

Post-Flood Intervention Management: A Conceptual Research

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Abstract

Natural catastrophes like floods, which can have far-reaching consequences on the affected places around the world, can cause catastrophic damage to infrastructure as well as human lives. Floods pose serious risks to both infrastructure and human life, necessitating a variety of structural and non-structural measures. However, flooding continues to be a frequent calamity in Nigeria, leading to significant economic and human losses. In Nigeria, the 2022 flood affected over 1.3 million people, resulting in over 600 fatalities, devastating over 300,000 hectares of crops, damaging over 200,000 homes, and causing cholera outbreaks, significant population displacement, and major property destruction. Those who survive experience distress and impairment along with immediate emotional repercussions, and grief may also have long-term consequences. Also, a catastrophe has psychological ramifications in addition to its immediate social and financial repercussions. This study reviewed secondary data from a journal article. The study emphasises the need for comprehensive identification of post-flood intervention measures, prospects, and constraints in the Nigerian context. Several efforts were made by the government and residents to intervene in the problems of post-flood victims. There is also a need to adopt more proactive, standard, and reliable procedures for effective flood management that can mitigate and offer fast recovery and rehabilitation for flood victims. The conceptual research approach aims to provide an overview of the last two decades, from 2003 to 2023, to identify flood intervention management trends in Nigeria. The purpose of this review is to make a conceptual framework that will help policymakers and stakeholders in understanding, addressing, and implementing post-intervention management for flood victims in Nigeria.

Keywords: Flood, Intervention, Management, Policy, Victims, Mental Health, Psychological Impact, Nigeria

Introduction

Floods are one of the most common and destructive natural catastrophes that affect places all over the world. Floods occur annually in Nigeria, a country with extensive water resources,

and they have a devastating impact on millions of people's lives and property Rentschler et al. (2022). One of the most common natural disasters that regularly poses a danger of fatalities, property damage, injuries, and psychological impact is floods Ndukson Buba et. al (2021). The idea of post-flood intervention management emerges in response to this constant issue as a vital focus point for managing the complex effects of these catastrophic disasters Siddique Akbar et al. (2023). Post-flood intervention management encompasses a spectrum of measures and strategies designed to mitigate the adverse consequences of floods Rumpa et al. (2023). These interventions can be roughly divided into structural and non-structural methods, each of which has a particular set of goals and procedures. Building physical infrastructure like dams, levees, and reservoirs falls under the category of structural interventions, whereas community-based programmes, laws, and regulations are non-structural interventions Palazzo and Wang (2022). This review focuses on challenges and prospects of post-flood intervention management in Nigeria. Flood victims suffer from both the immediate and long-term aftermath of the disaster. Although most ongoing flood intervention measures are short-term, they will alleviate the immediate effects on flood victims in the country. Records of these post-flood interventions are bountiful throughout the world, particularly in Africa, with a significant amount occurring in West Africa and in particular Nigeria.

Literature Review

Intervention Management

Several interventions have been made to minimise the impact of floods. Non-structural as well as structural interventions are possible for these initiatives, said Singh and Sharma (2023). Similarly, many flood victims are provided with their fundamental requirements, such as housing, food, social services, education, immediate health care, and employment have been established as part of intervention management Oluka et. al (2022). However, both structural and non-structural flood risk reduction strategies have been put in place over time to safeguard people and property from floods' frequent and consistent recurrence Ansari et al (2022). Furthermore, Lee et al. (2020) urban flooding is a serious threat to many cities throughout the world and calls for tailored countermeasures. Modern flood forecasting and warning systems offer extremely early notice of flash floods and the severity of flooding, which is crucial for sounding the alarm in metropolitan areas. However, Der Sarkissian et. al (2022) risk-informed land-use planning and regulations are used as part of intervention management, which is a part of Disaster Risk Reduction (DRR), with the aim of decreasing the causes of catastrophes and the resulting losses. In a similar vein, Jakubínský et. al (2021) claimed that floodplains successfully serve as flood control mechanisms and water-retention agents, playing vital roles in maintaining water and nutrients, the result of extensive interactions between watercourses, and little human intervention distinguishes them from other types of vegetation. However, lakes and reservoirs may contain flooding, which is a great defence against flood disasters that has recently been discovered Wang et. al (2022). A smart technique to avoid flooding and minimise damage is to elevate buildings and infrastructure above expected flood levels Hasanpour and Istrat (2022). Levees, man-made barriers along natural water bodies, protect low-lying areas from flooding. By keeping water inside their bounds, these raised buildings prevent neighbouring important residential or business areas from flooding Kuchi et. al (2021). Moreso, according to Adelekan and Asiyambi (2016) revealed that inland and coastal flooding impacted people due to the effects of climate change. During the event, the focus was on structural intervention only. The research

