

**AN IMPACT ASSESSMENT OF THE ALAU WATER DAM'S COLLAPSE ON
AFFECTED COMMUNITIES IN MAIDUGURI, BORNO STATE, NORTH-EAST,
NIGERIA.**

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Abstract

Flooding has become a major global concern due to its severe impacts on lives, economies and livelihoods. In a bid to control flooding in Maiduguri and its environs, the Alau Water Dam was constructed to regulate water flow from the Ngadda River, a seasonal tributary in the region. The dam also support irrigation farming in the fertile Jere Bowl and provide potable water for the rapidly growing urban population of Maiduguri. This study examines the collapse of the Alau Water dam and the resulting humanitarian impacts using the Disaster Risk Reduction and Vulnerability Theory propounded by Ben Wisner, Piers Blaikie, Terry Cannon, and Ian Davis in 1994. The study adopted a descriptive qualitative research design in which data were gathered from secondary sources. Findings reveal that the dam's collapse was caused by lack of political will exemplified by institutional neglect, poor maintenance, and lack of disaster preparedness worsened by intense rainfall. This resulted in widespread flooding, displacement, infrastructure damage, and increased health and food insecurity. The study concludes that inadequate disaster preparedness intensified the humanitarian impact. It recommends strengthening dam management, improving early-warning systems, and developing integrated emergency response mechanisms, among other measures, to enhance resilience.

Key Words: *Flood control, Dam collapse, Disaster Preparedness, Impact Assessment, Humanitarian Crisis.*

Introduction

The overflow and eventual collapse of the Alau Dam resulted in a major humanitarian crisis that had been building over time. For years, the dam exhibited signs of structural stress and experienced repeated overflow incidents, yet insufficient maintenance, weak institutional coordination, and limited disaster risk reduction measures by the Federal Government of Nigeria, the Borno State Government, and the Chad Basin Development Authority (CBDA) allowed these warning signals to go unaddressed, increasing the region's vulnerability to flooding.

The Alau Dam is located in Alau community, Konduga Local Government Area of Borno State, North-Eastern Nigeria. It was constructed in 1984 on the Ngadda River, a tributary linked to Lake Chad, and was designed to regulate floodwaters, support irrigation, and supply domestic water to Maiduguri and surrounding settlements. The river system feeding the dam is complex, with inflows from the Yedzaram and Gombole Rivers, which intensify water volume during periods of heavy rainfall and heighten flood risk in the basin (Ibrahim et al., 2024).

Despite its intended functions, the dam has long been exposed to hydrological pressure and recurring flood events. In 1992, it exceeded its capacity and overflowed into the Jere Bowl. This was followed by severe flooding in 1994 caused by flash floods from the Yedzaram River, and another major flood event in 2012 when intense rainfall forced the controlled release of water, inundating parts of Maiduguri and nearby communities (Chinedu, 2024). These repeated events revealed a pattern of increasing stress on the dam system and highlighted weaknesses in long-term flood management and emergency preparedness.

Originally completed in 1988 with a storage capacity of 112 million cubic meters, the Alau Dam was designed to irrigate about 8,000 hectares of farmland in the Jere Bowl. However, rapid urban expansion and rising water demand in Maiduguri gradually shifted its primary function toward domestic water supply (CBDA, 2025). Over time, ageing infrastructure, limited rehabilitation, and structural deterioration further reduced its resilience, with the Northeast Development Commission attributing the eventual collapse to these underlying deficiencies (Njadvara, 2024).

The final collapse, triggered by intense rainfall and excessive inflow, led to catastrophic flooding across Maiduguri. Large parts of the metropolis, including Post Office, Gidan Madara, and the Maiduguri Monday Market, were submerged. Approximately 15 percent of the city was affected, with widespread destruction of infrastructure, livelihoods, and public services. Thousands of residents were displaced, food systems were disrupted, and public health risks increased significantly. The disaster also caused substantial loss of life and severe environmental damage, including the destruction of wildlife at the Sanda Kyarimi Park Zoo (Shibayan, 2024).

