

PUBLIC POLICY AND ADMINISTRATIVE MANAGEMENT CHALLENGES IN DISASTER CRISIS GOVERNANCE IN BALOCHISTAN

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Abstract

Balochistan, the largest province of Pakistan in terms of geography, remains highly vulnerable to floods, droughts, earthquakes, cyclones, and other climate-induced disasters. Despite the increasing frequency of environmental and humanitarian crises, disaster governance in the province continues to face serious public policy and administrative management challenges. Weak institutional planning, fragmented governance structures, limited coordination among departments, shortage of professional human resources, inadequate policy implementation, and poor administrative preparedness have significantly reduced the effectiveness of disaster crisis management mechanisms in Balochistan. The central problem addressed in this study is the gap between disaster-related public policies and the administrative management capacity required for effective crisis governance and emergency response in the province. The purpose of this study is to critically examine how public policy weaknesses and administrative management inefficiencies affect disaster crisis governance in Balochistan. The study further explores the role of disaster management institutions, governance structures, leadership practices, policy coordination, and administrative decision-making during disaster emergencies. A qualitative research methodology is adopted based on policy analysis, secondary data, official reports, academic literature, and case studies related to major disasters in Balochistan. The research particularly evaluates the institutional performance of disaster management authorities and public sector administrative systems in preparedness, coordination, response, and recovery phases. The findings indicate that disaster crisis governance in Balochistan is constrained by policy fragmentation, bureaucratic delays, weak inter-agency coordination, limited financial and technological resources, poor infrastructure, and lack of community-centered management approaches. The study also finds that administrative management systems remain reactive rather than proactive, which increases institutional vulnerability during emergencies. Furthermore, climate change, socio-economic deprivation, and weak local governance have intensified disaster risks in remote districts of the province. The study concludes that strengthening disaster governance in Balochistan requires integrated public policy reforms, modern administrative management practices, institutional capacity building, digital governance mechanisms, and improved coordination between provincial and local institutions. The study recommends a resilience-oriented and management-driven disaster governance framework for

enhancing crisis preparedness, response efficiency, and sustainable disaster management in Balochistan.

1. INTRODUCTION

Disasters have emerged as one of the most significant governance and public policy challenges confronting developing countries in the twenty-first century. The increasing frequency and intensity of natural and climate-induced disasters have transformed disaster management from a humanitarian concern into a critical issue of public administration, governance, and policy effectiveness. Around the world, governments are increasingly required to design and implement comprehensive disaster risk reduction strategies capable of mitigating vulnerabilities, protecting communities, and ensuring sustainable development. Effective disaster governance depends not only on the availability of resources but also on the quality of public policies, administrative management systems, institutional coordination, and leadership structures responsible for crisis response and recovery (UNDRR, 2023). In many developing countries, however, disaster management systems continue to face policy fragmentation, bureaucratic inefficiencies, limited institutional capacities, and weak implementation mechanisms, resulting in recurring humanitarian crises and prolonged recovery periods.

Pakistan is among the countries most vulnerable to natural disasters and climate-related emergencies. Its geographical diversity, fragile ecosystems, rapid population growth, environmental degradation, and changing climate patterns expose the country to a wide range of hazards, including floods, droughts, earthquakes, landslides, cyclones, and heatwaves (NDMA, 2025). The devastating floods of 2010 and 2022 highlighted the limitations of disaster governance institutions and demonstrated the urgent need for stronger policy frameworks and more efficient administrative management systems. According to the United Nations Development Programme, climate change is increasingly exacerbating disaster risks in Pakistan, particularly in regions characterized by poverty, weak infrastructure, and limited institutional capacity (UNDP, 2024).

These challenges underscore the importance of integrating disaster risk reduction into public policy and strengthening governance structures at national, provincial, and local levels.

Among Pakistan's provinces, Balochistan presents a particularly complex case for disaster governance. Covering approximately 44 percent of Pakistan's total land area, Balochistan is characterized by vast geographical distances, scattered populations, weak infrastructure, and significant socio-economic disparities. The province is highly vulnerable to multiple disasters, including prolonged droughts, flash floods, earthquakes, cyclones, water scarcity, and extreme temperature events (Government of Balochistan, 2024). Climate change has further intensified these vulnerabilities, increasing the frequency of environmental shocks and placing additional pressure on already fragile governance systems. Despite its strategic significance and resource potential, Balochistan continues to face developmental challenges that limit the effectiveness of public institutions responsible for disaster preparedness, response, and recovery.

The disaster management landscape in Pakistan underwent significant transformation following the enactment of the National Disaster Management Act of 2010. The establishment of the National Disaster Management Authority (NDMA), Provincial Disaster Management Authorities (PDMAs), and District Disaster Management Authorities (DDMAs) was intended to create an integrated disaster governance framework capable of addressing risks through preparedness, mitigation, response, and recovery mechanisms (NDMA, 2025). While these institutional reforms represented an important step toward modern disaster governance, their implementation has produced mixed results, particularly in underdeveloped provinces such as Balochistan. Numerous studies suggest that institutional fragmentation, overlapping responsibilities, inadequate financial resources, and weak coordination mechanisms continue to

undermine disaster management effectiveness (Kugelman, 2022).

Public policy plays a crucial role in shaping disaster governance outcomes. Well-designed policies establish the legal, administrative, and operational foundations necessary for effective crisis management. They define institutional responsibilities, allocate resources, promote inter-agency coordination, and facilitate community participation in disaster risk reduction activities. However, the existence of policy frameworks alone does not guarantee successful implementation. Policy effectiveness depends largely on administrative management capacities, leadership quality, organizational efficiency, and the ability of institutions to translate policy objectives into practical actions (Howlett & Ramesh, 2021). In many developing regions, including Balochistan, a persistent gap exists between policy formulation and implementation, resulting in inadequate preparedness and ineffective disaster response.

Administrative management constitutes another critical dimension of disaster governance. Crisis situations require rapid decision-making, efficient resource mobilization, effective communication systems, and coordinated action among multiple stakeholders. Public administrators play a central role in ensuring that disaster response mechanisms function effectively under conditions of uncertainty and urgency. Nevertheless, administrative systems often encounter numerous challenges, including bureaucratic delays, limited technical expertise, insufficient training, weak information management systems, and lack of institutional coordination (Farazmand, 2023). Such challenges become even more pronounced in geographically dispersed and socio-economically disadvantaged regions such as Balochistan, where access to resources and institutional support remains limited.

The recurring droughts experienced in districts such as Chagai, Nushki, Kharan, Washuk, and Kech illustrate the long-term consequences of inadequate policy planning and administrative preparedness. Water scarcity, declining agricultural productivity, migration, and livelihood insecurity have become persistent challenges affecting local communities (World

Bank, 2023). Similarly, flash floods in various districts have repeatedly exposed weaknesses in early warning systems, emergency response coordination, and infrastructure resilience. The 2022 floods particularly revealed significant deficiencies in institutional preparedness and highlighted the need for more integrated approaches to disaster governance and public administration (UNDP, 2024). These experiences demonstrate that disaster management challenges in Balochistan are not solely environmental or humanitarian issues but are closely linked to broader governance and policy concerns.

Another important challenge relates to institutional coordination among federal, provincial, and local authorities. Effective disaster governance requires collaboration among government departments, security institutions, humanitarian organizations, local communities, and development agencies. However, coordination mechanisms often remain weak due to overlapping mandates, unclear responsibilities, communication gaps, and administrative fragmentation (UNDRR, 2023). Such challenges frequently delay emergency response efforts and reduce the overall effectiveness of disaster management interventions. In Balochistan, where administrative structures are already constrained by limited capacity and resource shortages, coordination failures can significantly exacerbate disaster impacts.