provided a framework for urban planners and decision-makers to foresee the possibility of floods, lowering casualties and property damage while accelerating the rehabilitation of afflicted people. Moreso, Egbinola et. al (2017) they evaluated how floods were handled in underdeveloped nations and found that poor management, financial restrictions, a breakdown in flood policy and governance, and poor risk management all contributed to the negative effects that floods had on the local population. The study suggested for enhancement of non-structural flood management techniques in the region.

However, Danhassan et. al (2023) mentioned in a study that due to the growing frequency of floods across Africa, notably in Nigeria, a well-coordinated, multidisciplinary intervention and management approach is urgently required. Creating collaborations between governments, local communities, NGOs, and international organisations becomes more important as climate change perpetuates and worsens these natural disasters. According to Safiah Yusmah (2020) Floods can have significant effects, but they can be mitigated, and the way opened for more resilient and sustainable futures in these susceptible places can be achieved with a comprehensive plan that addresses prevention, readiness, response, and recovery. Moreover, Adelekan (2011) revealed the absence of public or private sector flood risk management initiatives in Abeokuta during the 2007 flood that hit the city, while many of the interventions made in response to the flood danger were reactive in nature. The study recommended that decision-makers and urban planners consider suitable urban planning and proactive flood measures be employed. According to V. O. Oladokun and Proverbs (2016) stated that there have been several intervention management strategies in the past; however, long-term nonstructural intervention management went unexplored. This review focuses on challenges and prospects of flood intervention management in Nigeria. Flood victims need and require both short-term and long-term interventions to alleviate their suffering from flooding events. Though records of these interventions are mostly on a short-term basis in the country.

Flood Impacts, Causes and Consequences in Nigeria

Floods are among the most common natural disasters that frequently pose a risk of fatalities, property damage, injuries, and psychological impact Ndukson Buba et. al (2021). Flood disasters are one of the most common and pervasive natural calamities in the world, which have a profoundly detrimental effect on human societies. A convergence of climatic and hydrological extremes causes these inundations, which typically drown dry areas Ansari et. al (2022). Furthermore, Clement (2012) determined what causes flooding in Makurdi town and what elements make flooding worse, the study concluded that the main causes of seasonal flooding in the flood plains area are found to be heavy/intense rainfall and riverbank spilling. Natural hydrological phenomena have on communities and regions around the world, huge fundamental social, economic, and environmental impacts Chan et. al (2022). Since floods are becoming more frequent and intense due to factors including climate change, urbanisation Atanga (2020). A frequent natural environmental concern is flooding, especially in developing nations. Notably, flooding in Nigeria displaces more people than other natural disasters and puts roughly 20% of the population in danger Cirella and Iyalomhe (2018). While Gober & Wheeler (2015) stressed that some people may view floods as "acts of God," human behaviour can either amplify or mitigate the impacts of hydrological extremes. Flood losses are mostly the result of "acts of man,". Additionally, Zhang & Wang (2022) stated that the most common and severe natural disasters brought on by global climate change are floods.

