem in meeting with its responsibility of protecting the lives and property of the citizens, as well as their welfare.

It is necessary to point out that the state of these infrastructures for the well-being of the population is necessary. According to Adeyomo(1999:12), the human environment is composed of the racial structure of its population and quality of the population; socio-economic elements of a society such as transport and communications, hospitals and schools and the welfare of the population or the degree of access of the people to the good things of life; social and political institutions of the society through which the beliefs and ideas of people are expressed, as well as economic frameworks within which such a society operates. This means that the infrastructure outlined here are important in ascertaining the state of development of the citizenry. Obviously, the data presented indicates that the infrastructure needed to provide a meaningful life for the people were immensely affected, hence the need for response.

Table4.6: Were you directly affected by the 2020 flood?

Response	No of Respondents	% of Respondents
Yes	**1200**	**100**
No		**Nil**
Nil		

Source: Field Survey 2020

The Table indicates that all the 1,200 respondents making a total of 100 per cent were directly affected by the flood. The implication of this statistics is that a large segment of the population was negatively impacted by the flood incident. This is evident in that when flood occurs, there are several incidents of loss of lives and destruction of property causing severe negative consequences on the affected people. Efe(2011:46, 47) citing Bonaventure, (2002) and Efe, (2007) gives instances of damages caused as a result of flood in some parts of Africa. According to him. In Bostwana more than 34,000 people were displaced and are in need of help, while over 10,000 houses have collapsed. While in Western Kenya and Southern Tanzania, 46 deaths and over 50,000 people displaced and 9 deaths and hundreds of families have been considerably displaced respectively because of damages done to the building and farms. There is no doubt that flooding is damaging to the farming as a result causing severe economic effects. This is because the population depend basically on farming activities for their livelihood.

It is noteworthy to state that flooding is a global phenomenon and its nature and characteristics transcend bothers. The 2020 flood in Nigeria has been described as one of the worst incident in the history of Nigeria. As noted by Oyeleke (2020), the National Emergency Management Agency (NEMA) reported that the 2020 floods displaced over 1.4 million people, injured 18,000 and killed 337 in Nigeria. Over 350,000 homes were destroyed. It is evident that the destructions caused by the 2020 floods runs into a colossal loss to affected individuals and the society at large. She further avers that the estimates of the flood damage and losses on the environmental sector alone have been put at N23, 840 and N13, 464 billion, respectively.

In his argument, Ocheri (2014) citing Aminu (2013) asserts that the flood is the worst in 40 years. The Nigeria Red Cross Society also reported that the impact terms of magnitude, intensity, duration, spatial dimension and consequent damages. According to the Director General of NEMA, Nigeria lost N2.29 trillion to the flood. This is equivalent to 1.4% of Nigeria's Gross Domestic Product (GDP). The comprehensive Post Disaster Need Assessment conducted from November 2020 to March 2020 with the support of the World Bank and Global Facility for Development for Disaster Reduction and Recovery, United Nations Development Partners and relevant Ministries,

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Departments and Agencies put the estimated total value of infrastructure, physical and durable assets at $9.6 billion. The total value of losses across all the sectors of the economy was estimated at $7.3billion. The combined value of these damages and losses was $16.9billion. In all, 363 were killed, 5.851 injured, 3,691,394 affected and 3,871, 530 displaced. Obviously, when flood damages the crops, livestock and renders the rivers inaccessible, then the living standards of the population is affected. Considering the scenario caused by flood, it exacerbates the already precarious situation of the people who are considered poor due to the poor quality of life they live. This is so because the GNP per capita in the region is below the national average of US$280, Efe (2011). Even though the region is endowed with large deposits of oil and gas which accounts for the mainstay of the Nigerian, economy, exploration and exploitation of these natural resources have contributed to the present level of economic development. Okoko, (2011).

With this situation, the prompt response by government becomes necessary. This is against the backdrop of the impact of the destruction on the citizenry. Hinged on the welfare principle of governance, the Nigerian constitution provides for the promotion of good governance and welfare of the country.

Table 4.7: To what extent were you affected by the flood?

Response	No of Res	Respondents	% of Respondents
Seriously	678 Very Seriously	54.5 49.2 0.75	
569 Not Strongly	9 Affected Not	Nil	
Affected	Nil		

Source: Field Survey 2020

Table 4.7 shows that 678 respondents representing 54.5 percent said that the flood affected them seriously, while 569 respondents representing 49.2 percent responded very seriously. 9 respondents representing 0.75 percent said they were not seriously affected. The destruction meted on fee environment by the 2020 flood showed that the population was adversely affected, their source of livelihood destroyed and socio-economic lives hampered. This places the individuals in a precarious situation. It is against the background of the importance of the environment in the socio-economic lives of the people. The environment is crucial to the survival of the citizenry and as a result should be preserved. Nwosu (2009) citing Nyanayo (1999), argue that the environment is man's life. It is the structure around which our lives and those of future generations are built. The environment permits all the things required for life, too much or too less of which is adverse to existence.