The growing impact of climate change further complicates disaster governance in the province. Rising temperatures, prolonged droughts, erratic rainfall patterns, and increasing frequency of extreme weather events have expanded the scope of disaster risks facing local communities. Climate-related disasters not only threaten human security but also undermine economic development, social stability, and environmental sustainability (IPCC, 2023). As a result, contemporary disaster governance increasingly requires the integration of climate adaptation strategies into public policy frameworks. This shift demands greater institutional flexibility, improved policy coordination, and enhanced administrative capacities capable of addressing both immediate emergencies and long-term resilience challenges.

Recent international scholarship emphasizes the importance of resilience-oriented governance approaches that prioritize prevention, preparedness, adaptation, and community engagement rather than focusing exclusively on post-disaster response (Tierney, 2019). Such approaches recognize that disaster resilience depends on the capacity of institutions, communities, and governance systems to anticipate risks, absorb shocks, and recover effectively from crises. In the context of Balochistan, resilience-based governance offers a useful framework for addressing the interconnected challenges of climate vulnerability, institutional weakness, socio-economic deprivation, and administrative inefficiency. However, achieving such resilience requires comprehensive reforms in public policy design, administrative management practices, and institutional coordination mechanisms.

Despite growing scholarly interest in disaster management and climate governance in Pakistan, limited research has specifically examined the relationship between public policy gaps and administrative management challenges in disaster crisis governance within Balochistan. Existing studies often focus on disaster impacts, humanitarian responses, or climate vulnerabilities without adequately exploring how governance structures and administrative systems influence disaster management outcomes. This gap in the literature highlights the need for a more comprehensive examination of the policy and management dimensions of disaster governance in the province.

This study seeks to address this gap by critically examining the public policy weaknesses and administrative management challenges affecting disaster crisis governance in Balochistan. The research explores how policy implementation deficits, institutional fragmentation, bureaucratic constraints, resource limitations, and coordination challenges influence disaster preparedness, response, and recovery processes. By analyzing governance structures and administrative practices within the broader context of disaster risk management, the study aims to contribute to ongoing debates on public

policy reform, institutional resilience, and crisis governance in Pakistan. Furthermore, the study seeks to provide evidence-based recommendations for strengthening disaster governance systems and enhancing the capacity of public institutions to respond effectively to future crises. Ultimately, improving disaster governance in Balochistan is not only essential for reducing disaster risks but also for promoting sustainable development, human security, and long-term societal resilience in one of Pakistan's most strategically important yet vulnerable provinces.

1.2 Problem Statement

Balochistan is one of the most disaster-prone provinces of Pakistan, frequently experiencing droughts, floods, earthquakes, cyclones, and other climate-induced emergencies. Despite the existence of disaster management frameworks and institutions such as the National Disaster Management Authority (NDMA) and the Provincial Disaster Management Authority (PDMA), the province continues to face significant challenges in disaster preparedness, response, recovery, and mitigation. Public policies related to disaster management often suffer from implementation gaps, inadequate resource allocation, weak institutional coordination, and limited integration of climate adaptation strategies. Furthermore, administrative management systems face constraints including bureaucratic delays, shortage of trained personnel, weak information management mechanisms, and limited operational capacities, particularly in remote and underdeveloped districts. These challenges reduce the effectiveness of disaster crisis governance and increase the vulnerability of communities to environmental and humanitarian crises. Therefore, there is a need to critically examine the public policy gaps and administrative management challenges that hinder effective disaster crisis governance in Balochistan and to identify measures for strengthening institutional resilience and crisis management capacity.

1.3 Research Objectives

General Objective

To examine the public policy gaps and administrative management challenges affecting disaster crisis governance in Balochistan.

Specific Objectives

1. To analyze the existing public policy framework for disaster crisis management in Balochistan.
2. To identify major public policy gaps affecting disaster preparedness, response, and recovery mechanisms in the province.
3. To assess the administrative management challenges faced by disaster management institutions in Balochistan.
4. To propose policy and administrative reforms for strengthening disaster governance and crisis management capacity in Balochistan.

1.4 Significance of the Study

This study holds both academic and practical significance by contributing to the growing body of literature on disaster governance, public policy, and administrative management in developing regions. While considerable research has examined the physical and humanitarian impacts of disasters, limited attention has been given to the governance and management dimensions of disaster crisis management in Balochistan. By focusing on public policy and administrative challenges, the study addresses an important gap in existing scholarship and provides a comprehensive understanding of institutional weaknesses affecting disaster governance in the province.

The study is significant for policymakers because it highlights shortcomings in current disaster management policies and identifies areas requiring reform and improvement. The findings may assist provincial and federal authorities in developing more effective policy frameworks, strengthening institutional coordination, and enhancing administrative efficiency in disaster management systems. Furthermore, the study provides valuable insights for disaster management institutions such as NDMA, PDMA, and district administrations regarding capacity

building, resource management, leadership development, and emergency preparedness.

The research is also important for development practitioners, humanitarian organizations, and civil society actors working in disaster-prone regions of Balochistan. Understanding the policy and administrative barriers affecting disaster governance can help stakeholders design more effective interventions and strengthen community resilience. Moreover, the study contributes to broader discussions on climate adaptation, sustainable development, public sector governance, and human security in Pakistan. Ultimately, the findings aim to support evidence-based policymaking and promote a more resilient, efficient, and responsive disaster governance system in Balochistan.

1.5 Scope and Delimitations of the Study

The scope of this study is confined to examining public policy gaps and administrative management challenges in disaster crisis governance within the province of Balochistan. The study focuses on disaster-related governance structures, policy frameworks, institutional coordination mechanisms, administrative capacities, and crisis management practices associated with major disaster management institutions, including NDMA, PDMA Balochistan, district administrations, and relevant government departments. Particular attention is given to disaster preparedness, emergency response, recovery mechanisms, and climate-related governance challenges affecting vulnerable districts of the province.

The study primarily relies on qualitative research methods and secondary sources of data, including government reports, policy documents, disaster management frameworks, academic literature, and published case studies. Major disasters such as floods, droughts, earthquakes, and climate-induced emergencies in Balochistan are examined to understand governance and management challenges. The research emphasizes institutional and policy dimensions rather than technical, engineering, or environmental aspects of disaster management.

Several delimitations apply to this study. First, the research is geographically limited to Balochistan and does not provide a comparative analysis with other provinces of Pakistan. Second, the study focuses on governance, policy, and administrative management issues rather than detailed disaster impact assessments. Third, due to time and resource constraints, the research relies primarily on secondary data rather than extensive field surveys or interviews. Finally, the study does not evaluate every disaster event in the province but instead draws upon selected cases that illustrate broader public policy and administrative management challenges in disaster crisis governance. These delimitations help maintain a focused analysis while providing meaningful insights into the governance challenges confronting disaster management institutions in Balochistan.

2. Literature Review

2.1 Concept of Disaster Governance

Disaster governance refers to the institutional, policy, administrative, and community-based arrangements through which societies prepare for, respond to, recover from, and reduce disaster risks. In recent years, the concept has moved beyond traditional emergency relief and response toward a broader governance framework that emphasizes risk reduction, resilience, institutional coordination, climate adaptation, and public accountability. Contemporary disaster governance recognizes that disasters are not only natural events but also outcomes of weak planning, poor public policy, socio-economic vulnerability, and ineffective administrative management. The United Nations Office for Disaster Risk Reduction argues that disaster risk is increasingly systemic, meaning that hazards interact with poverty, weak infrastructure, governance gaps, environmental degradation, and institutional weaknesses (UNDRR, 2023).

The evolution of disaster governance shows a major shift from reactive disaster management to proactive disaster risk reduction. Earlier approaches mainly focused on relief distribution and post-disaster rehabilitation. However, modern disaster governance emphasizes preparedness,

mitigation, early warning, resilience-building, and community participation. The Sendai Framework for Disaster Risk Reduction 2015–2030 has strongly influenced this shift by highlighting the need to understand disaster risk, strengthen disaster governance, invest in resilience, and improve disaster preparedness for effective response and recovery (UNDRR, 2023). This global transformation has made disaster governance a key part of public policy and administrative management.