Moreover, Salami et. al (2017) conducted research on the danger of floods, showing that changes in climate aggravate risk in the urban regions of Ibadan, low awareness and lack of preparedness further contributed to the growing rate of vulnerability and flood risk. The study suggested focusing on proactive interventions rather than reactive ones to reduce risk and increase resilience. According to Adekola & Lamond, (2018) analysis on urban floods found that the perceived reasons and remedies for urban floods have been framed by the government, local communities, corporations, international organisations, and NGOs. Law enforcement and regulation were discovered to be the dominant identified frame. Most reports have revealed various ways to address issues in various built-in frames for urban floods, including prevention, adaptation techniques, emergency response, damage reduction, and post-flood interventions. Moreso, Yahaya et. al (2010) they examined the flood susceptibility of the Hadejia-Jama'are River Basin and discovered some of the characteristics that contribute to flooding in the watershed, including yearly rainfall, basin slope, drainage system, land cover, and type of soil. The study suggested that, to reduce the risk, development applications in flood-prone areas should be carefully examined, considering the key factors that cause flooding.

Furthermore, consequences of floods include psychological impacts, economic impacts, infrastructure impacts, hydrological impacts, and physical displacements, which lead to many injuries and cause deaths. The study further stated that a high level of illiteracy, lack of precise rainfall forecasting, and waste dumping pose lots of problems to the community Agbola et. al (2012). According to Agada & Nirupama (2015), a 2012 flooding disaster in the states of Kogi and Benue, brought on by excessive and severe rains, resulted in the displacement of 566,466 people and the deaths of over 430 persons due to water discharged from the Lagdo Dam in the neighbouring nation of Cameroon. According to Olabode et. al (2020), the basin has a potential for unanticipated flooding, particularly during periods of excessive rainfall. The high value of the basin's relief and the release ratio also had a significant role in the flooding occurrences of the Ala River Basin.

Statement of Problem

The most frequent natural calamity in Nigeria that results in fatalities and property losses totalling millions of dollars each year is floods. On September 14, 2022, reports of cholera outbreaks in areas including Adamawa, Borno, and Yobe occurred because of the flood, with 320 and 586,110 cases, respectively, and roughly 300 fatalities. People over 14,000 in number were reported displaced from the states mentioned. The researcher further reported that loss of life and infrastructure damages can bring about emotional suffering and psychological distress, for instance, as the case of the recent flood in Nigeria has affected over 1.3 million people and claimed over 600 lives, more than 300,000 hectares of farmland were destroyed, and over 200,000 houses were damaged. As a result, numerous economic and psychological problems were placed on the victims and their loved ones, Abdulrahim et. al (2022). Additionally, there is still much to be learned about the intricate interactions between the traumatic experiences of floods, psychological suffering, and drug use. This is continued by the absence of specialised interventions that address the psychosocial and substance use needs of flood victims, further hindering their overall ability to rehabilitate and improve their quality of life Oluka, Dossen, and Ebuanyi (2022). Designing efficient interventions and support systems requires an understanding of the scope and type of drug use among flood victims by examining the frequency and patterns of drug use among flood victims, to pinpoint

the psychological and social elements that underlie drug use, and the effects of drug use on mental health outcomes of flood victims in the country. However, efforts have been made to help flood victims right away; there has not been a thorough government response to the people's needs in terms of psychological and mental health. The overall recovery and resiliency of flood victims in Nigeria are significantly hindered by the lack of targeted and ongoing care for psychological well-being Oyebola et. al (2021).

Methodology

The methodology of the research is primarily based on the review of literature systematically using the Scopus database. We specifically searched articles from 2003 to 2023 and restricted the search to the fields of social science and environment, and chose journals written in the English language only. The search phrase was *"flood" AND "Nigeria"*. After the literature was compiled, articles were thoroughly examined using critical and strategic reading techniques to uncover those that gave findings that provided an overall review of the flood intervention management in the country Muhammadiyah Hamka (2020). We then extracted 246 articles from this initial compilation of the search, examined the extracted literature, and looked up pertinent data on various flood intervention management strategies. After reviewing the literature, we found 43 publications with the most pertinent information about managing flood intervention in Nigeria.

