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Mainstreaming Climate Change into National Development Planning in Pakistan Policy Integration, Institutional Coordination, and Implementation Gaps A Qualitative Document-Analysis Study

Syed Zohaib Ullah Shah
PhD Scholar Development Studies, School of Public Policy and Development Pakistan Institute of Development Economics (PIDE)
zohaib.phdds25@pide.edu.pk
Mujahid Hussain
PhD Scholar Public Policy & Governance, School of Public Policy Pakistan Institute of Development Economics (PIDE)
corresponding Author: mujahid.phdppg25@pide.edu.pk
Abdul Khaliq
PhD Scholar Public Policy & Governance, School of Public Policy Pakistan Institute of Development Economics (PIDE)
abdulkhaliq.phdppg25@pide.edu.pk

ABSTRACT
Pakistan stands among the world's most climate-vulnerable countries, ranked the most affected nation in the Global Climate Risk Index 2025 for the year 2022 on the basis of cumulative human and economic losses. The 2022 mega-floods affected approximately 33 million people, displaced more than 8 million, and produced damages of about USD 14.9 billion together with economic losses of USD 15.2 billion (Government of Pakistan et al., 2022). The 2025 monsoon caused over 1,000 fatalities and affected 6.9 million people, with preliminary national damages estimated at PKR 822 billion (about USD 2.9 billion) (NDMA, 2025; OCHA, 2025). Despite this exposure, climate change remains weakly mainstreamed into the country's national development planning system. This paper examines why climate mainstreaming has failed as an operational practice even as Pakistan has formally adopted the National Climate Change Policy (2021), the Updated Nationally Determined Contributions (2021, with NDC 3.0 in 2025), and the National Adaptation Plan (2023). Using qualitative document analysis of climate policies, public-investment guidelines, the Public Sector Development Programme (PSDP) 2025–26, the new climate budget tagging framework, and provincial planning instruments, the study identifies six institutional and procedural barriers: (i) policy recognition without operational integration into routine planning procedures; (ii) fragmentation of climate governance across federal institutions and sectoral departments; (iii) weak federal–provincial coordination despite devolved implementation authority; (iv) a sharp budgetary disconnect, with the Ministry of Climate Change receiving only 0.22% of federal PSDP outlay (PKR 2.78 billion of PKR 1,287 billion) in FY 2025–26 against an estimated NDC investment requirement of about USD 348 billion by 2030; (v) uneven technical and data capacity across planning institutions; and (vi) absence of monitoring and accountability systems linking climate commitments to implementation outcomes.
The analysis demonstrates that climate mainstreaming in Pakistan operates as a cross-cutting development-governance problem rather than a purely environmental issue. Mainstreaming

requires converting policy recognition into binding planning rules, aligning institutional responsibilities, securing dedicated and traceable budget allocations, building technical capacity at provincial and district level, and establishing transparent accountability systems. The paper contributes to climate governance literature by showing that mainstreaming failure reflects deeper coordination problems within Pakistan's development planning architecture rather than inadequate policy formulation. The findings carry implications for institutional reform, climate finance design, and development effectiveness in climate-vulnerable economies.

***Keywords**: climate mainstreaming; national development planning; policy integration; institutional coordination; implementation gap; climate governance; public investment management; PC-1 appraisal; PSDP; climate budget tagging; Pakistan.*

1. Introduction

1.1 Background

Pakistan's climate challenge has moved decisively beyond the sphere of environmental management and become a central question of national development planning, public finance, and institutional governance. The country is repeatedly exposed to floods, droughts, heatwaves, glacial-lake outburst events, water stress, food insecurity, and climate-sensitive public-health risks. The Global Climate Risk Index 2025 ranked Pakistan as the country most affected by extreme weather events in 2022 (Adil et al., 2025; Germanwatch, 2025). Climate-attribution studies indicate that human-induced climate change increased the intensity of the 2022 monsoon rainfall by approximately 50% and made extreme heatwaves over Pakistan and India up to 30 times more likely (Germanwatch, 2025).

