Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

From Fragmentation to Adaptation: Rethinking Humanitarian Governance Under Conditions of Polycrisis

Evren Tok

etok@hbku.edu.qa

Hamad bin Khalifa University

Abdulfatah Mohamed

Hamad bin Khalifa University

Ayodele Akande

Hamad bin Khalifa University

Research Article

Keywords: Humanitarian governance, polycrisis, governance fragmentation, adaptive governance, systemic risk, crisis management, humanitarian coordination, systems thinking, humanitarian response, localisation

Posted Date: November 10th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10484285/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License

Additional Declarations: No competing interests reported.

From Fragmentation to Adaptation: Rethinking Humanitarian Governance Under Conditions of Polycrisis

Abstract

Humanitarian crises increasingly feature polycrisis, systemic risk, and governance fragmentation, challenging the effectiveness of conventional coordination and response systems. This study examines how governance fragmentation influences humanitarian coordination and response effectiveness and develops an Adaptive Humanitarian Polycrisis Governance Framework to strengthen governance under complex humanitarian environments.

The study adopts an integrated qualitative design combining thematic analysis, comparative systems analysis, systems thinking, and Mitroff et al. Crisis Management Theory. Twenty seven humanitarian policy and operational documents comprising Humanitarian Needs and Response Plans for the Democratic Republic of the Congo, the Occupied Palestinian Territory, Sudan, and Ukraine between 2022 and 2026, together with European Union policy documents and comparative case analyses of Sudan and Ukraine, were analyzed using NVivo to identify governance patterns, system interactions, and governance evolution across crises.

Findings demonstrate that humanitarian governance has progressively evolved from predominantly reactive emergency coordination toward more adaptive, evidence based, and collaborative governance. However, persistent fragmentation, funding constraints, limited anticipatory capacity, institutional rigidity, and weak system integration continue to constrain effectiveness. Systems analysis reveals that humanitarian outcomes emerge from dynamic interactions among coordination, information systems, evidence based decision-making, funding arrangements, localisation, and community participation rather than isolated governance functions.

The study contributes an Adaptive Humanitarian Polycrisis Governance Framework that integrates empirical evidence, systems thinking, humanitarian governance literature, and Mitroff's Crisis Management Theory into five complementary governance capabilities: Early Signal Governance, Adaptive Governance, Systemic Governance, Resilient Governance, and Transformative Governance. The framework provides a practical model for strengthening preparedness, coordination, institutional learning, resilience, and adaptive decision making in increasingly interconnected crisis environments.

Keywords: Humanitarian governance, polycrisis, governance fragmentation, adaptive governance, systemic risk, crisis management, humanitarian coordination, systems thinking, humanitarian response, localisation.

1. Introduction

The global humanitarian system is facing unprecedented pressure from increasingly complex, interconnected, and protracted crises. Armed conflicts, climate-related disasters, pandemics, displacement crises, and economic shocks are occurring simultaneously and interacting across sectors and regions. These overlapping crises have exposed significant weaknesses in existing humanitarian governance arrangements, particularly in relation to coordination, adaptability, preparedness, and institutional resilience (Schreiber et al., 2025; Karamagioli et al., 2025). As humanitarian needs continue to rise, the ability of governance systems to effectively mobilize resources, coordinate actors, and respond to rapidly changing conditions has become a critical concern.

Recent scholarship increasingly suggests that humanitarian crises are no longer primarily operational challenges but governance challenges. Fragmented institutions, overlapping mandates, bureaucratic rigidities, weak coordination mechanisms, and limited adaptive capacity continue to undermine response effectiveness across humanitarian settings (Dijkzeul & Sandvik, 2019; Esmail et al., 2025; Tosi & Marty, 2024). At the same time, growing evidence highlights the importance of adaptive governance, resilience, localization, systems thinking, and anticipatory approaches for strengthening humanitarian response capacity in an era of polycrisis and systemic uncertainty (Anholt, 2017; Miller et al., 2025; Gustafsson et al., 2025).

These challenges are further compounded by growing uncertainty in the global humanitarian financing landscape. Major donor countries, including the United States, United Kingdom, Germany, France, Canada, Sweden, Netherlands, Norway, Denmark, Belgium, Australia, Japan, and Switzerland, have announced or implemented reductions, reallocations, or reprioritizations of development and humanitarian assistance over the past two decades (Raga et al., 2025; Cavalcanti et al., 2025; Mohamed et al., 2026). Mohamed et al. (2026) demonstrated that the evidence from recent studies demonstrates that aid cuts, aid volatility, and financial disruptions can weaken institutional effectiveness, increase governance vulnerability, constrain service delivery, reduce policy responsiveness, and undermine crisis resilience, particularly in aid-dependent countries. The findings from Mohamed et al. (2026) further showed that aid volatility and systemic funding disruptions are associated with declining government effectiveness, increased political instability, heightened recipient vulnerability, and significant cumulative funding shocks across several recipient countries.

The urgency of these governance challenges is evident in contemporary crises. The ongoing conflicts in Ukraine, Gaza, and Sudan, recurrent droughts across the Horn of Africa and the Sahel, and major disease outbreaks including COVID-19, Ebola, and cholera have demonstrated how quickly humanitarian systems can become overwhelmed when governance structures are fragmented and insufficiently adaptive. These crises have reinforced the need for governance systems that can anticipate risks, coordinate diverse actors, mobilize resources efficiently, and adapt to rapidly evolving conditions.

Despite substantial advances in the literature on humanitarian governance, existing research has primarily examined coordination, resilience, localization, adaptive governance, systems thinking,

and anticipatory approaches as separate governance dimensions. Although these studies have generated important insights, limited research has systematically explained how governance fragmentation propagates across interconnected governance functions to influence humanitarian coordination and response effectiveness under conditions of systemic disruption and polycrisis. Consequently, there remains limited empirical understanding of how governance capabilities interact as an adaptive governance system or how empirical evidence can be synthesized into an integrated governance framework for increasingly complex humanitarian environments. To addresses this gap, this study examines how governance fragmentation influences humanitarian coordination and response effectiveness under conditions of polycrisis, identifying the governance capabilities that strengthen adaptive humanitarian action, and proposing an Adaptive Humanitarian Polycrisis Governance Framework that synthesizes the empirical findings into an integrated governance model.

1.1. Problem Statement

Contemporary humanitarian crises are increasingly characterized by interconnected climate, conflict, health, economic, and political shocks that interact across governance systems, creating conditions of polycrisis that exceed the capacity of conventional humanitarian governance arrangements (Karamagioli et al., 2025; Schreiber et al., 2025).

The central challenge is not simply the increasing frequency or complexity of humanitarian crises, but the fragmentation of humanitarian governance. Fragmented institutions, overlapping mandates, weak coordination, disconnected decision making, and limited institutional adaptability reduce collective response effectiveness, contribute to duplication of effort, delay resource mobilization, and weaken humanitarian outcomes (Dijkzeul & Sandvik, 2019; Esmail et al., 2025; Tosi & Marty, 2025).

Existing governance arrangements also remain largely reactive. Early warning, preparedness, evidence based decision making, localization, and adaptive coordination frequently operate as disconnected governance functions rather than an integrated governance system, limiting the ability to anticipate, coordinate, and respond effectively to rapidly evolving crises (Caravani et al., 2024; Reykers, 2025; Tiggeloven et al., 2025). As a result, governance fragmentation amplifies humanitarian vulnerability and undermines system resilience.

Recent scholarship increasingly recognizes that humanitarian effectiveness depends on adaptive governance, institutional learning, collaboration, and systems thinking rather than additional resources alone (Anholt, 2017; Miller et al., 2025; Gustafsson et al., 2025; Karamagioli et al., 2025). However, existing studies have largely examined these governance dimensions independently, providing limited explanation of how governance fragmentation influences humanitarian coordination and response effectiveness under conditions of polycrisis or how governance capabilities interact as an integrated adaptive governance system.

To address this gap, this study examines how governance fragmentation influences humanitarian coordination and response effectiveness under conditions of polycrisis, identifies the governance

capabilities that strengthen adaptive humanitarian action, and proposes an Adaptive Humanitarian Polycrisis Governance Framework that integrates these capabilities into a coherent governance model for more coordinated, resilient, and effective humanitarian response.

1.2. Research Objectives

This study seeks to examine how governance arrangements influence humanitarian response effectiveness in increasingly complex and interconnected crisis environments. Particular attention is given to governance fragmentation, adaptive governance, and the capacity of humanitarian systems to anticipate, prepare for, and respond to systemic risks under conditions of polycrisis.

Specifically, this study aims to:

a. Examine how governance fragmentation influences humanitarian coordination and response effectiveness in complex humanitarian crises.
b. Identify the governance mechanisms that strengthen early warning, preparedness, coordination, and adaptive response capacity under conditions of systemic risk and polycrisis.
c. Propose an adaptive humanitarian governance framework informed by the empirical findings to strengthen coordinated and adaptive humanitarian governance under conditions of polycrisis

1.3. Significance of the Study

This study is significant because it addresses one of the most pressing challenges confronting the contemporary humanitarian system: the growing mismatch between increasingly complex humanitarian crises and the capacity of existing governance arrangements to respond effectively. As humanitarian emergencies become more interconnected, prolonged, and unpredictable, understanding how governance structures influence coordination, adaptability, and response effectiveness has become increasingly important.

The study contributes to the humanitarian governance literature by advancing understanding of how governance fragmentation affects humanitarian coordination and response effectiveness during complex crises. While existing research has examined coordination mechanisms, resilience, localization, and adaptive governance, limited attention has been given to the governance processes through which fragmentation undermines collective action and constrains humanitarian performance. By addressing this gap, the study provides a more integrated understanding of the relationship between governance structures, coordination systems, adaptive capacity, and humanitarian outcomes.

The study also contributes to the growing body of scholarship on adaptive governance, resilience, systems thinking, and polycrisis governance. It brings together these emerging perspectives to examine how humanitarian systems can become more flexible, responsive, and resilient in the face of escalating uncertainty and systemic disruption. Building on this contribution, the study advances emerging scholarship on adaptive governance, resilience, systems thinking, and polycrisis by demonstrating how these perspectives operate as complementary governance capabilities rather

than isolated concepts. By integrating these perspectives into a single analytical model, the study extends current understanding of humanitarian governance from fragmented coordination approaches toward an adaptive and systems based governance perspective.

From a policy and practice perspective, the study provides evidence that can support governments, international organizations, humanitarian agencies, donors, and local actors in strengthening humanitarian governance arrangements. The findings are expected to inform efforts aimed at improving coordination, enhancing institutional adaptability, promoting inclusive decision making, strengthening localization, and building more resilient response systems capable of addressing future crises. The study will develop a governance framework for adaptive, coordinated, and resilient humanitarian response. The framework is expected to provide a practical tool for understanding governance challenges and identifying pathways for strengthening humanitarian preparedness, response effectiveness, and long-term system resilience in an increasingly complex global crisis environment.

2. Literature Review and Theoretical Foundations

2.1. Humanitarian Crises in an Era of Systemic Risks and Polycrisis

The global humanitarian landscape is increasingly shaped by crises that are interconnected, mutually reinforcing, and capable of generating impacts across multiple systems simultaneously. Contemporary humanitarian emergencies rarely occur as isolated events. Instead, conflicts, climate shocks, disease outbreaks, food insecurity, economic instability, displacement, and governance failures increasingly interact through complex networks of relationships, producing effects that extend beyond their original source and geographic boundaries (Karamagioli et al., 2025; Mark et al., 2025; Schreiber et al., 2025).