Conceptual Framework

A conceptual framework creates new ideas with an ambitious effort to sketch out a research agenda that would direct the author's efforts and hopes in a particular field of study, according to Reese (2023). The conceptual framework encompasses floods, flood victims, short-term intervention, long-term intervention, and post-flood intervention management. It defines interdependence in disaster management. Floods bring about the requirement for quick, rapid intervention to deal with life-threatening situations (dependent variable). Long-term therapies, therefore, focus on resilience and recovery (dependent variable). For the allocation of resources and the implementation of policies, effective post-flood intervention management is essential (mediating variable). The independent variables (floods, flood victims) impact dependent variables (short- and long-term intervention) and guide in addressing problems between the variables. While the mediating variable (dependent) could come in the form of policy implementation and programmes by the government and other relevant organisations in the event of post-flood intervention. This framework serves as the foundation for understanding and managing the complexity of flood-related problems, guiding research, and establishing post-flood intervention management plans in Nigeria.

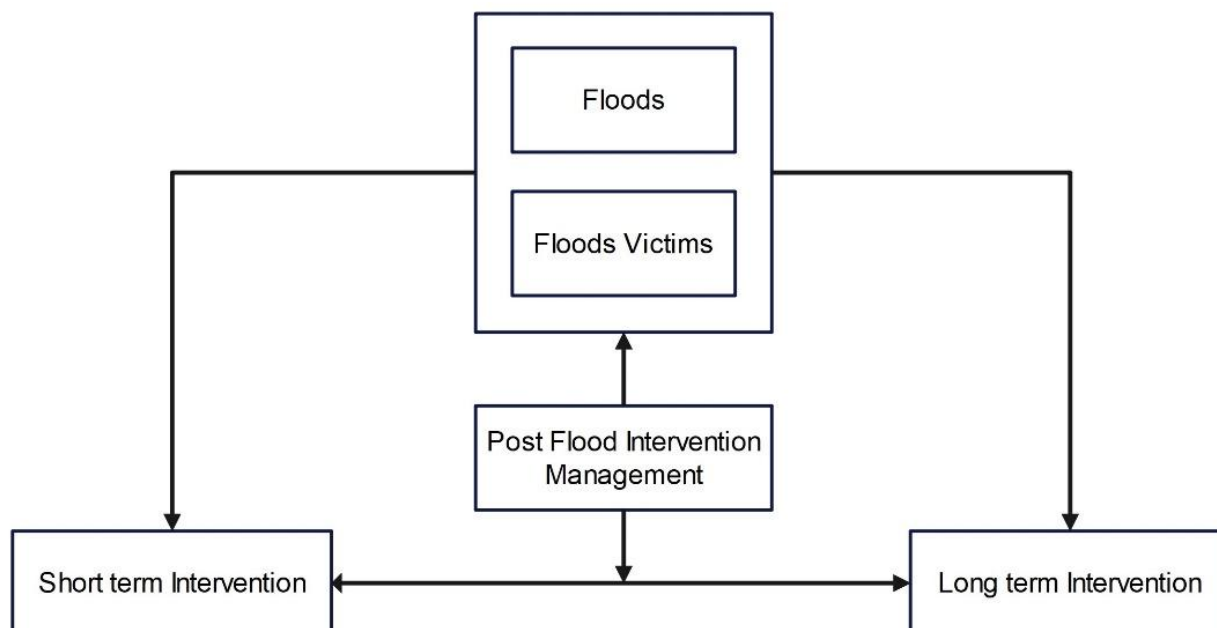


Fig. 1 Framework: post-flood intervention management, Author's source 2023

Mental Health

Flood victims' psychological symptoms may eventually lead to mental disease, and they may also provide an explanation for the physical ailment that has been addressed, said M Reacher et. al (2004). Similarly, according to Oluka, Dossen, Ebuonyi, et. al (2022) noted that beyond the physical harm caused by flooding in Nigeria, it has an influence on people's mental health, which could result in mental health disorders in the aftermath of flooding. The study concludes that it is crucial to include mental health and psychosocial support intervention management as a component of the immediate and long-term emergency response available to affected people. Moreover, Ugwuoke et. al (2023) indicated that farmers' anxiety disorders caused by floods might be greatly reduced by rational emotive and family health therapy (REFHT). The findings of the study suggested the inclusion of REFHT into the policy on floods in Nigeria. Similarly, Ede et. al (2022) affirmed that posttraumatic depression is frequently seen in flood victims worldwide, especially in Nigeria. People who have survived a flood tend to experience long-term psychosocial effects; therefore, providing them with the tools to manage their post-traumatic depression could be a significant opportunity to help them feel less depressed and improve their ability to function and succeed in both their personal and professional lives.