Globally, disaster management approaches vary according to institutional capacity, economic resources, and political commitment. Developed countries often rely on advanced technology, strong early warning systems, decentralized emergency response, insurance mechanisms, and coordinated public administration. In contrast, developing countries frequently face challenges such as weak implementation, limited funding, inadequate technical capacity, and poor coordination among institutions. Recent studies show that countries with strong governance systems, local-level preparedness, and community participation are more successful in reducing disaster losses (World Bank, 2023). Therefore, disaster governance must be understood as a multi-sectoral process involving government agencies, local institutions, civil society, humanitarian organizations, and affected communities.

2.2 Public Policy and Disaster Management

Public policy plays a central role in shaping disaster management systems. It provides the legal, institutional, financial, and operational basis for disaster preparedness, mitigation, response, and recovery. Effective disaster policy identifies risks, assigns responsibilities to institutions, allocates resources, establishes coordination mechanisms, and ensures accountability. However, the success of disaster-related public policy depends not only on policy formulation but also on implementation capacity. Many developing countries have formal disaster policies, yet their practical impact remains limited due to weak enforcement, bureaucratic delays, financial constraints, and lack of coordination (Howlett & Ramesh, 2021).

Policy formulation in disaster management requires scientific risk assessment, climate data, community vulnerability mapping, and coordination among relevant departments. It also requires integration between disaster risk reduction, climate adaptation, urban planning, health policy, water governance, and infrastructure development. However, policy implementation remains a major challenge in many disaster-prone countries. Implementation gaps occur when policies are not translated into practical action due to weak administrative structures, limited budgets, lack of trained staff, and poor monitoring systems (Farazmand, 2023). This gap between policy design and field-level execution is particularly visible in underdeveloped and geographically dispersed regions.

In Pakistan, disaster-related public policy has developed significantly after the 2005 earthquake and the 2010 floods. The National Disaster Management Act 2010 established a formal institutional framework involving NDMA at the federal level, PDMA at the provincial level, and DDMA at the district level. Pakistan has also developed national disaster management plans, monsoon contingency plans, climate adaptation frameworks, and risk reduction strategies. However, recent disasters, particularly the 2022 floods, exposed serious weaknesses in policy implementation, preparedness, early warning, infrastructure resilience, and inter-agency coordination (Government of Pakistan, 2022). These weaknesses suggest that Pakistan's disaster policy framework requires stronger integration with administrative management, climate resilience, and local governance.

2.3 Administrative Management in Crisis Situations

Administrative management is a critical component of crisis governance because disasters require quick decision-making, efficient resource mobilization, coordination among institutions, and effective public communication. Public administration during disasters involves planning, command and control, logistics, relief distribution, data management, emergency communication, and recovery coordination. The

quality of administrative management often determines whether disaster response is timely, inclusive, and effective. In weak administrative systems, even well-designed policies may fail because institutions lack the capacity to implement them efficiently (Farazmand, 2023).

Public administration and emergency management are closely linked. During crises, public institutions must work under pressure, uncertainty, and limited information. Effective crisis management requires clear leadership, trained personnel, emergency operation centers, standard operating procedures, digital information systems, and coordination between provincial and district authorities. Administrative management also includes the ability to prioritize vulnerable populations, ensure transparent relief distribution, and prevent duplication of efforts among departments and humanitarian actors. Recent literature emphasizes that crisis governance should be adaptive, evidence-based, and locally responsive (Kapucu & Ustun, 2022).

Administrative decision-making during disasters is often complex because decisions must be taken quickly while considering human lives, resource limitations, political pressures, and logistical constraints. In disaster-prone regions, weak decision-making can cause delays in evacuation, rescue, relief distribution, and rehabilitation. Therefore, disaster management requires not only technical knowledge but also leadership capacity, communication skills, institutional discipline, and public trust. In Pakistan, administrative decision-making during disasters is often affected by centralized control, weak district-level capacity, bureaucratic procedures, and poor information flow. These weaknesses become more serious in remote provinces such as Balochistan, where distances, infrastructure gaps, and resource shortages create additional administrative challenges.

2.4 Disaster Governance Framework in Pakistan

Pakistan's disaster governance framework is based on a three-tier institutional structure. At the federal level, the National Disaster Management Authority is responsible for policy guidance, national coordination, disaster risk reduction

planning, early warning coordination, and emergency response support. NDMA works with federal ministries, armed forces, humanitarian agencies, provincial authorities, and international partners during major disasters. In recent years, NDMA has increasingly emphasized technology-based monitoring, climate risk assessment, early warning, and preparedness planning (NDMA, 2024).

At the provincial level, Provincial Disaster Management Authorities are responsible for disaster preparedness, response, recovery, and coordination within their respective provinces. PDMA develops provincial disaster management plans, coordinate relief operations, conduct vulnerability assessments, and work with district administrations. In Balochistan, PDMA plays a central role in managing floods, droughts, earthquakes, cyclones, and other emergencies. However, PDMA Balochistan faces serious constraints due to the province's large geography, limited infrastructure, scattered population, and resource limitations. These challenges reduce the speed and effectiveness of disaster response in remote districts.

At the district level, District Disaster Management Authorities are supposed to play a frontline role in disaster preparedness and emergency response. DDMA is responsible for local risk assessment, evacuation planning, community awareness, relief coordination, and early response. However, in practice, district-level disaster governance remains weak in many parts of Pakistan. DDMA often lack trained staff, financial resources, technical equipment, and permanent institutional structures. This creates a gap between national disaster policy and local-level implementation. In Balochistan, where many districts are remote and underdeveloped, strengthening DDMA is essential for improving disaster crisis governance.

2.5 Climate Change and Disaster Vulnerability in Balochistan

Balochistan is highly vulnerable to climate change and disasters because of its geography, arid climate, weak infrastructure, poverty, water scarcity, and limited institutional capacity. The province faces multiple hazards, including flash

floods, droughts, earthquakes, cyclones, heatwaves, and extreme weather events. Climate change has intensified these risks by increasing temperature variability, changing rainfall patterns, worsening drought conditions, and creating more frequent extreme weather events. The World Bank (2023) notes that Pakistan's climate vulnerability is strongly linked to weak adaptive capacity, poverty, and governance limitations.

Floods have become one of the major disaster risks in Balochistan. The 2022 floods caused severe damage to infrastructure, agriculture, housing, roads, livestock, and livelihoods across Pakistan, including Balochistan. The Post-Disaster Needs Assessment highlighted that floods were not only a humanitarian disaster but also a governance and development challenge requiring resilient reconstruction and improved disaster preparedness (Government of Pakistan, 2022). In Balochistan, weak drainage systems, poor road connectivity, lack of protective infrastructure, and delayed emergency response increased the impact of floods on vulnerable communities.

Drought is another major disaster affecting Balochistan, particularly in districts such as Chagai, Nushki, Kharan, Washuk, Awaran, Kech, and Panjgur. Drought reduces water availability, damages agriculture, weakens livestock-based livelihoods, and increases migration pressures. Because a large part of Balochistan depends on rain-fed agriculture and livestock, drought directly affects food security and rural livelihoods. UNDRR (2021) emphasizes that drought is a slow-onset disaster with long-term social, economic, and environmental consequences. In Balochistan, drought management remains weak due to limited water storage, poor groundwater governance, and inadequate climate adaptation planning.

