

ENSIGN GLOBAL UNIVERSITY, KPONG

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FACULTY OF PUBLIC HEALTH

DEPARTMENT OF COMMUNITY HEALTH

GOVERNANCE OF EMERGENCY INTERVENTIONS DURING NATURAL DISASTERS: A

CASE STUDY OF THE MEPE FLOODING, GHANA

BY

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NOVEMBER, 2025

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DECLARATION

I, Marianne Adjoa Awo Darko, hereby certify that except for references to other people’s work, which I have duly cited, this project submitted to the Department of Community Health, Ensign Global University, Kpong is the result of my own investigation and has not been presented for any other degree elsewhere.

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DEDICATION

I dedicate this work to my beloved father, Mr Samuel Eric Darko, for his love, support, and financial assistance.

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LIST OF ABBREVIATIONS

NADMO	National Disaster Management Organization
VRA	Volta River Authority
GHS	Ghana Health Service
UNDRR	United Nations Office for Disaster Risk Reduction
IPCC	Intergovernmental Panel on Climate Change
FAO	Food and Agriculture Organization
WHO	World Health Organization
DFID	Department for International Development
UN	United Nations
NGO	Non-Governmental Organization
USAID	United States Agency for International Development
UNICEF	United Nations International Children's Emergency Fund
ECG	Electricity Company of Ghana
DCE	District Chief Executive
GNA	Ghana News Agency
ISSER	Institute of Statistical, Social and Economic Research
OCHA	Office for the Coordination of Humanitarian Affairs

ABSTRACT

Background: Flooding, the overflow of water onto ordinarily dry land, has emerged as one of the most recurrent and devastating natural disasters globally. It often results from heavy rainfall, storm surges, river overflows, or dam-related operations. In Ghana, dam-mediated flooding has gained increasing attention due to the socioeconomic and health challenges it poses to downstream communities. In September 2023, the controlled spillage of the Akosombo and Kpong Dams by the Volta River Authority resulted in severe flooding across the Lower Volta Basin, particularly in Mepe and surrounding districts. This study examined the governance of emergency interventions during the Mepe flooding, focusing on coordination, equity, and the adequacy of response mechanisms.

Methodology: The study employed a qualitative case study design, drawing on secondary data from media reports, institutional documents, and policy sources. Data were thematically analyzed using the Health Policy Triangle framework to explore how context, actors, content, and processes shaped the governance of the emergency response.

Results: The study found that governance failures notably corruption, partisanship, and tribalism underpinned the fragmented coordination, delays, and poor communication observed in the disaster. The study further highlighted inequities in the distribution of relief items, insufficient consideration for vulnerable populations, and the politicization of aid delivery. Despite notable efforts by the Volta River Authority, NADMO, local authorities, and NGOs, the response remained largely reactive, exposing systemic gaps in preparedness, accountability, and inter-agency collaboration.

Conclusion: The study concludes that the governance of emergency interventions during the Mepe flooding was constrained by institutional weaknesses and contextual factors that undermined the timeliness and equity of relief efforts. Strengthening Ghana's disaster governance framework, therefore, requires proactive planning, decentralization of response authority, and inclusive community engagement to enhance resilience and trust in future emergencies.

Keywords: Flooding, Governance, Akosombo Dam Spillage, Emergency Interventions, Mepe, Volta River Authority, NADMO

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Natural disasters have long shaped human societies, leaving behind not only physical destruction but also emotional scars that persist for generations (Heanoy & Browney,2024). Floods, earthquakes, hurricanes, volcanic eruptions, and droughts disrupt daily life, erode social systems, and leave behind a trail of economic and psychological damage (UNDRR, 2020). Floods remain the most widespread natural disaster globally, often striking with little warning and leaving communities vulnerable(World Meteorological Organization, 2023). According to the World Health Organization (2021), floods are responsible for more damage to human lives and livelihoods than any other form of natural disaster. According to global analyses, floods have affected more than 3.2 billion people between 1990 and 2022, highlighting their persistent and devastating impact on human populations (Rahman *et al.*, 2024), a figure that reveals how persistent and devastating this phenomenon continues to be. More recently, in 2023 alone, there were 398 recorded natural disasters globally, with the Europe, Middle East, and Africa region bearing the highest share (Statista, 2023).

For developing nations, the impacts of natural disasters are even more severe. Weak governance, fragile infrastructure, and limited institutional preparedness often turn what should be temporary shocks into prolonged humanitarian crises (United Nations Office for Disaster Risk Reduction, 2022). The Food and Agriculture Organization (FAO, 2019) stresses that most storm-related disasters disproportionately affect developing countries, where poverty and fragile institutions

magnify their effects. In these contexts, disasters are not merely natural phenomena but also reflections of governance systems, inequality, and institutional neglect(Wisner et al., 2021).

In Ghana, flooding has become a recurrent and deeply troubling issue. Defined as the overflow of water that submerges land normally dry, floods in Ghana are typically caused by heavy rainfall, dam spillages, and poor drainage systems (Almoradie, 2020; Asare, 2024). The country has experienced multiple flood disasters in recent decades, each exposing weaknesses in both infrastructure and emergency response. For instance, the Weija Dam spillage of 2018 resulted in severe flooding along the Densu River, destroying properties and displacing families (Asare, 2020). Similarly, in November 2010, flooding in northern Ghana displaced over 700,000 people, submerged 23,000 farmlands, and devastated 55 communities (Mensah & Ahadzie, 2020). These events illustrate not only the scale of destruction but also the fragility of social and economic systems when disaster strikes.

The October 2023 flooding in Mepe, located in the North Tongu District of the Volta Region, has been described as one of the most severe disasters in Ghana's recent history. Triggered by controlled spillages from the Akosombo and Kpong dams, the floods displaced thousands, swept away homes, and left farmlands destroyed beyond recovery. Families who had cultivated rice, cassava, and vegetables for years watched their livelihoods wash away within days. The sight of parents carrying children on their backs while wading through waist-deep water, and the helplessness of elderly people stranded in submerged homes, captured the nation's emotions and drew global attention. Reports from journalists, including Timothy Ngenbe of the Daily Graphic (October 15, 2023), described the chaotic scenes of evacuation and the cries of families who had lost everything.

What made the Mepe flooding particularly significant was not only the scale of devastation, but also the governance failures it exposed. Ghana's National Disaster Management Organization (NADMO), which has the mandate to coordinate relief and emergency response, was criticized for its delayed and poorly coordinated intervention. Relief items arrived late, aid distribution was inconsistent, and many residents reported feeling abandoned in the first crucial days of the disaster (Doh, 2024). Civil society groups, local volunteers, and churches often stepped in where state institutions lagged, highlighting both the resilience of communities and the gaps in formal governance.

The flooding also exposed how vulnerable groups: women, children, the elderly, and persons with disabilities were disproportionately affected. Relief planning often overlooked their unique needs, from maternal health care to accessible shelters. As Amoah and Abunyewah (2022) argue, Ghana's disaster governance remains overly top-down, with insufficient space for community participation. In Mepe, this was evident: interventions were largely designed at the national level, with little input from affected households. This mismatch between policy and lived realities deepened the suffering of victims.

Scholars and researchers have begun to interrogate these issues. For example, Klevo (2024) examined *the effects of flooding on education in Central Tongu and Ada East Districts of Ghana*, demonstrating how school closures, displacement of teachers and pupils, and destruction of educational infrastructure widened existing educational inequalities. Similarly, Akua Asuamah-Tawiah (2024) explored *the effects of fluvial flooding on livelihood vulnerability*, showing how floods disrupt not just income but also social safety nets. Adding a health perspective, Doh (2024) highlighted *post-flood health risks and challenges to healthcare accessibility* in districts affected

by the Akosombo Dam spillage, identifying disease outbreaks and mental health challenges as critical governance blind spots.

Yet, despite these valuable contributions, significant gaps remain. Prior studies have emphasized education, livelihoods, and health risks, but few have systematically examined the governance of emergency interventions itself, the decision-making, coordination, resource allocation, and accountability mechanisms that shape how disaster response unfolds. The Mepe flooding provides a powerful case for such an investigation because it brings to the surface not only technical shortcomings but also deeper questions about trust in institutions, equity in relief distribution, and the relationship between state and citizens during crises.

In conclusion, while natural disasters are inevitable, their consequences need not be catastrophic. The Mepe flood disaster highlights that much of the suffering could have been reduced with stronger governance, better planning, and more inclusive systems. Strengthening institutional preparedness, improving early warning systems, decentralizing response mechanisms, and ensuring transparent and equitable aid distribution are crucial steps if Ghana is to build resilience against future disasters. This study therefore seeks to critically assess how emergency interventions were governed during the Mepe flooding, identifying lessons for policy, practice, and community empowerment.

1.2 Problem Statement

The Mepe flooding exposed critical weaknesses in Ghana's disaster governance system. Poor coordination among key institutions such as NADMO, the Volta River Authority (VRA), district assemblies, and health services led to duplication of efforts in some areas and neglect in others, resulting in unequal distribution of relief resources (Doh, 2024). Decision-making processes were

largely top-down, with limited involvement of local actors. As Amoah and Abunyewah (2022) note, such centralized approaches often ignore community knowledge, leading to poorly matched interventions for instance, the delivery of mattresses before clean water and the absence of mental health support for affected persons.

Vulnerable groups, including women, children, the elderly, and persons with disabilities, were disproportionately affected but inadequately represented in planning and response activities. Reports indicate that mothers struggled to access health care and baby supplies, while older persons were overlooked during food distribution (Kale-Dery, 2023). These governance lapses highlight deep-seated issues of inequity and exclusion in Ghana's disaster response.

Existing studies have documented the impacts of flooding on education, livelihoods, and health (Klevo, 2024; Asuamah-Tawiah, 2024; Doh, 2024), highlighting challenges such as weak governance, institutional fragmentation, and poor coordination among response agencies, yet few have analyzed the governance structures underpinning these outcomes. The lack of systematic inquiry into how decisions are made, resources allocated, and institutions coordinated during emergencies represents a major research gap.

This study therefore examines the governance of emergency interventions during the Mepe flooding, focusing on institutional coordination, decision-making processes, and equity in relief distribution. Strengthening these governance systems is urgent, as climate change, weak land-use enforcement, and dependence on large dam systems will continue to heighten Ghana's flood risks (IPCC, 2021). Without transparent, inclusive, and accountable governance, the suffering witnessed in Mepe could recur or intensify elsewhere.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study is to critically examine the governance of emergency interventions during the 2023 Mepe flooding disaster in Ghana, with particular attention to institutional roles, coordination, inclusivity, and equity in the delivery of relief.

1.3.2 Specific Objectives

To achieve the general aim, the study pursued the following specific objectives:

1. To analyze the roles and responsibilities of governance structures.
2. To explore the adequacy, timeliness, and equity of relief efforts provided to affected communities.
3. To identify the key challenges and gaps in governance and coordination that limited the effectiveness of emergency response during the flooding.

1.3.3 Research Questions

1. What were the roles of the governance structures during the Mepe Flooding?
2. How adequate and equitable was the response to the emergency?
3. What were the key challenges and gaps in the emergency response?

1.4 Profile of the Study Area

This study examined disaster governance and flood resilience in Ghana, a West African country particularly vulnerable to climate-induced disasters due to its coastal and riverine geography. The research focused on two high-risk districts, Central Tongu in the Volta Region and Ada East in the

Greater Accra Region. These areas were selected because of their recurrent exposure to severe flooding, contrasting disaster response mechanisms, and the availability of documented institutional and community-level data.

National Context

Ghana is located in West Africa, sharing borders with Burkina Faso to the north, Togo to the east, Côte d'Ivoire to the west, and the Gulf of Guinea to the south. It lies between latitudes 4.50°N and 11.50°N and longitudes 3.50°W and 1.30°E. A key geographical feature is the Volta River, which was dammed in the 1960s to create Lake Volta, one of the largest artificial lakes in the world and a critical source of hydroelectric power.

The country has a tropical climate with two main rainy seasons: April to July, and September to November. Seasonal flooding is common in low-lying and coastal areas such as Ada East and Central Tongu, where river overflows, poor drainage infrastructure, and dam spillages exacerbate vulnerability. Climate change has intensified these risks, with a reported 30% increase in flood frequency since 2000 (Ghana Hydrological Authority, 2023).

Ghana is classified as a lower-middle-income country (LMIC) with an estimated population of 30.8 million. It is divided into 16 administrative regions, with Accra as the national capital and largest urban center, home to about 5 million people (Agyekum et al., 2021). Ghana is ethnically diverse, with over seventy ethnic groups. The major groups include Akan (47.5%), Mole-Dagbon (16.6%), Ewe (13.9%), Ga-Dangme (7.4%), Gurma (5.7%), Guan (3.7%), Grusi (2.5%), Kusaasi (1.2%), and Birkpakpaam (3.5%) (Ghana Statistical Service, 2021).