Psychological Impact

Flooding has a tremendous impact on the afflicted population's bodily ills and psychological suffering M Reacher et. al (2004). Moreso, Olanrewaju et. al (2019) revealed that the country had poorly managed health reforms because there was no institutional plan in place that was organised and coordinated to respond to emergencies. The government is advised to adopt a comprehensive approach to involve stakeholders, particularly those working in the health sector, in disaster management planning. Furthermore, Adeagbo et. al (2016) said people suffer from social and economic well-being and spend a lot at different levels to recover from loss, damage, and replacement from experienced effects of natural disasters. This spending has an impact on people's way of thinking. Similarly, Ede et. al (2022) opined that rational

emotive behaviour had a significant positive impact on the treatment of flood victims who were suffering from post-traumatic depression, post-traumatic thoughts, and post-traumatic beliefs that contributed to depressive levels. Also, floods caused significant loss, the destruction of valuable materials, and the displacement of many people. It is recommended to improve humanitarian relief, a better supply chain for flood victims, and sustainable disaster management to improve the lives of flood victims in all spheres of life Soneye, (2014).

Government Policy

There are no policy documents that deal with general flood management that provide documentation for flood adaptation policies and practices at the state or local levels. Adekola et. al (2019). In a similar manner, Oladokun and Proverbs (2016) revealed that problems of flood risk management (FRM) in Nigeria include a lack of integrated flood risk management policies, a lack of interagency coordination, an inadequate drainage system, substandard infrastructures, a high proportion of poverty and illiteracy, cultural obstacles, and weak institutions. The study recommended adopting an integrated approach to urban infrastructure development, allowing more entrepreneurs to participate in FRM development, solutions, and service delivery, and incorporating FRM concepts and practices into national educational curricula to create effective strategic policies and mechanisms for FRM. Moreover, Ajake et. al (2022) identified considerable differences in the effectiveness of stakeholders' involvement in natural disaster mitigation in southeast Nigeria in terms of their overall performance in providing infrastructure, such as financial donations, reconstruction of destroyed structures and bridges, provision of household goods and food supply to disaster-affected areas and people. The results showed that government activities, communities, and other donor agencies received varying ratings. Moreover, Mashi et. al (2019) considered the nation's National Emergency Management Agency (NEMA) Act. According to the study, Nigeria is vulnerable to disasters like floods, droughts, destructive storms, and desertification. However, despite the reported disasters, the NEMA Act lacks a clear directive on how stakeholders should mobilise resources for disaster management, and the Agency is powerless to compel other public and private agencies to incorporate DRR into their operations. The study suggested that the Act should be reviewed to focus on proactive operations rather than reactive ones to ensure better coordination of disaster management by stakeholders, and to ensure that money for disaster management operations is provided and falls under the purview of all national stakeholders. Moreso, Adekola et. al (2020) evaluated Calabar's flood adaptation, found the connections between floods and other disasters like landslides, pollution, and sand mining made the community more vulnerable, with fewer adaptation strategies. The study suggested that putting identified strategies into practice, such as building capacity, accessibility to information and data, funding, and increased emphasis on global collaboration by stakeholders, would help to create a foundation for urban climate hazard adaptation in the region.

