RESEARCH ARTICLE

Climate Change and Policy Paralysis in Pakistan

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Abstract

Pakistan ranks among the world's most climate-vulnerable nations, experiencing recurrent floods, extreme heatwaves, droughts, and water insecurity despite contributing less than one percent to global greenhouse gas emissions. Although numerous climate policies and strategic frameworks have been formulated, their implementation remains substantially limited, exemplifying policy paralysis wherein political acknowledgement fails to translate into effective action. This study examines climate change through a public policy and governance lens, contending that the crisis represents primarily an institutional failure rather than insufficient awareness. Key drivers of policy paralysis include weak implementation mechanisms, federal-provincial fragmentation following the 18th Constitutional Amendment, short-term political incentives, donor-driven policy formulation, and inadequate evidence-based decision-making processes. The 2022 floods particularly illustrate how deficient planning, unregulated land use, and limited disaster preparedness amplified climate risks. This analysis reframes climate change as fundamentally a governance challenge, emphasizing the necessity of mainstreaming climate considerations into development planning, budgeting frameworks, and administrative reforms. Without strengthening institutional capacity, enhancing intergovernmental coordination, and committing to long-term climate resilience strategies, Pakistan will continue confronting recurrent climate emergencies, threatening economic stability and national security.

Keywords: climate change, policy paralysis, governance failure, public policy in pakistan, climate, adaptation, institutional capacity, federal–provincial coordination.

1 Introduction

Climate change represents one of the most pressing challenges facing modern governments, particularly those with limited institutional capacity and weak governance systems. Although climate change affects the entire world, developing countries suffer disproportionately due to their constrained resources and high vulnerability. Pakistan exemplifies this vulnerability. Despite contributing less than one percent to global greenhouse gas emissions, Pakistan consistently ranks among the world's most climate-vulnerable nations. The country regularly experiences extreme weather events like floods, heatwaves, droughts, and glacial melting that severely disrupt its economy, agriculture, public health, and social stability. Climate-induced disasters in Pakistan have evolved from occasional events into persistent structural threats over the past two decades. The

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catastrophic 2022 floods, which displaced millions and caused massive economic damage, marked a watershed moment by exposing the true scale of climate risk. More significantly, this disaster revealed fundamental weaknesses in Pakistan's governance systems, including inadequate disaster preparedness, unregulated land use, insufficient early warning mechanisms, and poor coordination between government levels. These failures demonstrate that Pakistan's climate crisis cannot be understood merely as an environmental problem; it must be examined as a governance and public policy failure [1].

Pakistan has developed numerous climate policies, including the National Climate Change Policy, the Climate Change Act of 2017 [2], and various federal and provincial frameworks. These policies formally acknowledge climate risks and align with international standards. However, a persistent gap exists between policy formulation and actual implementation, raising critical questions about their effectiveness. This disconnect exemplifies policy paralysis, a condition where governments recognize problems but fail to mobilize the necessary administrative, financial, and political resources for meaningful action. Several factors contribute to this paralysis. Climate policy remains marginal to Pakistan's core development planning. Short-term political incentives, frequent leadership changes, and reactive governance prevent long-term climate adaptation strategies. Additionally, the 18th Constitutional Amendment devolved significant powers to provinces without establishing effective coordination mechanisms, fragmenting climate governance across federal and provincial levels.

This article examines climate change through a governance and public administration framework, arguing that Pakistan's climate vulnerability stems not from policy absence but from weak implementation capacity, limited evidence-based decision-making, and institutional fragmentation. By analyzing the structural causes of policy paralysis, this study contributes to understanding climate resilience as primarily a governance challenge. Recognizing climate change as a governance issue is essential for developing effective, context-appropriate policy responses in Pakistan.

1.1 Research Questions

1. What institutional, political, and administrative factors contribute to policy paralysis in Pakistan's climate governance framework?
2. To what extent have existing climate policies and legal frameworks in Pakistan translated into effective implementation and measurable outcomes?
3. How has federal–provincial fragmentation after the 18th Constitutional Amendment affected climate policy coordination and implementation?
4. What lessons can be drawn from recent climate-induced disasters, particularly the 2022 floods, regarding state capacity and preparedness?
5. How can policy paralysis in Pakistan's climate governance be addressed through institutional reform and evidence-based policymaking?