In response, the Federal Government announced a ₦80 billion rehabilitation plan for the dam. However, delays and slow implementation by mid-2025 have sustained the risk of future flooding. The Alau Dam disaster, therefore, reflects not only a structural failure but also a cumulative governance and disaster management gap, underscoring the urgent need for strengthened dam safety systems, effective early warning mechanisms, and integrated flood risk management strategies.

Statement of Problem

The collapse of the Alau Dam in September 2024 triggered devastating floods across Maiduguri and adjoining communities in Borno State, leading to severe impacts on lives, economies and livelihoods. The incident further worsened the already fragile humanitarian conditions in North-East Nigeria, a region that has experienced prolonged insecurity, displacement, and economic hardship due to the Boko Haram insurgency.

The collapse of the dam raised serious concerns regarding the adequacy of disaster preparedness measures, early warning systems, infrastructure maintenance, and dam safety management in Borno State. Allegations of negligence, inadequate rehabilitation, poor maintenance culture, and the failure to implement preventive measures have been identified as major factors that may have contributed to the disaster. Despite the magnitude of the incident, there is still limited empirical research examining the full extent of the dam's collapse on the socio-economic conditions, living standards, and coping capacities of affected residents in Maiduguri.

This study seeks to fill this gap by assessing the causes and humanitarian impacts of the Alau Dam collapse, and the flood management policies without which interventions may remain reactive and ineffective in addressing future risks.

Objectives of the Study

The following objectives guide the study;

- i. To examine the causes of the Alau Water Dam collapse that triggered the 2024 Maiduguri floods
- ii. To assess the impacts of the Dam collapse on affected communities in Maiduguri metropolis.
- iii. To examine the effectiveness of stakeholders' responses in addressing the resulting humanitarian crisis in Maiduguri.

Conceptual Clarification

Flood Control

Flood control refers to the methods, structures, and strategies implemented to reduce or prevent the disastrous effects of flooding on people, property, and the environment. It involves both structural measures, such as dams, levees, embankments, drainage systems, and floodwalls, and non-structural measures, such as land-use planning, flood forecasting, and early warning systems. Effective flood control helps to minimize economic losses, protects infrastructure, and safeguards human lives during heavy rainfall, river overflow, or coastal storms (Smith & Ward, 1998).

Dam Collapse

Dam collapse is the failure or breaking of a dam structure, resulting to the sudden release of large volumes of water. It is caused by poor construction, aging infrastructure, excessive rainfall, earthquakes, design flaws, or inadequate maintenance. Dam collapses often cause severe flooding, destruction of lives and property, displacement of communities and environmental degradation (Costa, 1985). Preventive measures include regular inspections, maintenance, risk assessment, and emergency preparedness planning.

Disaster Preparedness

Disaster preparedness refers to actions taken ahead of a disaster in order to reduce its impact on communities and improve response effectiveness. It includes activities such as emergency planning, public awareness campaigns, evacuation procedures, stockpiling relief supplies, and training emergency responders. Preparedness aims to ensure that individuals, organizations, and governments can respond quickly and efficiently during emergencies such as floods, earthquakes, pandemics, or conflicts (UNDRR, 2015). Effective disaster preparedness reduces casualties, limits economic damage, and supports faster recovery after disasters.

Impact Assessment

Impact assessment refers to the process of identifying, predicting, and evaluating the possible environmental, social, and economic effects of a project, policy, or disaster. In disaster management, impact assessment helps authorities understand the extent of damage caused by hazards and determine the needs of affected populations. It may include assessing infrastructure damage, environmental pollution, health risks, and economic losses. Environmental Impact

Assessment (EIA) and Disaster Impact Assessment are commonly used tools for planning and decision-making (Glasson, Therivel, & Chadwick, 2013).