Discussion

In the Nigerian context, the need for effective post-flood intervention management cannot be overstated. With a diverse geography ranging from coastal plains to inland river basins, the nation faces a perpetual risk of flooding, exacerbated by climate change, rapid urbanisation, and poor land use planning. Consequently, understanding types, the factors necessitating post-flood interventions, and the significance and specific needs of post-flood interventions of the Nigerian context becomes necessary in taking future measures. This

review broadly identifies two major types of intervention management. According to the United Nations Disaster Risk Reduction (UNDRR) definition of structural and non-structural measures, with the former being defined as any physical construction or technology that lowers or averts potential effects of natural hazards, while the latter is defined as the application of knowledge and practice to reduce disaster risks and impacts without any physical structure (UNDRR, 2022). Studies on flood risk reduction have often concentrated mostly on these structural tactics, as cited by Okyere et. al (2023). Flooding impacted people living in inland and coastal areas because of climate change. During the event, the focus was on structural intervention only. The research provided a framework for urban planners and decision-makers to foresee the possibility of floods, lowering casualties and property damage, while accelerating the rehabilitation of afflicted people Adelekan and Asiyanbi (2016). Moreover, the absence of public or private sector flood risk management initiatives was revealed, and many of the interventions made in response to the flood danger were reactive in nature Adelekan (2011). Similarly, changes in climate aggravate risk in the urban regions. Low risk awareness and lack of preparedness further contribute to the growing rate of vulnerability and flood risk. The study suggested focusing on proactive interventions rather than reactive ones to reduce risk and increase resilience Salami et. al (2017).

Furthermore, factors that necessitate immediate and long-term comprehensive post flood intervention management, these includes injuries, exposure to contaminated water, spread of waterborne diseases, access to food, clothing, hygiene facilities, homelessness, trauma and emotional distress, mental health support and counselling services, significant damage to infrastructure such as road, bridges, and utilities, loss of livelihood that is businesses or agricultural lands. These interventions are essential to the safety and well-being of affected populations, providing them with the necessities of life, such as food, clothing, housing, and shelter and rendering them with psychological support, health care service delivery, repair of dilapidated infrastructure, as well as job placement or small business recovery. These often require government assistance programs, legal matters, as well as a sense of community and social support to help individuals cope with the emotional aftermath of the disaster. After a flood, the main concern for the families and individuals who were affected is to be safe and well. Numerous flood victims could be in immediate danger from wounds, tainted water exposure, or other health problems. To maintain their safety, quick intervention management is essential, such as giving them medical attention, clean drinking water, and shelter for the protection of their well-being First et. al (2017). The pain and distress that flood victims go through can be overwhelmingly difficult. Psychological support services for mental health care and counselling are crucial for assisting people in coping with the emotional fallout from the disaster Akhir et. al (2021). Floods have the potential to spread waterborne illnesses and make pre-existing medical issues worse. Setting up temporary medical facilities, giving immunisations, and guaranteeing access to prescription medications are all part of proper intervention management Davies et. al (2015). After a flood, a lot of families are left without a place to live. Families must have access to safe temporary housing options, such as emergency shelters or transitional housing, until they can return to their homes Van Den Nouwelant and Cijin (2022). Also, flooding may seriously harm infrastructure, including utilities, roads, and bridges. To return to normalcy and provide access to important services, rapid intervention management entails evaluating and restoring critical infrastructure Mukherjee et. al (2023). However, restoration from loss of livelihoods caused by inundated commercial properties or agricultural fields can have long-lasting economic effects. To assist

victims in rebuilding their lives, intervention strategies should include assistance with income production, job placement, or small business recovery Thi et. al (2021). Moreso, flood survivors frequently need a sense of belonging and social support. Programs that promote community resiliency, togetherness, and cooperation ought to be incorporated into the intervention management strategy Lalani et. al (2021). Moreover, assistance with legal and documentation problems is essential to the rehabilitation process. This includes guiding victims through insurance claims, government assistance programmes, and court cases involving property loss. Legal representation and document support services are necessary Nordbeck et. al (2019). Moreso, prompt action is essential, and a well-organised long-term recovery and rehabilitation planning strategy is crucial. It also entails steps to improve community resilience and to repair infrastructure to survive future floods Wu et. al (2019). A short-term effect occurs in the first month of the flooding during the floods. The consequences include cholera, leptospirosis, typhoid hepatitis, drowning, damage, toxic exposure, and infectious diseases, particularly those that are waterborne while long-term effects post-traumatic stress disorder (PTSD) such as (panic, shock, wrath, dread, anxiety, despair, trauma, worry, fainting, panic attack, cognitive distortion, powerless, feeling hopeless), non-communicable disease, malnutrition, anxiety, and depression Mohammed Nawi et al (2021).