2 Literature review

2.1 Climate Change as a Governance Challenge

Academic literature increasingly recognizes climate change not simply as an environmental issue but as a complex governance challenge involving political institutions, economic systems, and administrative capacity. Ostrom [1] and Giddens [3] characterize climate change as a "collective action problem" where fragmented authority and short-term political thinking undermine long-term solutions. These challenges intensify in developing countries due to weak institutions, limited resources, and competing development priorities. Comparative research demonstrates that climate vulnerability depends as much on governance quality as on geographical exposure [4].

International studies show that effective climate governance requires policy coherence, institutional coordination, and evidence-based decision-making [9]. The Intergovernmental Panel on Climate Change [17] (IPCC, 2022) emphasizes that adaptive capacity directly relates to institutional strength and governance mechanisms. Multi-level governance frameworks from European climate policy studies demonstrate that countries facing similar climate risks experience vastly different outcomes based on their administrative preparedness and policy execution [10], confirming that governance failures significantly worsen climate impacts.

2.2 Understanding Policy Paralysis

Policy paralysis describes situations where governments acknowledge problems but fail to act decisively. Peters [23] defines it as political systems'

inability to produce timely, effective responses due to institutional inertia, political fragmentation, and risk aversion. For climate change specifically, paralysis often stems from uncertainty, long time horizons, and diffuse distribution of costs and benefits. Classic policy implementation research by Pressman et al. [24] demonstrates that policy success depends more on execution than formulation. Subsequent studies confirm that weak coordination, inadequate monitoring, and insufficient bureaucratic capacity frequently cause implementation failure [15].

Climate policy literature applies these insights by showing how ambitious climate frameworks often fail operationally, particularly in developing states. Bulkeley et al. [11] argue that policy formulation without corresponding implementation infrastructure creates what they term "governance voids" formal commitments existing alongside practical inaction. This theoretical framework provides the conceptual foundation for analyzing Pakistan's climate governance challenges.

2.3 Climate Policy in Developing Countries

Research on climate governance in the Global South identifies structural constraints hindering effective implementation. Scholars note that developing countries often adopt climate policies primarily to meet international obligations or donor requirements, resulting in "symbolic policymaking" policies that signal commitment without genuine operational depth or local ownership [19]. Bulkeley et al. [11] argue such externally driven policies may actually weaken domestic accountability and reduce effectiveness.

Comparative studies from South Asia demonstrate similar patterns. India's National Action Plan on Climate Change and Bangladesh's Climate Change Strategy and Action Plan show that policy adoption does not guarantee implementation, particularly when climate priorities compete with immediate development needs [12]. These studies highlight how short-term development goals dominate over long-term climate adaptation in developing economies. Limited budgets, political instability, and frequent leadership changes further constrain sustained climate action, keeping climate policies marginal to mainstream economic planning and reinforcing implementation gaps [25].

2.4 Pakistan's Climate Governance

Pakistan-specific research consistently identifies governance weaknesses as central to climate vulnerability. While Pakistan has developed multiple climate policies and legal instruments, including the National Climate Change Policy (2012) [14] and Climate Change Act of 2017 [2], implementation remains inconsistent and fragmented [18, 20]. Urwin et al. [6] document how policy frameworks exist primarily on paper while ground-level action remains limited.

The 18th Constitutional Amendment significantly impacted climate governance by devolving key responsibilities to provinces without establishing adequate coordination mechanisms between federal and provincial governments [16]. This fragmentation created overlapping mandates, unclear accountability, and delayed decision-making [7]. Climate change, being cross-cutting in nature, suffers disproportionately from such institutional ambiguity. Warraich [27] argues that Pakistan's federal structure post-devolution requires rethinking to address climate governance effectively.

Disaster management research reinforces these findings. Analysis of Pakistan's flood responses repeatedly identifies deficiencies in early warning systems, land-use planning, and inter-agency coordination. The 2010 and 2022 floods exemplify how governance failures transformed natural hazards into massive humanitarian crises [26]. These recurring patterns suggest systemic rather than isolated governance problems.

2.5 Evidence-Based Policymaking Gaps

Literature emphasizes evidence-based policymaking's importance in climate governance. However, Pakistan-focused studies reveal persistent data gaps, limited research integration, and weak connections between academia and policymakers [8]. Without reliable climate data and localized risk assessments, policy decisions remain reactive rather than preventive. The absence of institutionalized learning mechanisms prevents policy adaptation and reform. Climate policies are rarely evaluated systematically, creating repeated failure cycles without correction, thus reinforcing implementation gaps [5].