Humanitarian Crisis

A humanitarian crisis is a serious event or situation that threatens the life, health, safety and security of a large population. This may be caused by natural disasters, armed conflicts, disease outbreaks, or severe food shortages leading to displacement, hunger, lack of healthcare, poor sanitation, and widespread suffering. Humanitarian crises require urgent and coordinated responses from governments, non-governmental organizations, and donor agencies. International organizations such as the United Nations, the Red Cross, Doctors without Borders and others provide humanitarian assistance including food, shelter, medical care, and protection services to affected populations (United Nations Office for the Coordination of Humanitarian Affairs [UNOCHA], 2021).

Theoretical Framework

This study adopts the Disaster Risk Theory developed by Ben Wisner, Piers Blaikie, Terry Cannon, and Ian Davis in their seminal 1994 work, *At Risk: Natural Hazards, People's Vulnerability and Disasters*. The theory provides a useful framework for understanding disasters not merely as natural events, but as outcomes of social, economic, political, and institutional vulnerabilities that expose populations to harm. The theory argues that hazards such as floods, earthquakes, or dam failures become disasters primarily because vulnerable populations lack the capacity to anticipate, cope with, resist, and recover from their impacts. Central to the Disaster Risk Theory is the proposition that disasters are socially constructed rather than purely natural occurrences. According to Wisner et al. (1994), hazards alone do not create disasters; rather, disasters occur when hazards intersect with conditions of vulnerability. Vulnerability may arise from poverty, weak governance, poor urban planning, environmental degradation, population displacement, inequality, and inadequate institutional preparedness. The theory, therefore, shifts attention away from viewing disasters solely as acts of nature and instead examines the structural conditions that make certain communities more susceptible to devastation.

The theory is highly relevant to the study of the Alau Water Dam collapse and the subsequent flooding in Maiduguri, Borno State. In this context, the collapse of the Alau Dam represents the physical hazard, while the scale of destruction and humanitarian crisis reflects underlying social vulnerabilities within the affected communities. Factors such as poverty, weak infrastructure, overcrowded settlements, poor drainage systems, insecurity caused by insurgency, displacement of populations, and inadequate emergency preparedness significantly increased the exposure and vulnerability of residents to flood impacts.

The prolonged Boko Haram insurgency in northeastern Nigeria further intensified vulnerability in Maiduguri before the flood disaster occurred. Years of armed conflict had already weakened public infrastructure, overstretched humanitarian resources, disrupted livelihoods, and produced large populations of internally displaced persons living in fragile conditions. Consequently, when the Alau Dam collapsed, the flood rapidly evolved into a severe humanitarian emergency affecting hundreds of thousands of people. The Disaster Risk Theory helps explain why the consequences of the flood were catastrophic not simply because of the

volume of water released, but because existing socio-economic and institutional conditions amplified the impact of the hazard.

The theory also provides insight into the reactive nature of the disaster response observed after the flood. The extensive mobilization of relief donations, emergency aid, and humanitarian interventions occurred largely after the disaster had already inflicted widespread damage. This reflects weak institutional preparedness and inadequate investment in preventive measures which often lead governments and societies to prioritise post-disaster relief rather than proactive risk reduction. In the case of Maiduguri, the heavy emphasis on emergency response suggests limited prior investment in dam maintenance, flood forecasting systems, environmental management, urban planning, and community resilience programmes.

Despite its strengths, the Disaster Risk Theory has attracted several criticisms from scholars such as Kenneth Hewitt, Gilbert White, and Dennis Mileti. One major criticism is that the theory overemphasizes social vulnerability while underestimating the destructive power of extreme natural forces. Critics argue that certain hazards, such as massive floods, earthquakes, hurricanes, or dam collapses, may produce catastrophic consequences regardless of social conditions. In this regard, the Alau Dam collapse can also be interpreted as a technical and environmental disaster whose scale may not be fully explained by vulnerability alone.