Earthquakes also pose a serious threat to Balochistan because the province lies in a seismically active region. Past earthquakes in areas such as Ziarat and Harnai have demonstrated the vulnerability of housing structures, public buildings, roads, and health facilities. Earthquake preparedness requires building codes, risk-sensitive land-use planning, public awareness, and emergency response capacity. However, weak enforcement of building standards and limited

local preparedness increase seismic vulnerability. Similarly, coastal districts such as Gwadar, Lasbela, and nearby areas face cyclone and coastal hazards. Rising sea levels, coastal erosion, and extreme weather events create additional risks for coastal communities and infrastructure.

2.6 Public Policy Challenges in Disaster Governance

Public policy challenges in disaster governance are visible in the gap between formal policy frameworks and actual implementation. Pakistan has developed several disaster management policies, plans, and institutions, but disaster losses remain high due to weak execution. Policy gaps include inadequate integration of climate adaptation with disaster management, limited focus on prevention, weak local government involvement, insufficient risk mapping, and poor community participation. In Balochistan, these gaps are more serious because of administrative constraints, limited resources, and difficult geography.

Implementation deficits are among the most important challenges in disaster governance. Policies often exist on paper but are not fully implemented at the district and community levels. Disaster preparedness plans may not be regularly updated, mock drills may not be conducted, and early warning information may not reach remote communities in time. Similarly, coordination between departments such as health, irrigation, local government, communication, agriculture, livestock, and district administration remains weak. The 2022 floods showed that disaster policy implementation in Pakistan needs stronger institutional coordination and better preparedness systems (Government of Pakistan, 2022).

Resource constraints further weaken disaster governance. Disaster management institutions often face shortages of funds, equipment, vehicles, trained personnel, emergency shelters, relief stock, and digital monitoring systems. In Balochistan, resource constraints are intensified by the vast size of the province and the distance between administrative centers and vulnerable communities. Limited budgetary allocations for

disaster risk reduction also indicate that disaster governance remains more response-oriented than prevention-oriented. A resilience-based policy approach requires sustained investment in early warning systems, local capacity building, climate-resilient infrastructure, and community preparedness.

2.7 Administrative Challenges in Disaster Crisis Management

Administrative challenges are central to disaster crisis management in Balochistan. Bureaucratic delays often slow down emergency response, relief distribution, and rehabilitation. During disasters, timely action is critical, but administrative procedures, approval processes, reporting delays, and coordination gaps can reduce institutional efficiency. In remote districts, delays in communication and transport further weaken response efforts. Effective disaster administration requires decentralization, clear authority, emergency powers, and rapid decision-making mechanisms.

Human resource limitations also affect disaster management institutions. Disaster governance requires trained professionals in emergency planning, risk assessment, logistics, communication, data analysis, climate adaptation, public health, and community mobilization. However, many institutions in Pakistan face shortages of specialized disaster management professionals. At the district level, officials often perform disaster-related responsibilities as additional duties without sufficient training or technical support. This reduces the quality of preparedness, response, and recovery planning. Capacity building is therefore essential for improving administrative management in disaster crisis governance.

Institutional fragmentation is another major administrative challenge. Disaster management involves multiple institutions, but coordination among them is often weak. Overlapping mandates, unclear responsibilities, political interference, and weak communication systems create confusion during emergencies. In Balochistan, institutional fragmentation is further complicated by the involvement of provincial departments, district

administrations, security institutions, humanitarian organizations, and community actors. Without a strong coordination mechanism, disaster response can become reactive, uneven, and inefficient. Therefore, administrative reforms must focus on integrated planning, shared databases, joint training, and clear command structures.

2.8 Review of Previous Studies

International literature on disaster governance highlights the importance of resilience, preparedness, local participation, and institutional coordination. Recent studies argue that disaster risk is socially produced and that weak governance increases vulnerability. UNDRR (2023) emphasizes that disaster risk reduction requires systemic governance approaches that connect climate adaptation, development planning, and public policy. Similarly, the World Bank (2023) argues that climate-vulnerable countries must invest in resilient infrastructure, social protection, and institutional capacity to reduce disaster impacts. International studies also show that community-based disaster risk reduction improves preparedness because local communities understand local hazards and vulnerabilities.

Pakistani literature has increasingly focused on climate vulnerability, flood management, disaster response, and institutional preparedness. Studies after the 2022 floods have highlighted serious weaknesses in Pakistan's disaster governance system, including poor preparedness, weak early warning dissemination, inadequate infrastructure, and limited coordination among institutions. The Post-Disaster Needs Assessment concluded that Pakistan requires resilient reconstruction, climate adaptation, and stronger disaster risk reduction policies (Government of Pakistan, 2022). NDMA's recent reports also emphasize modern technology, early warning systems, preparedness planning, and institutional coordination as priorities for improving disaster management (NDMA, 2024).

However, there remains a clear research gap regarding the relationship between public policy gaps and administrative management challenges in disaster crisis governance in Balochistan.

Existing studies often focus either on climate impacts or humanitarian losses, while fewer studies examine how policy design, implementation deficits, bureaucratic capacity, institutional coordination, and administrative decision-making shape disaster outcomes in the province. Balochistan's unique geography, scattered population, weak infrastructure, and repeated exposure to floods, droughts, earthquakes, and coastal hazards require a province-specific analysis. Therefore, this study contributes to existing literature by examining disaster governance in Balochistan through the combined lens of public policy and administrative management.

3. Theoretical Framework

The present study is grounded in four complementary theoretical perspectives that explain how public institutions formulate policies, manage disasters, respond to crises, and build resilience. These frameworks provide a conceptual basis for understanding the relationship between public policy gaps, administrative management challenges, and disaster crisis governance in Balochistan.

3.1 Governance Theory

Governance Theory emphasizes the processes, institutions, and relationships through which public decisions are made and implemented. Unlike traditional government-centered approaches, governance theory highlights the role of multiple actors, including government agencies, local authorities, civil society organizations, private sector entities, and communities, in addressing public problems (Pierre & Peters, 2020). In disaster governance, effective coordination among these stakeholders is essential for preparedness, response, recovery, and mitigation.

The theory suggests that disasters cannot be managed solely through centralized administrative structures. Instead, collaborative governance, accountability, transparency, stakeholder participation, and institutional coordination are necessary for reducing disaster risks and improving crisis response outcomes. In the context of Balochistan, Governance Theory helps explain

how weak institutional linkages, fragmented decision-making processes, and coordination failures contribute to ineffective disaster management and increase community vulnerability.

3.2 New Public Management Theory

New Public Management (NPM) Theory emerged as a response to traditional bureaucratic administration and advocates efficiency, effectiveness, accountability, performance measurement, and results-oriented governance in the public sector (Hood & Dixon, 2021). The theory encourages public institutions to adopt management practices commonly used in the private sector, including strategic planning, performance evaluation, resource optimization, and customer-oriented service delivery.

Within disaster management, NPM emphasizes efficient resource utilization, rapid service delivery, decentralized decision-making, and institutional accountability during emergencies. Effective disaster governance requires administrative systems capable of responding quickly to crises while ensuring transparency and efficient management of public resources. The theory is particularly relevant to Balochistan, where disaster management institutions often face challenges related to bureaucratic inefficiency, resource shortages, administrative delays, and weak service delivery mechanisms. NPM provides a useful framework for evaluating how management reforms can strengthen institutional performance in disaster crisis governance.

3.3 Crisis Management Theory

Crisis Management Theory focuses on how organizations prepare for, respond to, and recover from unexpected disruptive events. The theory argues that effective crisis management depends on preparedness, early warning systems, leadership, communication, coordination, and learning from previous crises (Boin et al., 2021). Crises are characterized by uncertainty, urgency, and high levels of risk, requiring institutions to make timely and effective decisions under pressure.

