Attitudes and Practice of Flood Control Measures among Residents of Rumueme Community, Obio/Akpor Local Government Area of Rivers State

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Abstract
The study investigated the attitudes and practice of flood control measures amongst residents of Rumueme Community, Obio/Akpor Local Government Area of Rivers State. A descriptive research survey design was adopted. Sample size was 102 respondents which is 10% of the target population of study selected through simple random sampling technique. Instrument for data collection was a validated structured questionnaire. Data collection was through direct delivery and retrieval method which allowed for high return rate of the instrument. Data were analyzed using statistical tool of frequency, tables and simple percentage. Findings revealed poor environmental management options (55%), weak implementation of planning policies (58%), streams and channel obstruction due to indiscriminate waste disposal habits and human activities in flood plains (65%), lack of drainage infrastructure (57%), indiscriminate dumping of refuse on drainage channels and poor drainage conditions (61%) and extensive rainfall in the Community (70%) were the causes of flooding in the study area. With regards to the attitude towards flood control measures, residence indulge in indiscriminate littering and open dumping of waste generated in drainages (77%), nonchalant attitudes amongst residence on flood control measures (85%), inability to obey relevant land use laws which help to mitigate the flooding in the area (83%) and not involving in regular cleaning of the drainages in order to reduce flooding and divert excessive flow (79%). Recommendations were made among others that Government and Community Leaders should provide a master plan for flood control and relief measures for victims, enact and enforce sanitation laws which are aimed at mitigating floods in the community.

Keywords: Attitudes, community, control, drainage, flood, measures, residents.

INTRODUCTION
Flood is the most frequent type of natural disaster and occurs when an overflow of water submerges land that is usually dry. Floods are often caused by heavy rainfall, rapid snowmelt or a storm surge from a tropical Cyclone or Tsunami in coastal areas Floods can cause widespread devastation, resulting in loss of life and damages to personal property and critical public health infrastructure. Between 1998 and 2017, floods affected more than 2 Billion people worldwide. People who live in floodplain or non-resistant building or lack warning system and awareness of flooding hazard, are most vulnerable to floods. (Rufa'I, 2020).

Extreme flood events have recently hit several parts of the world despite the varying contexts, the climate change connection is evident. Floods are the result of a combination of two factors: first,

heavier-than-normal rainfall, and second, limited capacity of rivers, drainage and water harvesting structures to withstand and discharge the excess rainwater, especially in a short time span. In all these recent events, the floods followed a period of unusually heavy rain, equivalent to a year's rainfall dumped in just a couple of days, overwhelming flood defenses (Relief Web, 2021).

In 2021, the Emergency Event Database (EM – DAT) recorded 432 disastrous events related to natural hazards worldwide overall, these accounted for 10,492 deaths affected 101.8 Million people and caused approximately 252.1 Billion US Dollars of economic loses. As a continent, Asia was the most severely pool arbor, suffering 40% of all disaster event accounting for 49% of the total number of death and 66% of total number persons affected were their 20-year average, 2021 was marked by an increase in number of flooding events and extensive economic losses. Five of the top ten most economically costly disasters in 2021 occurred in United States of America and resulted in a total Economic cost of 112.5 Billion, US Dollars (CRED, 2022).

Heavy rains and flood continued to take a significant toll on human life, property, farmlands and livestock, killing 1,418 people, injuring 4,398 and displacing 2.9 Million. Nigeria, Chad, The Democratic Republic of Congo, The Republic, Liberia etc, has been severely impacted by torrential rains and floods, some 513,000 houses were totally or partially destroyed in the region (Simon, 2019). Nigeria is one of the most flood prone countries in West Africa, many areas in Nigeria Experienced annual flooding which usually happens during heavy rains for and one of the reasons is poor drainage systems (Tabiri, 2015). Ajasa (2022) reported that widespread flooding caused by extreme rainfall and the release of excess water from a dam in neighboring Cameroon left 1.4 million Nigerians displaced and claimed 500 lives. The floods also injured 1,546 people, inundated 70,566 hectares of farmland and "totally damaged" 45,249 homes, said Nasir Sani-Gwarzo, the permanent secretary in Nigeria's Ministry of Humanitarian Affairs, Disaster Management and Social Development.