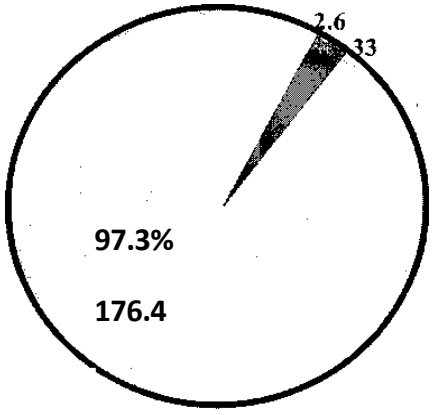

Figure 4.5Were you provided with relief materials during the incident?

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Source: Field Survey 2020

In this Figure, a total of 1,167 respondents representing 97.3 percent affirmed that relief materials were provided for them, while 33 respondents representing a total of 2.6 percent say that relief materials were not provided for them. This category of persons fall into the group of those who did not take refuge in the camps, but rather had to live with friends and relatives in neighbouring communities not affected by the flood and in Port Harcourt, Warri and environs which were not affected, evacuation of affected persons and provision of Food and Non Food Items by the State's Emergency Management Agencies and the National Emergency Management Agency (NEMA). The relief materials comprised donations from government and non-governmental organizations, as well as philanthropic individuals. The flood incident showed how responsive Nigerians could be to the plight of their fellow citizens as there was massive mobilization of food and other resources to alleviate the plight of the victims. There were media campaigns for people to make donations for this purpose and no doubt, the response was overwhelming and encouraging. These responses went a long way to augment the provisions made by the Federal and State governments as a remedial measure to alleviate the sufferings of the people.

Table 4.9: *To what extent did the relief materials reduce the effects of the flood?*

Response	No of Respondents	% of Respondents
Fairly well 628 50.4 Large Extent 462 37.1 Considerable 110 12.3 extent L Not At All	Nil Nil	
' Total	1200	100

Source: Field Survey 2020

Following Table 4.9, it shows that a total of 628 respondents making 50.4 per cent were of the view that the relief materials reduced the effects of the flood fairly well, while 462 respondents who gave37.1 per cent affirmed that its effects were to a large extent. 154 respondents representing 12.3 percent agreed that the relief materials were of considerable extent. The interpretation of this Table gives a favorable mark to the level of response by the various levels of government through the respective agencies in addressing the issue. According to the Post Disaster Needs Assessment of the 2020 Floods, at the onset, the State Emergency Management Agencies (SEMA), the National Emergency Management Agency (NEMA), civil society organizations such as the Red Cross along with international development agencies-particularly the World Bank and the United Nations working with the Office for the Coordination of Human Affairs (OCHA).

Provide Emergency humanitarian assistance to the affected population. Some of the humanitarian responses include the following:

- Immediate evacuation of the affected population away from flooded area;
- Relocation of the affected population (Internally Displaced Persons) in temporary shelters/ accommodation, mainly schools and other public buildings;
- Provision of non-food items (NFIs) such as mats, blankets and beddings to affected population;
- Provision of food, medical and other humanitarian assistance;
- Reopening of roads to link the towns/settlements that were cut off and
- Erection of temporary shelters at higher grounds

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by the affected people themselves.

The response was uniform in all affected areas, which is in line with international best practices in emergency response mechanisms. For instance, the Victorian State Emergency Plan provides for the role of Agencies, as we have seen above. According to the Policy Framework, Flood Emergency by their nature requires multi agency response. Part 7 of the EMMV identifies VICSES as the control agency for Flood response with DHS responsible for coordination relief and recovery planning and management at State and Regional levels. (2020:4). Such strategies and interventions have become necessary in ensuring that the State was responsive to its duties and obligations of protecting the lives and property of the citizenry.

The study examined the incidents of flood in Nigeria, with particular reference the 2020 floods that ravaged most parts of the country. It also examined how victims perceived the response of various agencies charged with response to such incidents. Their response explained the implementation strategies adopted by government towards natural disasters such as flood. Although, over 2/3 of the states were affected by different types of flood, three states were chosen as case study in this research.

They are Rivers, Bayelsa and Delta States. A total of 1400 persons were chosen for the study using the Taro Yamene's 1963 statistical model with data resented in tables and charts. Simple percentage method was used in analyzing the data obtained from the field with regards to the victims of the incident, while the descriptive method was adopted to explain the responses obtain from the relevant ministries/ agencies. The flood that affected the states under study was mainly as a result of the release of water from the Ladgo Dam in northern Cameroon. The release of this water as a result of executive rainfall saw the flow of water from the River Benue down to the lower Niger region. Gen the geography and topography of the area, it permitted the flow of water into thetributaries that emptied themselves to the Atlantic Ocean.