Recent scholarship describes this condition as a polycrisis, a situation in which multiple crises interact across interconnected social, economic, political, environmental, and institutional systems, creating cascading effects that amplify vulnerabilities and increase the likelihood of widespread disruption (Mark et al., 2025; Schreiber et al., 2025). Unlike traditional crisis environments, polycrisis conditions are characterized by feedback effects, cross sector dependencies, and the simultaneous occurrence of multiple stressors that evolve together rather than independently. As a result, disruptions within one system can rapidly transmit risks to other systems, generating compound and often unpredictable consequences (Gambhir et al., 2025; Miller et al., 2025).

The increasing interconnectedness of contemporary crises has elevated the importance of systemic risk. Systemic risks emerge when disruptions within one part of a system trigger broader failures across interconnected structures, institutions, or sectors. These risks are often characterized by complexity, uncertainty, nonlinearity, and cascading consequences that exceed the capacity of traditional risk management approaches (Gambhir et al., 2025; Mitra & Shaw, 2023). Evidence from humanitarian, disaster, and development contexts demonstrates that systemic risks can intensify existing vulnerabilities, create new pathways of disruption, and undermine the resilience of already fragile systems (Thalheimer et al., 2023).

These developments have significant implications for humanitarian action. Governance systems that were largely designed to manage discrete and sector specific crises are increasingly confronted with interconnected risks that transcend institutional, geographic, and policy boundaries. Traditional approaches often struggle to anticipate cascading effects, manage uncertainty, and respond effectively to rapidly evolving crisis environments (Klein et al., 2023; Mitra & Shaw, 2023). Consequently, there is growing recognition that understanding humanitarian crises requires a systems perspective capable of examining interdependencies, identifying critical vulnerabilities, and revealing the mechanisms through which risks propagate across multiple domains (Miller et al., 2025; Schreiber et al., 2025).

From this perspective, humanitarian crises can no longer be understood solely as individual events requiring isolated interventions. Rather, they represent manifestations of deeper systemic interactions that require more integrated approaches to risk assessment, governance, preparedness, and response. Recognizing the interconnected nature of contemporary crises provides an important foundation for understanding the governance challenges examined in this study and highlights the need for approaches that can operate effectively within increasingly complex and uncertain humanitarian environments.

2.2. Systems Thinking as a Lens for Understanding Humanitarian Crises

Systems thinking views humanitarian crises as interconnected and dynamic systems rather than isolated events. Crises emerge through interactions among political, economic, environmental, social, and institutional factors that influence one another over time. As a result, shocks in one area can trigger cascading effects across multiple sectors and regions (Brown et al., 2015; Karamagioli et al., 2025; Miller et al., 2025).

This perspective is increasingly important in an era of polycrisis, where climate shocks, armed conflicts, pandemics; food insecurity, displacement, and economic instability interact through complex pathways. These interactions create systemic risks that cannot be fully understood through linear cause and effect approaches (Mark et al., 2025; Schreiber et al., 2025; Gambhir et al., 2025). Systems thinking therefore emphasizes interconnectedness, feedback loops, nonlinearity, emergence, and tipping points as essential features of contemporary crisis environments (Miller et al., 2025; Klein et al., 2023).

A key contribution of systems thinking is its ability to identify unintended consequences. Policies and interventions frequently produce outcomes beyond their original objectives, creating either additional benefits or new vulnerabilities elsewhere in the system (Klein et al., 2023; Gambhir et al., 2025). Systems thinking also highlights reinforcing loops through which success or failure can become self-sustaining over time, amplifying resilience or vulnerability (Thalheimer et al., 2023; Mitra & Shaw, 2023).

The approach further helps identify critical nodes where institutions, actors, or processes exert disproportionate influence on system performance. These nodes often represent strategic intervention points capable of generating broader system improvements (Gambhir et al., 2025; Mitra & Shaw, 2023). At the same time, areas of system stress reveal underlying weaknesses,

governance failures, and structural vulnerabilities that may remain hidden under normal conditions (Hagelsteen & Becker, 2019; Thalheimer et al., 2023).

Systems thinking supports the identification of policy gaps by revealing neglected relationships, overlooked actors, and missing governance mechanisms within complex crisis systems. This makes it particularly valuable for diagnosing humanitarian governance challenges and informing more adaptive and resilient policy responses (Karamagioli et al., 2025; Miller et al., 2025; Schreiber et al., 2025).

2.3. Governance Fragmentation and the Need for Adaptive Humanitarian Governance

Humanitarian crises increasingly involve large numbers of international organizations, governments, donors, NGOs, and local actors operating simultaneously across interconnected systems. While this diversity expands response capacity, it also creates fragmentation, overlapping mandates, coordination failures, information asymmetries, and delayed decision-making (Dijkzeul & Sandvik, 2019; Hendriks & Boersma, 2019).

Fragmentation represents a systemic governance challenge rather than an isolated operational problem. Multiple actors often pursue similar objectives through different coordination structures, creating duplication of effort, inefficient resource allocation, and gaps in service delivery. Existing governance mechanisms frequently struggle to integrate information, align priorities, and respond rapidly to changing crisis conditions (Esmail et al., 2025; Tosi & Marty, 2024).

From a systems perspective, fragmentation can generate reinforcing loops that amplify vulnerability. Delayed decisions weaken response effectiveness, which increases humanitarian needs, places additional pressure on institutions, and further reduces coordination capacity. Well-intentioned interventions may also produce unintended consequences when actions taken by one actor create pressures elsewhere in the system (Dijkzeul & Sandvik, 2019; Esmail et al., 2025).

These limitations have generated growing interest in adaptive governance approaches. Adaptive governance emphasizes learning, collaboration, decentralised decision-making, flexibility, and continuous adjustment in response to changing conditions (Nikkanen et al., 2024; Gustafsson et al., 2025). Rather than relying on rigid command structures, adaptive governance seeks to strengthen coordination across multiple actors while improving the capacity of institutions to respond to uncertainty and complexity (Miller et al., 2025).

Transformative governance extends this perspective by addressing the underlying structures that generate vulnerability and governance failure. Rather than improving existing arrangements alone, transformative approaches seek to redesign institutions, strengthen local ownership, promote localization, and develop governance systems capable of anticipating and adapting to future crises (WHO, 2025; Karamagioli et al., 2025; Miller et al., 2025).

2.4. Early Warning, Crisis Preparedness, and Mitroff's etal. Crisis Management Theory

As humanitarian crises become increasingly interconnected and unpredictable, the ability to detect risks early and respond before they escalate has become a central requirement of effective governance. Evidence suggests that many humanitarian failures occur not because risks are

entirely unknown, but because warning signals are overlooked, poorly interpreted, or not translated into timely action (Caravani et al., 2024; Reykers, 2025).

Recent studies highlight persistent weaknesses in risk monitoring, anticipatory action, preparedness planning, and institutional responsiveness. Although early warning systems have improved considerably, governance systems often remain reactive, with decision making occurring only after crises have intensified (Caravani et al., 2024). Similarly, crisis response delays frequently arise from fragmented coordination structures, bureaucratic procedures, and weak integration between risk assessment and operational decision-making (Reykers, 2025). Emerging technologies such as artificial intelligence offer opportunities to strengthen forecasting and risk detection, but significant governance challenges remain regarding accountability, implementation, and institutional readiness (Tiggeloven et al., 2025).

These challenges have led scholars to emphasize anticipatory governance, which focuses on identifying emerging threats, monitoring risks, and building preparedness before disruptions occur. Within complex and interconnected crisis environments, anticipatory approaches are increasingly viewed as essential for reducing vulnerability and improving system resilience (Caravani et al., 2024; Miller et al., 2025).

To provide a theoretical foundation for understanding these processes, this study draws on Mitroff et al.'s (1987) Crisis Management Theory. Among the major crisis management frameworks proposed in the literature as reflected in table 1 below, Mitroff's model is particularly relevant because it explicitly incorporates signal detection and proactive prevention before crises occur. As summarized in Table 1, crisis management theories generally distinguish between pre crisis, crisis, and post crisis stages. However, Mitroff's framework extends beyond reactive response by emphasizing the identification of early warning signals, preparedness, containment, recovery, and organizational learning as an integrated process.

Table 1: Theories of Crisis Management

	Stages/ Framework	**3 Stage Framework General**					
		Before the Crisis		**During Crisis**		**After the Crisis**	
General 3 stage framework	**3-stage**	**Pre-Crisis**		**Crisis**		**Post-Crisis**	
Fink (1986)	4-stage	Prodromal		Acute	Chronic	Resolution	
Mitroff et al., 1987	5-stage	Signal detection	Probing & Prevention	Containment		Recovery	Learning
Smith, 1990	3-stage	Crisis of management		Operational Crisis		Crisis of legitimation	
Myers, 1993	4-stage	Normal operations & Preparation		Emergency Response	Intermediate stage	Restoration	
Richardson, 1994	3-stage	Precrisis: Disaster Phase		Crisis impact: Rescue Phase		Recovery: Demise Phase	
Gonzalez-Herrero and Pratt's (1996)	4-stage	Issues Management	Planning-Prevention	Crisis		Post Crisis	
Burnett (1998)	6-stage	Identification		Confrontation		Reconfiguration	
		Goal Formation	Environmental Analysis	Strategy Formulation	Strategy Evaluation	Strategy Implementation	Strategy Control

Jaques (2007)	4-Cluster	Crisis Preparedness	Crisis Prevention	Crisis Event Management	Post-crisis management

Source: Author's Estimates

The theory consists of five interconnected stages: signal detection, prevention and preparedness, damage containment, recovery, and learning. Signal detection focuses on recognizing emerging threats before they develop into full-scale crises. Prevention and preparedness seek to reduce vulnerabilities and strengthen response capacity. Damage containment aims to limit escalation during crisis events. Recovery focuses on restoring critical functions, while learning emphasizes continuous improvement through reflection and adaptation (Mitroff et al., 1987).

The relevance of Mitroff's framework to humanitarian governance lies in its proactive orientation. In environments characterized by systemic risks, cascading failures, and polycrisis conditions, effective governance depends not only on responding to crises but also on identifying vulnerabilities, detecting warning signals, and preparing institutions before disruptions occur. Consequently, Mitroff's Crisis Management Theory provides the primary theoretical foundation for the development of the humanitarian polycrisis governance framework proposed in this study, while systems thinking serves as the complementary lens for diagnosing systemic risks, feedback loops, critical vulnerabilities, and governance failures.

2.5. Literature Gaps and Research Framework

The literature has generated important insights into polycrisis, humanitarian governance, coordination, resilience, localization, adaptive governance, and crisis preparedness. Existing studies have improved understanding of systemic risks, governance challenges, and institutional responses across a range of humanitarian contexts (Dijkzeul & Sandvik, 2019; Miller et al., 2025; Karamagioli et al., 2025).