Figure 1 Map of Ghana showing the various dams

(Source: Faculty Exchange Ghana,2014)

Ada East is one of the 261 Metropolitan, Municipal, and District Assemblies (MMDAs) in Ghana, and one of 29 MMDAs in the Greater Accra Region. It shares boundaries with Central Tongu District to the north, South Tongu District to the west, Ada West District to the east, and the Gulf of Guinea to the south. The district covers approximately 289.78 square kilometers, representing about 8.93% of the Greater Accra Region's total landmass (GSS, 2014).

The 2021 Population and Housing Census recorded a population of 76,411, comprising 37,034 males and 39,377 females. The economy is dominated by fishing, farming, and salt mining, with irrigation-based agriculture being particularly important for the cultivation of cassava and maize.

The Songor Lagoon serves as a hub for artisanal salt mining, while the coastal areas and Volta River support fishing livelihoods. Ada East is also a well-known tourism destination, with attractions such as beaches, estuaries, and the annual Asafotufiami Festival, which draws visitors from across Ghana and abroad.



Figure 2: Map of Ada East (Source: Ghana Statistical Service, 2014)

Central Tongu, one of the 18 districts in the Volta Region, is also part of Ghana's 261 MMDAs. Formerly designated as North Tongu District, it was restructured in 2012 through Legislative Instrument (L.I. 2077). The administrative capital is Adidome, located within the tropical savanna grassland ecological zone. The district shares boundaries with Ada East (Greater Accra Region), Ho West, Adaklu, North Tongu, South Tongu, Akatsi South, and Akatsi North districts in the Volta Region (Central Tongu District Assembly, 2021).

According to the 2010 Population and Housing Census, Central Tongu had 59,411 residents, representing 2.8% of the Volta Region's population. Females accounted for 53.2% and males 46.8%, with a sex ratio of 87.9 (approximately 88 males per 100 females). About 88% of the population lives in rural communities. The demographic profile is youthful, with 38.7% of the population under 15 years and an overall age dependency ratio of 89.8 (GSS, 2014).

The local economy is predominantly agrarian, with households engaged in farming and fishing. Major crops cultivated include cassava, maize, rice, and vegetables, much of which are marketed within the Volta Region and in Accra. Social services include basic and secondary educational institutions, as well as health facilities such as the Adidome Government Hospital, health centres, and CHPS compounds. However, healthcare access remains uneven, especially in remote rural communities.

Central Tongu is highly flood-prone, particularly due to its location along the Volta River and the impact of controlled spillages from the Akosombo and Kpong Dams. These events have historically displaced communities, submerged farmlands, and disrupted livelihoods, underscoring the district's vulnerability to climate-related disasters.

DISTRICT MAP OF CENTRAL TONGU



Figure 3 Map of Central Tongu (Source: Ghana Statistical Service, 2014)

1.5 Significance of the Study

This study is significant because it shows how governance shaped the emergency response to the Mepe floods and what lessons can be drawn for the future. The disaster revealed that weak coordination, delayed responses, and unfair relief distribution can turn a natural hazard into a prolonged humanitarian crisis. By examining these gaps, the study provides timely insights for agencies such as NADMO, the Ministry of Health, and the Volta River Authority, especially as climate change is expected to worsen flooding in Ghana and across West Africa.

Beyond policy, the research highlights the lived experiences of affected families in Mepe, reminding us that disasters are not only about damaged infrastructure but also about hunger, displacement, and the loss of dignity. It calls for a people-centered approach in which communities are involved as active partners rather than passive recipients of aid, ensuring that interventions address real and pressing needs. The study also contributes to institutional reform by offering recommendations for better coordination, stronger inter-agency collaboration, and the integration of overlooked services such as mental health support.

From an academic perspective, this work fills a gap left by earlier studies on education, livelihoods, and health impacts of flooding by focusing directly on the governance of emergency interventions. In doing so, it adds to both local and global debates on disaster governance. Ultimately, the study underscores that effective governance can make the difference between chaos and resilience, despair, and hope, in the face of natural disasters.

1.6 Conceptual Framework

This study is guided by the Health Policy Triangle framework, developed by Walt and Gilson (1994). Originally designed to analyze health policy processes, its robust and flexible nature makes

it highly applicable to the analysis of disaster and emergency intervention governance. The framework provides a structured lens to understand the complex interplay of factors that shape policy outcomes, which in this context, are the emergency interventions during the Mepe flooding.

The Health Policy Triangle posits that policy content and processes are influenced by the dynamic interactions between four key components:

Context: The social, economic, political, and environmental factors that influence the development and implementation of a policy. For this study, the context includes the historical and immediate causes of the Mepe flooding, which is the Akosombo Dam spillage, as well as the geographical and social profiles of the affected areas and the broader political climate that shaped the response.

Actors: The individuals, groups, and organizations involved in the policy process. This encompasses a wide range of entities, from government agencies like the National Disaster Management Organization (NADMO) and the Volta River Authority (VRA), to political figures, international partners (e.g., UNICEF), non-governmental organizations, community leaders, and the affected residents themselves. The framework helps analyze their roles, power, interests, and interactions.

Content: The substance of the policy or intervention itself. This refers to the actual emergency measures taken, including the types of relief items provided (food, shelter, medical aid), the policies enacted, and the services delivered to the affected population. Analyzing content involves assessing the adequacy, scope, and design of these interventions.

Process: How policies are initiated, developed, negotiated, communicated, and implemented. This component focuses on the dynamics of the emergency response, including coordination

mechanisms, decision-making procedures, communication flows, and the overall execution of relief efforts.

1.6.1 Application to the Study

The Health Policy Triangle is particularly suited for this research as it allows for a multi-faceted examination of why the emergency response in Mepe unfolded as it did. It moves beyond a simple description of events to a systematic analysis of how the context of the disaster influenced the actors, how these actors shaped the content of the interventions, and how the process of implementation ultimately determined the effectiveness and equity of the outcome. By structuring the analysis around these four components, this study can pinpoint specific governance strengths and failures, providing a clear basis for actionable recommendations.

The visual representation below illustrates the interconnectedness of these four components in shaping policy outcomes.



Figure 4 The Health Policy Triangle (Adler et al., 2024)

1.6 Organization of the Study

The thesis is organized into six chapters. Chapter One introduces the study, presenting the background, problem statement, objectives, significance, and conceptual framework. Chapter Two reviews relevant literature. Chapter Three outlines the methodology. Chapter Four presents the findings and analysis, Chapter Five discusses the results, and Chapter Six concludes with recommendations.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The study of disaster governance has become increasingly significant in both global and local research agendas, particularly in the context of climate change and its intensification of natural hazards (WMO,2022). Flooding is among the most pervasive and destructive disasters worldwide, and its impacts extend far beyond immediate physical destruction to encompass livelihood losses, social dislocation, health crises, and long-term developmental setbacks. For Ghana, and particularly for the Mepe community affected by the October 2023 floods caused by the Akosombo Dam spillage, the stakes of effective disaster governance have become painfully evident.

This chapter reviews relevant literature to provide the theoretical, empirical, and contextual foundation for this study. It is structured to trace global, African, and Ghanaian experiences with disasters, emphasizing governance, institutional roles, equity of interventions, and systemic challenges. Key global cases are drawn upon to show how failures in coordination, accountability, and community participation exacerbate vulnerability, while successful cases illustrate pathways to resilience. At the African and Ghanaian levels, the focus is sharpened on flood-related disasters and the institutional responses that shape outcomes.

The chapter is organized as follows: first, it examines global and regional trends in natural disasters, particularly floods, and highlights their social and economic consequences. It then turns to the concept of disaster governance, exploring its theoretical underpinnings, challenges, and comparative practices worldwide. The roles of governance structures in Ghana, particularly NADMO and related agencies, are examined in relation to the Mepe floods. Equity and adequacy

of relief efforts are considered, with a focus on vulnerable groups. The chapter further interrogates systemic challenges, including institutional fragmentation, coordination barriers, resource constraints, accountability deficits, and limited community participation. The final section highlights the gaps in the literature that this study addresses, positioning the research within broader scholarly and policy debates.

2.2 Global and Regional Trends in Natural Disasters

2.2.1 Global Trends

Globally, the frequency and severity of natural disasters have increased dramatically in recent decades, driven by climate change, rapid urbanization, and environmental degradation. According to the Centre for Research on the Epidemiology of Disasters (CRED) and the United Nations Office for Disaster Risk Reduction (UNDRR), between 2000 and 2019, more than 7,348 major disaster events were recorded, claiming 1.23 million lives and affecting over 4 billion people. Economic losses during this period exceeded \$2.9 trillion, with floods and storms accounting for the majority (CRED & UNDRR, 2020).

Floods have been identified as the most widespread hazard. They occur across all climatic regions, from tropical monsoons in Asia to flash floods in the Middle East and riverine floods in Europe and North America (WMO,2023). The Intergovernmental Panel on Climate Change (IPCC, 2021) predicts that global warming will increase both the intensity and unpredictability of rainfall patterns, thereby amplifying flood risks in vulnerable regions.

The social impacts of these disasters are profound. Disasters often disproportionately affect marginalized populations, including women, children, the elderly, and persons with disabilities, who face additional barriers to mobility, access to shelter, and health care (Wisner et al., 2004;

Fothergill & Peek, 2015). Research in the U.S. following Hurricane Katrina (2005) revealed that socio-economic vulnerability, race, and governance failures intersected to produce highly unequal outcomes, with poor and African-American communities bearing the brunt of mortality and displacement (Tierney, 2012). These patterns are echoed globally, particularly in low- and middle-income countries where institutional capacity is weaker.

2.2.2 Regional Trends in Africa

Africa is disproportionately affected by natural disasters due to its high dependence on rain-fed agriculture, high poverty rates, rapid urbanization, and limited adaptive capacity. Between 2000 and 2019, the continent experienced over 1,300 disasters, affecting more than 520 million people (CRED & UNDRR, 2020). Floods alone account for more than 60% of disaster events in Africa in the last decade (World Bank, 2021).

Several major flood events illustrate the continent's vulnerability. In 2012, Nigeria experienced catastrophic floods that displaced 7 million people, destroyed more than 597,000 homes, and claimed over 360 lives (Nkwunonwo et al., 2020). Mozambique's Cyclone Idai in 2019 caused severe flooding, killing over 1,000 people across Mozambique, Zimbabwe, and Malawi, while displacing millions (Chikoto et al., 2020). Kenya's 2018 floods submerged farmlands, displaced 300,000 people, and disrupted health service delivery (Shackleton et al., 2021). These cases highlight a consistent pattern: disasters exacerbate existing socio-economic vulnerabilities, strain weak governance systems, and attract significant but often fragmented international humanitarian interventions.

Institutionally, African countries have made strides in adopting frameworks such as the African Union's Programme of Action for the Implementation of the Sendai Framework, but

implementation remains uneven. Challenges include weak local government capacity, limited early warning systems, and underfunding of disaster management organizations (Leck et al., 2018).

2.2.3 National Trends in Ghana

Ghana has not been spared from the increasing frequency of floods. Data from the Hydrological Authority (2023) indicates that the frequency of floods has risen by more than 30% since 2000. Nationwide floods in 2010 displaced approximately 700,000 people, while Accra's recurrent floods claim lives and damage infrastructure almost annually. The 2018 Weija Dam spillage again demonstrated the weaknesses in disaster preparedness and planning (Owusu-Ansah et al., 2018).

The October 2023 floods in Mepe, triggered by the spillage of the Akosombo Dam, displaced nearly 40,000 people and devastated livelihoods across the Volta Basin. This disaster highlighted persistent weaknesses in Ghana's disaster governance, including poor coordination among dam operators, NADMO, and local communities, inadequate early warning systems, and inequitable distribution of relief (Doh, 2024). Asuamah-Tawiah (2024) emphasizes that such fluvial flooding events significantly undermine livelihoods, particularly for farming and fishing households who lose both assets and income sources.

2.2 Global and African Perspectives on Flood Disasters

2.2.1 Global Flood Disasters: Scope and Impacts

Flooding has emerged as the single most common and destructive natural hazard worldwide. The Centre for Research on the Epidemiology of Disasters (CRED) records that between 2000 and 2019, more than 1.65 billion people were directly affected by flood events, far surpassing any other hazard category (CRED & UNDRR, 2020). This surge in flood-related disasters is linked to the twin pressures of climate change and urban expansion into flood-prone areas. Rising sea levels,

unpredictable rainfall patterns, and the increased intensity of storms, as projected by the Intergovernmental Panel on Climate Change (IPCC, 2021), all signal that flooding will remain a growing global concern.

The social impacts are staggering. Floods often destroy homes, disrupt economic activity, and erode the social fabric of communities. For instance, the 2010 Pakistan floods displaced over 20 million people, with an estimated US\$43 billion in damages (World Bank, 2024). In Europe, the 2013 Central European floods affected Germany, Austria, and the Czech Republic, causing more than US\$15 billion in damages (Oxfam International, 2024). Even high-income nations, with advanced infrastructure, have proven vulnerable; the Hurricane Harvey floods in Houston, USA, in 2017 caused losses exceeding US\$125 billion, with the heaviest toll borne by marginalized and low-income communities who had limited insurance and weaker access to recovery aid (Howe et al., 2019).