2.6 Research Gap

Existing literature converges on a key insight: climate vulnerability intertwines deeply with governance capacity. However, Pakistan-focused research remains fragmented and sector-specific. Few studies systematically analyze climate change through combined lenses of public policy, public

administration, and implementation failure. This study addresses this gap by conceptualizing climate change in Pakistan as implementation failure rooted in institutional weakness, political short-termism, and fragmented governance. The study's original contribution lies in demonstrating how the 18th Constitutional Amendment, while democratically progressive, created an institutional vacuum in climate governance, contributing to a more governance-centered understanding of climate resilience.

3 Methodology

This study employs a qualitative and descriptive-analytical research methodology to examine climate change in Pakistan as a case of implementation failure within public policy and governance frameworks. Given climate change's complex, cross-cutting, and institutional nature, a qualitative approach is most appropriate for understanding patterns of policy formulation, implementation, and administrative performance [28]. Rather than quantitatively measuring climate impacts, this study explains why existing climate policies have failed to produce effective, sustained outcomes despite formal recognition and legislative frameworks.

3.1 Data Sources and Selection Criteria

This study conducts a systematic analysis of secondary data sourced from multiple, rigorously selected materials to ensure credibility, relevance, and comprehensive temporal coverage. The data corpus primarily comprises official government documents and policies published between 2012 and 2025, including the National Climate Change Policy, the Climate Change Act 2017 [2], and various provincial climate strategies. To incorporate global and regional perspectives, reports from credible international organizations—such as the UNDP, World Bank, IPCC, and Asian Development Bank—addressing climate governance and disaster risk reduction in Pakistan were also selected. Further academic depth was ensured through the inclusion of peer-reviewed articles from recognized journals indexed in major databases, with a focus on climate policy, governance, and disaster management within Pakistan and comparative South Asian contexts.

Empirical and operational insights were drawn from post-disaster assessment reports issued by the National Disaster Management Authority (NDMA) [21] and provincial disaster management authorities, particularly those concerning the major flood events of 2010 and 2022. Additionally, policy briefs and research outputs from prominent Pakistani think tanks and research institutions, such as the Sustainable Development Policy Institute (SDPI) and the Pakistan Institute of Development Economics (PIDE), were integrated into the analysis.

The temporal threshold of 2012 was deliberately chosen, coinciding with the adoption of Pakistan's National Climate Change Policy, to provide contemporary insights into the evolution of policy frameworks and implementation challenges. To maintain academic rigor, media reports and journalistic analyses were systematically excluded. However, post-disaster assessments that incorporated direct field observations were included for their significant empirical value, thereby balancing documentary analysis with grounded evidence.

3.2 Justification for Single Case Study Approach

Pakistan was selected as a single case study based on a set of compelling rationales rooted in its distinct climatic, institutional, and socio-political context. As consistently ranked among the top ten most climate-vulnerable nations in the Global Climate Risk Index [13], Pakistan constitutes a critical case for examining climate governance under conditions of extreme environmental risk. Furthermore, it serves as a paradigmatic example of the persistent policy-implementation gap commonly observed across developing countries, wherein relatively advanced formal policy frameworks coexist with constrained practical execution on the ground. The catastrophic floods of 2022 provide a poignant and timely empirical basis for analyzing governance failures and their tangible human and economic consequences, thereby offering urgent insights for policy reform.

Institutional complexity further underscores the relevance of this case. Pakistan's federal structure, particularly following the 18th Constitutional Amendment in 2010, introduces distinctive multi-level governance dynamics that illuminate broader questions regarding coordination, authority, and capacity in decentralized climate action. Additionally, Pakistan embodies a salient dimension of global climate injustice: despite contributing minimally to global greenhouse gas emissions, it suffers disproportionately from climate-related impacts, a condition representative of numerous countries across the Global South.

While a single-case design inherently limits broad cross-national generalizability, it permits a detailed, contextualized examination of institutional, political, and historical factors that are often obscured in large-N quantitative studies. Informed by a qualitative case-study methodology, this research prioritizes analytical depth over statistical breadth, aiming to produce theoretically meaningful insights that can inform understanding of similarly situated contexts, rather than to deduce universal laws.

3.3 Analytical Approach

The analytical approach is grounded in public policy and implementation theory, particularly the implementation gap framework developed by Pressman et al. [24] and expanded by Pülzl et al. [15]. Policy implementation failure serves as the interpretive lens for analyzing how institutional inertia, fragmented authority, limited administrative capacity, and short-term political priorities constrain effective climate governance in Pakistan. The study focuses on governance dynamics at federal and provincial levels, particularly examining devolution following the 18th Constitutional Amendment, which reshaped responsibilities without fully resolving coordination challenges [22].

