

Towards Flood Disaster Preparedness among Rural Dwellers in South East, Nigeria: The Role of Information

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Abstract

It has become obvious that there is increase in flooding all over the world. Rural communities in Nigeria are not exempted from this menace. This work looks into flood disaster preparedness among rural dwellers in South East Nigeria. It tries to ascertain the role of information in helping to checkmate flood disaster as well as the extent to which needed information is available to the rural dwellers. The research adopted qualitative and quantitative methods to ascertain the format of available information, as well as the role librarians could play in making information available to users. It was discovered that there are limited sources of information for rural dwellers, thereby making the role of libraries a very important one. Hindrances to the availability of information as discovered by this work include lack of fund, lack of information on the exact location of needed information, absence of public libraries, among others. The work recommends that: libraries and media houses should rise up to their responsibility, awareness should be created on the location of information, at all levels, Government should provide fund for information provision towards preparedness for checkmating flood.

Key words: flood disaster, flood disaster preparedness, rural dwellers- South East Nigeria.

Introduction

Information is the answer to key issues of life. It has helped man prepare to solve some problems that have defiled other solutions. Libraries are the custodians of information and knowledge. Therefore, information can be applied as the long sort after solution to the problem of flood disaster, starting from the rural areas and cutting across various other levels of the society. Flooding is seen as the most devastating natural disaster in the world. Research showed that an estimate of 1.4 billion people or 19% of the world population are directly exposed to flood risk (Rentschler, & Salhab, 2020).

In Nigeria, there has been tremendous increase in flooding disaster across many states in the last decade. Scholars revealed that nearly all the 36 states in Nigeria are prone to flood risk at different scales (NBS, 2023; Oke, Amarnath, Okem, Dembele, 2023). In 2012 as revealed by

Echendu, (2020) over US\$16.9 billion were lost, about 2.3 million people were displaced, 363 lost their lives and 1.6 million people were affected in different ways in flood disaster in Nigeria (Oke, Amarnath, Okem, Dembele, 2023). Furthermore, the Nigeria Bureau of Statistics estimated that about N700 billion values of agricultural related products were lost to 2022 flood (NAERLS, 2023; NBS, 2023), about 600 lives and 3.2 million people were impacted negatively across thirty-four of the thirty-six states. Oke et al (2023) lamented that in spite of the early prediction of the NIHSA in 2022 Annual Flood Outlook map, “lack of adequate structure to translate flood prediction information into appropriate action with needed resources led to the level of devastations experienced in 2022”. Ocha (2024) highlighted that 1.2 million people were affected in thirty-three states in Nigeria; over 300 dead, outbreak of waterborne diseases such as cholera, typhoid, dysentery and rise in malaria. Many communities were submerged; buildings and vast tracts of farmland containing rice, yam, cassava, beans, groundnuts, sweet potatoes among others were submerged resulting to food scarcity and malnutrition.

To reduce the risk and impact of flood, the Nigerian government engaged some agencies such as Nigeria Hydrological Service Agency (NIHSA) to sensitize and warn the masses of the impending flood disaster so as to take actions to save lives and properties of the populace. According to Mandira et al (2021) “early warning is the provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce flood induced risks and prepare for an effective response”. The place of information in flood disaster preparedness is very critical. Information they say is power, when people are aware of inevitability of problem, they go all the way to avert or reduce its effect. Information is the key to knowledge. Knowledge in turn is a veritable tool needed to identify, analyse and make an informed decision in any given situation. The South East Zone of Nigeria has been among the areas devastated by flood. It is surrounded by rivers which trigger off flooding at various points in time (these rivers include Niger, Benue, Umambara etc). The rural dwellers have become so vulnerable to the devastating effects of flood and yet unable to help themselves.