Another criticism is that the theory gives insufficient attention to engineering and technological solutions in disaster prevention and management. Critics contend that disaster reduction requires substantial investment in physical infrastructure such as dams, drainage systems, embankments, flood barriers, and early warning technologies. While the Disaster Risk Theory focuses heavily on social and political vulnerability, it may underplay the importance of technical expertise, hydrological monitoring, and engineering maintenance in preventing disasters. In the case of the Alau Dam, structural integrity, dam maintenance practices, and water management systems were likely critical factors contributing to the collapse.

Notwithstanding these criticisms, the Disaster Risk Theory remains highly relevant to this study because it provides a comprehensive framework for analysing the relationship between hazards, vulnerability, institutional preparedness, and humanitarian outcomes. The theory is particularly useful in explaining how pre-existing socio-economic inequalities, conflict-related displacement, weak infrastructure, and inadequate disaster preparedness transformed the Alau Water Dam collapse from a physical hazard into a large-scale humanitarian crisis. It also underscores the importance of shifting disaster management approaches from reactive emergency response toward proactive risk reduction, resilience building, infrastructure maintenance, and sustainable development planning.

Methodology

For this research work, the research adopted a qualitative method to gather data from secondary sources such as journals, books, newspapers, monographs and government publications. Using the ex-post-facto research design, which is a descriptive approach, it is designed to obtain pertinent and precise data concerning the status of phenomena and whenever possible, to draw valid general conclusions from the facts discovered.

The Historical Background of Alau Water Dam in Maiduguri

The Alau water Dam is strategically located and a very important water infrastructure that is located near the Borno State Capital, Maiduguri, in the Northeast Region of Nigeria. Studies

have shown that the dam was constructed by the Chad Basin Development Authority (CBDA) as part of a broader effort to harness the water resources from different rivers within the Lake Chad basin for agricultural and domestic purposes (Hamza et al, 2024) Uche (2024) noted that it was constructed with the original aim of regulating the water flow from the Ngadda River, which usually causes a seasonal tributary in the region, thereby supporting irrigation in the fertile Jere Bowl area which supplies potable water for rapid growing urban population of Maiduguri and flood control. Hamza et al (2024) reported that the reservoir had an estimated capacity of about 112 million cubic meters and was designed to irrigate approximately 8,000 hectares of farmland while also serving as a flood control measure. Hamza et al (2024) maintained that as time went on the population of Maiduguri continued to grow and increase, and the water demand shifted its functions away from the primary agricultural use toward municipal and industrial water supply, reflecting evolving regional water needs.

Evidence from research conducted shows that the dam's management and performance have been challenged by periodic overflow events and structural stress linked to seasonal rainfall disparity. Rishav (2024) reports that looking back, in the early 1990s, the dam experienced significant spillover events, and in 1992 and 1994, the reservoir reached its peak, resulting in downstream flooding in Maiduguri and the Jere Bowl region. Uche (2024) added that this incident showed the shortcomings of the dam's capacity to hold and manage extreme hydrological events in the absence of robust maintenance and flood mitigation structures.

Notwithstanding its intended flood control function, subsequent heavy rainfall seasons like in 2012, led to an unscheduled evacuation of excess water through the overflow and discharge valves that contributed to flooding in Maiduguri and adjacent communities near the town. Uche (2024) reported that this raised questions on the persistent vulnerabilities of the dam's design and the maintenance culture, which was a concern about the long-term sustainability of the water infrastructure in the face of climatic and environmental stress and impact. Chinomso (2024) reported that the devastating effect of the dam occurred in September 2024, when persistent heavy rainfall and the structural weaknesses overwhelmed the dam's containment capacity, leading to a catastrophic collapse or failure of the key dyke structure, which led to severe flooding that inundated broad swaths of Maiduguri, displaced thousands of residents, and caused extensive socio-economic disruption across Maiduguri, the Borno State Capital.