Despite these advances, three important gaps remain. First, existing research remains dispersed across separate streams of literature, with limited integration between polycrisis, systems thinking, humanitarian governance, and crisis management. Second, while governance fragmentation, coordination failures, and preparedness challenges are widely documented, there is limited understanding of how these issues interact as components of a broader humanitarian system. Third, existing frameworks provide valuable conceptual insights but offer limited guidance for diagnosing systemic vulnerabilities, identifying critical intervention points, and linking early warning to governance action within complex crisis environments (Schreiber et al., 2025; Gambhir et al., 2025; Esmail et al., 2025).

This study adopts systems thinking as a diagnostic lens and Mitroff's Crisis Management Theory as the guiding crisis management framework. This combination enables a structured examination of systemic risks, governance vulnerabilities, early warning signals, preparedness mechanisms, and institutional responses across the humanitarian system.

3. Methodology

3.1. Research Design

This study adopted a qualitative research design to examine humanitarian polycrisis governance through the analysis of humanitarian planning documents. The qualitative approach was appropriate because the study sought to understand complex governance processes, institutional interactions, coordination mechanisms, and crisis management practices that cannot be adequately explained using quantitative measures alone.

The study was exploratory and interpretive in nature, focusing on how governance arrangements shape humanitarian coordination, response effectiveness, preparedness, adaptive capacity, and organizational learning across complex humanitarian crises. The analysis was based on eight Humanitarian Needs and Response Plans comprising Ukraine 2022 and 2026, Sudan 2023 and 2026, Democratic Republic of the Congo 2022 and 2025, and the Occupied Palestinian Territory 2022 and 2025. These documents were purposively selected to examine the evolution of humanitarian governance across different conflict settings and planning cycles.

The study was guided by systems thinking as the primary analytical lens and Mitroff et al.'s Crisis Management Theory as the principal theoretical foundation. Systems thinking informed the examination of systemic risks, governance interactions, feedback relationships, and policy gaps within humanitarian systems, while Mitroff's framework provided a structured basis for assessing governance maturity across signal detection, prevention and preparedness, damage containment, recovery, and organizational learning. The analysis integrated thematic analysis, comparative systems analysis, and theory informed interpretation to generate evidence for strengthening humanitarian polycrisis governance.

3.2. Data Sources and Literature Selection

This study relied exclusively on secondary data obtained from humanitarian planning documents published by the United Nations Office for the Coordination of Humanitarian Affairs through ReliefWeb, together with selected European Union policy documents. The dataset comprised twenty-seven documents, including annual Humanitarian Needs and Response Plans covering the period from 2022 to 2026 for the Democratic Republic of the Congo, Occupied Palestinian Territory, Sudan, and Ukraine, as well as two European Union policy documents relating to Sudan and Ukraine. These documents were selected because they provide authoritative evidence on humanitarian needs, governance arrangements, coordination mechanisms, operational priorities, localization, accountability, and humanitarian response strategies across complex humanitarian crises.

The documents were analysed at two complementary levels. First, all twenty-seven documents were subjected to thematic analysis to identify recurring governance patterns and common characteristics of humanitarian polycrisis governance across the four crisis contexts. Second, a comparative systems analysis was undertaken using four Humanitarian Needs and Response Plans selected as embedded case studies, comprising Sudan 2023 and 2026 and Ukraine 2022 and 2026. These documents were purposively selected because they capture different stages of conflict

evolution and humanitarian response, enabling examination of governance adaptation, systems interactions, and institutional learning over time.

3.3. Analytical Framework

This study employed a sequential analytical framework comprising thematic analysis, systems thinking analysis, and theory based interpretation. The thematic analysis constituted the first stage of analysis, examining twenty-seven humanitarian documents published between 2022 and 2026 to identify recurring governance patterns across the Democratic Republic of the Congo, Occupied Palestine, Sudan, and Ukraine. This stage generated the principal governance themes that formed the analytical foundation for the subsequent phases of the study.

The second stage applied systems thinking to interpret the relationships among the identified themes. Rather than examining governance components independently, the analysis explored how institutions, coordination mechanisms, information systems, resources, operational constraints, and affected communities interact within humanitarian governance systems. The systems analysis was further strengthened through a comparative case study of the Sudan Humanitarian Needs and Response Plans for 2023 and 2026 and the Ukraine Humanitarian Needs and Response Plans for 2022 and 2026. This comparative assessment examined systemic risks, unintended consequences, reinforcing feedback relationships, critical governance nodes, and governance and policy gaps to explain how humanitarian governance evolves under conditions of polycrisis.

The final stage interpreted these findings using Mitroff et al.'s (1987) Crisis Management Theory. The identified governance patterns were evaluated across the five crisis management stages comprising signal detection, prevention and preparedness, damage containment, recovery, and organizational learning. Integrating thematic analysis, systems thinking, and crisis management theory provided a coherent analytical framework for understanding humanitarian polycrisis governance and identifying governance characteristics associated with more adaptive and resilient humanitarian systems.

3.3.1. Conceptual Roles of the Analytical Components

The analytical framework comprises complementary components that perform distinct functions throughout the study. Thematic analysis serves as the empirical foundation by identifying the dominant governance themes emerging from the humanitarian response plans. These themes provide the evidence base for the subsequent analytical stages.

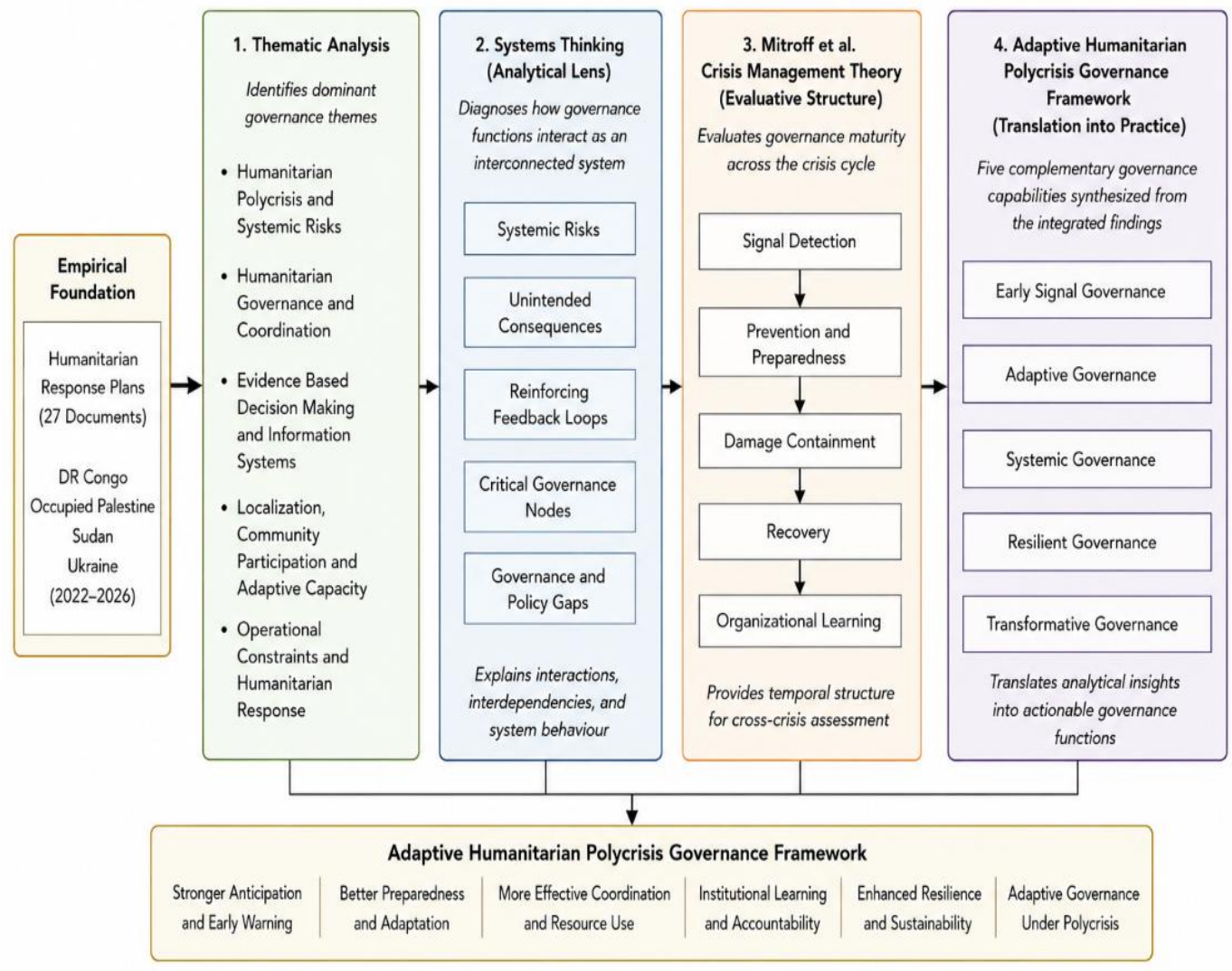
Systems thinking functions as the primary analytical lens for interpreting the identified governance themes as components of an interconnected humanitarian system. Rather than evaluating individual governance functions independently, it examines systemic risks, institutional interdependencies, reinforcing feedback relationships, critical governance nodes, unintended consequences, and governance gaps that collectively influence humanitarian performance under conditions of polycrisis.

Mitroff et al.'s Crisis Management Theory provides the evaluative structure for assessing how humanitarian governance performs across the five stages of the crisis cycle comprising signal detection, prevention and preparedness, damage containment, recovery, and organizational

learning. The theory therefore enables systematic assessment of governance maturity across different crisis contexts and planning cycles.

The five governance capabilities proposed in the Adaptive Humanitarian Polycrisis Governance Framework are not independent theoretical constructs. Rather, they represent governance capabilities synthesized from the integrated empirical findings. Early Signal, Adaptive, Systemic, Resilient, and Transformative Governance translate the evidence generated through thematic analysis, systems thinking, and Mitroff's crisis assessment into complementary governance functions for strengthening humanitarian preparedness, coordination, adaptation, resilience, and long term institutional learning. The analytical components perform sequential and complementary roles throughout the study. Thematic analysis identifies governance patterns, systems thinking explains their systemic interactions, Mitroff's Crisis Management Theory evaluates governance across the crisis cycle, and the proposed governance capabilities integrate these analytical insights into a practical framework for humanitarian governance under conditions of polycrisis.

Figure 1: Conceptual Relationship Between the Analytical Components of the Study



Source: Author's Estimate

3.4. Framework Synthesis Process

The final stage of the analysis synthesized the empirical findings into a proposed Adaptive Humanitarian Polycrisis Governance Framework. The framework was derived from the integrated thematic analysis, comparative systems analysis, systems thinking analysis, and interpretation through Mitroff's Crisis Management Theory.

The systems thinking analysis identified systemic risks, governance fragmentation, feedback relationships, critical intervention points, and policy gaps within the humanitarian system. These findings provided a diagnostic understanding of how governance arrangements influence humanitarian preparedness, coordination, response effectiveness, and resilience under conditions of polycrisis.

To translate these findings into a practical governance framework, Mitroff et al.'s (1987) Crisis Management Theory was adopted as the organizing structure. The theory was selected because it provides a comprehensive crisis management process that incorporates early warning, preparedness, response, recovery, and organizational learning. Its emphasis on signal detection and proactive prevention is particularly relevant to contemporary humanitarian environments characterized by increasing uncertainty, interconnected risks, and cascading crises.