The theory identifies several phases of crisis management, including prevention, preparedness, response, recovery, and post-crisis evaluation. Successful crisis governance requires institutions to anticipate risks, develop contingency plans, mobilize resources quickly, and maintain effective communication with stakeholders. In disaster-prone regions such as Balochistan, Crisis Management Theory provides a framework for understanding how administrative capacity, leadership effectiveness, and institutional preparedness influence disaster response outcomes. The theory is particularly useful in examining challenges related to emergency decision-making, coordination failures, and operational inefficiencies during disasters.

3.4 Resilience Governance Framework

The Resilience Governance Framework emphasizes the capacity of institutions, communities, and governance systems to anticipate, absorb, adapt to, and recover from shocks and disasters (UNDRR, 2023). Rather than focusing solely on emergency response, resilience governance seeks to strengthen long-term adaptive capacity and reduce vulnerability to future risks.

The framework recognizes that climate change, environmental degradation, socio-economic inequalities, and governance weaknesses contribute to disaster vulnerability. Therefore, disaster governance should prioritize resilience-building measures such as climate adaptation, community participation, sustainable infrastructure development, risk-informed planning, and institutional learning. In Balochistan, where climate-induced disasters are becoming more frequent and severe, resilience governance offers an important perspective for understanding how public policy and administrative management can contribute to sustainable disaster risk reduction and long-term community resilience.

4. Research Methodology

4.1 Research Design

This study employs a qualitative research design to explore public policy gaps and administrative management challenges affecting disaster crisis

governance in Balochistan. A qualitative design is appropriate because the study seeks to examine institutional structures, governance processes, policy implementation challenges, and administrative practices within the broader context of disaster management. The design enables an in-depth understanding of complex governance issues that cannot be adequately captured through quantitative measures alone.

4.2 Research Approach

The study adopts an exploratory and descriptive research approach. The exploratory component aims to identify key governance and administrative challenges affecting disaster management institutions, while the descriptive component provides a detailed examination of existing public policies, institutional arrangements, and crisis management practices. This approach facilitates a comprehensive understanding of the factors influencing disaster governance in Balochistan.

4.3 Sources of Data

The research relies primarily on secondary sources of data obtained from credible and authoritative sources.

Secondary Data

Secondary data include previously published information related to disaster governance, climate vulnerability, public administration, and crisis management in Pakistan and Balochistan.

Policy Documents

National and provincial disaster management policies, disaster risk reduction strategies, climate adaptation frameworks, emergency response plans, and legal documents form an important source of information for the study.

Government Reports

Official reports published by NDMA, PDMA Balochistan, Planning Commission of Pakistan, Ministry of Climate Change, Government of Balochistan, UN agencies, and international development organizations are utilized to assess disaster trends and governance challenges.

Academic Literature

Peer-reviewed journal articles, books, conference papers, dissertations, and research reports provide theoretical and empirical insights into disaster governance, public policy, administrative management, and resilience-building.

4.4 Data Collection Methods

Data are collected through a systematic review of policy documents, government publications, academic literature, disaster assessment reports, and institutional records. Relevant materials are identified through academic databases, official government websites, international organization repositories, and disaster management publications. Particular attention is given to studies published within the last five years to ensure contemporary relevance and policy applicability.

4.5 Data Analysis Technique

Content Analysis

Content analysis is used to examine policy documents, disaster management frameworks, official reports, and governance strategies. This method allows the researcher to identify patterns, institutional priorities, policy gaps, and governance challenges associated with disaster crisis management.

Thematic Analysis

Thematic analysis is employed to identify recurring themes, concepts, and issues emerging from the reviewed literature and policy documents. Themes such as institutional capacity, policy implementation, coordination challenges, administrative effectiveness, climate vulnerability, and resilience-building are systematically analyzed to generate meaningful findings and conclusions.

4.6 Ethical Considerations

The study adheres to established academic research ethics. All sources of information are properly cited and acknowledged to avoid plagiarism and ensure academic integrity. The research relies exclusively on publicly available secondary data and does not involve human participants, confidential information, or sensitive

personal data. Objectivity, transparency, and accuracy are maintained throughout the research process to ensure the credibility and reliability of findings.

4.7 Limitations of the Study

Several limitations apply to the study. First, the research relies primarily on secondary data and does not include extensive fieldwork or primary interviews. Second, the study focuses exclusively on Balochistan and therefore does not provide a comparative analysis with other provinces of Pakistan. Third, the availability of district-level disaster governance data varies across different institutions, which may limit detailed analysis in some areas. Finally, the dynamic nature of climate-related disasters and governance reforms means that future developments may influence disaster management practices beyond the scope of this study.

5. Disaster Profile of Balochistan

5.1 Geographic and Environmental Context

Balochistan is Pakistan's largest province, covering approximately 347,190 square kilometers and accounting for nearly 44 percent of the country's total land area. The province shares borders with Iran and Afghanistan and possesses a coastline of approximately 772 kilometers along the Arabian Sea. Balochistan's geography consists of rugged mountains, arid plains, deserts, coastal belts, and sparsely populated settlements. The province experiences low rainfall, water scarcity, recurring droughts, and extreme temperatures, making it particularly vulnerable to environmental and climatic hazards (Government of Balochistan, 2024).

5.2 Historical Overview of Major Disasters

Balochistan has experienced a long history of disasters, including earthquakes, floods, droughts, cyclones, and extreme weather events. The devastating 1935 Quetta earthquake remains one of the deadliest disasters in South Asian history. More recently, the province has experienced severe droughts in Chagai, Nushki, Washuk, and Kharan; destructive floods in 2010 and 2022; and earthquakes in districts such as Ziarat, Awaran,

and Harnai. These recurring disasters have exposed governance weaknesses, infrastructure vulnerabilities, and institutional preparedness challenges across the province.

5.3 Disaster-Prone Districts of Balochistan

Several districts of Balochistan face recurring disaster risks. Chagai, Nushki, Kharan, Washuk, Panjgur, and Kech are highly vulnerable to droughts and water scarcity. Jhal Magsi, Naseerabad, Sohbatpur, Dera Murad Jamali, and Kachhi frequently experience floods due to monsoon rainfall and river overflows. Harnai, Ziarat, Awaran, and Quetta remain vulnerable to earthquakes because of their location in seismically active zones. Coastal districts such as Gwadar and Lasbela face risks associated with cyclones, storm surges, coastal erosion, and sea-level rise.

5.4 Socio-Economic Vulnerabilities

Socio-economic conditions significantly increase disaster vulnerability in Balochistan. High levels of poverty, limited access to healthcare, low educational attainment, inadequate infrastructure, water scarcity, weak transportation networks, and dependence on climate-sensitive livelihoods contribute to community vulnerability. Rural populations relying on agriculture and livestock are particularly affected by droughts and environmental shocks. Limited institutional presence in remote districts further reduces the ability of communities to prepare for and recover from disasters.

5.5 Climate Change and Emerging Risks

Climate change has intensified disaster risks across Balochistan. Rising temperatures, prolonged drought periods, irregular rainfall patterns, flash floods, desertification, groundwater depletion, and increasing frequency of extreme weather events have heightened environmental vulnerability. According to recent climate assessments, Balochistan is among the regions most exposed to climate-related risks in Pakistan (World Bank, 2023). Emerging challenges such as water insecurity, food insecurity, environmental degradation, and climate-induced migration

require integrated policy responses and stronger disaster governance mechanisms. These trends highlight the urgent need for resilience-oriented public policies and adaptive administrative management systems capable of addressing future climate-related disasters.

6. Public Policy Gaps in Disaster Crisis Governance

6.1 Policy Formulation versus Policy Implementation

Pakistan has developed a comprehensive disaster management framework through the National Disaster Management Act, disaster risk reduction strategies, and climate adaptation policies. However, a significant gap exists between policy formulation and practical implementation. While policy documents clearly outline disaster preparedness, mitigation, response, and recovery mechanisms, implementation remains weak due to institutional inefficiencies, inadequate monitoring systems, and limited administrative capacity. In Balochistan, many disaster management plans remain largely reactive rather than proactive, with implementation often occurring only after disasters have already caused significant damage. The absence of effective policy monitoring mechanisms further weakens the operationalization of disaster governance objectives.