3.4 Research Limitations

This study acknowledges certain methodological and contextual limitations. First, the research did not involve primary data collection through interviews or field surveys, which restricts the inclusion of direct stakeholder perspectives. However, the document-based analytical approach adopted enables a systematic examination of formal policy architectures and their documented outcomes. Second, the analysis is confined to publicly available English-language sources, potentially overlooking insights contained in Urdu-language policy documents or subnational reports.

Additionally, the findings are inherently context-specific to Pakistan and are not intended to be directly generalizable to all developing countries, though the analytical insights generated may offer valuable points of reference for comparative studies. The temporal scope of the study extends through early 2025, and thus subsequent policy developments or disaster events are not captured. Furthermore, as a qualitative inquiry, this research does not provide quantitative measurements of climate impacts or policy effectiveness, focusing instead on institutional dynamics and governance processes.

Despite these limitations, the chosen methodology remains appropriate for the study's objectives: to identify systemic governance failures and to generate policy-relevant insights into climate adaptation and implementation gaps in Pakistan. By centering on institutional and governance dimensions rather than purely environmental or technical factors, the study underscores that climate vulnerability is fundamentally a governance challenge—one that necessitates administrative reform and political resolution.

4 Results

Analysis of Pakistan's climate governance reveals a consistent pattern of policy paralysis, characterized by significant gaps between formal policy instruments and practical implementation. Despite comprehensive national policies including the National Climate Change Policy [14] and Climate Change Act of 2017 [2] these frameworks have largely failed to produce measurable outcomes in disaster preparedness, adaptive capacity, or institutional coordination. While the state demonstrates policy awareness and alignment with international climate norms, this awareness does not translate into effective administrative action. Official reports and post-disaster assessments highlight several recurring issues. First, institutional capacity remains insufficient at federal and provincial levels. Ministries and departments often lack technical expertise, human resources, and financial support necessary for executing climate programs effectively. National Disaster Management Authority (NDMA) [21]. Post-Flood Assessment Report 2022. NDMA, Islamabad. As illustrated in Figure 1, the timeline of climate policy formulation versus implementation from 2012 to 2025 reveals persistent gaps between policy adoption and execution.

Regional disparities in climate vulnerability are significant across Pakistan. As shown in Figure 2, certain regions, particularly along the Indus River basin and coastal areas, face disproportionately higher climate risks due to factors such as flood exposure, water scarcity, and extreme temperature variations.

The economic dimension of climate vulnerability is equally critical. Pakistan has suffered substantial economic losses from climate disasters, with the 2022 floods alone causing estimated damages of over $30 billion. Figure 3 presents the escalating economic

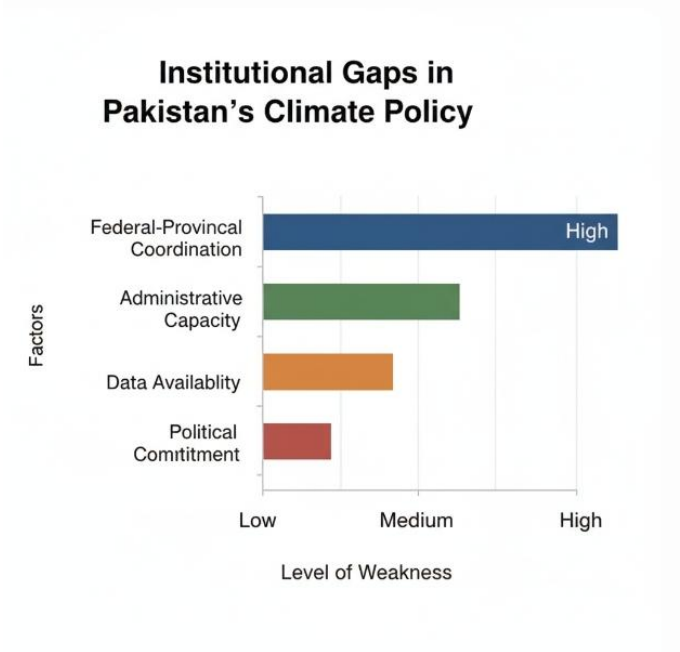

Figure 1. Policy formulation vs. implementation timeline in Pakistan (2012-2025).