The framework development process therefore examined humanitarian governance challenges through the five stages of Mitroff's Crisis Management Theory: signal detection, prevention and preparedness, damage containment, recovery, and learning. Findings from the systems analysis were mapped against these stages to identify governance mechanisms capable of strengthening humanitarian system performance before, during, and after crises.

The resulting framework integrates systems thinking and crisis management perspectives. Systems thinking provides the diagnostic lens for understanding systemic risks, interdependencies, feedback dynamics, and governance failures, while Mitroff's Crisis Management Theory provides the operational structure for organizing governance actions across the crisis cycle. The framework developed through this process forms the principal outcome of the study and provides a structured approach for enhancing humanitarian preparedness, coordination, adaptability, and resilience in increasingly complex crisis environments.

3.5. Limitations of the Methodology

The findings are derived exclusively from humanitarian planning documents, which articulate governance as formally intended rather than as operationally experienced. Implementation gaps, resource constraints, political interference, and field level coordination failures are systematically underreported in such sources. The proposed framework therefore reflects institutional representations of governance and would benefit from future validation through primary data collection, including interviews with humanitarian workers and affected populations. Additionally,

the four crisis contexts examined all involve active armed conflict and United Nation coordinated responses, which limits transferability to climate induced disasters, health emergencies, or settings without formal coordination architectures. The 2022 to 2026 temporal window, while sufficient to identify shifts in planning language, remains short for confirming systemic transformation as opposed to cyclical or context specific adaptation. These limitations define the scope of the study's claims without diminishing the analytical contributions of the documentary evidence presented.

4. Results and Discussion

4.1. Overview of the Humanitarian Response Plans

This chapter presents the findings from the qualitative analysis of humanitarian response plans using thematic analysis, systems thinking, and Mitroff et al.'s Crisis Management Theory. The analysis is based on humanitarian response plans published between 2022 and 2026 from four contemporary humanitarian crises, namely the Democratic Republic of the Congo, the Occupied Palestinian Territory, Sudan, and Ukraine. Together, these cases represent diverse humanitarian contexts characterized by armed conflict, large-scale displacement, protection concerns, food insecurity, public health challenges, and prolonged humanitarian needs. Examining these crises provides a broad understanding of the governance arrangements adopted across different operational environments while identifying common patterns that influence humanitarian effectiveness.

To examine changes in humanitarian governance over time, two response plans were selected for detailed comparative analysis in Sudan and Ukraine. For Ukraine, the Humanitarian Response Plans for 2022 and 2026 were selected because the current full-scale conflict began in 2022, allowing assessment of governance from the onset of the crisis to a more established humanitarian response. For Sudan, the Humanitarian Response Plans for 2023 and 2026 were selected because the current armed conflict began in 2023, providing a comparable assessment of governance evolution during the emergency response and subsequent operational phases.

The chapter begins by identifying the dominant themes emerging across the humanitarian response plans through thematic analysis supported by NVivo. It then compares humanitarian governance across the Sudan and Ukraine cases before examining the findings through a systems thinking perspective. The analysis subsequently evaluates the humanitarian governance arrangements using Mitroff et al.'s Crisis Management Theory and concludes by developing a Humanitarian Polycrisis Governance Framework that integrates the evidence generated throughout the study.

4.2. Thematic Analysis of Humanitarian Response Plans Across Four Humanitarian Crises

The thematic analysis was conducted on humanitarian needs and response plans published between 2022 and 2026 for the Democratic Republic of the Congo, the Occupied Palestinian Territory, Sudan, and Ukraine. NVivo was used to identify recurring concepts, thematic patterns, and relationships across the documents. The findings are presented using a word cloud, hierarchical cluster analysis, and treemap to provide complementary perspectives on the dominant governance

themes emerging across the humanitarian response plans. Collectively, the analysis identified five overarching themes: Humanitarian Polycrisis and Systemic Risks, Humanitarian Governance and Coordination, Evidence Based Decision Making and Information Systems, Localization, Community Participation and Adaptive Capacity, and Operational Constraints and Governance Challenges.

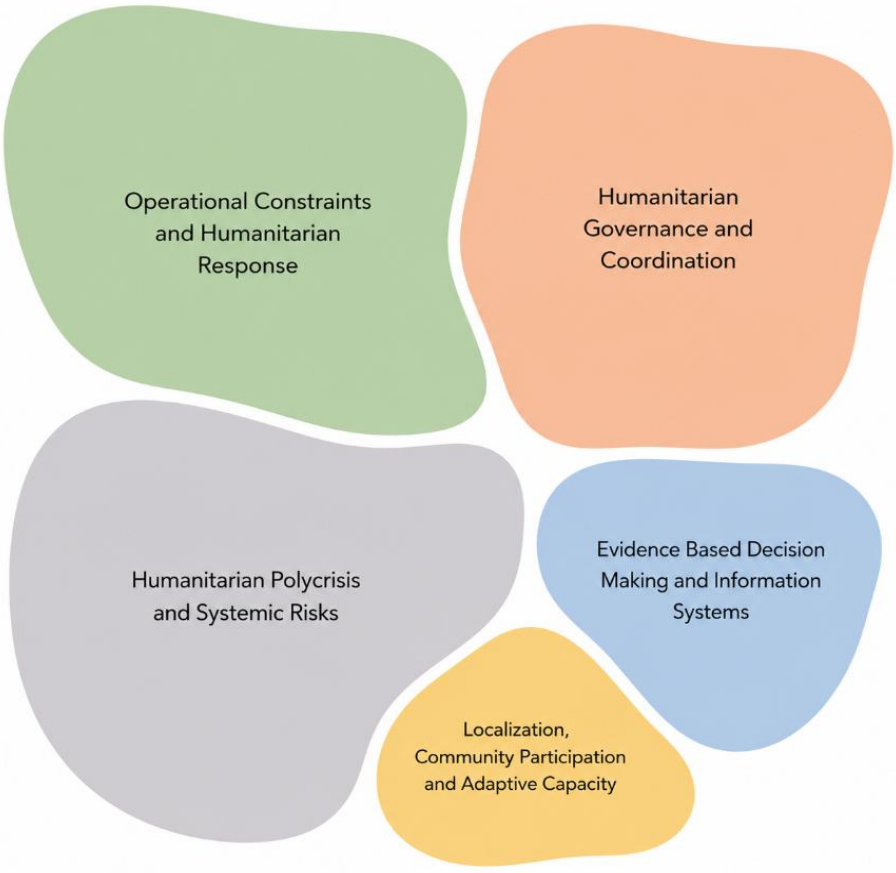
Figure 1 presents the word cloud generated from the humanitarian response plans. The most prominent terms included humanitarian, response, cluster, conflict, access, community, monitoring, coordination, capacity, information, analysis, and strategic. Other frequently occurring concepts included risks, assessment, funding, planning, systems, participation, governance, localization, and adaptive. The prominence of these terms indicates that humanitarian response planning consistently emphasizes coordinated governance, evidence informed decision-making, community engagement, operational capacity, and humanitarian access within complex crisis environments. Collectively, the word cloud demonstrates that contemporary humanitarian response plans extend beyond emergency assistance to encompass governance, coordination, planning, monitoring, and adaptive management as integral components of humanitarian action.

Figure 1: Word Cloud of Dominant Themes in Humanitarian Response Plans (2022–2026)



Figure 2 below presents the hierarchy map of the five themes identified across the humanitarian response plans. The results indicate that Operational Constraints and Humanitarian Response received the greatest coding coverage, followed by Humanitarian Governance and Coordination, Humanitarian Polycrisis and Systemic Risks, and Evidence Based Decision Making and Information Systems. Localization, Community Participation and Adaptive Capacity also emerged as a recurring theme, although it received comparatively fewer coding references. Collectively, the hierarchy map demonstrates that contemporary humanitarian response plans place substantial emphasis on addressing operational constraints while strengthening governance, coordination, evidence informed decision making, and adaptive response capacity within increasingly complex humanitarian crises.

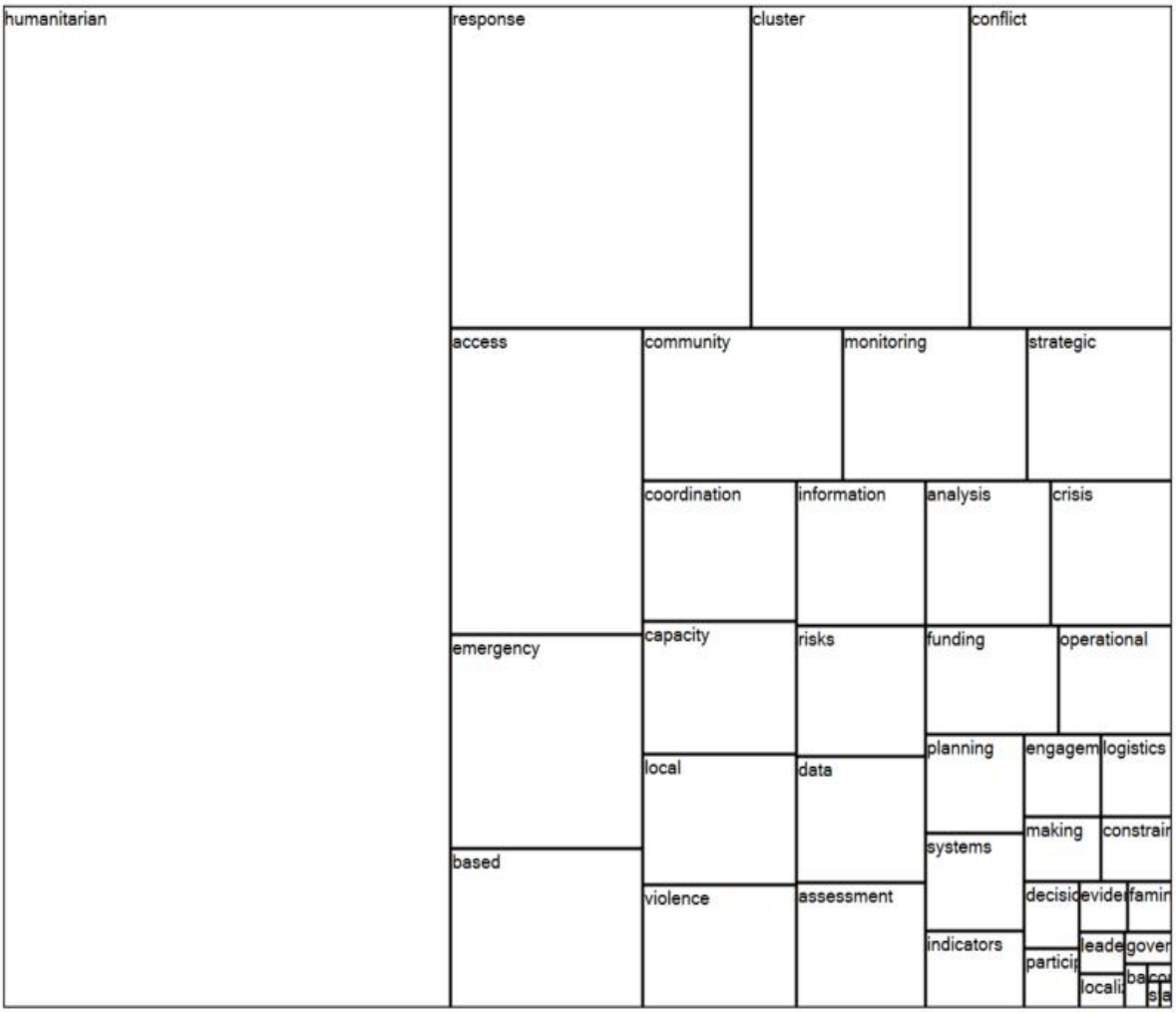
Figure 2: Hierarchy Map of Dominant Themes in Humanitarian Response Plans (2022–2026)