Beyond economic costs, floods produce cascading humanitarian and health crises. Displacement leads to overcrowded shelters, waterborne diseases, food insecurity, and psychosocial stress. The 2014 Balkans floods led to cholera outbreaks in Bosnia and Serbia (WHO, 2023). In developing countries, health challenges are magnified by weak systems of care, limited logistics, and inequities in access to treatment. These patterns reinforce that the governance of disasters must extend beyond immediate emergency response to encompass equity, social justice, and long-term resilience building.

2.2.2 Governance Lessons from Global Flood Events

The governance dimension of disaster response has drawn considerable scholarly interest. Evidence suggests that outcomes are not only a function of the hazard itself but also of the

institutional capacity, transparency, and inclusiveness of response systems (Dewa, Makoka & Ayo-Yusuf, 2021). Following the 2011 Japan tsunami, communities with stronger networks of cooperation and accountability recovered faster than those that relied solely on top-down state interventions (Progress in Disaster Science, 2024). In contrast, in countries where corruption, elite capture, or weak coordination undermine disaster responses, relief distribution often becomes inequitable, with marginalized groups left behind (Transparency International, 2022).

These lessons underscore a central theme of this review: disasters are not merely natural events but are mediated through governance structures, power relations, and societal inequalities.

2.2.3 Flood Disasters in Africa

Flooding has become the most frequent disaster type in Africa, with its impacts intensifying over the last decade. Between 2010 and 2020, more than 100 million Africans were directly affected by flood events (World Bank, 2021). Factors such as inadequate urban planning, poor drainage systems, deforestation, and high reliance on rain-fed agriculture make African societies highly vulnerable (Adelekan, 2018).

Several recent cases illustrate the severity of the problem:

Nigeria, 2012 Floods: Among the most catastrophic in Africa's recent history, these floods displaced about 7 million people, destroyed nearly 600,000 homes, and resulted in over 360 deaths (Nkwunonwo et al., 2020). The World Bank estimated damages at US\$16 billion.

Mozambique, Cyclone Idai (2019): Although technically a tropical cyclone, the accompanying floods devastated communities in Mozambique, Zimbabwe, and Malawi, killing over 1,000 people and displacing millions (Chikoto et al., 2020). The event highlighted the compounded vulnerability of African states to combined hazards.

Kenya, 2018 Floods: Seasonal rainfall triggered floods that displaced more than 300,000 people and submerged farmland. The floods also disrupted public health service delivery, leading to increased risk of malaria and cholera outbreaks (Shackleton et al., 2021).

South Africa, Durban Floods (2022): Torrential rains killed over 400 people and destroyed vital infrastructure. Analysts observed governance lapses in disaster preparedness, especially around housing policies that allowed settlements in highly exposed areas (Ngwane, 2023).

The impacts of these floods go beyond physical destruction. They expose the fragile state of African disaster governance, characterized by limited early warning systems, weak coordination across agencies, and chronic underfunding. Relief efforts are often donor-driven, creating dependencies and undermining local ownership (Olanrewaju et al., 2023)

2.2.4 Vulnerability and Inequality in African Flood Disasters

Floods in Africa disproportionately affect the poor, rural farmers, and women. Rural communities often depend on farming and fishing, both highly vulnerable to flood damage. In Nigeria's 2012 floods, smallholder farmers lost both farmland and livestock, plunging many into long-term poverty traps (Nkwunonwo et al., 2020). In Mozambique, Cyclone Idai destroyed over 715,000 hectares of farmland, threatening food security in a country where subsistence agriculture is the backbone of rural livelihoods (Chikoto et al., 2020).

Urban floods also have sharp equity dimensions. In Accra, Dar es Salaam, Lagos, and Nairobi, informal settlements on marginal lands are frequently the hardest hit. Poor drainage, weak housing structures, and lack of tenure security exacerbate their exposure. Importantly, the governance failures that allow unregulated settlement in high-risk zones reflect systemic inequalities in urban planning and housing provision (Adelekan, 2016).

2.2.5 Ghana in the African Flood Context

Ghana's flood challenges mirror the broader African experience but are also shaped by its specific ecological and governance dynamics. Over the past decade, major floods have been reported in Accra, Kumasi, Tamale, Cape Coast, and parts of the Volta and Northern Regions. The 2010 nationwide floods displaced nearly 700,000 people, while the 2015 June 3rd Accra flood and fire disaster claimed over 150 lives, highlighting the deadly intersection of poor drainage, urban congestion, and unsafe fuel storage (Armah et al., 2018).

More recently, the October 2023 floods in Mepe triggered by the Akosombo Dam spillage displaced close to 40,000 people and devastated farming and fishing livelihoods (Doh, 2024; Asuamah-Tawiah, 2024). These floods particularly affected rural communities whose economic activities revolve around the Volta River Basin. Women, children, and the elderly were disproportionately affected due to reduced mobility and heightened caregiving responsibilities.

The Mepe case resonates with broader African patterns: a combination of weak early warning, fragmented institutional response, inequitable relief distribution, and heavy reliance on external humanitarian support. Yet it also reflects uniquely Ghanaian governance challenges, especially the lack of coordinated action between dam operators, the Volta River Authority, NADMO, and local assemblies.

2.3 Flood Disasters in Ghana: Historical and Contemporary Experiences

Flooding in Ghana has evolved into one of the most persistent environmental challenges, with devastating social and economic consequences. Over the past three decades, the country has recorded numerous flood events, most notably in Accra, Kumasi, Tamale, Cape Coast, and towns within the Volta basin. The triggers vary ranging from poor urban drainage and uncontrolled

settlement growth to dam spillages and extreme rainfall events linked to climate change. (Ministry of Works, Housing and Water Resources, 2023; Asare, 2022)

The June 3rd, 2015 Accra flood and fire disaster stands as a grim example. More than 150 lives were lost when torrential rainfall submerged major parts of the city, leading to an explosion at a fuel station where many residents had sought shelter (Armah et al., 2018). Beyond the tragic loss of life, the disaster exposed deep institutional weaknesses: inadequate drainage infrastructure, weak enforcement of planning regulations, and poor coordination among urban management agencies.

Similarly, the 2010 nationwide floods displaced nearly 700,000 people, with the hardest hit being Northern Ghana, where fragile infrastructure and heavy dependence on rain-fed agriculture amplified vulnerability (Mensah & Ahadzie, 2020). Smaller but recurrent floods have also plagued coastal cities such as Cape Coast and Takoradi, where rising sea levels and poor drainage combine to worsen exposure (Owusu-Ansah et al., 2018).

In October 2023, Ghana again witnessed widespread flooding in the Volta Region, following the controlled spillage of the Akosombo and Kpong Dams. This event, widely referred to as the *Mepe Flooding*, displaced approximately 40,000 residents across Central and North Tongu districts (Doh, 2024). Farmers lost thousands of acres of cultivated land, fishponds were destroyed, and access to education and healthcare was severely disrupted. The flooding also demonstrated the limitations of Ghana's disaster governance institutions, particularly regarding preparedness, communication with affected communities, and equitable distribution of relief.

2.4 Institutional Framework for Flood Governance in Ghana

Ghana's disaster governance framework is anchored in the National Disaster Management Organization (NADMO), established under Act 517 in 1996 and now operating under Act 927 (2016). NADMO is tasked with disaster prevention, preparedness, response, and recovery. It operates a decentralized structure, with district offices meant to ensure community-level presence.

However, scholars have long pointed out weaknesses in NADMO's operations. It is often criticized for limited funding, poor logistical capacity, and over-reliance on ad hoc donor support (Mensah & Ahadzie, 2020). During the Mepe flooding, media reports noted that NADMO's initial relief response was slow and inadequate, forcing reliance on private donations and civil society actors (Ankah, 2023).

Other key institutions include:

Volta River Authority (VRA): Responsible for dam operations, including controlled spillages. The Mepe flooding revealed serious governance questions about VRA's communication strategies and whether affected communities were adequately consulted or warned.

Ghana Health Service (GHS): Plays a critical role during post-flood emergencies by managing outbreaks of diseases such as cholera, malaria, and typhoid. Yet Doh (2024) observed that floods overwhelm rural health infrastructure, particularly in the Volta Region, where health facilities were submerged and access routes cut off.

District Assemblies and Traditional Authorities: These local-level governance actors are meant to be the first line of response, but their effectiveness is often undermined by resource constraints, lack of training, and political interference.

The fragmented nature of these institutions often results in overlapping roles, duplication, and poor coordination, thereby weakening the overall response framework (Owusu-Ansah et al., 2018).

2.5 Equity and Social Dimensions of Flood Governance

Flood disasters in Ghana do not affect all groups equally. Evidence shows that women, children, the elderly, and persons with disabilities are often the most vulnerable during such crises. This is partly due to gendered divisions of labor and caregiving responsibilities, as well as the physical limitations of the elderly and disabled in evacuation processes (Doh, 2024).

Klevo Shine (2024), in her work on *The Effects of Flooding on Education in Central Tongu*, highlighted how schoolchildren bore a disproportionate burden during the floods. Schools were closed for weeks, teaching materials destroyed, and many children were forced to relocate, disrupting their education. The study, however, paid little attention to how governance arrangements could have reduced these impacts, an omission that this thesis seeks to address.

Similarly, Akua Asuamah-Tawiah (2024), in her research on *The Effects of Fluvial Flooding on Livelihood Vulnerability in Central Tongu*, documented how farmers and fisherfolk suffered significant income and food security losses. Yet, the study focused more on economic vulnerability and less on the adequacy and equity of governance responses.

Doh (2024), writing on *Post-Flood Health Risks and Challenges to Healthcare Accessibility in the Akosombo Dam Spillage*, stressed that poor health governance exacerbated vulnerability. The study, however, did not fully interrogate how governance systems could have been strengthened to ensure timely delivery of medical supplies and personnel.

Taken together, these studies provide rich insights into the consequences of floods but leave a clear gap: none comprehensively examine the *governance of emergency interventions*.

2.6 Challenges in Ghana's Flood Governance

Flood governance in Ghana continues to face persistent challenges that weaken the effectiveness of disaster response and recovery. One of the most pressing issues is the chronic lack of resources. Agencies such as the National Disaster Management Organization (NADMO) and local district assemblies are often underfunded and poorly equipped, leaving them unable to respond swiftly and comprehensively when floods occur. Boats, tents, fuel, and stockpiles of food and medicine are typically in short supply, forcing authorities to rely heavily on last-minute appeals to central government or external donors. This reactive approach undermines preparedness and prolongs the suffering of affected communities. (Amoako, 2016; Sowah, 2019)

In addition to resource shortages, accountability and transparency remain major concerns. Allegations of politicization in the distribution of relief items have become common, creating mistrust among flood-affected populations. During the Mepe floods, reports suggested that some forms of aid were distributed along partisan lines, which eroded confidence in the neutrality of state interventions (Bruce, 2023). When relief efforts are perceived as biased or politically motivated, they not only deepen social divisions but also discourage communities from fully cooperating with official agencies.

Coordination failures also play a significant role in worsening the impacts of flooding. In the case of the Akosombo Dam spillage, poor communication between the Volta River Authority (VRA), NADMO, and district assemblies meant that critical early warnings were not effectively relayed to at-risk communities. As a result, many households were caught unprepared, with little time to evacuate or protect their belongings. This breakdown in institutional communication underscores a systemic weakness in inter-agency collaboration, where overlapping roles and bureaucratic silos prevent the timely sharing of vital information. (Dela, 2023)

Equally concerning is the limited role accorded to communities in disaster governance. Local knowledge, coping strategies, and participation in decision-making are often overlooked in favor of top-down interventions. Yet global evidence highlights that communities play a vital role in building resilience and shaping effective recovery processes. Aldrich (2012) emphasizes that community empowerment and engagement are central to successful disaster management, as local actors are best placed to identify pressing needs, mobilize collective action, and sustain long-term recovery. Neglecting this dimension means that policies and interventions often fail to align with the lived realities of those most affected. (Arku, 2023)

Taken together, these challenges, resource constraints, lack of accountability, coordination breakdowns, and weak community engagement reflect systemic gaps in Ghana's disaster governance framework. Addressing them requires not only material investment but also reforms in transparency, inter-agency communication, and participatory governance that place communities at the heart of disaster response (Adu & Agyepong, 2022).

2.7 Theoretical Frameworks: The Health Policy Triangle

While the preceding sections have reviewed the substantive literature on disasters and governance, this study requires a specific analytical lens to structure its inquiry. The Health Policy Triangle (HPT) by Walt and Gilson (1994) is adopted as the primary theoretical framework for this research. Its value lies in moving beyond siloed analyses to provide an integrated understanding of how multiple factors converge to shape policy outcomes.