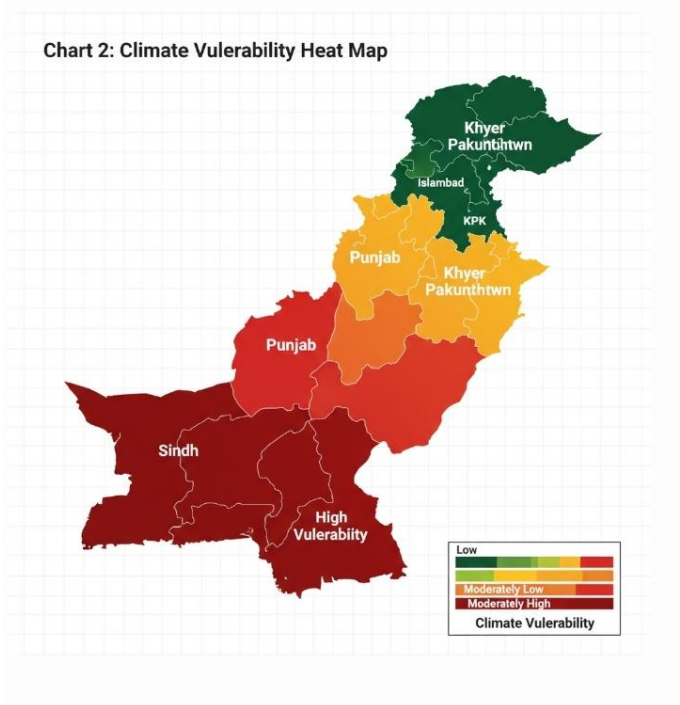

Figure 2. Climate vulnerability heat map of Pakistan.

impact of climate-related events from 2010 to 2025, demonstrating how these losses undermine economic stability and development progress.

Second, devolution following the 18th Constitutional Amendment introduced structural fragmentation, creating unclear roles and responsibilities, coordination failures, and delayed decision-making. Provinces frequently await federal guidance while the

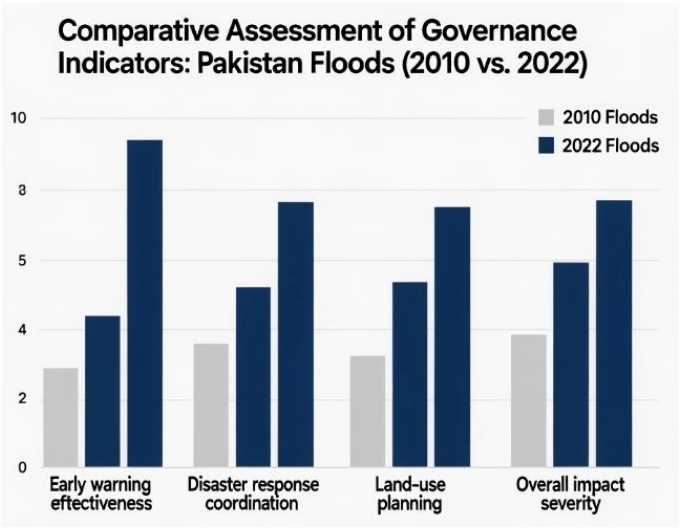

Figure 3. Escalating Economic Impact (Damages and Losses) of Climate-Related Disasters in Pakistan.

federal government shifts accountability downward, resulting in systemic inaction. This institutional ambiguity particularly harms cross-cutting issues like climate change, which require coordinated multilevel governance. Third, political short-termism undermines sustained climate action. Policy agendas remain reactive, focused on immediate visibility and electoral cycles rather than long-term resilience. This tendency is reinforced by donor-driven initiatives that prioritize compliance with international reporting requirements over context-specific implementation. Consequently, climate policies risk becoming symbolic, serving as evidence of formal commitment rather than operational effectiveness.

Major climate events, particularly the 2022 floods, demonstrate practical implications of these governance shortcomings. Early warning systems were insufficiently operationalized, disaster response coordination was fragmented, and land-use planning remained inadequate. These failures compounded human, economic, and social costs, indicating that governance weaknesses amplified natural hazards into large-scale crises. Similar patterns emerged in the 2010 floods, suggesting persistent rather than isolated problems. Analysis identifies critical gaps in evidence-based policymaking. While policy documents acknowledge the need for data-driven decisions, reliable climate data, localized risk assessments, and integrated monitoring mechanisms remain absent. This prevents adaptive and proactive planning. Furthermore, the lack of institutionalized learning perpetuates recurring policy failures; policies are rarely evaluated systematically, preventing

feedback-driven improvement and reinforcing the cycle of policy paralysis.