Causes of the Alau Water Dam Collapse

According to Chinomso (2024), thousands of residents in Maiduguri and parts of Jere Local Government Area were stranded and displaced following the collapse of the dyke and the overflow of the Alau Dam, located about 10 kilometres from the metropolis. Despite the magnitude of the disaster, the incident exposed a troubling pattern of governmental negligence and lack of political will in addressing recurring environmental crises in the state. Chinomso (2024) further noted that Borno State received ₦1.68 billion as ecological funds in June 2024, yet there was little evidence that proactive flood prevention measures or effective disaster preparedness mechanisms had been implemented before the tragedy occurred. This raises serious concerns about the commitment of government authorities to disaster risk management and the protection of vulnerable communities.

Similarly, *The Nation* Newspaper of 16 September 2024 observed that there was scant evidence that governments at all levels had adequately prepared for such disasters, despite repeated warnings and the long history of flooding linked to the Alau Dam. The newspaper argued that

the September 9, 2024 incident was not an isolated occurrence, but rather another manifestation of systemic governance failure, distinguishable only by the scale of destruction and casualties recorded. *The Nation* further reported that this was the third major flood disaster associated with the dam in 32 years, following earlier incidents in 1992 and 2012. These repeated flooding incidents suggest a persistent failure by responsible authorities to properly maintain the dam, strengthen its infrastructure, or develop sustainable flood mitigation strategies.

Although the Federal Government insisted that the 2024 Maiduguri flood disaster resulted from the overflow of the Ngadda River and not dam collapse, the recurring nature of the disasters bear testimony to a deeper issue of institutional neglect and inadequate political commitment to disaster prevention. The repeated occurrence despite available ecological funds, reflects a governance gap in which reactive responses continue to overshadow long-term planning, infrastructure maintenance, and the protection of citizens' lives and livelihoods.

Impact of the 2024 Maiduguri Floods

The September 2024 Alau Dam flood in Maiduguri was one of the worst flooding disasters in northeastern Nigeria in over three decades. According to Rishav (2024), the flood affected about 791,200 residents in Maiduguri and surrounding communities, destroying thousands of homes and critical infrastructure, including hospitals, bridges, and the city zoo. The disaster reportedly killed at least 30 people and displaced over 414,000 residents. Similarly, the *Nation Newspaper* (2024) stated that the overflow of the Alau Dam submerged residential areas, roads, and bridges, leaving many parts of Maiduguri inaccessible, while schools and businesses were shut down as residents fled their homes.

Malteser International (2024) averred that flooding affected nearly 40 percent of Maiduguri and affecting approximately 280,000 people. The organization highlighted the worsening humanitarian and public health conditions, noting that contaminated floodwaters carried feces, animal carcasses, and waste materials, thereby increasing the risk of cholera, malaria, and diarrhea outbreaks. In response, the organization distributed cholera prevention and hygiene kits to affected communities.

Aid to the Church in Need (ACN) (2024) described the flood as unprecedented, with more than half of Maiduguri submerged and widespread destruction of lives, property, and livelihoods. The organization identified urgent needs such as food, medical supplies, and temporary shelters and reported providing assistance to about 20,000 victims, including thousands of affected Catholic households across six parishes. Church leaders also warned about serious health risks arising from contaminated floodwaters mixed with decomposing bodies, hospital waste, debris, and hazardous materials.

Arikawe (2025) reported that the collapse of the Alau Water dam caused to flash floods that submerged approximately 70 percent of the city, killing at least 150 lives and displacing over 419,000 residents. The disaster also resulted to the breach of a local prison wall which led to the escape of over 281 inmates (CNN [Cable News Network], 2024). Accordingly, wildlife from a nearby zoo, such as crocodiles and snakes, were swept into residential areas compounding the humanitarian crisis.