Source: Authors' Estimates

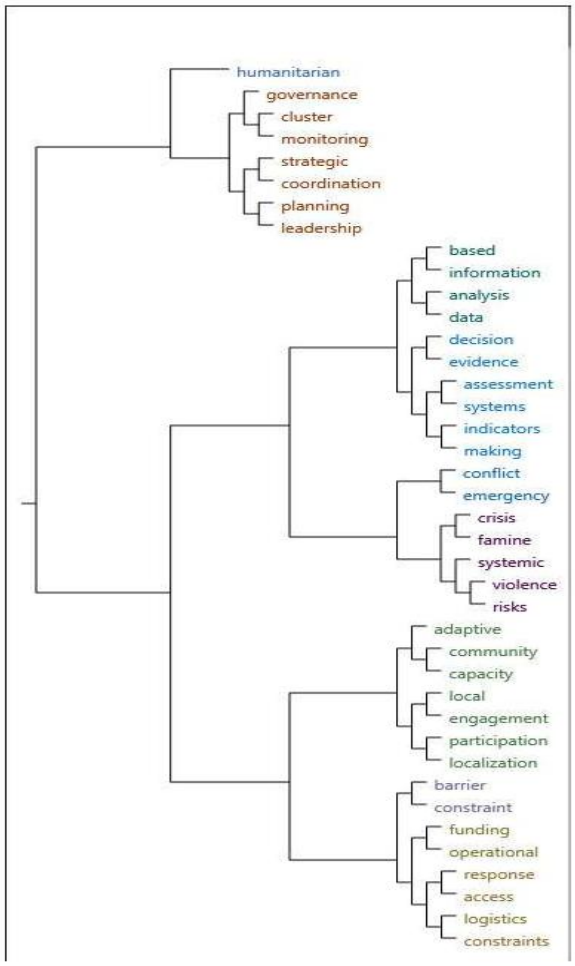
Figures 3 and 4 below present the treemap and hierarchical cluster analysis of the dominant concepts identified across the humanitarian response plans. The treemap highlights the relative prominence of the major concepts, while the hierarchical cluster analysis illustrates the conceptual relationships among them. Together, the findings reveal five interconnected thematic clusters that characterize humanitarian governance across the four crises. These include Humanitarian Polycrisis and Systemic Risks, Humanitarian Governance and Coordination, Evidence Based Decision Making and Information Systems, Localization, Community Participation and Adaptive Capacity, and Operational Constraints and Humanitarian Response. The close relationships among these themes demonstrate that humanitarian responses are shaped by interconnected governance processes rather than isolated operational activities. These thematic clusters provide the empirical foundation for the comparative governance analysis, systems analysis, and the subsequent development of the Humanitarian Polycrisis Governance Framework.

Figure 3: Treemap of Dominant Concepts in Humanitarian Response Plans (2022–2026)



Source: Authors' Estimates

Figure 4: Hierarchical Cluster Analysis of Dominant Concepts in Humanitarian Response Plans (2022–2026)



Source: Authors' Estimates

4.2.1. Emergent Thematic Clusters

Humanitarian Polycrisis and Systemic Risks

This cluster reflects the complex and interconnected nature of contemporary humanitarian crises. The concepts associated with conflict, emergency, violence, famine, systemic conditions, and risks demonstrate that humanitarian crises are driven by multiple interacting pressures rather than isolated events. The findings reinforce the need for governance approaches capable of responding to interconnected humanitarian risks within increasingly complex crisis environments.

Humanitarian Governance and Coordination

This cluster captures the governance architecture that underpins humanitarian action. The prominence of governance, coordination, cluster, leadership, planning, monitoring, and strategic

management demonstrates that effective humanitarian response depends on structured coordination mechanisms, institutional leadership, and collaborative decision making among multiple humanitarian actors.

Evidence Based Decision Making and Information Systems

This cluster highlights the central role of information and evidence in humanitarian planning. The concepts of information, data, analysis, assessment, evidence, indicators, systems, and decision making indicate that humanitarian interventions are increasingly guided by systematic needs assessments, continuous monitoring, and evidence informed planning processes that support more effective resource allocation and operational decision making.

Localization, Community Participation and Adaptive Capacity

This cluster emphasizes the growing importance of locally led humanitarian action. The recurring concepts of community, local, participation, engagement, localization, capacity, and adaptive governance demonstrate increasing recognition that strengthening local institutions and promoting community participation enhance the responsiveness and sustainability of humanitarian interventions.

Operational Constraints and Humanitarian Response

This cluster reflects the operational conditions that influence humanitarian effectiveness. The concepts of response, access, logistics, funding, operational constraints, and barriers demonstrate that humanitarian outcomes are strongly shaped by the ability of organizations to overcome access restrictions, resource limitations, logistical challenges, and other operational constraints within complex humanitarian settings. These findings underscore the importance of strengthening governance arrangements that improve operational efficiency and response effectiveness.

4.3. Systems Analysis of Humanitarian Polycrisis Governance

The thematic analysis presented in Section 4.2 identified five dominant governance themes across the Humanitarian Needs and Response Plans for the Democratic Republic of the Congo, Occupied Palestine, Sudan, and Ukraine between 2022 and 2026. Building upon these thematic findings together with the comparative systems analyses of the Sudan and Ukraine Humanitarian Needs and Response Plans, this section applies a systems thinking perspective to examine how governance structures, institutions, resources, information, and operational processes interact to shape humanitarian outcomes. Humanitarian polycrisis governance is therefore interpreted as an interconnected and adaptive system through five analytical dimensions comprising systemic risks, unintended consequences, reinforcing feedback loops, critical governance nodes, and governance and policy gaps.

4.3.1. Systemic Risks

The thematic findings demonstrate that humanitarian governance operates within an environment characterized by multiple interacting risks rather than isolated humanitarian emergencies. Across all four crises, armed conflict consistently interacts with displacement, destruction of infrastructure, food insecurity, deteriorating health services, protection threats, funding shortages,

and restricted humanitarian access to generate increasingly complex humanitarian conditions. These interconnected pressures collectively transform localized emergencies into broader humanitarian polycrises that extend across multiple sectors and governance levels.

The analysis further indicates that systemic risks evolve through continuous interaction between political, social, economic, and operational factors. Conflict disrupts livelihoods and public services, weakens institutional capacity, increases population displacement, and simultaneously constrains humanitarian operations through insecurity and access limitations. Funding reductions further amplify these pressures by limiting operational reach despite increasing humanitarian needs. Consequently, humanitarian governance must respond not only to individual risks but also to the cumulative interaction among multiple stressors that continuously reshape humanitarian priorities and response requirements. These findings reinforce the argument that effective humanitarian governance requires integrated, adaptive, and multisector approaches capable of responding to interconnected system dynamics rather than isolated sectoral challenges.

4.3.2. Unintended Consequences

The systems analysis further demonstrates that humanitarian governance decisions frequently generate unintended consequences that influence overall system performance. Although strategic prioritization, targeted resource allocation, and operational restrictions are introduced to improve efficiency under conditions of scarcity, these measures often produce secondary effects that reinforce humanitarian vulnerability. Across both Sudan and Ukraine, funding reductions resulted in narrower humanitarian coverage, stricter prioritization of beneficiaries, and delayed implementation of recovery activities despite continuously increasing humanitarian needs.

Operational access restrictions similarly extend beyond immediate logistical challenges. Insecurity, damaged infrastructure, bureaucratic procedures, and movement limitations reduce the ability of humanitarian organizations to reach vulnerable populations, thereby increasing unmet needs and weakening community resilience. As assistance becomes concentrated in accessible locations, populations living in highly insecure or isolated areas experience greater exclusion, further widening humanitarian disparities.

4.3.3. Reinforcing Feedback Loops

The comparative analysis identified reinforcing feedback loops that explain how humanitarian crises are either amplified or moderated through governance interactions. The dominant negative loop shows that conflict, displacement, resource constraints, and unmet humanitarian needs reinforce one another, weakening response capacity and prolonging crises. Conversely, stronger coordination, evidence informed decision making, continuous monitoring, localization, and community participation create positive reinforcing loops that improve institutional learning, adaptive capacity, and humanitarian effectiveness.

Across the Sudan and Ukraine response plans, later planning cycles increasingly incorporated governance functions that strengthened these positive feedback processes. However, persistent funding constraints, operational insecurity, and fragmented implementation continued to limit their full realization. Overall, the findings demonstrate that humanitarian governance operates as a dynamic adaptive system in which governance decisions continuously reinforce either system vulnerability or system resilience.

4.3.4. Critical Governance Nodes

The systems analysis identified several critical governance nodes that influence the overall performance of humanitarian governance across the analysed crises. These nodes function as central points through which information, resources, coordination, and operational decisions are connected, allowing governance actions within one component of the system to influence multiple humanitarian outcomes simultaneously.

As illustrated in the hierarchy map, humanitarian coordination mechanisms, information and monitoring systems, evidence based decision making, funding arrangements, localization, and community participation emerged as the principal governance nodes underpinning humanitarian response. These components facilitate strategic planning, resource prioritization, operational coordination, and accountability while strengthening communication between humanitarian actors and affected populations.

The comparative analysis further indicates that strengthening these governance nodes enhances system adaptability and operational effectiveness. Conversely, weaknesses in any of these interconnected components can rapidly affect other parts of the humanitarian system, resulting in reduced coordination, delayed assistance, inefficient resource allocation, and diminished humanitarian outcomes. The findings therefore demonstrate that improving humanitarian governance requires strengthening the connections among critical governance nodes rather than addressing individual governance functions in isolation.

4.3.5. Governance and Policy Gaps

Despite the progressive strengthening of humanitarian governance across the analysed response plans, several governance and policy gaps remain evident. The comparative analysis indicates that humanitarian systems continue to face persistent challenges associated with funding shortages, humanitarian access constraints, institutional fragmentation, and uneven localization. These challenges reduce operational flexibility, constrain service delivery, and limit the ability of humanitarian actors to respond effectively to rapidly evolving crisis conditions.

The findings further reveal that governance improvements have largely occurred in coordination, monitoring, accountability, and evidence based planning, while comparatively less attention has been given to anticipatory governance, early warning, and institutional preparedness. Although the later Sudan and Ukraine response plans demonstrate greater emphasis on adaptive governance and organizational learning, these mechanisms remain constrained by protracted conflict, resource limitations, and the growing complexity of humanitarian needs.