The HPT's utility in policy analysis is well-established in public health and has been effectively applied to other sectors, including disaster management (Buse et al., 2012). Its four components offer a comprehensive checklist for investigating complex governance phenomena:

Context: Scholarship on disaster vulnerability, such as that by Wisner et al. (2004), aligns with this component, emphasizing how pre-existing social, economic, and political conditions determine a population's susceptibility to hazards. The historical neglect of the Lower Volta Basin and the political economy of dam management in Ghana provide a critical contextual background for the Mepe case.

Actors: The literature highlights the critical role of a multitude of actors, from state institutions like NADMO (Mensah & Ahadzie, 2020) and the VRA to community leaders and international agencies. The HPT provides a structure to analyze not just who these actors are, but also their power relations, interests, and the coalitions or conflicts between them, which directly impact coordination and effectiveness.

Content: Studies that evaluate the specific outcomes of disasters such as Klevo's (2024) work on education, Asuamah-Tawiah's (2024) on livelihoods, and Doh's (2024) on health, essentially analyze the content of the post-disaster environment. The HPT frames this as the direct result of policy and intervention choices, pushing the analysis to ask why that specific content (e.g., insufficient relief, disrupted schooling) emerged.

Process: The challenges of coordination, top-down decision-making, and poor communication documented in Ghana's disaster response (Owusu-Ansah et al., 2018; Amoah & Abunyewah, 2022) are classic issues of policy process. The HPT centralizes these dynamics, making them a primary object of study rather than a secondary observation.

2.8 Theoretical and Conceptual Debates on Disaster Governance

The literature on disaster management has shifted significantly over the last three decades. Earlier scholarship often treated disasters as natural hazards whose impacts were inevitable and best

addressed through technical fixes such as dams, drainage systems, and relief operations (Alexander, 1993). While such approaches reduced immediate exposure, they overlooked the social and governance dimensions of vulnerability.

Contemporary scholarship, especially since the adoption of the Hyogo Framework for Action (2005–2015) and the Sendai Framework for Disaster Risk Reduction (2015–2030), has emphasized governance as the central determinant of disaster outcomes (UNDRR, 2015). Disasters are now widely understood as the product of interactions between hazards, exposure, and vulnerability all of which are deeply shaped by political choices, institutional arrangements, and social inequalities (Wisner et al., 2004; Tierney, 2012).

Within this paradigm, governance is not just about response but also about preparedness, coordination, equity, and long-term resilience. Two key debates stand out:

Centralization vs. Decentralization: Some scholars argue that centralized systems ensure efficiency and resource mobilization, while others contend that decentralized, community-driven governance leads to more context-sensitive and inclusive interventions (Choi & Kim, 2019).

Equity vs. Efficiency: Another debate concerns whether emergency interventions should prioritize speed and efficiency (delivering relief quickly to the largest number) or equity (ensuring marginalized groups are not excluded). In practice, both goals are critical, but tensions often arise in contexts of resource scarcity.

By situating this study within these debates, we recognize that Ghana's flood governance challenges are not unique but reflect broader tensions in disaster governance worldwide.

2.9 Human and Emotional Dimensions of Flood Disasters

While much of the literature on disaster governance focuses on institutions, policies, and logistics, recent studies emphasize the human and emotional dimensions of disasters. Floods are profoundly disorienting experiences: families lose not only homes and livelihoods but also a sense of security, belonging, and dignity (Schaefer & Waters, 2018).

In Ghana, survivors of the June 3rd Accra flood/fire disaster recounted the trauma of watching loved ones perish and livelihoods destroyed within hours. Similarly, in Mepe, many displaced families described feelings of abandonment, frustration, and helplessness when relief delayed or bypassed them. Such emotional testimonies were widely reported in the media. For example, the *Daily Graphic* (Bokpe, 2023) captured voices of residents who lamented that “we were left to fend for ourselves before any help came.”

These human stories underscore that governance failures are not abstract institutional problems; they translate directly into suffering, trauma, and the erosion of trust in the state. Scholars such as Briones et al. (2023) argue that recovery is not just about rebuilding infrastructure, but also about restoring social trust and psychological well-being.

By incorporating human and emotional dimensions, this study ensures that governance is analyzed not merely as a bureaucratic process but as a determinant of human dignity and resilience.

2.10 Global Lessons for Ghana

The literature on global disaster management provides valuable lessons that Ghana can adapt to strengthen its flood governance and emergency response systems. One of the most notable examples comes from Japan, where community empowerment has been central to disaster preparedness. Through school-based disaster education and regular community drills, Japan has

cultivated a culture of readiness that significantly reduces mortality during natural disasters. This approach demonstrates that preparedness must begin at the grassroots level. For Ghana, particularly in flood-prone districts along the Volta River and coastal regions, integrating disaster education into school curricula and organizing regular community drills could build awareness and resilience long before floods strike (UNDP,2025).

Transparency and accountability also emerge as critical elements of effective disaster governance. Following the devastating 2010 earthquake, Chile introduced institutional mechanisms for independent monitoring of relief distribution to prevent politicization and favoritism (Vilches et al., 2024). By ensuring fairness and impartiality, these reforms helped rebuild public trust in state institutions. Ghana’s experience during the Mepe flooding, where allegations of partisan distribution of aid were reported, underscores the need for similar accountability measures. Independent oversight bodies or third-party monitors could ensure that relief resources reach the most vulnerable without political interference, thereby strengthening confidence in disaster governance.

Another lesson lies in the integration of technology into disaster preparedness. In Bangladesh, the use of mobile phone-based early warning systems has saved countless lives during cyclones and floods (Bangladesh Water Development Board, 2022). With Ghana’s high rate of mobile phone penetration, similar systems could be adopted to provide real-time flood alerts, evacuation instructions, and relief updates directly to households. Such technological innovations would bridge communication gaps between institutions and communities, ensuring that vulnerable populations receive timely and actionable information.

Long-term resilience requires moving beyond reactive interventions to proactive planning. The Netherlands offers a model through its “living with water” strategy, which integrates flood

management into broader spatial and urban planning. Rather than relying solely on dams, levees, and other forms of hard infrastructure, Dutch communities have adapted their lifestyles, architecture, and land use to coexist with water. For Ghana, particularly in riverine and coastal communities prone to recurrent flooding, adopting aspects of this approach could help build sustainable resilience. Policies that integrate flood risk considerations into settlement planning, agriculture, and infrastructure development would reduce vulnerability over the long term.

Taken together, these global experiences demonstrate that Ghana's challenges in disaster governance are not insurmountable. By drawing from international best practices, the country can reorient its governance systems towards inclusivity, transparency, technological integration, and long-term resilience. Ultimately, the adoption of such strategies would not only enhance institutional performance but also safeguard the dignity and survival of vulnerable communities when natural disasters occur.

2.11 Extended Synthesis

The literature reviewed reveals a number of recurring themes that deepen the understanding of floods as more than just environmental events. First, disasters such as flooding are not simply natural hazards but are shaped and magnified by governance failures, institutional weaknesses, and inequities within society. The severity of flooding, therefore, often reflects not only climatic conditions but also the capacity or lack thereof of governance systems to anticipate, prepare for, and respond effectively to emergencies. In this sense, floods expose the strengths and weaknesses of governance frameworks as much as they reflect natural processes.

A second theme is the persistence of vulnerability, particularly across Africa and in Ghana. Structural inequalities, inadequate infrastructure, the expansion of informal settlements in flood-

prone zones, and the limited capacity of state institutions amplify the destructive impacts of floods. These vulnerabilities are compounded by poverty and marginalization, which leave entire communities with few resources to recover from disasters. The Ghanaian experience mirrors this pattern, where recurring floods highlight systemic shortcomings in both preparedness and resilience.

A third point that emerges is the problem of institutional fragmentation. In Ghana, agencies such as the National Disaster Management Organization (NADMO), the Volta River Authority (VRA), the Ghana Health Service (GHS), and local assemblies often work in isolation rather than through coordinated systems. This lack of integration undermines efficiency and creates duplication or gaps in interventions. As a result, early warnings are poorly communicated, relief distribution is inconsistent, and long-term recovery plans remain fragmented. Such institutional weaknesses reveal the urgent need for stronger inter-agency coordination mechanisms.

Equity concerns also surface strongly in the literature. Women, children, and marginalized groups bear the heaviest burdens during floods, yet governance responses rarely prioritize their needs. Displaced mothers face challenges in securing food and baby supplies, children's education is disrupted, and vulnerable elderly persons often find themselves excluded from evacuation processes. These inequities highlight the human dimension of governance failures, emphasizing that effective disaster governance must be inclusive and people-centered if it is to reduce suffering and protect dignity. A comprehensive analysis therefore requires a framework, such as the Health Policy Triangle, that can simultaneously account for the contextual, actor-related, content-based, and procedural dimensions of the disaster response.

Finally, the literature highlights important research gaps. While scholars such as Klevo Shine (2024) have examined the effects of flooding on education, Asuamah-Tawiah (2024) has

investigated flooding and livelihood vulnerability, and Doh (2024) has focused on post-flood health risks and healthcare accessibility, these studies remain sectoral in scope. They provide valuable insights into the social and economic impacts of flooding, but do not systematically interrogate the governance of emergency interventions using a comprehensive framework that examines context, actors, content, and process. This gap is precisely what the present study seeks to fill.

In sum, the extended synthesis demonstrates that floods in Ghana cannot be understood purely as natural events. They are also governance challenges, exacerbated by persistent vulnerabilities, fragmented institutions, and inequitable responses. Moreover, the lack of systematic attention to governance in existing scholarship underscores the relevance and novelty of this study. By addressing this gap, the research contributes to both academic knowledge and practical strategies for building more inclusive, coordinated, and resilient disaster governance systems in Ghana.

2.12 Research Gap and Justification

Despite the wealth of literature on flood disasters globally, in Africa, and in Ghana, a critical gap persists in the systematic, multi-faceted analysis of disaster governance. Existing research, such as that by Klevo (2024) on education, Asuamah-Tawiah (2024) on livelihoods, and Doh (2024) on health, provides valuable but sector-specific insights into the impacts of flooding. However, these studies often stop short of holistically interrogating why the governance response itself succeeded or failed. They tend to be descriptive of outcomes rather than analytical of the underlying institutional dynamics, power relations, and policy processes that produced those outcomes.

This study fills this critical gap by employing the Health Policy Triangle (Walt & Gilson, 1994) as an analytical framework to provide an integrated, multi-faceted examination of the governance of

emergency interventions during the 2023 Mepe flooding. Unlike sector-specific approaches, this framework allows for a simultaneous investigation of the four core components that shape policy outcomes: Context of the disaster, including the political economy of dam management and pre-existing social vulnerabilities, the Actors involved, from national institutions like NADMO and the VRA to community leaders and international partners, and their complex interactions, Content of the interventions, assessing the adequacy and equity of the relief provided. The Process of implementation, including coordination, communication, and decision-making.

By explicitly examining the interplay between context, actors, content, and process, this research moves beyond asking "what happened" to explain "why it happened this way." It thereby provides a comprehensive diagnosis of governance failures and strengths, offering a robust evidence base for targeted policy and practical recommendations to strengthen Ghana's disaster response system.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methods and procedures that guided the study on the governance of emergency interventions during the Mepe flooding in Ghana. It outlines the research design, study area, data sources, population, analytical approach, and ethical considerations. The choice of methodology was shaped by the study's objectives and the need to provide a systematic, quantitative assessment of how governance structures influenced disaster response. By adopting a rigorous design and statistical analysis, the study ensures that the findings are reliable, reproducible, and grounded in empirical evidence.

3.2 Study Site

The study was conducted in the Central Tongu and Ada East Districts of the Volta Region and the Greater Accra Region of Ghana, respectively, the epicenter of the October 2023 Akosombo Dam spillage that displaced thousands and exposed weaknesses in emergency response systems. Ghana's location, tropical climate, and increasing flood frequency due to climate change make it highly vulnerable to disasters. The selected districts, situated in riverine and coastal zones, represent some of the most severely affected areas, with significant populations and livelihoods at risk. Their inclusion ensures that the study captures both the immediate impacts of the dam spillage and the broader challenges of disaster governance in flood-prone communities.