6.2 Weak Integration of Climate Adaptation Policies

Climate change has intensified disaster risks across Balochistan, yet climate adaptation policies remain insufficiently integrated into disaster management frameworks. Existing policies often treat climate adaptation and disaster risk reduction as separate sectors, limiting policy coherence and institutional effectiveness. Long-term adaptation measures such as water conservation, drought mitigation, climate-resilient infrastructure, and ecosystem restoration receive limited attention compared to emergency response activities. This fragmented approach reduces the ability of public institutions to address emerging climate-related hazards and undermines long-term resilience-building efforts.

6.3 Inadequate Disaster Preparedness Planning

Preparedness remains one of the weakest components of disaster governance in Balochistan. Although disaster management authorities have developed contingency plans, implementation at district and community levels remains inconsistent. Many vulnerable areas lack hazard mapping, emergency evacuation plans, disaster simulations, and public awareness programs. Early preparedness initiatives are often constrained by resource shortages, limited technical expertise, and weak local institutional capacity. Consequently, disaster management institutions frequently struggle to respond effectively when emergencies occur, resulting in delayed interventions and increased humanitarian losses.

6.4 Limited Budgetary Allocations for Disaster Management

Financial limitations significantly affect disaster governance in Balochistan. Budget allocations for disaster risk reduction, preparedness, and resilience-building remain relatively low compared to the scale of disaster risks facing the province. A substantial portion of available resources is often directed toward post-disaster relief and rehabilitation rather than preventive measures. Limited financial resources restrict investments in early warning systems, climate adaptation projects, emergency infrastructure, and institutional capacity development. This reactive funding model contributes to recurring vulnerabilities and increases long-term disaster management costs.

6.5 Policy Coordination Challenges among Government Institutions

Disaster governance requires coordination among multiple institutions, including NDMA, PDMA, district administrations, line departments, humanitarian organizations, and local governments. However, coordination mechanisms often remain weak due to overlapping mandates, communication barriers, and fragmented institutional responsibilities. During disaster emergencies, unclear lines of authority and inconsistent information sharing can delay response efforts and reduce operational

effectiveness. In Balochistan, geographical distances and infrastructure limitations further complicate coordination among provincial and district-level institutions.

6.6 Gaps in Community-Based Disaster Risk Reduction Policies

Community participation is a critical component of effective disaster governance, yet community-based disaster risk reduction remains underdeveloped in many parts of Balochistan. Existing policies often emphasize institutional response mechanisms while giving limited attention to local knowledge, community preparedness, and grassroots resilience-building initiatives. Vulnerable populations frequently lack access to disaster awareness programs, emergency preparedness training, and risk communication mechanisms. Strengthening community involvement would improve local preparedness and enhance the overall effectiveness of disaster governance systems.

6.7 Legal and Regulatory Challenges

The legal framework for disaster management in Pakistan provides an institutional foundation for disaster governance; however, several regulatory challenges remain. Weak enforcement of building codes, land-use regulations, environmental standards, and risk-sensitive planning contributes to increased disaster vulnerability. In Balochistan, regulatory oversight is often constrained by limited institutional capacity and administrative reach, particularly in remote districts. Legal ambiguities regarding institutional responsibilities and emergency powers can also create operational challenges during crisis situations. Strengthening regulatory enforcement and updating legal frameworks to address emerging climate risks remain important policy priorities.

7. Administrative Management Challenges in Disaster Crisis Governance

7.1 Institutional Capacity Constraints

Institutional capacity remains one of the most significant challenges affecting disaster governance in Balochistan. Disaster management institutions frequently operate with limited technical

expertise, inadequate infrastructure, insufficient equipment, and constrained financial resources. These limitations affect their ability to conduct risk assessments, implement preparedness programs, coordinate emergency responses, and support post-disaster recovery efforts. Capacity gaps are particularly pronounced in remote districts where institutional presence and administrative resources remain limited.

7.2 Human Resource and Training Deficiencies

Effective disaster management requires trained professionals with expertise in emergency planning, logistics, risk assessment, communication, and crisis coordination. However, many disaster management institutions face shortages of specialized personnel and professional training opportunities. Disaster-related responsibilities are often assigned as additional duties to administrative officials who may lack technical expertise in disaster management. Insufficient training reduces institutional preparedness and limits the effectiveness of emergency response operations during crises.

7.3 Bureaucratic Delays in Emergency Response

Bureaucratic procedures frequently slow emergency response efforts in disaster situations. Administrative approval processes, procurement requirements, reporting mechanisms, and hierarchical decision-making structures can delay the mobilization of resources and personnel. During emergencies, such delays can increase human suffering and reduce the effectiveness of rescue and relief operations. In Balochistan, transportation challenges and communication barriers often compound bureaucratic delays, particularly in geographically isolated areas.

7.4 Weak Inter-Agency Coordination Mechanisms

Disaster response requires collaboration among multiple government departments, humanitarian organizations, security institutions, and local authorities. However, coordination mechanisms often remain weak due to institutional fragmentation, overlapping responsibilities, and

inconsistent communication channels. These weaknesses can result in duplication of efforts, inefficient resource utilization, and delays in service delivery. Effective inter-agency coordination remains essential for improving disaster response efficiency and ensuring comprehensive crisis management.

7.5 Challenges in Resource Mobilization and Distribution

Timely mobilization and equitable distribution of resources are critical during disaster emergencies. However, disaster management institutions frequently encounter logistical constraints, transportation difficulties, inadequate storage facilities, and shortages of emergency supplies. In Balochistan, vast distances and weak infrastructure significantly complicate relief distribution efforts. Remote communities often face delays in receiving assistance, increasing their vulnerability during disaster situations.

7.6 Information Management and Early Warning System Limitations

Information management plays a crucial role in disaster preparedness and response. Effective disaster governance requires reliable data collection, hazard monitoring, risk communication, and early warning dissemination systems. Despite recent improvements, significant gaps remain in information management capacities across Balochistan. Many communities lack access to timely warning information, while institutional data-sharing mechanisms remain underdeveloped. These limitations reduce preparedness levels and hinder proactive disaster risk management.

7.7 Governance Challenges at District and Local Levels

District administrations represent the frontline institutions responsible for disaster response and community engagement. However, many district-level institutions face severe resource constraints, staffing shortages, and limited operational authority. Weak local governance structures reduce preparedness capacities and limit the effectiveness of disaster response activities.

Strengthening district-level disaster management institutions is therefore essential for improving governance outcomes and enhancing local resilience.

7.8 Leadership and Decision-Making During Crises

Leadership plays a critical role in determining the effectiveness of disaster crisis management. Effective leaders must make rapid decisions, coordinate diverse stakeholders, communicate clearly, and manage uncertainty under highly stressful conditions. However, leadership effectiveness can be constrained by limited information, bureaucratic structures, political pressures, and institutional fragmentation. Strengthening leadership capacity and crisis decision-making mechanisms is essential for improving disaster governance performance in Balochistan.

8. Case Studies of Disaster Crisis Management in Balochistan

8.1 2022 Floods in Balochistan

The 2022 floods represented one of the most severe disasters in Pakistan's recent history and significantly affected Balochistan. Heavy monsoon rainfall caused widespread flooding, infrastructure destruction, displacement of communities, loss of livelihoods, and extensive damage to agriculture and livestock. The disaster exposed weaknesses in early warning systems, emergency preparedness, infrastructure resilience, and institutional coordination. While government agencies, humanitarian organizations, and security institutions responded to the crisis, challenges related to resource mobilization, access to remote areas, and administrative coordination limited response effectiveness. The floods highlighted the urgent need for resilience-oriented disaster governance and climate-adaptive public policies.