South East is one of the six geopolitical zones representing both a geographic and political region of the country. It comprises five states – Abia, Anambra, Ebonyi, Enugu, and Imo. The zone is bounded by the River Niger on the West, the riverine Niger Delta on the South, the flat North Central to the North and the Cross River on the East. Culturally, the vast majority of the zone falls within Igbo land—the indigenous cultural homeland of the Igbo people. Although the South East is the smallest geopolitical zone, it contributes greatly to the Nigerian economy due to oil and natural gas reserves along with a growing industrialized economy (Ezeh, G. S, 2015) The region is surrounded by rivers, hence, it is among the areas in the country that are threatened by flood disaster. Its occurrences have ripped people of their possessions, rendered many homeless and destroyed human lives and property. Preliminary investigations showed that, there is a dearth of empirical evidence on how people in flood-prone areas in Nigeria source for flood risk information to avert its occurrences. However, this can be managed with proper information

The library as an Information Centre is committed to generation, storage and dissemination of information to the end users. The role of the library in providing information for the growth and sustainability of any society cannot be overemphasized. Knowledge is power. It is also worthy of note that libraries have experienced a lot of changes in the collection, organization as well as

dissemination of information. These changes are sequel to natural disasters, ecological incidences such as flood, landslide and pandemic that occur over time. According to Rattan (2013), these occurrences have laid a huge responsibility on the shoulder of librarians whose mandate is to preserve information resources in various formats to satisfy the information need of a target audience. Besides, revolution in the Information and Communication Technology parlance has also made a significant change in library operation. However, the libraries have successfully been equipped to adopt emerging technologies and innovation on daily basis to meet up with the information needs of the people. No doubt, the knowledge and use of ICT facilities in information service delivery remain an added advantage to librarians and libraries. These technologies make room for flexibility in information repackaging and delivery

Statement of the Problem

It is evident that the entire world today is facing a lot of challenges. Flooding is one of these challenges and it has wreaked havoc in many areas in our country, particularly, the flood prone areas in the South-Eastern zone of the country. These areas include Abia, Ebonyi, Anambra, Enugu and Imo states. At certain intervals, the flood has swept off people's homes and property; claimed lives, and left the inhabitants in a pitiable state. Although, the governmental and non-governmental organizations have at one time or the other identified with such victims as well as distributed relief materials to cushion the negative effects, these materials have often done little or nothing to curb the excesses. This is because the flood victims are aware that the ugly incidence would keep repeating year after year, and in the uncertainty of their fate, they only live with a gloomy future. In this, one would ask, what information is available to this group? What is the role of libraries in flood disaster preparedness? This research work therefore seeks to find out if there is any role information can play towards the preparedness plans required to forestall or at least minimize the impact of flooding in this region. It is against this backdrop therefore that the researchers delved into investigating the role of information in disaster preparedness towards flood disaster preparedness among rural dwellers in disaster prone areas in South East, Nigeria.

General objective of this study is: to ascertain the role of information in preparedness and response activities to flood disaster in South East, Nigeria.

Specific Objectives: The following are the specific objectives of this study

1. To ascertain the availability of information towards flood disaster preparedness in flood prone areas in Southeast Nigeria.
2. To identify sources of information available to the rural dwellers in flood prone areas in Southeast Nigeria.
3. To ascertain the format of available information to the rural dwellers in flood prone areas in Southeast Nigeria.
4. To find out the role of libraries towards flood disaster preparedness.
5. To determine ways libraries can repackage information for rural dwellers in flood prone areas in Southeast Nigeria.
6. To find out the challenges hindering the accessibility of information relating to flood preparedness in rural areas in South East, Nigeria.

Literature Review

Sources of Flood Information

In recent times, flood risks in Nigeria have become a major issue with regard to havoc it wrecks on lives and properties across flood prone areas of the states leaving them with a lot of negative impact. Observation has shown that though the case of flood increases, there seems not to be a commensurate attempt to provide localized information on flood disaster preparedness and management. Eze (2023) noted that while the increased incidence of floods in recent times has increased levels of awareness and raised the tempo of flood management activities in Nigeria, there is a general lack of coordination and integration across several important Flood Risk Management systems and processes. Flood management approaches and responses have been generally geared toward sub-sector or sub-regional optimization. There is an absence of holistic or system thinking in urban system planning and development.