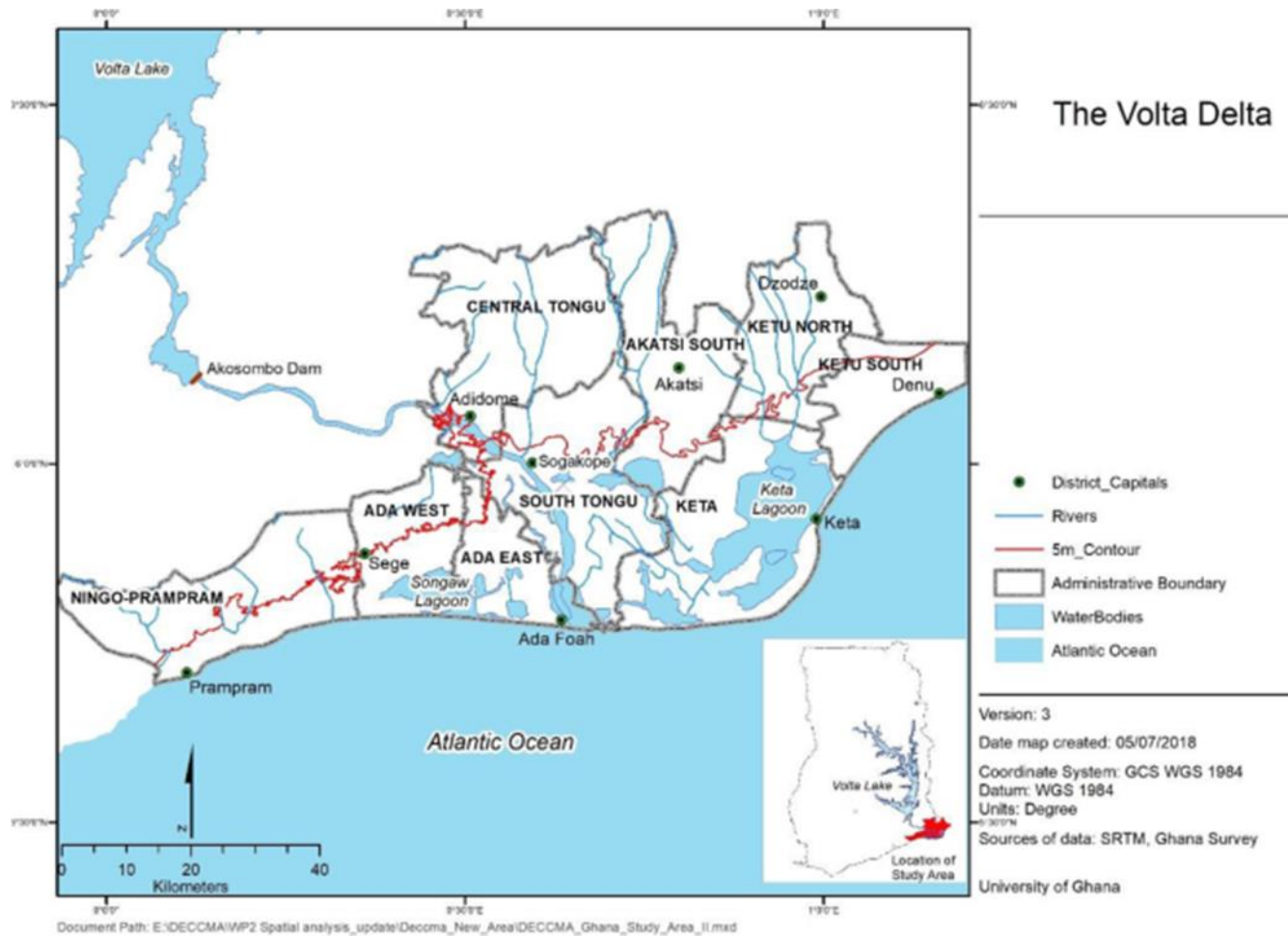


Figure 5: Map of the study area (Source: University of Ghana, 2018)

3.3 Research Design

The research employed a qualitative case study design. This approach was considered appropriate because it allowed the study to capture the lived experiences, perceptions, and meanings that affected communities attached to the flooding and its aftermath. Qualitative research was particularly suited to this context, as it enabled an in-depth exploration of how individuals and households navigated displacement, relief interventions, and recovery processes. By prioritizing participants' voices, the study was able to uncover nuanced insights into the social, emotional, and governance dimensions of emergency response. The use of thematic analysis further supported the identification of recurring patterns and themes across narratives, thereby moving beyond surface-

level descriptions to reveal the underlying dynamics that shaped community experiences during and after the disaster.

3.4 Sources of Data

The study relied entirely on secondary data obtained from the Mepe Flooding Project undertaken by Ensign Global University in 2024. The dataset provided by the Mepe Flooding Project contained information on displaced households, relief distribution, school closures, healthcare disruptions, and institutional responses. It was supplemented by official reports from the National Disaster Management Organization (NADMO), the Volta River Authority (VRA), the Ghana Health Service (GHS), and district assemblies. In addition, statistical details from reputable media outlets such as the *Daily Graphic*, *Citi News*, and *MyJoy Online* published between January and April 2024 were used to provide contextual evidence on the scale of displacement and the flow of relief.

Using secondary data for this research was both practical and strategic. It allowed the study to draw on a large and validated dataset that had already been compiled, ensuring accuracy and comprehensiveness. It also reduced the ethical and logistical challenges that would have come with primary data collection, particularly given the sensitive nature of the disaster and the vulnerability of affected populations.

SOURCE	TITLE	URL	DATE PUBLISHED
3news.com	Health crisis emerges in flood-ravaged Mepe	http://tinyurl.com/2nhwtcwxy	21st October
Adom Online	Mepe, Battor and many North Tongu towns in distress	http://tinyurl.com/37f5fyf5	11th October
Allafrica.com	Schools conduct studies under trees as classrooms turn into holding places	http://tinyurl.com/2h72atnc	25th October 2023
Asase radio 99.5	ECG urges affected customers to rectify wiring issues	http://tinyurl.com/nryxmxavx	6th February 2024
Avennehun.net	the people of Mepe confront the impact of floods following the Akosombo dam spillage	http://tinyurl.com/nh9umzxnm	21st october
BBC News	Ghana Floods: My entire farm is under the water and so is my farm	http://tinyurl.com/3uf83mkr	18th october
Citizennewsroom	Hundreds of residents in Mepe facing severe crisis after Akosombo dam spillage	http://tinyurl.com/3tmppj22	12th October 2023
Citizennewsroom	Health officers warn of possible outbreak of waterborne diseases	http://tinyurl.com/3wxaajds	16th October
Citizennewsroom	VRA ends spilling of Akosombo dam	https://citizennewsroom.com/2023/10/vra-ends-spillin	31st October 2023
Citizennewsroom	Akosombo dam spillage averted 'catastrophic' consequences – Energy Minister	http://tinyurl.com/yeyfudne	8th November 2023
Daily guidenetwork.com	Akuffo-Addo visits Mepe	http://tinyurl.com/y77veejp	17th October 2023
GBGghanaonline.com	Mepe grapples with flooding after Akosombo Dam spillage	http://tinyurl.com/nmskpcznr	15th October
GBGghanaonline.com	Volta FA donates 300 bags of sachet water to Mepe residents	http://tinyurl.com/3uf83mkr	19th October
GBGghanaonline.com	Lydia Forson, Naa Ashorkor & others support flood victims at Mepe	http://tinyurl.com/bde27he3	23rd October
GBGghanaonline.com	Nobody asked us to evacuate- Mepe Dev't Association Jabs Freda Prempeh	http://tinyurl.com/3uf83mkr	24th October
Ghanaian times	Akosombo dam spillage victims cautioned against use of polluted water	http://tinyurl.com/ybx5fz54	18th October
Ghanatoday.gov.gh	VRA rejects claims it failed to sensitise the affected people	http://tinyurl.com/42bpuqj7	November
Ghanaweb.com	Presbyterian Church supports Mepe flood victims with relief items	http://tinyurl.com/ym6jhdde	22nd November
Ghananewsonline	Volta MPs chide Akuffo-Addo over his comments to flood victims at Mepe	http://tinyurl.com/nlzp5yj8	18th october
Ghanaweb.com	17 year old boy chooses mother's safety over school	http://tinyurl.com/54tb8v3b	19th October 2023
Ghanaweb.com	Watch a tour of Mepe after severe Akosombo, Kpong dams spillage	http://tinyurl.com/4d48a7t4	20th October
gh.usembassy.gov	The US and UNICEF provide \$500,000 in school supplies for impacted communities	http://tinyurl.com/4bx5aebw	18th January 2024
Gip.org.gh	Planners, Architects, Engineers suggest raised structures for Mepe and its environs	http://tinyurl.com/5drv276r	28th October
Graphic Online	Flood in Mepe not under control- Ablakwa reacts	http://tinyurl.com/5b62j423	23rd October
Hotosm.org	Akosombo Dam spillage-flood mapping	https://tasks.hotosm.org/projects/15705	Nov-23
Ignews.com	Deputy NADMO Director says Mepe Situation Still unfolding	http://tinyurl.com/8c36we9r	19th October 2023
Mobile.classfonline	Mepe Queenmother defends Akuffo-Addo's little jokes on voltarian votes, rebukes media	http://tinyurl.com/4pvj3se	18th October 2023
Modern Ghana	Akosombo dam spillage -open letter to the speaker of Parliament	http://tinyurl.com/uxws8z4s	4th November
Modern Ghana	JJ Rawlins foundation donates to Mepe flood victims	http://tinyurl.com/tr3k3rx	6th November

Figure 6: A picture of media data sources in Excel

3.5 Population and Sampling

The population of interest for this study consisted of households, institutions, and organizations that were directly affected by the Mepe flooding. Since the dataset already represented the full scope of affected communities as captured during the Mepe Flooding Project, sampling was not required. Instead, the study made use of the entire dataset to ensure that all affected groups were represented in the analysis. This approach guaranteed that findings were not biased by sampling errors and that conclusions reflected the realities of all individuals and institutions included in the dataset.

3.6 Data Collection and Instruments

This study did not undertake new primary data collection but made use of datasets that had been systematically gathered using standardized reporting formats and checklists. Relief distribution records, demographic surveys of affected households, and agency-level statistical summaries formed the backbone of the dataset. These instruments had been designed by institutions such as NADMO, the VRA, and the Ghana Health Service to ensure consistency and reliability. Because these datasets were produced through institutional mechanisms, they provided robust quantitative evidence that could be subjected to further statistical analysis.

3.7 Data Analysis

The analysis of data was conducted using thematic analysis, which provided a systematic approach for identifying, organizing, and interpreting patterns of meaning within participants' accounts. The process began with familiarization, where transcripts and field notes were read repeatedly to ensure deep engagement with the data. This was followed by initial coding, during which significant statements, phrases, and narratives related to displacement, family separation, relief distribution, and governance responses were highlighted.

Codes were then collated into broader categories and themes that captured recurring patterns across participants' experiences. Particular attention was paid to themes such as family fragmentation and vulnerability, household unity as resilience, perceived fairness of relief distribution, and community-led coping strategies. To enhance rigor, themes were continuously refined through an iterative process, ensuring they reflected both the explicit content and the underlying meanings in the data.

Findings were presented thematically, supported with direct quotes from participants to foreground their voices and illustrate the lived realities behind the patterns. This approach moved beyond surface-level descriptions to reveal how governance practices, social dynamics, and community resilience shaped the overall experience of displacement and recovery.

3.8 Ethical Considerations

Although this research relied solely on secondary data, ethical principles were strictly observed. Permission was obtained from the custodians of the Mepe Flooding Project dataset, and all institutional protocols were respected. Confidentiality was maintained by ensuring that no sensitive personal identifiers were disclosed in the analysis. The dataset was stored securely on password-protected devices, accessible only to the researcher and supervisor, and will be permanently deleted after five years. Academic integrity was upheld through proper citation and acknowledgment of all data sources. By adhering to these ethical standards, the study ensured that its reliance on secondary data remained consistent with the principles of responsible and respectful research.

CHAPTER 4

4.0 RESULTS

4.1 Introduction

This chapter presents the findings from a qualitative thematic analysis of media reports concerning Ghana's October 2023 Mepe flooding disaster. The study's specific objectives guide the analysis. Given the interconnected nature of these objectives, particularly Objectives 2 and 3, the presentation of findings will weave these themes together, demonstrating how governance challenges directly impacted the effectiveness and equity of the emergency response.

The data, sourced from reputable Ghanaian media outlets such as the *Daily Graphic*, *Citi News*, and *MyJoy Online* between January and April 2024, provides a rich, real-time account of the disaster's unfolding, the institutional responses, and the lived experiences of affected communities. To structure this analysis coherently, the findings are organized using the Health Policy Triangle (Walt & Gilson, 1994), a framework that allows for a multi-faceted examination of policy processes, here applied to emergency intervention governance. The four components of the triangle are:

Context: The situational factors surrounding the disaster, including the historical and immediate causes of the flooding, the geographical and social profile of the affected areas, and the overarching political and environmental climate.

Actors: The key individuals, groups, and organizations involved in the disaster response, including government agencies, dam authorities, community leaders, and international partners.

Content: The substance of the emergency interventions, the relief items provided, the policies enacted, and the services delivered to the affected population.

Process: The dynamics of how the response was implemented, encompassing coordination, communication, decision-making, and the overall execution of relief efforts.

This chapter will first establish the context of the disaster, then detail the actors involved, describe the content of the interventions, and finally, analyze the process to illuminate the systemic challenges. Throughout, tables will be used to summarize key data points and themes extracted from the media corpus.