Results indicate that Pakistan's climate vulnerability is not solely environmental but fundamentally linked to governance and administrative deficiencies. The combination of weak institutional capacity, political short-termism, intergovernmental fragmentation, and inadequate evidence-based planning constitutes the primary drivers of policy paralysis. These structural issues prevent the translation of formal climate policies into effective, sustainable action, making governance reform essential for climate resilience.

5 Analysis and Discussion

This study's findings indicate that Pakistan's climate vulnerability cannot be understood solely as an environmental problem; it is fundamentally a governance and public policy issue. The persistent gap between policy formulation and implementation reflects systemic weaknesses within the state apparatus, consistent with policy paralysis concepts in public policy literature. Globally, policy paralysis is associated with institutional inertia, fragmented authority, and short-term political incentives, and Pakistan clearly illustrates these dynamics. Despite formal acknowledgment of climate risks and adoption of multiple policy instruments, the administrative machinery remains incapable of translating commitments into tangible outcomes, confirming Pressman et al.'s [24] arguments regarding implementation's primacy over policy design. A critical factor identified is institutional fragmentation caused by devolution following the 18th Constitutional Amendment. While decentralization theoretically enables localized decision-making, it has practically created overlapping mandates, unclear accountability, and intergovernmental coordination delays. This aligns with literature on multilevel governance in developing countries, which emphasizes that devolved structures without robust coordination mechanisms often exacerbate rather than resolve policy paralysis. The federal-provincial disconnect is particularly pronounced in disaster management, water resources, and urban planning, where climate adaptation requires integrated planning across administrative levels.

Political short-termism and donor-driven priorities further compound these problems. Policy agendas are largely reactive, oriented toward immediate visibility rather than long-term resilience. Internationally funded climate initiatives, while providing financial support, often reinforce compliance-driven approaches rather than fostering locally grounded, evidence-based strategies. This dynamic reflects Bulkeley et al.'s [11] argument that externally influenced policy design may limit domestic ownership and weaken institutional accountability. Climate policies become performative designed to satisfy international partners rather than address local vulnerabilities effectively. The study highlights evidence-based policymaking's crucial role in effective climate governance. Pakistan's lack of reliable climate data, localized risk assessments, and systematic monitoring impedes proactive decision-making and adaptive planning. The 2022 floods exemplify how governance gaps magnify environmental risks: inadequate early warning systems, poor land-use planning, and fragmented disaster response significantly increased human and economic losses. These findings support broader literature emphasizing interdependence between administrative capacity, institutional coordination, and policy effectiveness in climate governance.

Without systematic data collection and analysis, policies cannot be evaluated or improved. The absence of institutionalized learning mechanisms means Pakistan repeats similar mistakes across successive disasters without incorporating lessons learned. This creates a vicious cycle where policy failures continue unaddressed, reinforcing paralysis.Integrating these insights reveals that addressing climate vulnerability in Pakistan requires a governance-centered approach. Effective climate policy cannot rely solely on formal instruments; it must be underpinned by strengthened institutional capacity, clear accountability mechanisms, intergovernmental coordination, and commitment to long-term planning. International best practices demonstrate that policy design, implementation, and evaluation must be treated as interconnected processes rather than sequential or isolated tasks. Climate mainstreaming—integrating climate considerations into all sectors including finance, infrastructure, agriculture, and urban development—is essential. This requires moving beyond viewing climate as solely an environmental ministry's responsibility toward recognizing it as a cross-cutting governance challenge requiring whole-of-government approaches.

The structural barriers to effective implementation are conceptualized in Figure 4, which illustrates the policy implementation gap framework. This model highlights how institutional fragmentation, resource constraints, political short-termism, and inadequate

monitoring collectively undermine climate policy execution in Pakistan.