One major approach that can enhance proper management of flood disasters is risk and behavioural change communication. This is because human activities contribute to the occurrence of flood disasters. Norén, Hedelin, Nyberg and Bishop (2016) postulated that humans play a part in the occurrence of natural disasters through such activities as illegal use of drainage channels, land reclamation, and poor physical planning, among others. Deforestation, development in technology, industrialization, urbanization, burning of fossil fuels, and agricultural activities are other notable causes. The information at the disposal of individuals within flood prone areas will determine to a great extent the level of flood disaster control that can be achieved. The importance of flood risk information and its utilization as an early warning strategy to avert the incidence of floods cannot be underestimated. Malgwi and Bwala (2021) revealed major sources of information as families and friends, traditional leaders, religious leaders, television broadcast, government, community based awareness campaigns, radio broadcast, print media, Social Media etc.

However, the government of the federal republic of Nigeria through their Annual Flood Outlook produced by Nigeria Hydrological Service Agency (NIHSA) an agency of the Federal Ministry of Water Resources and Sanitation, provides information resources to sensitize the citizens on the strategies of flood mitigation (AFO, 2024).

Furthermore, the Nigerian Meteorological Agency (NiMet) Seasonal Climate Prediction (SCP) is another disaster risk management information resources which is part of NiMets's Early Warning for proactive decisions to the entire populace to take advantage to avoid losses and strengthen mitigation, adaptation and reduction of risks associated with floods. In addition to SCP are other early warning information products and services of NiMet such as Marine Bulletin, Hydrometeorological Bulletin, Agrometeorological Bulletin, Climate and health Bulletin, High Impact Forecast Bulletin, Heavy Rainfall Forecast Bulletin, Daily weather Outlook etc (NiMet, 2024). Moreover, the Federal Ministry of Environment of Nigeria in collaboration with other partner agencies set up a Web-based Flood Early Warning System (FEWS) to monitor areas that have flood signs and give warning in order to reduce loss.

Expected Role of Libraries and Information Professionals

The fundamental function of librarians and information professionals is information management and dissemination. Adamu (2020) affirmed that the role of librarianship is all about acquisition, organization, storage, distribution information and utilization by the people. Library professionals are valuable information asset in gathering and dissemination of relevant information at the correct time to information users. Hence the role of librarians in dissemination of flood risk information cannot be overemphasized. Research has shown that government has made great efforts in sensitizing people on emergent flood through mass media and other non-governmental agencies (Nwafor, 2021), however, it has not yielded good results, perhaps because the information has not gotten to the rural dwellers or may be available but in forms that cannot be accessed by users.

Most of the rural dwellers where flood disaster is prominent are dominated by illiterates. This implies that information disseminated to them should reflect their level of illiteracy. Information dissemination to rural dwellers via radio and television appears not to serve them as a result of their inability to understand languages. Inadequate power supply is also a hindrance (Babul, 2020). Information repackaging is one aspect of librarianship that ensures information is delivered to prospective users in a form that can be understood by different categories of users that the information is meant for. Information repackaging according to Mole, Ekwelem and Dim (2018) defined information repackaging as putting together information from different sources and organizing it to be meaningful. It also means the collection and redesigning, remodeling, restructuring, reorganization and dissemination of information to a peculiar group of people taking into cognizance the socio-economic, cultural and political background of the people.

Information repackaging component is an added value to information services which include analysis, synthesis, editing, translating and transmitting. The main aim of repackaging is to enhance the acceptance and use of information products and the assimilation. Sharma, (2021) opined that knowledge of communities in the flood prone area must be prepared through training and seminars. Librarians can conduct seminars, repackaging the seminar materials in the local communities' language.

School librarians can also educate youths in secondary schools to have good knowledge and attitude to minimize the risks that may occur from flooding. This is paramount since according to Sumarno and Setiadi (2023), youth are involved in emergency response, saving lives and properties. These students will in turn inform their parents and relations. They further explained that when people in flood prone areas have the knowledge of disaster management, they will be physically and psychologically fit to subdue anxiety and be ready to evacuate properties and act appropriately when flood warning is given so that the impact will be minimal (Kerstholt et al (2017). On the other hand, people who live in flood-prone areas are expected to utilize this information to behave responsibly to mitigate the impact of floods.