Table 1: Descriptions of media stories used in the study

NEWS OUTLET; Author	SHORT TITLE	DATE PUBLISHED
BBC News Thomas Naadi	<u>Ghana Floods: My entire farm is under the water and so is my farm</u>	18th October 2023
Graphic Online Gertrude Ankah	<u>Flood in Mepe not under control- Ablakwa reacts</u>	23 rd October 2023
Climate Change News Maxine Moes	<u>Flood victims blame government for overflowing dam destruction</u>	19 th November 2023
GBC News Seli Baisie	<u>Mepe grapples with flooding after Akosombo Dam spillage</u>	15 th October 2023
VRA Website	<u>VRA offers support to communities affected by ongoing spillage exercise</u>	October 2023
3News Emmanuel Samani	<u>Health crisis emerges in flood-ravaged Mepe</u>	21st October 2023

Citi News Fred Duhoe	<u>Hundreds of residents in Mepe facing severe crisis after Akosombo dam spillage</u>	12th October 2023
Ghana US embassy website (US mission Ghana)	<u>The US and UNICEF provide \$500,000 in school supplies for impacted communities</u>	18th January 2024
Ghana Web Mawuli Ahorlumegah	<u>17-year-old boy chooses mother's safety over school</u>	19th October 2023
The Custodian John Kekeli	<u>Gov't rolls out rescue plan for flood victims in Mepe and other affected areas</u>	16 th October 2023
Pulse Ghana Evans Annang	<u>Here are 5 challenges facing communities following Akosombo dam spillage</u>	23rd October 2023
Citi News Desmond Selase Aggor	<u>Health officers warn of possible outbreak of waterborne diseases</u>	16th October 2023
My Liberty News Kekeli Blamey	<u>Some victims of the Akosombo dam spillage still inhabit in classrooms at mepe</u>	24 th December 2023
Ghanaian Times	<u>Akosombo dam spillage victims cautioned against use of polluted water</u>	18th October 2023
Soiree News Freeman Koryekpor	<u>Flood victims in Mepe, Battor, Aveyime and others dying of hunger</u>	14th October 2023
All Africa Report Julius Yao Petetsi	<u>Schools conduct studies under trees as classrooms turn into holding places</u>	25 th October 2023

Onua Online Felix Anim Apau	VRA tasks zoomlion to fumigate Mepe as flood waters recede	30 th October 2023
MUG Website Kingsley Attitsogbui	Methodist University donates relief items to flood victims	14th November 2024
IG News	Deputy NADMO Director says Mepe Situation Still unfolding	19th October 2023
Peace FM Online Emelia Ennin Abbey	Navy rescues 8000 flood victims	20th October 2023
GBC News Seli Baisie	Lydia Forson, Naa Ashorkor & others support flood victims at Mepe	23rd October 2023
Peoples Dispatch Stanley Kwabla Arku	All you need to know about Ghana's Akosombo Dam spillage	1st November 2023
MyJoy Online	Floods recede more than 3 feets at Mepe-NADMO	26th October 2023
Asaase Radio Joseph Appiah Dolphyne	ECG urges affected customers to rectify wiring issues	6th February 2024
Citi News	Akosombo dam spillage averted 'catastrophic' consequences – Energy Minister	8th November 2023
Modern Ghana Seli Baisie	JJ Rawlings foundation donates to Mepe flood victims	6th November 2023
GBC News	Nobody asked us to evacuate- Mepe Dev't Association Jabs Freda Prempeh	24th October 2023

Adom Online	<u>Mepe , Battor and many North Tongu towns in distress</u>	11th October 2023
GBC News	<u>Volta FA donates 300 bags of sachet water to Mepe residents</u>	19th October 2023
The Herald	<u>Citi FM/Citi TV hands over Resettlement centres</u>	7th February 2024
Ghana News Agency Kekeli K Blamey	<u>Eight Months after Akosombo Dam Spillage</u>	19 th May 2024
MyJoy Online Ohene Ampo nsah	<u>Families affected by Akosombo dam spillage begin anew in Aveyime-Battor</u>	10 th December 2023
Prevention Web Stephan Miescher	<u>Akosombo dam disaster reveals a history of negligence that continues to this day</u>	21st November 2023
Onua Online Maxwell Otoo	<u>Married couples at Agbotikpo cry out</u>	28 th December 2023
GIP website	<u>Planners, Architects, Engineers suggest raised structures for Mepe and its environs</u>	28 th October 2023
Ghanaian Times Ken Afedzi	<u>Ex-President Mahama pushes for bipartisan parliamentary enquiry into Akosombo Dam spillage</u>	12 th February 2024
MyJoy Online	<u>ECG restores power to majority of communities affected by Akosombo Dam spillage</u>	14 th October 2023

GBC News Seli Baisie	<u>President Akufo-Addo promises relief, tours displaced Communities after Akosombo Dam Spillage</u>	16 th October 2023
Onua Online Felix Anim Apau	<u>Education in limbo as some Akosombo flood victims still occupy classrooms</u>	16 th June 2024
VRA Website	<u>Mepe Traditional Council welcomes the Executive of VRA to confer on Managing Spillage Flood</u>	January 2024
The Africa Report	<u>Ghana: Akufo-Addo gaffe as Akosombo dam spill displaces thousands</u>	18 th October 2023
UNICEF Website	<u>Ghana is currently facing a mini crisis</u>	17 th November 2023
3News Leo Nelson	<u>Replacement of Voter ID cards for flood victims</u>	16 th May 2024
GhanaNews Agency Kekeli Blamey	<u>Some flood victims still inhabit classrooms</u>	24 th December 2023
VRA Website	<u>VRA Sustainability Report</u>	February 2024
3News Emmanuel Samani	<u>Akosombo Dam Spillage: Health crisis emerges</u>	21 st October 2023

4.2 The Context of the Disaster: Genesis and Scale of the Mepe Flooding

Understanding the governance of the emergency response first requires an appreciation of the context in which the disaster occurred. The media narrative consistently framed the Mepe flooding not as a sudden, freak weather event, but as a predictable consequence of infrastructural management and environmental pressures.

4.2.1 The Akosombo Dam Spillage as a Primary Cause

The dominant narrative across media sources identified the controlled spillage from the Akosombo and Kpong Dams, operated by the Volta River Authority (VRA), as the direct cause of the catastrophic flooding. The spillage was described as a necessary preventive action to avoid the "overtopping" and potential collapse of the dams following heavy rainfall in the catchment areas (Osei, 2023). One report noted, the VRA was compelled to initiate the spillage to protect the structural integrity of the dam, a critical national asset (Mario & Ezekiel, 2023). This frames the disaster within a context of difficult trade-offs between national energy security and local community safety.

However, the media highlighted significant public consternation regarding the communication of this action. The code "Short notice" was frequently grounded in reports, indicating that communities felt they had insufficient time to prepare for the deluge. As synthesized in Table 4.1, the media reported that while the VRA claimed to have provided warnings, the magnitude and imminent danger were not effectively communicated to the at-risk populations downstream.

Table 2: Contextual Factors of the Mepe Flooding as Reported in the media

Thematic Category	Key Media Narratives	Illustrative data (Codes)
Cause of the flooding	Controlled spillage from Akosombo and Kpong Dams due to high water levels; mentioned as a necessary preventive action.	Cause of Flooding, Controlled Spillage as a Preventive Action, Reasons for Spillage
Early Warning	Perceived inadequacy of warnings; communities reported being caught by surprise despite VRA's assertions of prior communication.	Short Notice, Community Concerns
Historical Precedent	References to the historical context of the dam's construction and past spillages, framing the current event as part of a recurring cycle of risk.	History of Akosombo Dam, Historical Context
Scale of impact	Widespread devastation across multiple districts, with Central Tongu, North Tongu, and South Tongu being the epicenters.	Affected Areas, Mepe, Central Tongu, North Tongu, South Tongu

4.2.2 The Affected Areas and Scale of Devastation

The media reports documented the geographical spread and human scale of the disaster. The flooding was not confined to Mepe but severely impacted the entire Lower Volta Basin, particularly the districts of Central Tongu, North Tongu, and South Tongu (Daily Graphic, October 15, 2023). The code Affected Areas and its sub-codes (Central Tongu, North Tongu, South Tongu, Mepe) were consistently applied, underscoring the regional nature of the crisis.

The scale of displacement was a recurring theme, with the code “Number displaced” being one of the most frequently grounded. Initial media estimates, later corroborated by official figures, reported that over 30,000 people were displaced, with thousands of homes (Households flooded), vast farmlands (Destruction of farms), and critical infrastructure (Destroyed roads, Broken bridges) submerged (MyJoy Online, October 18, 2023). This widespread physical destruction set the stage for the subsequent humanitarian and governance challenges.

4.3 The Actors: A Landscape of Multi-Level Governance and Intervention

The emergency response involved a diverse array of actors, each with distinct roles, responsibilities, and levels of influence. The media reports depicted a complex range, ranging from formal state institutions to informal community networks.

4.3.1 Government Institutions and Agencies

Formal state actors were positioned at the forefront of the expected response. The National Disaster Management Organization (NADMO) was consistently mentioned, reflecting its mandated role as the lead agency for disaster coordination. However, its portrayal in the media was often critical, focusing on its delayed mobilization and perceived inadequacy. Other key government actors included:

Volta River Authority (VRA): As the entity that initiated the spillage, the VRA was a central and controversial actor. Its role evolved from dam operator to a key relief provider, launching initiatives like "Operation Da woho so"(Operation go home)

Ghana Armed Forces and Ghana Navy: These agencies were portrayed positively for their role in search, rescue, and evacuation operations.

District Assemblies: District Chief Executives (DCEs) were quoted in local coordination efforts, though their capacity was often depicted as overwhelmed.

Other Ministries: The Ministry of Education and the Ministry of Health were mentioned, often in the context of assessing damage to schools and health facilities.

4.3.2 Political Figures

High-level political figures featured prominently in the media coverage. Visits by government ministers (Deputy Minister for Energy, Deputy Minister for Health, and Volta Regional Minister) and parliamentarians were widely reported, often under the codes "Government Response" and "Leadership Response." These visits were double-edged: they were framed as demonstrations of state concern, criticized as symbolic gestures that did not always translate into tangible, timely aid due to government insensitivity

4.3.3 International and Non-State Actors

The media reports highlighted the significant role played by non-state actors, often filling voids left by the formal system. International organizations like UNICEF, USAID, and the World Food Program (International Agencies) were acknowledged for providing technical and material support. Local civil society groups and volunteers, including the Volta Relief Campaign, Methodist University Ghana, and the Volta Regional Football Association, were lauded for their swift,

grassroots-led interventions. Celebrities such as Lydia Forson and Naa Ashorkor, along with private corporations including Zoomlion, Citi FM/Citi TV, and the ECG, also featured prominently in donation drives and recovery efforts, underscoring a broader societal mobilization.

4.3.4 Community Actors

The media gave voice to community-level actors, including traditional chiefs (Local chiefs) and affected residents themselves. Chiefs were portrayed as crucial intermediaries, collaborating with authorities and advocating for their people. The narratives from displaced families provided powerful testimonials on the human impact of the disaster and the governance failures.

Table 3: Key Actors in the Emergency Response as Identified in Media Reports

Actor category	Key Entities	Reported Roles and Activities
State Institutions	NADMO, VRA, Ghana Armed Forces, District Assemblies, Ghana Health Service	Lead coordination (NADMO), dam management & relief (VRA), search & rescue (Military), local governance (Assemblies), health response (GHS).
Political Figures	Various Ministers, Parliamentarians, Volta Regional Minister	High-level visits, public assurances, oversight, and political advocacy.
International Agencies	UNICEF, USAID, World Food Program	Provision of specialized support, funding, and relief items.
Non-State Actors	Local NGOs, Churches, Volunteers, Celebrities, Private Companies	Grassroots mobilization, donation of items, filling immediate gaps in state response.
Community Actors	Traditional Chiefs, Community Leaders, Affected Residents	On-the-ground coordination, advocacy, providing local knowledge, sharing lived experiences.

4.4 The Volta River Authority (VRA): A Dual Role of Causality and Contested Response

A prominent theme emerging from the media analysis is the complex and often contradictory role of the Volta River Authority (VRA). The VRA was not merely one actor among many; it was positioned as the entity that initiated the disaster through the controlled spillage and was subsequently tasked with leading the mitigation and relief efforts. This dual role created a

significant governance tension, framing the VRA simultaneously as both the cause of the crisis and a primary agent of its solution. The media narratives, as coded under the VRA-related parent code and its sub-codes, reveal a trajectory of the Authority's actions, from initial silence and criticism to the launch of formal relief operations, all under intense public scrutiny.