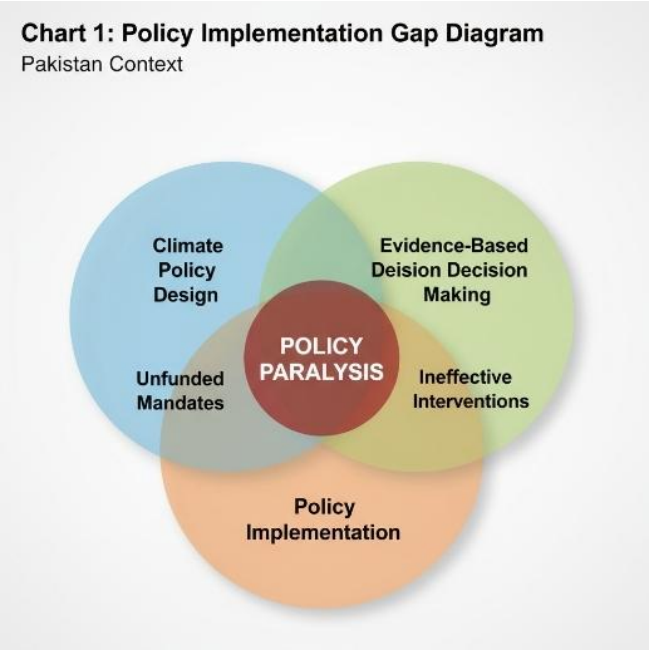

Figure 4. Policy implementation gap in Pakistan.

This analysis demonstrates that climate change in Pakistan is as much a governance problem as environmental exposure. Policy paralysis emerges from structural, political, and administrative factors collectively undermining adaptation efforts. Addressing these challenges is essential not only for environmental sustainability but also for national security, economic stability, and social resilience. Climate disasters disproportionately affect vulnerable populations, exacerbate poverty, and strain national resources, making effective climate governance a development imperative. By framing climate change as a governance challenge, policymakers can move beyond symbolic commitments toward actionable, context-specific, and sustainable interventions. This requires political will, administrative reform, and sustained investment in institutional capacity, challenging but necessary steps for building genuine climate resilience in Pakistan.

6 Conclusion and Policy Recommendation

This study demonstrates that Pakistan's climate vulnerability is fundamentally intertwined with governance and public policy deficiencies rather than being purely an environmental problem. Despite multiple climate policies, legal frameworks, and strategic plans, Pakistan continues experiencing recurrent climate-induced disasters, indicating a persistent gap between policy formulation and implementation. Analysis reveals that institutional fragmentation, weak administrative capacity, political short-termism, donor-driven compliance, and absence of evidence-based decision-making collectively contribute to policy paralysis, undermining climate governance effectiveness. The 2022 floods exemplify how governance failures amplify environmental risks, transforming natural hazards into large-scale humanitarian and economic crises.

6.1 Key Policy Recommendations

Addressing this challenge requires a governance-centered approach integrating climate considerations into public administration and development planning frameworks. The following recommendations provide concrete, actionable strategies:

6.1.1 Strengthen Institutional Capacity at All Levels

Institutional capacity at federal and provincial levels must be strengthened through targeted training, technical support, and resource allocation, ensuring ministries and departments can execute climate policies effectively. Concrete Implementation Steps:

- Establish dedicated Climate Cells within key ministries (Planning, Finance, Agriculture, Water Resources, Urban Development) with permanent staff of climate technical experts (minimum 5 specialists per ministry)
- Allocate 2% of the annual Public Sector Development Programme (PSDP) specifically for climate adaptation projects, ring-fenced from other development priorities
- Develop mandatory climate literacy training programs for all Grade 17 and above civil servants, conducted through the National School of Public Policy and provincial training institutes
- Create a National Climate Data Repository under the Pakistan Meteorological Department with open-access climate projections, risk maps, and vulnerability assessments updated quarterly
- International Example: Bangladesh's Climate Change Trust Fund (CCTF), which allocates dedicated resources for climate projects and has successfully disbursed over $400 million since 2010

6.1.2 Formalize Federal-Provincial Coordination Mechanisms

Federal-provincial coordination mechanisms need formalization and operationalization to clarify roles, reduce duplication, and facilitate timely decision-making. Climate change, being cross-cutting, requires collaborative governance structures that transcend administrative boundaries. Concrete Implementation Steps:

- Establish a standing Federal-Provincial Climate Coordination Committee chaired by the Prime Minister's Principal Secretary, meeting quarterly with decision-making authority on cross-provincial climate issues
- Create Provincial Climate Finance Windows with matching grants from the federal government (50-50 cost-sharing) to incentivize provincial climate action, modeled on Bangladesh's Local Government Initiative on Climate Change
- Develop a National Climate Adaptation Framework with clear delineation of federal versus provincial responsibilities, using India's National Action Plan on Climate Change as reference but adapted to Pakistan's federal structure
- Implement joint federal-provincial monitoring systems for climate projects using digital dashboards accessible to all stakeholders
- Responsible Institution: Ministry of Climate Change in coordination with the Council of Common Interests (CCI)