8.2 Drought Crisis in Chagai, Nushki, and Kharan

The districts of Chagai, Nushki, and Kharan have experienced recurring drought conditions over the past two decades. Prolonged rainfall deficits, groundwater depletion, declining agricultural

productivity, and livestock losses have severely affected local livelihoods. The drought crisis demonstrates the long-term consequences of inadequate water governance, weak climate adaptation planning, and limited investment in drought mitigation measures. Despite various government interventions, structural vulnerabilities continue to expose local communities to recurring water insecurity and economic hardship. The case illustrates the importance of integrating climate adaptation and disaster risk reduction into development planning.

8.3 Earthquake Management in Harnai

Harnai has experienced several significant earthquakes that have exposed vulnerabilities in housing structures, public infrastructure, and emergency response systems. Earthquake management efforts have often been challenged by difficult terrain, limited accessibility, and shortages of specialized rescue equipment. While relief and rehabilitation initiatives have provided immediate support to affected populations, recurring challenges related to preparedness, building standards, and institutional coordination remain evident. The Harnai experience underscores the importance of risk-sensitive infrastructure development and community preparedness programs.

8.4 Cyclone and Coastal Disaster Response in Gwadar

Gwadar and other coastal districts of Balochistan remain vulnerable to cyclones, storm surges, coastal flooding, and climate-related maritime hazards. Cyclone response efforts have improved in recent years due to enhanced weather monitoring and early warning capabilities. However, challenges remain in evacuation planning, coastal infrastructure protection, community awareness, and emergency shelter management. Rapid urbanization and strategic development projects along the coast further increase exposure to climate-related risks. The Gwadar case highlights the growing importance of coastal disaster governance and climate-resilient development planning in Balochistan.

9. Findings and Discussion

9.1 Major Public Policy Gaps Affecting Disaster Governance

The study finds that one of the most significant challenges affecting disaster governance in Balochistan is the persistent gap between policy formulation and policy implementation. Although Pakistan has established comprehensive disaster management policies and institutional frameworks through NDMA, PDMA, and DDMA, practical implementation remains weak at provincial and district levels. Existing disaster management policies provide clear guidelines regarding preparedness, mitigation, response, and recovery; however, these measures are often inadequately implemented due to institutional limitations and administrative inefficiencies. The findings further indicate that disaster governance remains largely reactive rather than preventive, with greater emphasis placed on relief operations after disasters rather than investments in risk reduction and resilience-building (NDMA, 2024). Another important policy gap relates to the weak integration of climate adaptation strategies into disaster management planning. Climate change has intensified droughts, floods, heatwaves, and other environmental hazards in Balochistan, yet climate adaptation policies remain fragmented and poorly coordinated. Existing policy frameworks often address climate change and disaster management separately, resulting in policy duplication and reduced effectiveness. Furthermore, limited financial allocations for disaster risk reduction, weak local government participation, and inadequate community engagement continue to undermine policy effectiveness. These findings support the observations of the World Bank (2023), which highlights governance and institutional weaknesses as major barriers to climate resilience in Pakistan.

9.2 Administrative Management Weaknesses in Crisis Response

The findings reveal that administrative management weaknesses significantly affect disaster crisis response across Balochistan. Disaster management institutions frequently face shortages

of trained personnel, inadequate operational resources, limited technical expertise, and insufficient infrastructure. Administrative systems often struggle to mobilize resources rapidly, particularly in remote and geographically dispersed districts. These weaknesses reduce the efficiency of emergency response operations and delay the delivery of relief assistance to affected populations.

The study also finds that disaster management institutions continue to rely heavily on traditional administrative practices rather than modern management approaches emphasizing efficiency, performance, and adaptive decision-making. Bureaucratic procedures often slow emergency response processes, particularly regarding procurement, approval mechanisms, and resource allocation. Similar findings have been reported by Farazmand (2023), who argues that administrative flexibility and institutional preparedness are essential components of effective crisis management systems. The evidence suggests that strengthening administrative capacity and adopting management-oriented governance reforms are critical for improving disaster response effectiveness in Balochistan.

9.3 Institutional Coordination Challenges

Institutional coordination emerged as one of the most critical governance challenges affecting disaster management in Balochistan. Effective disaster governance requires cooperation among federal agencies, provincial departments, district administrations, humanitarian organizations, security institutions, and local communities. However, the study finds that coordination mechanisms often remain fragmented due to overlapping mandates, communication gaps, unclear responsibilities, and weak information-sharing systems.

The 2022 floods and other recent disasters demonstrated that coordination challenges can significantly delay emergency response and reduce institutional effectiveness. In many cases, multiple agencies were involved in response activities without clearly defined operational responsibilities. These findings align with the observations of UNDRR (2023), which

emphasizes that institutional fragmentation remains a major obstacle to disaster governance in many developing countries. Strengthening inter-agency collaboration and establishing integrated coordination frameworks are therefore essential for improving disaster crisis governance.

9.4 Impact of Climate Change on Disaster Governance

The study confirms that climate change has become a major driver of disaster vulnerability in Balochistan. Rising temperatures, prolonged droughts, erratic rainfall patterns, groundwater depletion, flash floods, and extreme weather events have increased the frequency and severity of disasters across the province. Climate change has not only intensified environmental risks but has also placed additional pressure on disaster management institutions that are already constrained by limited resources and administrative capacity.

The findings suggest that climate change is transforming the nature of disaster governance by increasing the need for long-term adaptation planning, resilience-building initiatives, and climate-sensitive public policies. Traditional disaster management approaches focused primarily on emergency response are no longer sufficient to address emerging climate-related risks. Similar conclusions have been reached by the Intergovernmental Panel on Climate Change (IPCC, 2023), which highlights the growing interaction between climate change, governance systems, and disaster vulnerability. The study therefore emphasizes the importance of integrating climate adaptation into disaster governance strategies in Balochistan.

9.5 Governance and Management Lessons from Case Studies

The case studies examined in this research provide important lessons regarding disaster governance and administrative management. The 2022 floods highlighted weaknesses in preparedness planning, early warning dissemination, infrastructure resilience, and institutional coordination. At the same time, the floods demonstrated the importance of collaborative governance involving

government agencies, humanitarian organizations, security institutions, and local communities.

The drought crisis in Chagai, Nushki, and Kharaon illustrated the long-term consequences of inadequate water governance and weak climate adaptation planning. The Harnai earthquake case emphasized the need for risk-sensitive infrastructure development, improved building standards, and enhanced emergency preparedness. Similarly, the Gwadar cyclone response highlighted the growing importance of coastal disaster governance and climate-resilient development planning. Collectively, these case studies demonstrate that effective disaster governance requires a combination of strong public policy, efficient administrative management, institutional coordination, and community resilience.

9.6 Comparison with Existing Literature

The findings of this study are consistent with contemporary international and national literature on disaster governance. Similar to the findings of UNDRR (2023), the study confirms that governance quality, institutional coordination, and administrative capacity significantly influence disaster management outcomes. The research also supports the arguments of Howlett and Ramesh (2021), who emphasize that policy effectiveness depends on both policy design and implementation capacity. Furthermore, the study aligns with recent Pakistani literature highlighting weaknesses in disaster preparedness, climate adaptation, and institutional coordination following the 2022 floods (Government of Pakistan, 2022). However, unlike many previous studies that focus primarily on disaster impacts and humanitarian consequences, this research specifically examines the interaction between public policy gaps and administrative management challenges in Balochistan. This provides a more comprehensive understanding of the governance dimensions of disaster management in the province. The findings therefore contribute to the growing literature on disaster governance by emphasizing the importance of integrating public policy and administrative management perspectives.