4.4.1 From "VRA Silence" to "Operation Da Woho So": The Evolution of a Response

The initial phase of the disaster was marked by a significant communication vacuum from the VRA, captured powerfully by the code VRA silence. Media reports highlighted the profound frustration and anxiety among communities who perceived a lack of timely, detailed, and actionable information preceding and immediately following the spillage. This silence was not presented as a mere omission but as a critical governance failure that exacerbated the crisis. Residents reported being caught off-guard by the speed and intensity of the flooding, suggesting that the warnings provided were insufficient for effective evacuation and asset protection (Daily Graphic, October 13, 2023). This period of perceived neglect fueled public criticism and set the stage for a deficit of trust that would shadow the VRA's subsequent interventions.

In response to the escalating crisis and mounting public pressure, the VRA transitioned from a state of silence to one of highly publicized action. The cornerstone of this public response was the launch of VRA's "Operation Da Woho So" (Operation Go Home). This initiative, widely reported in the media, was framed as a comprehensive emergency management plan (VRA Emergency Management Plan) involving the distribution of relief items and the coordination of rescue efforts. The VRA, in collaboration with NADMO (VRA collaborates with NADMO), engaged in direct VRA Donations of essential items such as food, water, and temporary shelter materials to affected communities. This operational shift was a clear attempt to assert control over the situation and present an image of a competent and responsive state institution.

4.4.2 Public Perception and the Legitimacy of VRA's Interventions

The media's portrayal of the VRA's relief efforts was not monolithic but reflected a spectrum of community and stakeholder reactions. On one hand, there were reports of VRA appreciation from certain quarters. For instance, some Local Chiefs commends VRA's efforts and the DCE commends VRA for their intervention, as documented in several news pieces. These endorsements served to legitimize the VRA's actions and portrayed a narrative of effective state-community collaboration in the face of disaster.

Conversely, a strong undercurrent of skepticism and criticism persisted. The very name "Operation Da wo ho so" was questioned by some, as the reality on the ground was that thousands of people could not return to their submerged homes. The code "VRA Urged to Intensify Interventions" indicates that significant portions of the public and advocacy groups did not find the Authority's efforts to be sufficient. The core of this criticism lay in the fundamental conflict of interest inherent in the VRA's position: the entity that caused the displacement was now being tasked with managing the relief. This raised questions about the sincerity and thoroughness of the response, with some media narratives implying that the VRA's actions were as much a public relations campaign to manage institutional liability as they were a genuine humanitarian effort. The Activities of VRA during flood were thus constantly measured against the scale of the destruction it had initiated, a standard by which it often, in the eyes of the media and the affected public, fell short.

Table 4: The Dual Role and Public Perception of the VRA as Reported in the Media

Phase of VRA involvement	Reported Actions & Stances	Public and Media Perception
Pre-Spillage & Initial Phase	Controlled spillage; perceived inadequate communication and warning.	Criticism & Distrust: Characterized by VRA silence and Community concerns over Short notice, framing the VRA as the cause of the crisis
Operational Response Phase	Launch of Operation Dawa; distribution of VRA Donations; collaboration with NADMO.	Mixed & Contested: Ranged from official commendations (VRA appreciation) to public calls for more robust action (VRA Urged to Intensify Interventions).
Underlying governance tension	The VRA acts as both a dam operator (cause) and a lead relief agency (solution).	Legitimacy Challenge: Persistent skepticism regarding the adequacy and sincerity of the response, rooted in the Authority's dual and conflicting roles.

4.4 The Content of Interventions: Assessing Adequacy, Timeliness, and Equity

This section addresses the study's second objective by examining the substance of the emergency interventions what was provided, to whom, and when. The media data reveals significant disparities between the intended content of the response and the lived reality on the ground, themes that are intrinsically linked to the governance challenges explored in Section 4.5.

4.4.1 Spectrum of Relief Items and Services

The media documented a wide range of interventions, which are systematically categorized in Table 4.5. The most frequently reported support addressed basic survival needs, including donations of food items such as rice, maize, and yams, sachet water, and shelter materials like tents, temporary shelters, mattresses, and blankets. Efforts in sanitation and health involved providing donations of mobile toilet facilities and toiletries, conducting fumigation exercises, and

deploying medical aid and a mobile clinic. Furthermore, distributions included essential non-food items such as clothing and sleeping mats, while educational support was noted through the provision of educational supplies and plans for temporary school structures. A significantly longer-term initiative was the reported

Table 5: Documented Emergency Interventions from Media Reports

Intervention Category	Specific Item/ services mentioned	Relevant codes
Food and water	Rice, maize, yam, sachet water	Food items, Rice, maize, yam, sachet water
Shelter and beddings	Tents, temporary shelters, mattresses, blankets, sleeping mats	Temporary shelter, Tents, mattresses, blankets, Sleeping mats
Health and Sanitation	Medical aid, mobile clinics, fumigation, mobile toilets, toiletries	Medical aid, Mobile Clinic, Fumigation Exercise, Donation of Mobile Toilet Facilities, Toiletries
Other Essentials	Clothing, educational supplies	Clothing, educational supplies
Long-term Resettlement	Safe Alive Housing Project	Safe Alive Housing Project

4.4.2 Critical Gaps in Adequacy and Timeliness

Despite this catalog of interventions, the media narratives were saturated with reports of critical shortcomings, directly speaking to Objective 3 (challenges and gaps).

Despite this catalog of interventions, the media narratives were saturated with reports of critical shortcomings, directly speaking to Objective 3 (challenges and gaps). A dominant theme was the delayed arrival of assistance, which had severe and prolonged consequences. Reports highlighted that in the crucial first week, many victims were left without support, leading to Hunger and a Humanitarian crisis. The code Delayed Relocation was also prominent, with families stranded in

flooded homes or overcrowded shelters for an extended period (Ankah, 2023). This failure to provide timely and durable solutions was starkly summarized by Former President John Dramani Mahama, who noted that "*Five months into the disaster, some displaced persons are still living in tents, having lost their homes to the floods,*" underscoring the chronic nature of the inadequate response.

Insufficient Quantity: The supplies that did arrive were often described as Insufficient relief items and Insufficient drinking water for the scale of the displaced population. This was compounded by Cramped shelter conditions, where temporary shelters were overwhelmed.

Mismatch of Needs: The media reported a misalignment between the items delivered and the most pressing needs of the community. For instance, there were accounts of mattresses being delivered before adequate supplies of potable water, a critical misstep given the immediate health risk.

4.4.3 Equity in the Distribution of Relief

The equity dimension of Objective 2 was a particularly salient theme in the media analysis. The principle of Equitable Relief Distribution was often cited as an aspiration but was reported as lacking in practice.

Geographical Inequity: Reports suggested an uneven distribution of aid across different affected communities. Some camps received multiple consignments, while others were neglected for days (MyJoy Online, reported by Ernest K Arhinful, October 20, 2023).

Vulnerability Oversight: The specific needs of Vulnerable Groups such as Children, the Aged, and persons with disabilities were frequently overlooked. Media reports highlighted that Children are affected most by hunger and that the elderly struggled to access distribution points. The absence of specific provisions for maternal health, infant care, and the medically frail was a recurring

criticism. This failure to mainstream equity into the response content deepened the suffering of the most at-risk populations.

4.5 The Process: Governance and Coordination Challenges in Emergency Response

This section directly addresses the study's third objective, delving into the *how* of the emergency response. The process encompassing coordination, communication, and decision-making was where the most significant governance failures were reported, which in turn directly caused the inadequacies and inequities in the content of the interventions.

4.5.1 Fragmented Coordination and Institutional Silos

A central challenge identified in the media was the lack of seamless coordination among the myriad actors. The response was characterized by institutional fragmentation, where agencies operated in silos rather than as a cohesive unit.

A significant focal point of criticism was the relationship between the VRA, NADMO, and local communities. Although there were reports of the VRA collaborating with NADMO, the overall narrative pointed to a critical breakdown during the handover from the dam-spilling phase to the disaster response phase, which is NADMO's mandate. This lack of an integrated plan led to widespread confusion and delayed action. Furthermore, the absence of a strong, centralized coordinating mechanism created situations where some areas received duplicated aid while others experienced total neglect. This situation reflected a fundamental failure in resource management and logistical planning at the institutional level.

4.5.2 Top-Down Decision-Making and Erosion of Community Agency

The process was overwhelmingly described as top-down, with decisions made in Accra and regional capitals with little meaningful consultation with local leaders and affected communities. This governance approach sidelined local knowledge and agency.

Exclusion of Local Voice: The media reported frustration among Local chiefs and residents who felt their voices were not heard in planning relief efforts. This top-down Governance model resulted in the mismatched interventions noted earlier.

Lack of Participation: The code Community concerns encompassed complaints from residents who felt like passive recipients rather than active partners in their own recovery. This lack of participation undermined the relevance and effectiveness of the interventions and fostered a sense of hopelessness and neglect.

4.5.3 Communication Failures and Accountability Deficits

Ineffective communication was a cross-cutting governance failure, affecting everything from early warnings to the management of relief distribution.

One-Way Information Flow: The VRA was criticized for its silence and for providing information that was not actionable for communities. During the response, residents pleaded for timely updates on relief plans and spillage schedules, but these were often not forthcoming.

Politicization of Aid: A severe accountability deficit was reported, with allegations that relief distribution was politicized. While not always explicitly stated, narratives around Government Insensitivity and calls for Equitable Relief Distribution hinted at perceptions of favoritism and a lack of transparency in how aid was allocated. This eroded trust in governance structures and deepened social divisions.

4.5.4 Systemic Blind Spots: The Case of Psychosocial and Health Needs

The governance process exhibited significant blind spots, particularly regarding less tangible but critical needs. The media highlighted the almost complete absence of structured psychological support to victims. The psychosocial impacts of the disaster captured in codes like Emotions, Heartbreaking situation, hopelessness, and Lack of sexual intimacy were recognized in human-interest stories but were not integrated into the formal governance response. Similarly, while Public Health Impacts were feared, the proactive integration of mental health and psychosocial support into the health response was missing.

Table 6: Governance and Process Challenges in the Emergency Response

Governance Challenge	Manifestation in the response process	Impact on Relief
Fragmented coordination	Silos between VRA, NADMO, and assemblies; duplication of efforts in some areas, neglect in others.	Inadequate & Inequitable Aid: Led to uneven and inefficient distribution of relief items.
Top-down decision making	Lack of consultation with community leaders; relief plans designed without local input.	Inadequate & Inequitable Aid: Resulted in mismatched interventions that did not address actual community priorities.
Poor Communication	Insufficient early warnings; lack of timely updates during the response; perceived silence from authorities.	Untimely Aid: Increased vulnerability and frustration; hampered efficient evacuation and resource allocation.
Accountability Deficits	Perceptions of politicization in aid distribution; lack of transparency in resource allocation.	Inequitable Aid: Undermined trust and fairness, leaving the most vulnerable behind.
Systemic Blind Spots	Neglect of psychosocial support; reactive rather than proactive health measures.	Inadequate Aid: Failed to address the full spectrum of human needs, deepening long-term vulnerability.

CHAPTER 5

5.0 DISCUSSION

5.1 Introduction

This chapter provides a critical interpretation of the findings presented in Chapter 4, using the Health Policy Triangle (Walt & Gilson, 1994) as a lens to structure the discussion. The analysis will address the study's objectives by examining how the context of the disaster, the roles and power dynamics of key actors, the content of the relief interventions, and the process of implementation collectively shaped the inequitable and inadequate emergency response in Mepe. By framing the discussion this way, it becomes clear that the failures were not isolated incidents but the result of a deeply interconnected and flawed policy system.

5.2 The Context: A Disaster Foretold and Its Governance Implications

The media analysis established that the context was not a sudden natural catastrophe but a managed disaster rooted in infrastructural governance. The controlled spillage from the Akosombo Dam, while a technical necessity, was conducted within a context of inadequate early warnings and a historical precedent of risk for downstream communities.

When linked to Policy, this contextual failure represents a critical deficit in risk governance policy. The lack of a legally enforceable, proactive communication and evacuation protocol for dam spillages meant that a national-level energy security decision directly triggered a local-level humanitarian crisis. The policy environment failed to mandate and fund the necessary preparatory measures to protect vulnerable populations.

This finding aligns with a robust body of disaster scholarship. Wisner et al. (2004, p. 11) in *At Risk* famously argue that disasters are not natural but are the result of "the interaction of a natural hazard and a vulnerable human population." The Mepe flooding exemplifies this, where the hazard (spillage) became a disaster due to pre-existing social and policy-driven vulnerabilities. Furthermore, the failure in risk communication mirrors what Ross et al (2024) identifies as a common governance failure, where warnings are technically issued but are not "timely, credible, or actionable" for the public, leading to a crisis of confidence and delayed protective action. This case also reflects the "governance trap" described by Danaa (2023) in African contexts, where a lack of investment in proactive community-based preparedness and early warning systems creates a predictable cycle of reactive and ineffective disaster response.

5.3 The Actors: Fragmented Roles, Power Dynamics, and the Crisis of Legitimacy

The actor landscape revealed a system characterized by fragmentation and conflicting roles, which critically undermined the response's coherence and legitimacy.