These findings suggest that humanitarian governance has evolved from predominantly reactive emergency coordination toward more adaptive and evidence informed approaches. Nevertheless, strengthening anticipatory governance, reinforcing institutional learning, expanding localization, and improving resilience remain essential priorities for enhancing humanitarian governance in increasingly complex polycrisis environments. These governance gaps provide the basis for the subsequent assessment of humanitarian governance using Mitroff's Crisis Management Theory.

4.3.6. Summary of Systems Analysis

The systems analysis demonstrates that humanitarian polycrisis governance functions as an interconnected and adaptive system in which risks, institutions, resources, information, and operational processes continuously influence one another. The thematic findings reveal that humanitarian outcomes are determined not by individual governance components but by the collective interaction among coordination mechanisms, evidence based decision-making, information systems, localization, funding arrangements, and community participation. While recent Humanitarian Needs and Response Plans demonstrate clear progress toward more adaptive and evidence informed governance, persistent challenges relating to funding constraints, humanitarian access, institutional capacity, and anticipatory governance continue to limit overall system resilience. These findings provide the analytical foundation for the subsequent comparative assessment using Mitroff Crisis Management Theory, which evaluates the extent to which humanitarian governance systems support effective crisis management across the different phases of the crisis cycle.

4.4. Comparative Assessment Using Mitroff et al. Crisis Management Theory

The preceding thematic and systems analyses identified the principal governance characteristics and system interactions shaping humanitarian responses across the selected crises. Building upon these findings, this section evaluates humanitarian governance through Mitroff et al. Crisis Management Theory to assess the extent to which humanitarian systems have evolved beyond emergency response toward proactive, adaptive, and learning oriented governance. The comparison focuses on the evolution of governance maturity in Sudan between the 2023 and 2026 Humanitarian Needs and Response Plans and in Ukraine between the 2022 and 2026 Humanitarian Needs and Response Plans. The assessment examines five crisis management dimensions comprising signal detection, prevention and preparedness, damage containment, recovery, and organizational learning, thereby providing a structured basis for comparing governance development across both humanitarian contexts.

4.4.1. Sudan: Evolution of Humanitarian Governance Between 2023 and 2026

The comparative assessment indicates a clear progression in the maturity of humanitarian governance between the Sudan Humanitarian Needs and Response Plans of 2023 and 2026. While both plans prioritize immediate lifesaving interventions within an active conflict environment, the 2026 plan demonstrates a more integrated governance architecture characterized by stronger anticipatory planning, evidence based decision-making, localization, and accountability mechanisms.

Signal detection improved from a weak to a moderate level through the institutionalization of multisector needs assessments, displacement monitoring, food security surveillance, and continuous situation analysis. Governance also demonstrates stronger preparedness by incorporating contingency planning, community engagement, cash readiness, coordinated operational planning, and flexible implementation arrangements. Although preventive action remains constrained by the evolving conflict environment, preparedness becomes a more deliberate governance function rather than a reactive operational activity.

Damage containment remained consistently strong across both planning cycles, reflecting the continued emphasis on coordinated multisector humanitarian response, protection, food security, health services, logistics, and humanitarian access. However, the 2026 plan demonstrates greater operational coherence through improved coordination structures, stronger localization, and more systematic prioritization based on severity and vulnerability.

The most significant governance progression is observed in recovery and organizational learning. Unlike the 2023 plan, which focused almost exclusively on emergency response, the 2026 plan incorporates resilience building, community based implementation, accountability to affected populations, strengthened support for local organizations, and continuous monitoring as integral governance functions. Institutional learning also becomes more visible through enhanced monitoring systems, community feedback mechanisms, adaptive planning, and evidence informed decision making, although a fully institutionalized learning system has yet to emerge.

The Sudan case illustrates a gradual transition from predominantly reactive emergency coordination toward a more adaptive humanitarian governance model. Despite persistent constraints arising from insecurity, resource shortages, and operational access, the governance system demonstrates increasing capacity to integrate preparedness, localization, accountability, and evidence based management within humanitarian decision-making.

4.4.2. Ukraine: Evolution of Humanitarian Governance Between 2022 and 2026

The comparative assessment indicates that humanitarian governance in Ukraine evolved from an already well-structured coordination system in 2022 to a more adaptive and resilient governance model by 2026. While both response plans demonstrate strong institutional coordination, the later plan places greater emphasis on dynamic prioritization, localization, continuous monitoring, and adaptive decision making in response to an increasingly complex humanitarian environment.

Governance maturity is evident in the progressive strengthening of signal detection and preparedness. The 2026 plan incorporates continuous needs assessments, integrated information systems, operational monitoring, community feedback, and regular reassessment of humanitarian priorities, enabling humanitarian actors to respond more effectively to changing conditions. Preparedness similarly becomes more proactive through strengthened contingency planning, flexible programming, and closer integration of humanitarian operations with national and local response capacities.

Damage containment remained consistently strong throughout both planning cycles, supported by coordinated multisector interventions, established coordination mechanisms, and effective

information management. Compared with the 2022 plan, however, the 2026 response demonstrates greater operational adaptability through improved resource prioritization, strengthened localization, and enhanced coordination across humanitarian partners.

Recovery and organizational learning also demonstrate substantial advancement. The 2026 plan integrates resilience building, community participation, institutional accountability, and continuous organizational learning into humanitarian governance, supported by systematic monitoring and evidence informed planning. These developments reflect a governance system that increasingly adapts to evolving humanitarian conditions while maintaining coordinated and accountable humanitarian action.

The Ukraine case demonstrates the progression of humanitarian governance from a well-coordinated emergency response toward a mature adaptive governance model characterized by stronger institutional learning, evidence based management, and greater operational flexibility. Compared with the Sudan case, governance evolution is more pronounced, reflecting stronger institutional capacity and a more established foundation for adaptive humanitarian management.

4.4.3. Cross Case Comparative Assessment

The comparative assessment reveals a progressive improvement in humanitarian governance across both Sudan and Ukraine, although the pace and extent of governance maturity differ considerably. While the Sudan response plans demonstrate substantial improvements between 2023 and 2026, humanitarian governance remains predominantly influenced by severe insecurity, resource shortages, and operational access constraints. In contrast, the Ukraine response plans demonstrate a more mature governance system characterized by stronger institutional coordination, evidence based decision-making, adaptive planning, and organizational learning.

Across the five stages of Mitroff Crisis Management Theory, damage containment consistently emerged as the strongest component of humanitarian governance in both countries, reflecting the capacity of humanitarian actors to coordinate multisector emergency assistance under highly complex operating conditions. However, greater differences were observed in signal detection, prevention and preparedness, recovery, and organizational learning. Ukraine demonstrated stronger performance across these stages through continuous needs assessments, integrated information systems, institutional accountability, localization, and adaptive governance mechanisms. Sudan also recorded notable improvements between 2023 and 2026, particularly in preparedness, monitoring, accountability, and localization, although these advances remained constrained by the scale and intensity of the humanitarian crisis. Table X presents a comparative assessment of humanitarian governance evolution in Sudan and Ukraine using the five dimensions of Mitroff et al. Crisis Management Theory.

Table 2. Comparative Evolution of Humanitarian Governance Across Sudan and Ukraine Using Mitroff et al. Crisis Management Theory

Mitroff Dimension	Sudan 2023 to 2026	Ukraine 2022 to 2026	Governance Implication
Signal Detection	Moderate improvement through stronger monitoring, needs assessment, and situation analysis.	Strong improvement through integrated information systems, continuous monitoring, and dynamic prioritization.	Early warning evolves into a strategic governance capability.
Prevention and Preparedness	Greater contingency planning, localization, and operational preparedness despite conflict constraints.	Proactive preparedness supported by flexible planning and integration with national and local systems.	Preparedness shifts from operational activity to an institutional governance function.
Damage Containment	Strong throughout both planning cycles with improved coordination and prioritization.	Strong throughout both planning cycles with greater operational adaptability.	Damage containment remains the strongest governance function in both contexts.
Recovery	Increasing emphasis on resilience, accountability, and community implementation.	Recovery increasingly integrates resilience, participation, and adaptive planning.	Recovery becomes an integral component of adaptive governance rather than a post crisis activity.
Organizational Learning	Emerging learning through monitoring, feedback, and evidence informed planning.	Institutionalized learning supported by continuous monitoring and adaptive governance.	Continuous learning differentiates mature adaptive governance from reactive governance.
Overall Governance Evolution	Reactive coordination to adaptive governance under persistent operational constraints.	Coordinated emergency response to mature adaptive governance.	Governance maturity develops through interconnected governance capabilities rather than isolated institutional reforms.

Source: Authors' Estimates

The comparison further indicates that humanitarian governance evolves through the gradual strengthening of interconnected governance functions rather than isolated institutional reforms. Improvements in information systems, coordination mechanisms, localization, and evidence based planning reinforced one another, resulting in greater governance adaptability and operational effectiveness. Conversely, persistent funding constraints, humanitarian access limitations, and prolonged conflict continued to weaken preparedness, recovery, and institutional learning across both humanitarian contexts.

The findings suggest that humanitarian governance becomes increasingly effective when crisis management extends beyond emergency response to incorporate anticipatory planning, continuous learning, adaptive decision-making, and stronger engagement with national and local actors. These findings provide the conceptual bridge to the proposed Humanitarian Polycrisis Governance Framework, which integrates the principal governance characteristics identified across the comparative assessment.

4.4.4. Summary of Mitroff Assessment

The comparative assessment demonstrates that humanitarian governance has progressed from predominantly reactive emergency response toward more adaptive, evidence informed, and resilient governance systems. While both Sudan and Ukraine exhibit improvements across the five stages of Mitroff Crisis Management Theory, the extent of governance maturity differs according to institutional capacity, operational context, and the complexity of the humanitarian environment. The findings highlight the importance of strengthening signal detection, preparedness, organizational learning, and anticipatory governance alongside effective emergency response. These observations provide the foundation for the concluding chapter, which synthesizes the principal findings and presents the proposed Humanitarian Polycrisis Governance Framework as a practical guide for strengthening humanitarian governance in complex polycrisis environments.

5. Conclusion and Policy Recommendation

5.1. Conclusion

This study examined how humanitarian governance shapes coordination and response effectiveness under conditions of polycrisis and systemic risk. It identified the governance mechanisms that strengthen early warning, preparedness, coordination, and adaptive response capacity, and developed an adaptive humanitarian governance framework for increasingly complex humanitarian environments. To achieve these objectives, the study adopted an integrated qualitative analytical approach that sequentially combined thematic analysis, comparative systems analysis, systems thinking, and Mitroff et al.'s (1987) Crisis Management Theory. This integrated analytical design moved beyond descriptive analysis by providing a holistic understanding of humanitarian governance as an interconnected, adaptive, and evolving system. The integration of these complementary analytical perspectives provided a robust empirical and theoretical foundation for explaining governance interactions, assessing governance evolution, and informing the proposed Adaptive Humanitarian Polycrisis Governance Framework.