Furthermore, understanding and considering the elements influencing both disaster recovery and disaster preparedness are crucial for the development of intervention management. Disaster preparedness interventions may be more successful at addressing the mental health symptoms linked to disasters when they specifically teach coping skills to improve functioning, lessen hopelessness, and enhance participants' ability to engage with rather than avoid potentially anxiety-inducing disaster preparedness. Group therapies that place a strong emphasis on peer support exchange and encourage peer-based help-seeking and help-giving may boost social support and cohesion, which will improve results for mental health and readiness James et al. (2019). Moreso, intervention management after flooding is found to be important in protecting the safety and health of the public and the environment. This is due to the growing frequency of floods across Africa, notably in Nigeria. A well-coordinated, multidisciplinary intervention and management approach is urgently required Danhassan et al (2023). Moreso, both structural and non-structural flood risk reduction strategies have been put in place over time to safeguard people and property from frequent and consistent recurrence of floods Ansari et al. (2022). Risk-informed land-use planning and regulations are used as part of intervention management, which is a part of DRR with the aim of decreasing the causes of catastrophes and the resulting losses Der Sarkissian et. al (2022). In recent years, as part of an integrated approach to flood risk management strategy, some work has been done on property-level resilience to lessen the consequences of floods Adedeji et. al (2018). However, flood plain sites were viable for rice production in the river Benue despite certain recognised barriers. Government intervention to facilitate fertiliser supply and application to increase agricultural outputs is needed Adegbite et. al (2017).

From the review, we realised that there have been several intervention management strategies in the past; however, long-term nonstructural intervention management went unexplored. This review focuses on challenges and prospects of post-flood intervention management in Nigeria. Flood victims need and require both short-term and long-term interventions to alleviate their suffering from flooding events. Though records of these

interventions are mostly on a short-term basis in the country Oladokun and Proverbs (2016). Pre-flood management is served by policies and laws that are more concentrated on flood mitigation and preparedness, while policies for post-flood management have received little attention Ishaq et. al (2022).

Disaster Risk Reduction (DRR) and Flood Risk Management (FRM)

According to Nkwunonwo et. al (2020), the study found that the current state of flood modelling for urban risk management in undeveloped nations is not readily available due to a lack of access to availability of high-resolution data models, a lack of funds to political interest and a lack of information on analyses, extent, and frequency of floods in the regions. The report recommended that flood models in the DCs be greatly standardised. Similarly, Bernhofen et. al (2018) found that flood models are a vital tool for managing and reducing flood risks. They can also be used to provide flood hazard maps in data-scarce countries where little is known about flood risk, as was the case in the observed cases of Nigeria and Mozambique. In a similar way, Ekeu-wei and Blackburn (2018) highlighted that there were several obstacles, including logistical, financial, organisational, and technical problems that hindered the availability of data for flood modelling and mapping, which are crucial in transboundary flood analysis, planning, and management. According to Komolafe et. al (2020) discovered that different people are vulnerable to different levels of flood hazards, especially those who live in locations with very high flood risks. The study might serve as a fundamental guide for decision-makers in early warning systems about flood DRR. Moreso, Ajibade et. al (2021) their study's findings showed that a fair percentage of the area analysed had a moderate sensitivity to floods. The study recommended that planners and policymakers might use the findings as a reliable guide to control flood risk and urban development in a sustainable way. Likewise, Ekeu-Wei and Blackburn (2020) used open-access geospatial technology and conducted comparative studies on the Niger and Benue rivers, which were subjected to flood modelling in data-scarce locations. The study discovered a high danger of flooding close to the junction of the two rivers, which, if it increased, would harm those living in the floodplains. The study recommended developing a model to lessen uncertainty and the chance of flooding in vulnerable areas. Moreover, Adelekan (2016) stated that public and private organisations needed to focus on several key concerns, including inadequate drainage systems, bad solid waste management, bad planning for the use of land, and poor development control for disaster reduction and risk management. Similarly, Nkwunonwo et. al (2016) found that during the previous 44 years, floods in Lagos have caused numerous people to suffer mental, physical, and monetary harm due to a lack of understanding of the repercussions and lack of knowledge about flood risk prevention, as well as a lack of trustworthy data on floods. The study made suggestions that policymakers and planners should implement efficient risk reduction measures and enhanced flood modelling and assessment methods in the area. In another development, Salami et. al (2017) showed that changes in climate aggravate risk in the urban regions of Ibadan, low awareness and lack of preparedness further contributed to the growing rate of vulnerability and flood risk. The study suggested focusing on proactive interventions rather than reactive ones to reduce risk and increase resilience. According to Wahab and Falola (2017) stated that institutional structures regarding rules, duties, and control of floodplains in metropolitan areas are scattered, which encourages encroachment. As a result of these policy implications, people were exposed to flood danger. Moreso, Obiefuna et. al (2021) revealed that the Lekki landscape in Lagos is significantly vulnerable to storm surge flooding of various heights. The study makes