Mustapha (2024) reported that access was severely restricted in many areas, affecting critical supply chains and disrupting access to schools, health care facilities, and markets. Schools in Maiduguri were temporarily closed for two weeks due to the flooding. Arguing along the same line, African Development Bank (2024) reported that the flood hampered access to life-saving

social services, including potable water, health facilities, schools, and markets. Fourteen (14) health facilities, including the Maiduguri Teaching Hospital and twenty-five (25) schools were flooded.

The Management of Humanitarian Crisis During and After the Flood Disaster

The response to the Maiduguri flood following the Alau Dam collapse in September 2024 demonstrated extensive mobilisation by government institutions, private individuals, humanitarian agencies, and international actors. President Bola Ahmed Tinubu visited Borno State shortly after the disaster and announced relief measures, while the National Assembly pledged institutional cooperation (Angbulu, 2024). International actors, including the United Nations and the United Arab Emirates, also provided emergency assistance (Abuh, 2024). Domestically, wealthy individuals and political elites emerged as major donors, with Aliko Dangote contributing ₦2 billion, Aminu Dantata ₦1.5 billion, and First Lady Oluremi Tinubu ₦500 million. In total, twenty-nine documented individual donors contributed approximately ₦5.102 billion, though most of this amount came from a few high-value contributors (Claire, 2024).

State governments collectively pledged about ₦1 billion, led by Bauchi and Kebbi States, while federal agencies and political institutions contributed approximately ₦5.774 billion (Omirin, 2024). The Northeast Development Commission (NEDC) and NEMA were among the most significant institutional contributors. Material donations focused heavily on food security, shelter, hygiene, and household recovery. Agencies such as the National Agency for the Great Green Wall supplied a wide range of domestic items, while organisations like the NEDC and Sumal Food Group provided bulk food supplies (Claire, 2024). International contributions were led by the World Health Organization (WHO), which reportedly committed ₦9.8 billion equivalent for health-related emergency interventions. Altogether, documented cash donations reached approximately ₦22.1 billion (Omirin, 2024).

Despite the scale of these contributions, the overall response was largely reactive rather than proactive. Most interventions occurred after the flood disaster had already displaced an estimated 400,000 people and destroyed homes, livelihoods, and infrastructure (Simon, 2024). The emphasis on relief donations, emergency food distribution, temporary shelter, and humanitarian assistance highlights a disaster management culture centred on post-crisis response instead of pre-disaster prevention and risk reduction.

The evidence suggests that insufficient attention had been paid to proactive flood mitigation measures prior to the dam collapse. There is little indication of substantial investment in dam maintenance, flood forecasting systems, drainage infrastructure, early warning mechanisms, environmental management, or community preparedness programmes before the disaster occurred (Ibrahim & Nwankwoala, 2025). Abubakar (2024) maintained that the overwhelming mobilisation of donations after the flood underscores how resources were activated only once the humanitarian crisis became visible nationally and internationally.

Furthermore, the institutional response appeared fragmented and decentralised. Multiple agencies, political actors, and donor groups acted independently, with limited evidence of a unified command structure or coordinated disaster preparedness framework (Abuh, 2024). While the generosity of donors and agencies undoubtedly alleviated immediate suffering, the response largely addressed symptoms rather than underlying vulnerabilities. The heavy

dependence on emergency philanthropy and ad hoc relief contributions reflects weaknesses in long-term disaster governance and resilience planning (Ujoko, 2024).

The regional concentration of state government contributions also raises questions about the uneven nature of national disaster solidarity and preparedness. Similarly, the dominance of a few elite donors reveals the extent to which humanitarian response depended on personal philanthropy rather than institutionalised disaster financing systems. Although some interventions, such as fertiliser donations and water treatment deployment, hinted at medium-term recovery planning, most measures remained emergency-oriented (United Nations Children Emergency Fund [UNICEF], 2024).