The central governance tension was the VRA's position as both the cause of the crisis (as the dam operator) and a lead agent of the response. This created a profound crisis of legitimacy. While the VRA's "Operation Da who so" (Operation Go Home) was a necessary intervention, it was perceived by many as a public relations strategy to manage institutional liability rather than a genuine humanitarian effort. This actor-based conflict eroded public trust from the outset.

The VRA-NADMO Disconnect, where there were findings pointing to a critical failure in the handover from the VRA (dam-spilling phase) to NADMO (disaster response phase). The media reports of a delayed NADMO response and the VRA launching its own operations suggest a lack

of clear, pre-established actor-specific protocols. This institutional siloing is a classic actor-related failure in complex policy systems.

The process was dominated by state and political actors, systematically sidelining community actors like traditional chiefs and local leaders. This top-down approach ignored local knowledge and agency, leading to interventions that were often mismatched with on-the-ground realities. The positive contributions of non-state actors (NGOs, volunteers) further highlighted the gaps left by the failure of formal state actors to coordinate effectively.

5.3.1 The Gaping Void Between Legal Frameworks and Implementation

Ghana is not operating in a policy vacuum. The existence of NADMO, established under Acts 517 (1996) and 927 (2016), provides a legal mandate for disaster management. However, the events in Mepe expose a critical chasm between law-on-the-books and law-in-action. The legislation envisions a decentralized, coordinated, and effective response system. Yet, as documented, the reality was marked by centralization, fragmentation, and ineffectiveness.

This gap can be attributed to two main factors. Firstly, as indicated by the chronic reports of insufficient relief, there is a glaring lack of financial and logistical investment to operationalize the legal mandate. A law that establishes a disaster management organization without ensuring it is perpetually equipped and funded is a hollow shell. Second, the findings suggest a lack of enforceable accountability clauses within the governance framework. While NADMO has a mandate, there appear to be no clear, actionable consequences for its failure to perform its duties adequately, or for the failure of other agencies like the VRA to coordinate effectively with it. This reflects a broader challenge in Ghanaian public administration where policy implementation is often weakened by a lack of political will and robust enforcement mechanisms (Mensah &

Ahadzie, 2020). The "Sendai Framework for Disaster Risk Reduction," which Ghana has adopted, emphasizes the need for good governance, accountability, and transparency. The Mepe response demonstrates that the country is yet to fully domesticate and implement these principles into its operational disaster management culture.

5.4 The Content: The Manifestation of Governance Failures in Relief Outcomes

The delayed and insufficient relief items are a direct result of a policy context that fails to mandate and fund pre-positioned stocks and a rapid deployment system for agencies like NADMO. The reactive, rather than proactive, content of the response was a predictable outcome of this flawed preparedness context.

The documented geographical inequity and neglect of vulnerable groups (children, the aged) stem directly from the actor-related failures. The top-down approach, which excluded community actors who best understand local vulnerabilities, and the perceived politicization of aid distribution by political actors, ensured that the content of the response was not allocated based on need, but on other, less equitable criteria.

5.4.1 Timeliness, Logistics, and Systemic Preparedness

The media was replete with accounts of delayed relief, captured in codes *like Delayed Relocation* and *Insufficient relief items*. This was not merely a logistical bottleneck but a symptom of a deeper systemic lack of preparedness. Underfunded and poorly equipped, as noted by Mensah and Ahadzie (2020), agencies like NADMO lacked the pre-positioned resources and rapid deployment capabilities necessary for an effective initial response. This forced a reactive approach, relying on last-minute appeals that prolonged the suffering of victims. A swift, well-resourced response could have mitigated this erosion, but the governance system was not geared for speed,

reflecting the broader "efficiency vs. equity" tension in disaster governance debated in the literature (Tierney, 2012).

5.4.2 The Equity Deficit and the Invisibility of Vulnerable Groups

Perhaps the most poignant finding was the consistent failure to ensure equity in the emergency response. The principle of Equitable Relief Distribution was espoused but not operationalized. The media highlighted how vulnerable groups: Children, the Aged, and persons with disabilities, were disproportionately affected. This finding is consistent with global patterns where disasters magnify pre-existing social inequalities (Wisner et al., 2004; Fothergill & Peek, 2015). The governance process exhibited a critical blind spot by failing to mainstream the specific needs of these groups into planning and distribution. For instance, the lack of specific provisions for infants or the mobility challenges faced by the elderly during distributions are clear indicators of a non-inclusive approach.

This equity deficit can be understood through the lens of the SLF. Vulnerable groups often have the least financial capital to fall back on, the most fragile human capital (health), and are most dependent on social capital and state protection. When governance fails to target them explicitly, their vulnerability is catastrophically amplified. The findings from Mepe mirror the post-Katrina analysis in the U.S., where poor and minority communities bore the brunt of the disaster due to governance failures (Tierney, 2012), underscoring that this is a universal challenge of justice in disaster management.

5.5 The Process: How Implementation Dynamics Sabotaged the Response

The process, the how of implementation, was where the failures of context, actors, and content converged to create a system-wide breakdown.

The VRA-NADMO-community disconnect and the resulting duplication and gaps in aid are quintessential process failures. (fragmented coordination) They reveal the absence of a strong, centralized coordinating mechanism and clear standard operating procedures, which are essential process elements for an effective multi-actor response.

The VRA's silence and lack of timely updates represent a critical failure in the communication process. (Communication breakdown) This one-way, non-transparent flow of information disempowered communities and prevented a feedback loop that could have corrected course, reflecting a process designed for control rather than collaboration.

The near-total absence of psychological support in the response is a profound process failure. It demonstrates that the governance system's processes for needs assessment and intervention design were narrowly focused on immediate material needs, completely overlooking the holistic human recovery process, which is essential for long-term resilience.

5.6 Aligning with and Contributing to Existing Literature

This study's findings both confirm and extend the existing body of literature on disaster governance in Ghana. The work of Klevo (2024) on educational disruption and Asuamah-Tawiah (2024) on livelihood vulnerability is validated by this study's findings on educational effects and Loss of Livelihood. Similarly, Doh's (2024) focus on post-flood health risks is supported by the media's reporting on Public Health Impacts and Water-borne disease.

However, this study moves beyond these sectoral analyses by systematically interrogating the *governance structures* that underpin these outcomes using the Health Policy Triangle. While prior studies documented the *what* (e.g., schools closed, livelihoods lost), this research explains the *why* by analyzing the interplay of context, actors, content, and process. It fills the identified

research gap by applying this integrated framework, demonstrating that the failures in specific sectors like education, health, and livelihoods are all downstream of a systemic failure in disaster governance.

CHAPTER 6

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This study set out to critically examine the governance of emergency interventions during the October 2023 Mepe flooding. Through a thematic analysis of media data, this research has systematically investigated the roles of governance structures, the adequacy and equity of relief, and the key challenges that undermined the response. This chapter synthesizes the core findings and presents actionable recommendations for policy and practice.

6.2 Summary of Key Findings

The analysis reveals a disaster response crippled by three interconnected failures.

First, institutional roles were severely fragmented, marked by a critical lack of coordination between the Volta River Authority (VRA) and the National Disaster Management Organization (NADMO), and a top-down decision-making process that sidelined local authorities and their vital knowledge, leading to mismatched interventions. Second, the relief provided was both inadequate and inequitable, characterized by severe delays, insufficient aid, and a distribution process perceived as unfair and politicized, which systematically overlooked the unique needs of vulnerable groups like women, children, and the elderly, thereby deepening their suffering. Finally, these outcomes were underpinned by systemic governance challenges, including a profound lack of accountability and transparency, compounded by poor communication and a complete neglect of psychosocial support. Together, these findings, analyzed through the lens of the Health Policy Triangle, reveal a response crippled by a dysfunctional system where the context was mismanaged, key actors were fragmented, the content of aid was insufficient, and the entire process was flawed.

Together, these findings, analyzed through the lens of the Health Policy Triangle, reveal a disaster response crippled by a dysfunctional system where the context was mismanaged, key actors were fragmented, the content of aid was insufficient, and the entire process was flawed.

6.3 Recommendations

Based on the findings, the following recommendations are proposed:

6.3.1 Policy Recommendations

1. **Strengthen Legal Frameworks:** Amend NADMO's mandate (Act 927) to include enforceable accountability mechanisms and mandatory inter-agency coordination protocols with entities like the VRA.
2. **Decentralize Response Systems:** Policy should mandate and resource District Assemblies to develop and lead localized disaster plans in collaboration with traditional authorities and community representatives.
3. **Mainstream Equity:** Revise the National Disaster Management Plan to formally integrate gender, age, and disability inclusion (GADI) as a cross-cutting principle in all relief planning and distribution.

6.3.2 Practical Recommendation

The governance failures identified in the Mepe response are systemic and require national-level solutions. The following practical measures are proposed to strengthen Ghana's overall disaster management system, making it more proactive, coordinated, and trustworthy, regardless of the disaster's nature or location.

1. The Government of Ghana should establish a National Disaster Coordination and Communication Platform, which would be a secure, web-based system to provide all key agencies with real-time situational dashboards, a national resource inventory, and integrated communication tools. This platform would ensure all actors, from the national to the district level, are working from the same information to enable a unified response to any crisis, from floods to wildfires.
2. The National Disaster Management Organization (NADMO) must decentralize and modernize the national relief stockpile system by auditing and refurbishing its warehouses in all regional capitals and high-risk districts. These warehouses should be stocked with standardized "Ghana Emergency Response Kits" and linked through a digital inventory management system to allow for the rapid deployment of life-saving resources from the nearest location to any disaster site.
3. To build public trust and ensure equitable aid, a mandatory "Ghana Disaster Communication Protocol" should be implemented to standardize how lead agencies issue public alerts in clear, local languages through a prescribed cascade of channels. This should be complemented by piloting a Public Relief Tracking System, where relief consignments are logged on a platform, allowing for transparency and reducing allegations of politicization during any emergency

6.4 Conclusion

The 2023 Mepe flooding disaster, analyzed through the Health Policy Triangle, underscores that the consequences of natural hazards are profoundly mediated by the quality of governance. The extensive suffering was a direct outcome of a fragile system characterized by a toxic interplay of

a neglected context, fragmented actors, inadequate content, and a broken process. The journey toward resilience requires building a more inclusive, transparent, and accountable governance system that places the dignity and safety of every citizen at its core. It is the hope that this study contributes to the necessary reforms to ensure the lessons from Mepe guide Ghana toward a more resilient future.

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APPENDICES

APPENDIX A: NEWSPAPER ITEMS

AKOSOMBO DAM SPILLAGE: HEALTH OFFICERS WARN OF POSSIBLE OUTBREAK OF WATERBORNE DISEASES


citinewsroom.com/2023/10/akosombo-dam-spillage-health-officers-warn-of-possible-outbreak-of-waterborne-diseases/

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Akosombo dam spillage: Health officers warn of possible outbreak of waterborne diseases

by Desmond Selase Aggor — October 16, 2023 Reading Time: 1 min read



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The Volta Regional Health Directorate is raising concerns about the possible outbreak of waterborne diseases following the flooding incident that occurred in some districts in the Volta Region.

Newspaper Item 1

Home > Social

Some victims of Akosombo Dam spillage still inhabit classrooms at Mepe

By Kekeli Blamey

by Frank Atiase — December 24, 2023 in Social, Headlines, Top Stories Reading Time: 2 mins read



Newspaper Item 2

- Jobs & Vacancies
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Akosombo Dam spillage: Navy rescues 8,000 flood victims

Emelia Ennin Abbey / Oct - 20 - 2023, 07:57 / 3 minutes read



The Ghana Navy says it has rescued more than 8,000 victims of the spillage from the Akosombo and Kpong dams as of Sunday, October 15, this year.

A combined rescue team deployed to the affected districts is currently monitoring critical infrastructure and responding to distress calls in order to minimise the effect of the damage caused by the spillage.

Newspaper Item 3



Akosombo dam spillage: Citi FM/Citi TV hands over resettlement centre to Kpando Torkor



by Fred Duhoe — February 3, 2024 Reading Time: 3 mins read



Newspaper Item 4

APPENDIX B -ETHICAL CLEARANCE



OUR REF: ENSIGN/IRB/EL/SN-314/02
YOUR REF:

August 4, 2025

INSTITUTIONAL REVIEW BOARD SECRETARIAT

Marianne Adjoa Awo Darko
Ensign Global University
Kpong.

Dear Marianne,

ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global University held on Friday, August 1, 2025, your research proposal entitled **"Governance of Emergency Interventions During Natural Disasters: A Case Study of the Mepe Flooding in the Central Tongu District of the Volta Region of Ghana"** was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's specified frameworks and guidelines.

We wish you all the best.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rebecca Acquah-Arhin', written over a horizontal line.

Dr. (Mrs.) Rebecca Acquah-Arhin
IRB Chairperson

27248:thesis_for_Marianne_Darko_247100314.docx

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