The response agencies made frantic efforts to respond to the incidents through evacuation of the victims out of the flooded' areas and setting up Internally Displaced Persons (IDPs) camps, provision of food and non-food items. However, the activities of these agencies were hampered through a number of factors which were internal and external in nature.

Conclusion:

The 2020 flood caused severe social and economic consequences to victims. Although, Nigeria has a policy on natural disasters such as flood and erosion, the implementation of these policies has been problematic. This challenges cuts across various organs of implementation of government policies. The response of government agencies is reactionary rather than being proactive. The study reveals that the implementation strategies of government is inadequate and out modeled. It therefore cost both government and victims huge economic losses and is saddled with making plans for recovery in the various sectors affected in order to ameliorate the plight of the victims. In addition, government agencies at both the federal and state levels were hampered by internal and external factors, which largely include bureaucratic bottle neck in accessing funds to carry out their responsibilities.

Recommendations:

From the analysis made in the course of this study, the Researcher makesthe following recommendations:

Governments at the Federal and State levels should restructure and strengthen relevant Ministries and Agencies to enable them fully implement natural disaster management policies in Nigeria.

Response agencies should create effective and efficient early warning systems to ensure government' and citizens proper response to impending natural disasters in order to reduce socio-economic impacts.

The Federal Government should adopt a comprehensive plan to add ecological structures/infrastructure to complement engineering infrastructure- specifically to expand wetlands and reactivate flood plains so as to mitigate future flood risks.

Local government authorities should be directed to set

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up Local Emergency Management Agency (LEMA) as prescribed by NEMA. This would go a long way to addressing the problems suffered by victims at the local level. Since the local government is the government nearest to the people, they stand at a better position to addressing emergencies arising from natural disasters. Their proximity makes them the first point of response in the event of emergencies. It should be made an impeachable offence for any local government chairman not to have a local emergency authority put in place. This would go a long way to ensure that his regulation is complied with.

There is the need to enlighten the citizenry on ways of preventing and mitigating the effects of flood in the environment. Most citizens, particularly those in the urban areas do not reckon with the fact that the blockage of drains would be detrimental to the environment as it would not make way for the free flow of water during the rains. When the water is unable to find its cause, it overflows and results to flood. In this regard, the National Orientation Agency should be well equipped to carry out mobilization and orientation of citizens on natural disasters such as flood. It would make it easier for government to control the activities of citizens regarding the indiscriminate blockage of drainages, as well as respond to the need, for evacuation of vulnerable persons on the alert by early warning signals.

There is the need to critically examine how the Ecological Fund provided by the Constitution is managed by both the Federal and State Governments. There should be laws and regulations that should guide the operation of the Ecological Fund accounts and clearly spell out the purposes for the release of the funds, as well as how it was used. Checks and balances of its usage should also be applied. This would go a long way to stem the practice in which the Fund is left solely at the discretion of the President as to how the Fund is to be used. It is obvious that judicious application of such fund to address incidents of flood would go a long way in mitigating its effects on the citizenry. There is no gainsaying that the intensity of the 2020 flood would have been much more less if such resources were properly deployed to address ecological problems which it is originally meant to address.

There should be strict implementation and enforcement of government policies and laws regarding the environment. Citizens who deliberately block drainages should be prosecuted and punished for their actions. This would serve as a deterrent to others.

There should be the political will to construct dams in areas that are necessary, as well as maintain them in order to stem the tide of increase in water released from the Ladgo dam.

As the government agency with the primary responsibility to address issues of natural disasters in the country, the Federal Government should increase the funding appropriated to the National Emergency Management Agency (NEMA) to carry out its responsibilities.

Government should also engage and strictly abide by the town and urban planning guidelines. By this, issues regarding the regulation and supervision of constructions in order to prevent the environment from being overrun by flash floods would be checked.

In the event of future occurrence, the Federal Government should be able to seek assistance from the international community to address the situation. This is against the background that incidents such as flooding are too burdensome for a country to tackle alone. With technical and financial support from international agencies, the country would be able to mage the difficulties associated with flood.

Contributions to Knowledge:

This study has been able to add to the body of knowledge in a number of ways:

First, it has been able to explain how the victims of the 2020 flood perceived the response of government towards their plight.

It has also been able to explain how relevant ministries/agencies carried out their responsibilities regarding mitigating the effects of the 2020 flood.

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It has been able to give reasons for the success or failure in the implementation of government policies, regarding natural disasters such as flood.

It has been able to interrogate the effectiveness of government agencies/organizations responsible for implementation of policies on flood.

Finally, global and regional organizations such as the United Nations, European Union, as well as African Union would gain insight on the problem of implementing public policies in developing countries.

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