Flooding affected 27 of Nigeria's 36 states. It continued to the south, including a noticeably widespread area spanning southern Kogi and the northern part of Anambra state," The Niger River adjacent to the towns of Agenebode and Idah in southern Nigeria in June. All of a sudden, people were left with no homes and turned to beggars in weeks. No matter how rich they were, the displacement reduced them so much.(Ajasa,2022).

Rivers State was not exempted of the 2022 Nigerian floods in the nation. Bamidele and Badiora (2019) opined that reduction of flood risk will depend largely on the amount of information on floods that is available and knowledge of the areas that are likely to be affected during a flooding event. Correia et al. (2018) suggest "Early Warning" as a proactive measure to curbing flood menace in Nigeria. Early warning is a proactive mechanism in which certain recognized bodies or agencies take to the study of climate and human interactions with the environment towards foretelling the occurrences of floods and thus issuing warnings to both individuals and government structures with a view of effectively being prepared and curbing the occurrence of floods, averting loss of lives and properties and checking the outbreak of epidemics.

Also, Danumah et al. (2015) believe that it is necessary to use modern day techniques in developing measures that will help government and relief agencies in identification of flood prone areas and in planning against flooding events in the future. The knowledge of remote sensing and geographical information system (GIS) is a tool which can be used to investigate and map areas that are less or more vulnerable to flooding in conjunction with forecasting techniques to predict the precipitation intensity and duration in the nearest future. Across the globe, floods have posed tremendous danger to people's lives and properties. Floods cause about one third of all deaths, one third of all injuries and one third of all damage from natural disasters. In Nigeria, the pattern is similar with the rest of the world (Daniel & Udo, 2019). Preliminary investigation revealed that flooding has negative implications on the survival of livelihoods, social and economic activities in communities. It has affected the lives, properties and sustainability of the environment.

STATEMENT OF THE PROBLEM

Over the years, flood has always been a reoccurrence disaster especially during rainy seasons in Rumueme Community, Obio/Akpor Local Government Area of Rivers State. For instance, flooding affect housing, roads and other physical structures, making Rumueme Community not to be attractive to residents which in turn affects the economic development. As a man-made disaster, stopping

flooding in Rumueme Community could be possible since its residents are contributors to the causes of flooding in the area. Structures are built on lands where flood control measures should have been dug. It was against this backdrop that this research assessed the attitudes and practice of flood control measures amongst residents of Rumueme Community, Obio/Akpor Local Government Area of Rivers State.

MATERIALS AND METHODS

A descriptive research survey design was carried out among residents of Rumueme Community numbering 1,020 people through balloting irrespective of sex and religious denominations or educational status in Obio/Akpor Local Government Area, Rivers State. The sample size of this study was 102 respondents which is 10% of the population of study and it was selected through simple random sampling technique. Data for this study were collected through the use of questionnaire. The data gathered from the questionnaire were analyzed using statistical parameters of frequency, tables and simple percentage.

RESULTS

Table 2: Causes of flooding in Rumueme Community, Obio/Akpor L.G.A, Rivers State.

S/N	Statement	A	S.A	$\overline{X}$	D	S.D	$\overline{X}$
1	Flooding occur due to poor environmental management options in the community	15	40	55(55%)	30	15	45(45%)
3	Flooding is caused by weak implementation of planning policies in the Community	45	13	58(58%)	39	3	42(42%)
4	Streams and channel obstruction due to indiscriminate waste disposal habits and human activities in flood plains can lead to flooding	20	15	65(65%)	20	15	35(35%)
5	Lack of drainage infrastructure can result to flooding in the Community	1	56	57(57%)	30	13	43(43%)
6	Indiscriminate dumping of refuse on drainage channels and poor drainage conditions have been observed to lead to floods in the Community	31	30	61(61%)	20	19	39(39%)
7	Floods can occur as a result of extensive rainfall in the Community	18	52	70(70%)	10	20	30(30%)

Table 3 showing respondents' response to the attitude of residence towards flood control in Rumueme Community, Obio/Akpor Local Government Area of Rivers State (N = 100).