Flood disasters are now becoming frequent occurrences in many nations of the world. Information providers could lease with Metrological Officers in providing Weather and Climate Information (WCI) to help communities in flood prone areas to prevent adverse impact of flooding. Mitheu, Petty, Tarnavsky, Stephens, Ciampi, Butsatsa and Cornforth (2022) affirmed

that WCI can provide useful knowledge and actions to improve flood preparedness and reduce

impact. Though, Hewitt et al, (2020) is of the view that there are increase in availability of WCI as a result of advancement in technology, there is need to make the information accessible to user group (practitioners and communities).

Audio-visual resources for visualizing natural hazards and floods such as hazards maps (Maidl and Buchecker, 2015) can be made available not only to city planners but also to the general public. Public should be aware and play their role as responsible actors in risk management. They further revealed that providing adequate information is enough to ensure adequate response to floods. Hazard maps is a visual state-of-the-art tools to explain important information about what it means to live in flood risk areas (Basic et al, 2009).

Methodology

The study adopted a qualitative and quantitative method in carrying out this research. The target population are the traditional rulers, president generals of autonomous communities, youth leaders, government agents in flood control ministries, NGOs. The areas of the study are the flood prone areas in the South East which consist of Anambra (Ogbaru, Anambra East, Anambra West, Ayamelum) Ebonyi (Ikwo), Imo (Ohaji/Egbema), Enugu (Ezeagu and Aninri)

Nigeria and sample was purposively drawn from among the communities involved. This is based on the reason that these selected communities have attracted less attention for any intervention. The instruments for data collection were interviews and observation. The interview schedule was validated by experts to ensure relevance of content and clarity. The data were presented thematically.

Data Presentation and Results

The Availability of Information for Flood Disaster Preparedness in Flood-Prone Areas

The availability of information for flood disaster preparedness in flood-prone areas of South East Nigeria has improved in recent years, but challenges remained in effectively disseminating and utilizing this information. Several key aspects of flood preparedness information are evident such as the Nigerian Hydrological Services Agency (NIHSA). This agency has enhanced its flood forecasting capabilities, providing timely warnings that enabled communities to prepare and evacuate when necessary. In 2023, NIHSA's and National Emergency Management Agency (NEMA) were actively involved in flood preparedness efforts. NEMA's South East Zonal Office initiated flood sensitization programmes across flood-prone areas of Enugu State in July 2023. The programmes include community participation, creation of effective Local Emergency Management Committees (LEMC), and updates on flood-affected communities using posters, handbills etc, while presentations were made in Igbo language for better understanding (NEMA, 2023). However, there are several obstacles against effective distribution of flood preparedness information. These include but not limited to lack of infrastructure, inadequate communication network, poor community engagements etc. The study established that flood is the most devastating natural disaster in the world and has claimed lots of lives and property, yet the people

are not furnished with necessary information to avert this menace. According to one of the respondents to the researchers' interview:

The flood in Nnaka, Anambra State started many years ago, before I was born. We do not get information from anywhere about impending flood. What we suffer here is terrible havoc by gully erosion as a result of collection of rain water that flows from Igbo Ukwu, Isuofia, Umuona and so many other parts of Anambra State. The massive collection of water (flood) results in gully erosion washing and carrying away houses, schools, churches, destroying properties and human lives.

Another respondent also stated that:

We do not have information from anywhere that can help us to be prepared about impending flood. but we have some rules and regulations that help the community to checkmate human activities that could increase the rate of flooding. Another respondent added, "The only information we have about flood disaster are pictures taken in the past, showing the havoc done by this phenomenon.

Yet another interviewee from Ekwulobia said,

In our community (Ekwulobia), there are no available information that will help us to prepare for flood disaster and we do not receive flood related information from anywhere".

It is very imperative to note that while there have been significant improvements in the availability of flood preparedness information in Nigeria, challenges persist in ensuring this information reaches and benefits all vulnerable communities. Evidence of this could be seen in a response from an interviewee in Uzo-Uwani, Enugu State thus:

Yes, we have basically two major causes of flood in our area. First, it occurs as a result of the amount of heavy rainfall in a particular year. When this happens, we do not get any prior information since it is difficult to predict accurately the level of rainfall within a particular year. However, we normally get information through radio programmes and television as well when flooding is a consequence of riverbank overflow. The people are forewarned to get prepared for such impending dangers. The second one occurs when the Dam at the Nigeria-Cameroun border is opened and the water overflows the banks of the Atlantic Ocean and it circulate through all the rivers connected to the Atlantic. We have a river called Umambara River in our community that is connected to River Niger, as such whenever this happens we are adversely affected. The action of the people within the coast will always be to evacuate those areas, while the farmers embark on early (planting) farming in order to harvest their crops before the flood comes.