6.1.3 Integrate Climate into Long-Term Development Planning

Political commitment must extend beyond short-term visibility to encompass long-term resilience planning. Climate adaptation must be integrated into national development strategies, five-year plans, and annual budgeting processes. Concrete Implementation Steps:

- Mandate climate risk assessments for all projects over PKR 1 billion in the Planning Commission's Central Development Working Party (CDWP) approval process
- Establish a Climate Finance Tracking System within the Ministry of Finance to monitor climate-related expenditures across all ministries (currently estimated at less than 1% of federal budget)
- Integrate climate vulnerability indicators into provincial Annual Development Plans with measurable targets (e.g., reduce flood-affected population by 20% in five years)
- Create 15-year Climate Resilience Vision documents (beyond political cycles) with bipartisan parliamentary endorsement to ensure continuity across governments
- Timeline: Initiate within 12 months, full integration by 2027

6.1.4 Institutionalize Evidence-Based Decision Making

Collection, analysis, and application of localized climate data, risk assessments, and monitoring reports should be institutionalized to enable proactive and adaptive decision-making. Concrete Implementation Steps:

- Upgrade meteorological infrastructure with 100 new automated weather stations in climate-vulnerable districts by 2027, with real-time data integration
- Conduct mandatory Provincial Climate Vulnerability Assessments every three years using standardized IPCC methodologies
- Establish formal knowledge partnerships between the Ministry of Climate Change and leading universities (NUST, LUMS, QAU) for policy-relevant research with annual research grants of PKR 500 million
- Create systematic policy evaluation mechanisms: all climate policies must undergo mid-term reviews (3 years) and final evaluations (5 years) with findings published publicly
- Measurable Indicator: Increase climate research publications from Pakistani institutions from current 50/year to 200/year by 2030

6.1.5 Ensure Local Ownership Beyond Donor Compliance

While international support provides critical resources, climate policies must prioritize local ownership and context-specific solutions to ensure sustainability and accountability. Pakistan should move beyond compliance-driven approaches toward developing homegrown strategies. Concrete Implementation Steps:

- Require that international climate projects allocate minimum 30% of budgets to capacity building

of Pakistani institutions rather than international consultants

- Develop Pakistan-specific climate adaptation technologies through domestic research institutions rather than importing foreign solutions (e.g., heat-resistant crop varieties for Punjab and Sindh)
- Mandate that all climate projects funded by international donors include sustainability plans demonstrating how activities will continue after donor exit
- Create a Pakistani Climate Solutions Database documenting successful local adaptations (e.g., community-based flood early warning systems in Khyber Pakhtunkhwa) for replication nationwide

6.1.6 Mainstream Climate Across All Sectors

Climate considerations must be mainstreamed across all sectors including infrastructure, agriculture, urban planning, finance, and education rather than confined to environmental ministries. This whole-of-government approach ensures climate resilience becomes integrated into everyday governance. Concrete Implementation Steps:

- Integrate climate modules into curricula at all levels: primary schools (environmental awareness), secondary schools (climate science), universities (specialized climate programs)
- Require State Bank of Pakistan to include climate risk in financial sector regulations, following examples from European Central Bank's climate stress testing
- Mandate climate-resilient building codes for all new construction in urban areas through provincial building control authorities
- Develop sector-specific climate action plans for Agriculture, Water, Energy, and Transport with dedicated implementation units and annual progress reports to Parliament
- Responsible Coordination: Cabinet Committee on Climate Change (to be established) with representation from all major ministries

7 Conclusion

Overcoming implementation failure in Pakistan requires a comprehensive approach that simultaneously strengthens institutions, enhances coordination, fosters evidence-based decision-making, and aligns political incentives with long-term climate resilience. Only by addressing the structural and administrative roots of policy failure can Pakistan transform formal climate commitments into effective and sustainable action. This approach is critical not only for environmental sustainability but also for economic stability, social resilience, and national security. Climate change, if left unaddressed through effective governance, will continue exacerbating Pakistan's vulnerability, threatening development gains and undermining state capacity. Therefore, treating climate change as a governance challenge represents both a practical necessity and a strategic imperative for Pakistan's future.

Data Availability Statement

Data will be made available on request.

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Conflicts of Interest

The author declares no conflicts of interest.

AI Use Statement

The author declares that no generative AI was used in the preparation of this manuscript.

Ethical Approval and Consent to Participate

Not applicable.

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