The findings demonstrate that humanitarian governance has evolved beyond a coordination focused emergency response model toward a more integrated system of governance centred on adaptation, evidence informed decision making, localization, institutional learning, and resilience. The thematic analysis consistently identified humanitarian governance and coordination, evidence based decision-making and information systems, localization and community participation, operational constraints, and humanitarian polycrisis as the principal governance dimensions shaping humanitarian response across the Democratic Republic of the Congo, Occupied Palestine, Sudan, and Ukraine. The subsequent systems analysis further demonstrated that these governance functions operate as interconnected components whose collective interactions, rather than individual institutional performance, determine humanitarian effectiveness. This finding reinforces the central proposition of systems thinking that humanitarian crises are dynamic systems requiring coordinated responses to interdependent risks rather than isolated interventions. It also aligns with recent humanitarian governance scholarship, which increasingly advocates a transition from fragmented and reactive governance toward adaptive, networked, and systems based

governance capable of managing complexity, uncertainty, and cascading risks (Miller et al., 2025; Schreiber et al., 2025; Karamagioli et al., 2025). Likewise, the study supports growing evidence that effective humanitarian governance depends upon stronger localization, collaborative governance, evidence informed planning, institutional adaptability, and resilience building rather than reliance on rigid hierarchical coordination alone (WHO, 2025; Gustafsson et al., 2025; Esmail et al., 2025).

The comparative systems analysis further demonstrated that humanitarian governance evolved across both Sudan and Ukraine toward more adaptive, evidence informed, and resilient governance systems, although the pace and maturity of this transition differed according to institutional capacity and operational context. Improvements in coordination, information systems, localization, accountability, and adaptive decision making reinforced overall governance performance, while persistent funding constraints, humanitarian access challenges, and protracted conflict continued to limit system resilience. These findings are consistent with studies advocating adaptive governance, institutional learning, and collaborative governance as essential for managing increasingly complex humanitarian crises (Miller et al., 2025; Gustafsson et al., 2025; Tosi & Marty, 2024; WHO, 2025). Viewed through systems thinking, these changes reflect the progressive strengthening of interconnected governance functions, while Mitroff et al.'s (1987) Crisis Management Theory explains this progression as a shift from predominantly reactive crisis response toward stronger preparedness, recovery, and organizational learning.

The findings demonstrate that humanitarian governance functions not as a collection of independent institutional arrangements but as an adaptive system whose effectiveness depends on the interaction among coordination, information and monitoring systems, evidence based decision making, funding arrangements, localization, and community accountability. This represents the principal contribution of the study by empirically integrating humanitarian governance, systems thinking, and crisis management theory into a coherent governance perspective for managing humanitarian polycrises. While previous studies have separately emphasized governance complexity (Brown et al., 2015; Dijkzeul & Sandvik, 2019), resilience and adaptive governance (Anholt, 2017; Miller et al., 2025), and systems based humanitarian governance (Karamagioli et al., 2025), this study demonstrates how these governance functions operate collectively as an interconnected system that strengthens preparedness, coordination, adaptive response, resilience, and organizational learning across the humanitarian crisis cycle. The findings therefore extend existing humanitarian governance literature while providing a practical governance foundation for policymakers, humanitarian organizations, governments, and development partners seeking to strengthen institutional coordination and adaptive capacity in increasingly complex crisis environments. This integrated evidence provides the empirical and theoretical foundation for the proposed Adaptive Humanitarian Polycrisis Governance Framework, presented in the following section as a practical governance model for strengthening humanitarian preparedness, coordination, resilience, and adaptive response under conditions of systemic risk and polycrisis.

5.2. Policy Recommendation

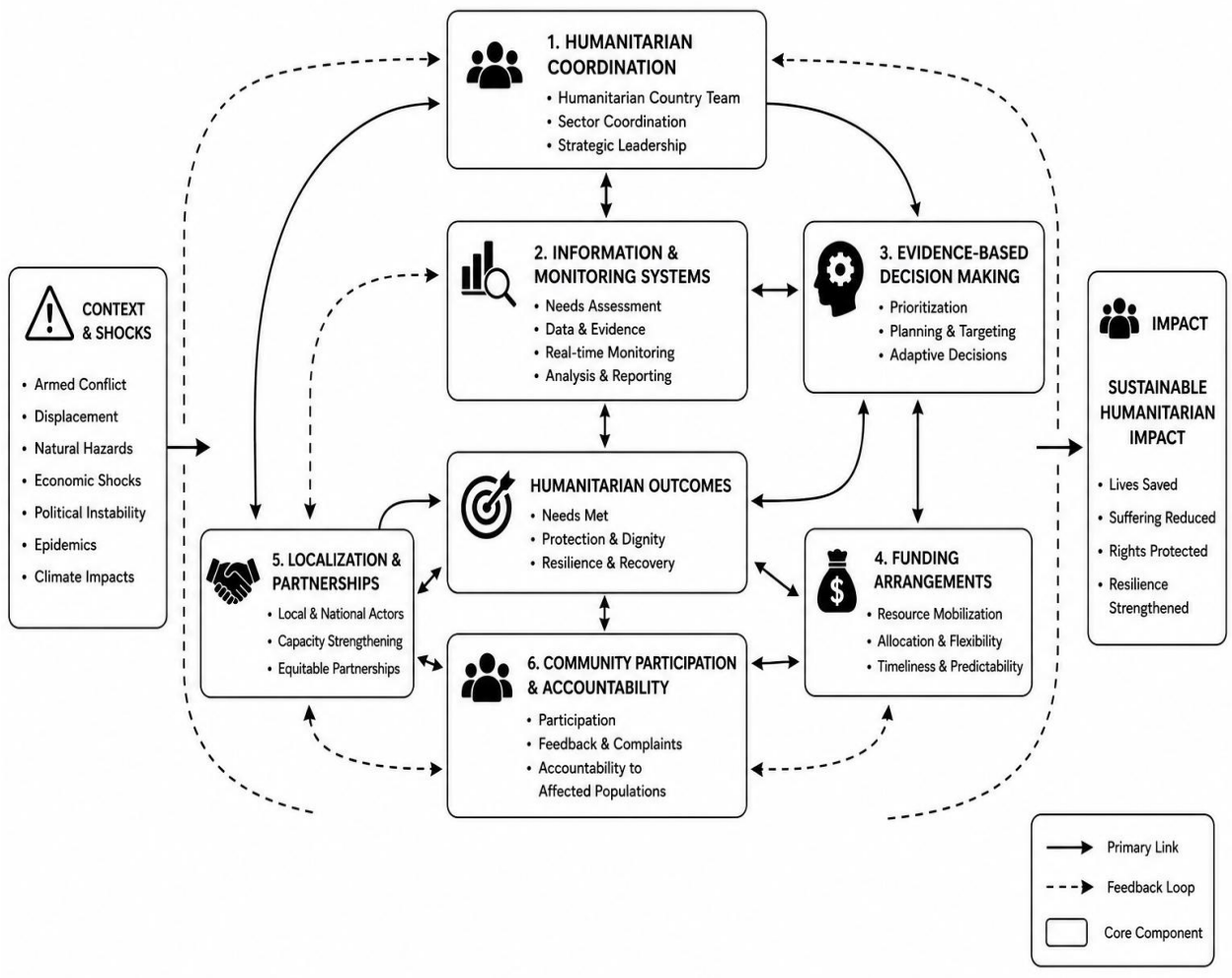
The findings of this study provide a clear empirical and theoretical basis for proposing an Adaptive Humanitarian Polycrisis Governance Framework. The framework translates the integrated

evidence generated through the thematic analysis, comparative systems analysis, systems thinking, Mitroff et al.'s (1987) Crisis Management Theory, and the broader humanitarian governance literature into a practical governance model for managing systemic risks and increasingly complex humanitarian crises. It provides a structured architecture for strengthening anticipatory, adaptive, coordinated, resilient and transformative humanitarian governance across the crisis cycle.

5.2.1. System Architecture of Humanitarian Polycrisis Governance

Figure 5 below presents the proposed System Architecture of Humanitarian Polycrisis Governance developed from the thematic analysis, comparative systems analysis, systems thinking interpretation, and Mitroff et al.'s (1987) Crisis Management Theory. The architecture conceptualizes humanitarian governance as an adaptive and interconnected system in which external shocks, governance functions, operational decisions, and humanitarian outcomes continuously influence one another. Rather than viewing governance as a sequence of isolated institutional activities, the architecture demonstrates that effective humanitarian performance emerges through the interaction of multiple governance components operating within a dynamic system.

Figure 5: System Architecture of Humanitarian Polycrisis Governance



Source: Authors' estimates

The architecture is organized into three interconnected layers comprising external system drivers, the core governance system, and humanitarian outcomes. External shocks initiate humanitarian action by creating changing operational demands, while six interconnected governance functions coordinate the response through humanitarian coordination, information and monitoring systems, evidence based decision making, funding arrangements, localization and partnerships, and community participation and accountability. These governance functions are connected through twelve primary relationships and six reinforcing feedback loops that collectively strengthen coordination, institutional learning, adaptive decision making, localization, resource allocation, and system resilience. The architecture therefore illustrates that improvements in one governance function generate wider system effects through continuous interaction with other governance components.

The proposed architecture extends existing humanitarian governance models by integrating governance functions, systems thinking, and crisis management within a single operational structure. It provides a practical representation of how humanitarian governance can evolve from fragmented and reactive crisis management toward adaptive, anticipatory, resilient, and continuously learning governance. This systems architecture forms the structural foundation for the proposed Adaptive Humanitarian Polycrisis Governance Framework presented in the following section.

5.2.2. Adaptive Humanitarian Polycrisis Governance Framework

Building upon the empirical findings, systems architecture, comparative assessment, and supporting humanitarian governance literature, this study proposes the Adaptive Humanitarian Polycrisis Governance Framework as shown in Table 2 below. The framework translates the study findings into an integrated governance model for managing increasingly interconnected humanitarian crises. Rather than introducing additional governance functions, it strengthens the existing humanitarian coordination architecture by developing five complementary governance capabilities that collectively enhance anticipation, adaptation, coordination, resilience, institutional learning, and long term humanitarian effectiveness.

Table 2: Adaptive Humanitarian Polycrisis Governance Framework

Governance Capability	Empirical Foundation	Rationale	Representative Supporting Studies	Mitroff Linkage	Governance Implication
Early Signal Governance	The findings identified persistent weaknesses in anticipatory governance despite improvements in monitoring and information systems.	Early detection enables governance to anticipate cascading risks before they become systemic disruptions.	Caravani et al. (2024); Tiggeloven et al. (2025); Esmail et al. (2025); Schreiber et al. (2025).	Signal Detection	Institutionalize integrated early warning, risk monitoring, forecasting, and scenario planning across humanitarian systems.