Sources of Information Available to Rural Dwellers in Flood Prone Areas

The study shows that there are limited sources of information available to rural dwellers. This is the response of one of the respondents:

Like I mentioned before, we do not receive information from any source regarding flood, rather it is even we that do communicate the media houses (radio station, FM

stations) to disseminate the information to the masses and also call on government to come to our aid when havoc created by the flood and erosion becomes unbearable. Mostly the town crier has the responsibility of passing information across the nooks and crannies of our community whenever the need arises;

This finding supports Malgwi and Bwala (2021) whose study revealed major sources of flood information as families and friends, traditional leaders, religious leaders, community based awareness and radio broadcast. Only a small percentage of households in flood-affected areas receive government alerts about potential flooding. This finding was not consistent with AFO, (2014); NiMet, (2024); Mitheu, et,al, (2022), they all affirmed availability of different sources (such as from some government agencies, newspapers, weather and climate information) where flood related information are domiciled. However, it appears that many organizations and the masses are unaware of it. According to a survey conducted across six states in Nigeria, including Anambra in the South East, only 19.7% of households reported being aware of government alerts about floods (NEMA, 2023).

The respondent further stated that:

We have some rules and regulations guiding how people erect structures and build houses. Equally, there are some committees that are checkmating activities such as boundaries where agricultural activities should stop, checkmate indiscriminate cutting down of trees, in fact we banned cutting down trees in some areas and we encourage planting of trees like bamboo.

This suggests that official communication channels may not be effectively reaching rural communities in flood-prone areas. In the absence of this the rural dwellers often rely on local sources such as observations of rising water level, town criers, and community/religious leaders.

The finding was in in line with the findings of Malgwi and Bwala (2021) whose study revealed that sources of information about eminent flood are from traditional leaders, religious leaders, television and radio broadcast, government, community based awareness campaign and social media. This also is not in accordance with AFO, (2014) and NiMet, (2024) who asserted that Annual Flood Outlook, Web-Based Flood Early Warning System (FEWS), Seasonal Climate and Prediction by NIHSA and NiMet respectively are information resources to sensitize the citizens and give early warning information that will help to avoid losses, strengthen mitigation and reduce risk associated with floods. Weather and Climate Information (WCI) could provide useful knowledge and actions to citizens in order to reduce risk (Mitheu, et,al, 2022) This implies that though, aforementioned government agencies spend huge amount of funds to produce these information materials, they never get to the citizens that are in need of them (those living in flood prone area). Information not accessed is as good as not available and not beneficial to seekers.

Nwafor, (2021) averred that these agencies are expected to disseminate flood risk information to warn people of the possibility of flooding, flood path and desirable behaviour to avert or minimize damages. On the contrary, collection, processing and dissemination of information is the principal role of librarians and information professionals who are trained and

have the expertise in information gathering, processing and dissemination to users in the appropriate format.

Format of Available Information for Rural Dwellers

Since there is dearth of information for flood disaster preparedness in flood-prone areas, the only format seems to be pictures and videos taken during such occurrences in the previous years. Well, the libraries can assist in sensitizing the community more on what they could do to minimize the rate of flooding

Role of Libraries towards flood disaster preparedness

The findings established the critical roles of libraries and information centres as identified by some of the respondents to include:

...engagement in sensitization, creation of awareness and providing information to rural dwellers in flood prone areas. Educating the people not to engage in some of the human practices, such as dumping refuse in gutters and water runways that aids flooding. Library and information centers can provide information on weather and environment. Librarians should be willing to collect information materials that could help to give early warning to the rural dweller. More so, Libraries are situated to serve communities through information outreach and enlightenment programmers, they could repackage information to rural dwellers in flood prone areas which will help improve flood management.