recommendations for the future that policymakers, urban planners, and developers should take flood hazards into mind to lessen potential effects on the Lagos coastline and other developing nations like Guinea. Moreso, Matthew Olomolatan Ibitoye et. al (2019) indicated that people residing near the floodplains of the River Ala in Akure, southwest Nigeria, are extremely vulnerable to the risk of flooding due to climate change effects experienced from fast urban development, and violations of building codes. The study suggested there should be implementation of policies and regulations regarding land use and land cover in the area. In another development, Echendu (2022) conducted a study comparing Nigeria and Ghana in terms of disaster risk reduction and discovered similarities between the two nations' common flooding issues, such as rapid development, poor physical design, inadequate drainage systems, incorrect waste management, and excessive rainfall from climate change, all contribute to the escalation of floods in both regions. The study suggested working with the United Nations 2030 Agenda for Sustainable Development to enhance DRR and FRM's capabilities to meet these problems in the future. Also, Faisal Koko et. al (2021) in the study discovered that Lagos had rapid growth due to a rise in built-up areas, and as a result, the city experienced a decline in vegetation, bare soil, and water bodies over a larger distance due to acts of both natural and man-made disasters that caused flooding. The study suggested GIS and multi-temporal remote sensing data that will offer historical and scientific data for efficient management, growth, and sustainable development to reduce flooding through the execution of public policies. Similarly, Olabode et. al (2020) showed the basin's potential for unanticipated flooding, particularly during periods of excessive rainfall. The high value of the basin's relief and the release ratio also had a significant role in the flooding occurrences of the Ala River Basin. Moreso, Hassan et. al (2020) conducted a study over a 30-year time span on the potential effects of climate change on extreme weather events like floods in the Niger Delta. The analysis showed that there will be a lot of rain in the study area during the anticipated times. The study recommended that thorough measures be implemented to reduce the likelihood of flooding in the area, and it also suggested that policymakers may find this information helpful in preparing for flood mitigation and implementing adaptation strategies.

Conclusion

In Nigeria, flooding is the natural calamity that uproots the most vulnerable citizens, putting an estimated 20% or more of the population at risk. Unavoidably, deaths and social unrest are caused by this persistent problem. Flooding now causes a greater number of fatalities, which vary from flood to flood. The conceptual research on post-flood intervention management has illuminated the various difficulties of flooding in Nigeria. The study has underlined the crucial need to consider the mental health and psychological well-being of flood victims through a thorough investigation of flood response techniques. It has also shown how important government regulations are to manage flood risk and reduce the likelihood of disasters. This research has offered a comprehensive range of the current problems by exploring the causes and consequences of floods. This information is the basis for the creation of plans and actions that can lessen the destructive effects of floods on both people and communities. This review emphasises the necessity for proactive measures, educated decision-making, and community resilience-building initiatives in the broader context of DRR and FRM. The knowledge gathered from this study should add to the continuing discussion on post-flood intervention management in Nigeria, with the goal of enhancing the security and well-being of everyone impacted by floods.

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