9.7 Implications for Public Policy and Administrative Reforms

The findings carry important implications for future public policy and administrative reforms in Balochistan. First, disaster governance policies should move beyond reactive emergency response approaches and prioritize prevention, preparedness, resilience-building, and climate adaptation. Greater integration between disaster risk reduction policies and climate adaptation frameworks is necessary to address emerging environmental challenges effectively.

Second, administrative management reforms should focus on strengthening institutional capacity, improving professional training, enhancing leadership development, and modernizing disaster management systems. Investments in digital governance tools, early warning technologies, and information management systems would significantly improve disaster preparedness and response capabilities. Third, coordination mechanisms among NDMA, PDMA, district administrations, and local stakeholders should be strengthened through clear operational frameworks and integrated communication systems.

10. Recommendations

10.1 Strengthening Disaster Governance Frameworks

The Government of Balochistan should strengthen disaster governance frameworks by enhancing institutional accountability, coordination, transparency, and operational effectiveness. Disaster management authorities should adopt a proactive governance approach that prioritizes preparedness, prevention, and resilience-building rather than focusing primarily on post-disaster response. Clear institutional mandates, performance evaluation mechanisms, and regular monitoring systems should be established to improve disaster governance outcomes. Strengthening governance structures at provincial and district levels will enhance the capacity of institutions to respond effectively to both sudden and slow-onset disasters.

10.2 Reforming Public Policy for Disaster Risk Reduction

Public policies related to disaster management should be revised to emphasize disaster risk reduction, climate adaptation, and resilience-building. Policymakers should integrate disaster considerations into development planning, infrastructure projects, water resource management, agriculture, urban planning, and environmental governance. Policy reforms should focus on reducing vulnerabilities before disasters occur rather than relying solely on emergency response measures. Furthermore, regular policy reviews and evidence-based decision-making should be institutionalized to ensure that disaster management policies remain responsive to emerging risks and challenges.

10.3 Enhancing Administrative Capacity and Professional Training

Administrative effectiveness is essential for successful disaster crisis governance. Therefore, specialized training programs should be introduced for officials working in disaster management institutions, district administrations, and relevant government departments. Capacity-building initiatives should focus on emergency planning, crisis leadership, logistics management, risk assessment, communication strategies, and disaster recovery planning. Establishing dedicated disaster management training centers and strengthening partnerships with academic institutions can help develop a professional workforce capable of managing increasingly complex disaster challenges.

10.4 Establishing Integrated Crisis Management Systems

An integrated crisis management system should be developed to improve preparedness, response, and recovery processes. Such a system should ensure coordination among disaster management authorities, line departments, security institutions, humanitarian organizations, and local governments. Standard operating procedures, emergency operation centers, joint response protocols, and unified command structures should be institutionalized. Integrated crisis

management systems will reduce duplication of efforts, improve information sharing, and enhance operational efficiency during emergencies.

10.5 Improving Early Warning and Information Management Systems

Investment in modern early warning systems and information management technologies is critical for reducing disaster risks. Disaster management authorities should strengthen hazard monitoring, weather forecasting, risk communication, and data-sharing mechanisms. Digital technologies, geographic information systems (GIS), satellite monitoring, mobile alert systems, and artificial intelligence-based forecasting tools should be incorporated into disaster management practices. Effective early warning systems will improve preparedness, facilitate timely evacuations, and minimize disaster-related losses.

10.6 Promoting Community-Based Disaster Governance

Communities represent the first line of defense during disasters and should play a central role in disaster governance. Government institutions should promote community-based disaster risk reduction programs that strengthen local preparedness, awareness, and resilience. Community volunteers, local leaders, civil society organizations, and educational institutions should be actively involved in disaster planning and response activities. Public awareness campaigns, simulation exercises, and local disaster management committees can significantly improve preparedness at the grassroots level and reduce community vulnerability.

10.7 Increasing Financial and Technological Resources

Adequate financial and technological resources are essential for effective disaster governance. The Government of Balochistan should increase budget allocations for disaster risk reduction, preparedness programs, emergency infrastructure, and climate adaptation initiatives. Investments should also be directed toward modern equipment, emergency communication systems,

transportation facilities, rescue technologies, and digital governance platforms. Sustainable financing mechanisms, including disaster contingency funds and public-private partnerships, should be explored to ensure long-term institutional resilience.

10.8 Strengthening Provincial–District Coordination

Effective disaster governance requires strong coordination between provincial and district-level institutions. Clear communication channels, joint planning mechanisms, and regular coordination meetings should be established to enhance collaboration among disaster management stakeholders. District Disaster Management Authorities should be provided with greater administrative authority, financial resources, and technical support to improve local preparedness and response capacities. Strengthening provincial–district coordination will ensure that disaster management strategies are effectively implemented at the local level.

10.9 Mainstreaming Climate Resilience into Public Policy

Climate resilience should be integrated into all relevant public policies and development planning processes. Government institutions should adopt climate-sensitive approaches in sectors such as agriculture, water management, infrastructure development, urban planning, public health, and environmental protection. Climate risk assessments should become a mandatory component of development projects and policy initiatives. Mainstreaming climate resilience into governance systems will help reduce vulnerability to future disasters and support sustainable development objectives in Balochistan.

10.10 Developing a Resilience-Oriented Disaster Management Model for Balochistan

A province-specific resilience-oriented disaster management model should be developed to address the unique environmental, geographical, and socio-economic conditions of Balochistan. The proposed model should integrate disaster risk reduction, climate adaptation, institutional

coordination, technological innovation, community participation, and sustainable development planning. The model should emphasize prevention, preparedness, adaptation, response, and recovery as interconnected components of disaster governance. Such an approach would strengthen institutional resilience, improve governance effectiveness, and enhance the capacity of communities to withstand future disasters.

11. Conclusion

This study examined the public policy gaps and administrative management challenges affecting disaster crisis governance in Balochistan. The findings reveal that although Pakistan has established an institutional framework for disaster management through NDMA, PDMA, and DDMA, significant challenges continue to hinder effective disaster governance in the province. Persistent gaps between policy formulation and implementation, inadequate preparedness planning, weak climate adaptation integration, limited financial resources, and fragmented coordination mechanisms remain major obstacles to effective disaster management.

The study further highlights that administrative weaknesses significantly reduce institutional effectiveness during disaster emergencies. Human resource shortages, limited professional training, bureaucratic delays, weak information management systems, and inadequate inter-agency coordination negatively affect disaster preparedness, response, and recovery efforts. These challenges are particularly pronounced in Balochistan due to its vast geography, scattered population, infrastructural deficiencies, and socio-economic vulnerabilities.

The case studies of floods, droughts, earthquakes, and coastal hazards demonstrate that disaster risks in Balochistan are becoming increasingly complex under the influence of climate change. Environmental pressures, water scarcity, extreme weather events, and recurring natural hazards are intensifying the demands placed upon disaster management institutions. Consequently, traditional reactive approaches to disaster

response are no longer sufficient to address emerging risks effectively.

The study concludes that strengthening disaster governance in Balochistan requires comprehensive public policy reforms, enhanced administrative management capacity, improved institutional coordination, greater community participation, and stronger climate resilience measures. Disaster governance must evolve from a response-oriented model toward a resilience-oriented framework that prioritizes prevention, preparedness, adaptation, and sustainable development. Investments in institutional capacity building, technological innovation, early warning systems, and local-level governance structures are essential for improving disaster management outcomes.

Ultimately, effective disaster governance is not solely a matter of emergency response but a broader issue of public policy, administrative management, and sustainable development. By addressing existing policy and administrative shortcomings, Balochistan can strengthen its resilience to future disasters, protect vulnerable populations, and establish a more effective and adaptive disaster management system capable of responding to the growing challenges posed by climate change and environmental uncertainty.

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