Yet other respondents mentioned that:

Librarians can collect information materials on early warning from agencies and disseminate to rural dwellers. Libraries could organize outreach to the rural dwellers via the village heads, schools, announcements in churches, arrange for town hall meetings and one on one discussion

Consequently, it is expected of library and information centres to take up this new role as information professionals to acquire, process and disseminate (Adamu, 2020) relevant and current information to citizens. They are expected to employ their professional skills to acquire or source for information from government agencies such as Nigeria Hydrological Service Agency (NIHSA), Nigerian Meteorological Agency (NiMet), Federal Ministry of Environment's Web-based Flood Early Warning System (FEWS). However, some respondents emphasized that providing information to people living in flood prone areas is still very low.

Libraries could acquire information from various sources employing their skills and expertise in information gathering from Web Based Flood Early Warning Systems (FEWS), National Emergency Management Agency (NEMA), Nigeria Hydrological Service Agency (NIHSA), Seasonal Climate Predication information from Nigerian Meteorological Agency (NiMet), Newspaper, Magazines, Television and Radio broadcast. The acquired information are processed for dissemination.

Libraries are engaged in outreach services which are community engagement activities geared to promote literacy and improve reading. They also engaged in mobile library services to rural areas where existence physical libraries do not.

Ways of Repackaging Information for Rural Dwellers

Repackaging information involves reissuing previous published information material in a different format to enhance its appeal or make it easier to read and understand. Repackaging information for dissemination is absolutely necessary as Babul, (2020) maintained that information dissemination to rural dwellers appears not to serve them as a result of inability of understanding the language. The findings as responded by some interviewee are:

Librarians could go through literature, documents and diverse authoritative sources on flood related information and present it in pictorial illustrations, audio and video format. We can repackage information in Igbo and other languages and it will be better understood when it is broken down in the language and dialects of the rural dwellers.

In addition, information professionals could repackage information through:

Indigenous languages/dialects, brief talks in churches, town hall meetings/village meetings, sharing of fliers, the use of public address systems, through short drama or playlet, as weekly radio programs, songs or jingles in radio and TV adverts among others.

The findings are in congruence with Maidl and Buchecker (2015) that audio-visual resources for visualizing natural hazards and floods such as hazard maps are ways to publicize information to the general public. It is therefore important that information professionals should take into cognizance the level of literacy and availability of power when repackaging information.

Hindrances to Availability and Accessibility of Flood Related Information

This study revealed numerous constraints that hinder the availability and accessibility of flood related information. This includes the following:

lack of interest, minimal awareness creation on the subject in the field of librarianship, lack of funds, lack of understanding, lack of access to information from agencies, lack of knowledge on where and how to access information, absence of public libraries in rural areas, insufficient time to carry out this programme, lack of skills for acquiring the necessary information, bad roads, lack of communication, insecurity and logistics in reaching out to rural dwellers and habitat problem among others.

The finding showed that information service to people leaving in flood prone areas is a new ground that library and information professionals need to explore in order to serve citizens effectively and

to assist the government in curbing and reducing disaster caused by flood. Librarians should develop interest and acquire new skills to take up this new role.

Recommendations

- There is need to provide information through proper communication channels to the rural communities. Information needed include those relating to warnings on the emergence of flood and what to do when they get the warnings. Such information will help them know what to do per time in order to cushion the effect of flood. Media houses have major roles to play in this regard. Creation of awareness on where rural dwellers could access available information and the method of accessibility.
- It is therefore important for the government, both at the federal, state and local government levels to see flood disaster as a menace that must be curbed through information, among other means. To this effect, there should be deliberate provision of fund for the provision of information towards the checkmating of flood disaster.
- There is need to establish Libraries and Information Centres in the rural areas. This will serve as places for collection and dissemination of information on how to checkmate flooding. It will also help in providing information in other areas of need.

Conclusion: Flood has caused damages to many committees. It is only wise for actions to be taken to checkmate flooding and its consequences in Nigeria.

This research was funded by the Nigerian Tertiary Education Trust Fund with TETFund Research Project No: (TETF/DR&D/CE/UNI/NSUKKA/BR/2024/VOL.I)

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