Adaptive Governance	Comparative analysis demonstrated progressive movement toward evidence based planning, localization, accountability, and flexible decision-making.	Continuous feedback enables governance to learn, adjust priorities, and respond to rapidly evolving crises.	Miller et al. (2025); Tosi and Marty (2024); Gustafsson et al. (2025); WHO (2025); Esmail et al. (2025).	Prevention and Preparedness	Strengthen adaptive planning, decentralized decision making, flexible financing, and continuous operational learning.
Systemic Governance	Systems analysis demonstrated that humanitarian outcomes emerge from interactions among coordination, information, decision-making, funding, localization, and accountability.	Governance effectiveness depends on interconnected institutions, feedback relationships, and coordinated system performance rather than isolated interventions.	Schreiber et al. (2025); Karamagioli et al. (2025); Miller et al. (2025); Brown et al. (2015); Dijkzeul and Sandvik (2019).	Damage Containment	Promote integrated governance, cross sector coordination, systems planning, and whole of system decision making.
Resilient Governance	Institutional learning, localization, community participation, accountability, and adaptive capacity consistently strengthened humanitarian performance across planning cycles.	Reinforcing feedback loops continuously strengthen institutional capacity, operational flexibility, and long-term resilience.	WHO (2025); Miller et al. (2025); Karamagioli et al. (2025); Schreiber et al. (2025); Anholt (2017).	Recovery	Embed organizational learning, resilience building, flexible resource allocation, and community accountability throughout humanitarian governance.
Transformative Governance	The study demonstrates that sustainable humanitarian effectiveness requires governance transformation rather than incremental improvements to emergency coordination.	Long-term humanitarian effectiveness depends on continuous institutional adaptation, systems learning, innovation, and governance reform.	Miller et al. (2025); Schreiber et al. (2025); Karamagioli et al. (2025); Gustafsson et al. (2025); Dijkzeul and Sandvik (2019).	Organizational Learning	Transform humanitarian governance from reactive emergency management toward adaptive, systemic, anticipatory, and continuously learning governance.

The framework represents the principal contribution of this study by integrating humanitarian governance, systems thinking, and crisis management theory into a unified governance model for humanitarian polycrisis management. While previous studies have examined adaptive governance,

localization, resilience, systems thinking, and crisis management as largely separate perspectives, this framework demonstrates how these concepts operate as complementary governance capabilities within a single adaptive system. By linking empirical evidence, systems interactions, humanitarian governance literature, and Mitroff et al.'s (1987) Crisis Management Theory, the framework provides a practical model for strengthening humanitarian preparedness, coordination, adaptive response, institutional learning, and long-term resilience across increasingly complex humanitarian environments.

5.2.3. Framework Limitations and Caveats

The Adaptive Humanitarian Polycrisis Governance Framework is offered as an analytical and operational guide, not as a universal prescription. Its applicability is strongest in contexts characterised by active armed conflict, established UN coordination architectures, and sustained international engagement. The framework may require substantial modification for climate induced displacement events, rapid onset health emergencies, or settings where humanitarian actors have limited access and weak institutional presence. Policymakers should exercise caution in applying the framework to such contexts without contextual adaptation and empirical validation.

Several caveats accompany its use. The governance capabilities proposed here could generate unintended consequences, including increased bureaucratic demands on already overstretched field offices, tensions between centralised coordination and decentralised adaptive decision-making, and the risk that performance indicators for governance capabilities become compliance exercises rather than genuine learning tools. Measuring progress across the five capabilities presents significant challenges, particularly for early signal governance and transformative governance, which require qualitative judgement and longitudinal observation rather than simple quantitative metrics. Sustaining these governance capabilities over protracted crises demands continuous investment in institutional capacity, information systems, and staff training, which may be unrealistic in chronically underfunded operations. Finally, the framework's empirical foundation rests on four crisis contexts, and its transferability to other settings should be tested through further research. These caveats do not diminish the framework's utility. They define the conditions under which it can be applied with confidence and the further work needed to strengthen its generalisability.

References

Abdel-Motaal, K. A., & Chun, S. (2025). Governance in crisis: A mixed-methods analysis of global health governance during COVID-19. International Journal of Environmental Research and Public Health, 22(8), 1305.

Anholt, R. (2017). Governing humanitarian emergencies, protracted crises, and (in) security through resilience.

Brown, D., Boano, C., Johnson, C., Vivekananda, J., & Walker, J. (2015). Urban crisis and humanitarian responses: A literature review.

Caravani, M., Howe, P., & Stites, E. (2024). State perspectives on early warning, anticipatory action, emergency response, and social protection in pastoral areas. Feinstein International Center, Friedman School of Nutrition Science and Policy, Tufts University.

Cavalcanti, D. M., de Sales, L. D. O. F., Da Silva, A. F., Basterra, E. L., Pena, D., Monti, C., ... & Rasella, D. (2025). Evaluating the impact of two decades of USAID interventions and projecting the effects of defunding on mortality up to 2030: A retrospective impact evaluation and forecasting analysis. The Lancet, 406(10500), 283 to 294.

Data Friendly Space. (2026, June). Sudan crisis: Situation analysis (Period: 08/06/2026–14/06/2026). GANNET.

Dijkzeul, D., & Sandvik, K. B. (2019). A world in turmoil: Governing risk, establishing order in humanitarian crises. Disasters, 43(Suppl. 1), S85–S108.

Esmail, M., Chatterjee, P., Parikh, K., Quaye, M. A., & Spiegel, P. (2025). Enhancing integrated epidemic response mechanisms in humanitarian emergencies: A scoping review and qualitative study. BMJ Open, 15(12), e102482.

European Parliament. Directorate-General for External Policies of the Union. (2026, April). Sudan's humanitarian crisis: Needs and responses (PE 783.612). European Parliament.

Food and Agriculture Organization of the United Nations. (2022). Democratic Republic of the Congo humanitarian response plan 2022. Food and Agriculture Organization of the United Nations.

Food and Agriculture Organization of the United Nations. (2024). Democratic Republic of the Congo humanitarian response plan 2024. Food and Agriculture Organization of the United Nations.

Gustafsson, M., Matveieva, O., Wihlborg, E., Borodin, Y., Mamatova, T., & Kvitka, S. (2025). Adaptive governance amidst the war: Overcoming challenges and strengthening collaborative digital service provision in Ukraine. Government Information Quarterly, 42(3), 102056.

Hendriks, T. D., & Boersma, F. K. (2019). Bringing the state back in to humanitarian crises response: Disaster governance and challenging collaborations in the 2015 Malawi flood response. International Journal of Disaster Risk Reduction, 40, 101262.

Hilhorst, D., Alburo-Cañete, K. Z., Aparicio, J. R., Kyamusugulwa, P. M., & Woldetsadik, T. K. (2025). Humanitarian observatories: Insights for reforming humanitarianism from below. Journal of International Humanitarian Action, 10(1), 10.

International Organization for Migration. (2023, October). Democratic Republic of the Congo crisis response plan 2023. International Organization for Migration.

Karamagioli, E., Pikoulis, M., & Arvaniti, C. (2025, March). Humanitarian aid in the polycrisis: Local and systems thinking approaches. PolyCIVIS, Jean Monnet Network on External Policy: EU–Africa.

Miller, T., Le De, L., & Hore, K. (2025). The adaptive shift: Embracing complexity in disaster and emergency management. International Journal of Disaster Risk Reduction, 119, 105323.

Mohamed, A., Tok, E., & Akande, A. (2026). Systemic Financial Shock in the Humanitarian Architecture: Diagnosing Structural Imbalance in an Era of Escalating Demand [Manuscript submitted for publication]. College of Islamic Studies, Hamad Bin Khalifa University.

Nikkanen, M., Räsänen, A., & Juhola, S. (2024). Adaptive governance of disaster preparedness? The case of regional networks in Finland. International Journal of Disaster Risk Reduction, 108, 104549.

Office for the Coordination of Humanitarian Affairs. (2021, December). Humanitarian response plan 2022: Occupied Palestinian Territory (Working document). United Nations.

Office for the Coordination of Humanitarian Affairs. (2022, February). Ukraine humanitarian response plan 2022. United Nations.

Office for the Coordination of Humanitarian Affairs. (2022, February 17). The 2022 humanitarian response plan requires US$1.88 billion to support the most vulnerable. United Nations.

Office for the Coordination of Humanitarian Affairs. (2022, December). Sudan humanitarian response plan 2023. United Nations.

Office for the Coordination of Humanitarian Affairs. (2022, December). Ukraine humanitarian needs overview 2023. United Nations.

Office for the Coordination of Humanitarian Affairs. (2023, January). Humanitarian response plan 2023: Occupied Palestinian Territory. United Nations.

Office for the Coordination of Humanitarian Affairs. (2023, May). Revised humanitarian response plan 2023: Sudan. United Nations.

Office for the Coordination of Humanitarian Affairs. (2023, December). Sudan humanitarian needs and response plan 2024. United Nations.

Office for the Coordination of Humanitarian Affairs. (2023, December). Ukraine humanitarian needs and response plan 2024. United Nations.

Office for the Coordination of Humanitarian Affairs. (2024, March 20). Ukraine situation report: Flash update No. 1—Humanitarian impact of recent attacks: South, East and North-East. United Nations.

Office for the Coordination of Humanitarian Affairs. (2024, April 22). Humanitarian needs and response update: 16–22 April 2024. United Nations.

Office for the Coordination of Humanitarian Affairs. (2024, December). Sudan humanitarian needs and response plan 2025. United Nations.

Office for the Coordination of Humanitarian Affairs. (2024, December). Sudan humanitarian needs and response plan 2025: Executive summary. United Nations.

Office for the Coordination of Humanitarian Affairs. (2025). Democratic Republic of the Congo humanitarian needs and response plan 2025. United Nations.

Office for the Coordination of Humanitarian Affairs. (2025). Ukraine humanitarian needs and response plan 2025: At a glance—People in need, targeted and prioritized, and financial requirements. United Nations.

Office for the Coordination of Humanitarian Affairs. (2025, April). Ukraine humanitarian needs and response plan 2025: Re-prioritization. United Nations.

Office for the Coordination of Humanitarian Affairs. (2025, April 29). Gaza humanitarian response update: 13–26 April 2025. United Nations.

Office for the Coordination of Humanitarian Affairs. (2025, May). Democratic Republic of the Congo: Re-prioritized humanitarian needs and response plan addendum. United Nations.

Office for the Coordination of Humanitarian Affairs. (2026, January). Ukraine humanitarian needs and response plan 2026. United Nations.

Office for the Coordination of Humanitarian Affairs. (2026, February). Sudan humanitarian needs and response plan 2026. United Nations.

Office for the Coordination of Humanitarian Affairs. (2026, February 6). Gaza humanitarian response: Situation report No. 66. United Nations.

Platform for International Cooperation on Undocumented Migrants, & European Council on Refugees and Exiles. (2022). Displacement from Ukraine: The EU's financial response (Policy note). PICUM & ECRE.

Raga, S., Agarwal, P., & Fur, V. (2025). Vulnerability of low and middle-income countries to the impacts of aid cuts and US tariff increases. ODI.

Reykers, Y. (2025). Evaluating crisis response speed of international organisations: Why it matters and how to achieve it. Journal of European Public Policy, 32(11), 2768–2793.

Schreiber, D., Hassnaoui, S., Weyembergh, A., Brosig, M., Kanifa, K., & Tibaingana, A. (2025). From polycrisis to polysolutions.

Tiggeloven, T., Pfeiffer, S., Matanó, A., Van Den Homberg, M., Thalheimer, L., Reichstein, M., & Torresan, S. (2025). The role of artificial intelligence for early warning systems: Status, applicability, guardrails, and ways forward. iScience, 28(11).

Tosi, L., & Marty, J. (2025). Adaptive coordination strategies in humanitarian action: Lessons from the COVID-19 pandemic. International Journal of Development Issues, 24(2), 185–206.

World Health Organization. (2025). Enhancing effectiveness of the primary health care humanitarian response in a protracted crisis: Experience from Ukraine 2022–2024 (No. WHO/EURO: 2025-12222-51994-79757). World Health Organization Regional Office for Europe.