Overall, the Maiduguri flood response demonstrated significant humanitarian solidarity and rapid mobilisation capacity, but it also exposed structural deficiencies in Nigeria's disaster risk management system. According to Ibrahim and Nwankwoala (2025), the contributions were commendable in alleviating immediate hardship, yet they primarily represented reactive crisis management rather than proactive investment in flood prevention, infrastructure resilience, environmental planning, and long-term community preparedness.

Summary of Findings

After a review of scholarly works on the collapse of the Alau Water Dam and the impact of the humanitarian crisis in Maiduguri, the Borno State capital, the following findings were made:

- i. The Alau Water Dam collapse was largely caused by a combination of extreme rainfall, inadequate dam maintenance, and poor water management practices. Structural weaknesses and delayed government intervention and corruption, contributed to the inability of the dam to withstand increased water pressure, leading to uncontrolled water release that resulted in severe flooding across Maiduguri and the surrounding communities.
- ii. The dam's collapse led to the mass displacement of residents, destruction of homes, farmlands, and businesses and disruption of essential services such as healthcare, education, and transportation in the metropolis. The finding revealed that the affected population experienced increased food insecurity, loss of livelihoods, and heightened exposure to health risks, including waterborne diseases, thereby worsening the already fragile humanitarian situation in Maiduguri, the Borno State capital.
- iii. The study also found that flood management took reactive approach with government agencies and humanitarian organizations responded with financial assistance, relief materials and emergency assistance which were largely inadequate to meet the humanitarian needs compared to the scale of the disaster. The finding revealed that there was poor coordination, limited resources, and insufficient preparedness on the part of agency and government, highlighting the need for improved disaster preparedness measures such as early warning systems and long-term infrastructure rehabilitation that would have averted the disaster caused by the collapse of the dam.

Conclusion

The study concludes that the collapse of the Alau Water Dam was a major environmental and humanitarian disaster that significantly worsened the already fragile living standard and condition of residents in Maiduguri, the Borno State capital, due to the activities of the Boko Haram insurgency. The incident of the flood was not caused by rainfall alone but was the result of a combination of structural weaknesses, poor maintenance practices, corruption, inadequate

water management, and delayed institutional responses to the emergency needs of the dam. All these factors put together and collectively exposed surrounding communities to severe flooding and avoidable losses.

The Alau Water Dam failure led to widespread displacement, destruction of livelihoods, and disruption of essential social services, which include healthcare, education, water supply, and sanitation. The disaster intensified food insecurity and increased the risk of disease outbreaks, particularly among vulnerable groups such as women, children, the elderly, and persons with disabilities. Though government authorities (especially NEMA), private individuals, religious groups, and humanitarian organizations provided emergency assistance, the responses were adequate compared to the magnitude of the crisis. There was a serious gap in the coordination, preparedness, and early warning signals system given to the Water Dam for effective functioning.

The study, therefore, concludes that addressing future flood-related disasters in Maiduguri requires urgent rehabilitation of the Alau Water Dam, strengthened disaster risk management frameworks, improved maintenance and monitoring systems, and sustained investment in humanitarian preparedness and community resilience.

Recommendations

- i. The government, either Federal or State, should urgently undertake a comprehensive rehabilitation exercise of the Alau Water Dam, which should include structural reinforcement, regular safety inspections, and improved water release mechanisms. A clear maintenance and monitoring framework should be drawn, which would include relevant agencies, and independent engineering work should be established to prevent future dam failure. Corrupt individuals and companies should be prosecuted to serve as deterrence to others.
- ii. The government should develop an effective flood early warning system that would integrate with community-level disaster preparedness plans. This would include timely communication to residents, emergency evacuation protocols, and regular disaster response simulations to minimize loss of lives and property during extreme weather events.
- iii. Government and humanitarian agencies should enhance coordination and resource mobilization to ensure rapid and adequate emergency response. The long-term interventions, such as livelihood restoration, improved housing access to clean water and sanitation, and psychosocial support, should be prioritized to strengthen community resilience and reduce vulnerability in the future.

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