S/N	Statement	A	S.A	$\overline{X}$	D	S.D	$\overline{X}$
1	The citizens indulge in indiscriminate littering and open dumping of waste generated in drainages	2	75	77(77%)	13	10	23(23%)
2	There is nonchalant attitudes amongst residence of Rumueme Community on flood control measures	15	70	85(85%)	13	2	15(15%)
3	Residence does not obey relevant land use laws which help to mitigate the flooding in the area.	43	40	83(83%)	10	7	17(17%)
4	The people do not to involve in regular cleaning of the drainages in order to reduce flooding and divert excessive flow.	19	50	69(69%)	30	1	31(31%)

Discussion

On the causes of flooding in Rumueme Community, Obio/Akpor L.G.A, Rivers State, (55%) of the respondents agreed that flooding occur due to poor environmental management options in the community, weak implementation of planning policies in the Community (58%), streams and channel obstruction due to indiscriminate waste disposal habits and human activities in flood plains (65%), lack of drainage infrastructure (57%), indiscriminate dumping of refuse on drainage channels and poor drainage conditions (61%) and extensive rainfall in the Community (70%).

To assess their attitudes toward flood control measures, the finding shows that the residence indulge in indiscriminate littering and open dumping of waste generated in drainages (77%), nonchalant attitudes amongst residence on flood control measures (85%), inability to obey relevant land use laws which help to mitigate the flooding in the area (83%) and not involving in regular cleaning of the drainages in order to reduce flooding and divert excessive flow (79%).

Conclusion

There is nonchalant attitude of the residents of Rumueme Community towards flood control measures because most of them indulge in indiscriminate littering and open dumping of waste generated in drainages, inability to obey relevant land use laws which help to mitigate the flooding in the area, and do not involve in regular cleaning of the drainages. The effects of this nonchalant attitudes cannot be over emphasized because flooding has led to the loss of properties in the Community, affect the sustainability of the environment in the Community, affect housing, roads and other physical structures, making the community not to be attractive to residents, floodwater is often contaminated with sewage, which can lead to illness and affect clean drinking water in the Community, flooding provide the perfect breeding ground for mosquitoes, which can transmit Malaria and other diseases in the community, it can lead to disruption of power supplies in the community and businesses and other facilities such as hospitals and schools can be forced to shut down due to flooding in the community.

Recommendations

(1) Government and Community Leaders should provide a master plan for flood control and relief measures for victims.
(2) Government and Community Leaders should enact and enforce Sanitation laws which is aimed at mitigating floods in the community
(3) Government should employ more train sanitary staff that will educate the residents and also enforce the sanitary laws.
(4) Adequate setting of lower disposal fees at waste management sites and higher fines for illegal dumping will help in solving illegal dumping problem.

References

Ajasa, A. (2022). *Flooding in Nigeria kills 500, displaces 1.4million, government says*. https://www.washingtonpost.com › 2022/10/15 › nige

Bamidele, O. F., & Badiora, A. I. (2019). Flood disaster vulnerability in North Central Nigeria. *International Journal of Research and Innovation in Social Science, 3*(12): 364-371

Center for Research on the Epidemiology of Disasters (2021). *Disasters in numbers: extreme events defining our lives*. https://cred.be › sites › default › files › 2021_E.

Correia, F. N., Fordham, M., Saraivam, M., & Bernardo, F. (2018). Flood hazard assessment and management: interface with the public. *Water Resources Management, 12*, 209–227.

CRED (2022). *Disasters in numbers*. Brussels: https://cred.be/sites/default/files/2021_ EMDAT_report.pdf

Daniel, E. E., & Udo, R. (2019). "Human-environment interactions". In Ibok, E., Daniel, E., and Atakpa, O. (Eds). *The politics of global environmental policies*. University of Calabar Press.

Danumah, J. H., Odai, S, N.,Saley, B. A., Szarzynski, J., Thiel, M., Kwaku, A., Kouame, F., & Akpa, L (2015). Flood risk assessment and mapping in Abidjan district using multi-criteria analysis (AHP) model and geoinformation techniques, (Cote d'Ivoire). *Geoenvironmental Disasters, 3*(10).

ReliefWeb (2021). *Strengthening climate resilience through better flood management*.

Rufai, A. (2020). Household preparedness to flood hazard in Nigeria. *International Journal of Science, Environment and Technology, 9*(3): 473 – 478.

Simon, E. (2019). Aggravating flood situation in Uyo: The cause, the way forward. *Mentor Newspaper Online,* 8 July.

Tabiri, M. O. (2015). Perennial problem of floods in Accra: What is the way forward? *International Journal of Advanced Research in Education & Technology, 2*(3), 198-201.

Yoade, A.O., Adeyemi, S.A., & Adelabu, T.A. (2020). Vulnerability analysis of flood disaster in Ibadan, Nigeria. *Annals of Global History, 2*(1), 27-38.