The 2022 floods illustrate the scale of this vulnerability. The Post-Disaster Needs Assessment (PDNA) reported that the floods affected about 33 million people, killed more than 1,730, and displaced over 8 million. Total damages exceeded USD 14.9 billion, economic losses reached approximately USD 15.2 billion, and rehabilitation and reconstruction needs were estimated above USD 16.3 billion (Government of Pakistan et al., 2022). The housing, agriculture and livestock, and transport and communications sectors were the most affected, with damages of USD 5.6 billion, USD 3.7 billion, and USD 3.3 billion respectively. Sindh alone accounted for nearly 70% of total damages and losses (Government of Pakistan et al., 2022).

These shocks are recurring rather than exceptional. The 2025 monsoon, which began in late June and continued through mid-September, caused at least 1,000 fatalities, including 275 children, and affected approximately 6.9 million people across Punjab, Khyber Pakhtunkhwa, Sindh, Balochistan, Azad Jammu & Kashmir, and Gilgit-Baltistan (OCHA, 2025; NDMA, 2025). Preliminary national damages were estimated at PKR 822 billion (about USD 2.9 billion), with the National Disaster Management Authority projecting a 0.3–0.7 percentage-point reduction in FY 2025–26 GDP growth as a direct consequence of the floods (NDMA, 2025). These figures show that climate shocks are not isolated humanitarian emergencies; they directly disrupt infrastructure, agriculture, housing, education, health services, livelihoods, and fiscal stability.

The development implications of climate change are particularly serious because Pakistan's economy and population remain heavily dependent on climate-sensitive sectors. Agriculture contributes about 23.5% of GDP and employs around 37.5% of the labour force, and is increasingly exposed to extreme heat, erratic rainfall, and water scarcity (Ministry of Climate Change, 2025). Glacial melt is projected to reduce Indus River flows by 20–30% by 2050, and groundwater is declining by up to one metre per year in parts of Punjab, where over 70% of aquifers are already over-exploited (Ministry of Climate Change, 2025). The World Bank's Pakistan Country Climate and Development Report warned that, without adaptation and resilience-building, climate change could reduce real GDP per capita by around 7.3% by 2050 and

that combined climate threats could generate GDP losses of up to 9% by 2050 under pessimistic scenarios (World Bank, 2022). Climate change therefore affects not only ecological systems but also the way public investments are designed, financed, implemented, and evaluated.

Pakistan has built an increasingly elaborate climate-policy architecture in response. The country has adopted the National Climate Change Policy (2021), submitted Updated Nationally Determined Contributions (2021) and a more ambitious NDC 3.0 (2025), and prepared the National Adaptation Plan (2023). Pakistan committed to a 50% reduction of projected greenhouse-gas emissions by 2030, with 15% from domestic resources and 35% conditional on international finance (Government of Pakistan, 2021b; Ministry of Climate Change, 2025). The NAP explicitly recognises that adaptation requires mainstreaming climate considerations into development planning and public financial management, involving the Planning Commission, the Ministry of Finance, the Economic Affairs Division, line ministries, and provincial counterparts (Government of Pakistan, 2023). These frameworks show that Pakistan has formally acknowledged climate change as a development and governance issue.

However, the central problem is not the absence of climate policies. The deeper issue is the weak translation of climate commitments into the ordinary machinery of national development planning. Climate priorities remain insufficiently embedded in PC-1/project appraisal, the federal Public Sector Development Programme (PSDP) and provincial Annual Development Programmes (ADPs), sectoral planning, federal–provincial coordination, and monitoring systems. As a result, climate mainstreaming is often visible in policy language but weak in operational planning, financing, implementation, and accountability. Development projects may acknowledge sustainability in broad terms, yet their design, risk screening, budget allocation, and evaluation do not always reflect the scale of Pakistan's climate vulnerability.

Existing literature on climate change in Pakistan has made valuable contributions in documenting vulnerability, flood losses, agricultural risks, disaster impacts, adaptation needs, and the evolution of climate policy. Much of this scholarship explains how climate change affects communities, ecosystems, infrastructure, and livelihoods. However, a more specific institutional question remains under-examined: how, and why, do climate priorities fail to become routine components of national development planning? Limited attention has been paid to the role of PC-1 appraisal, PSDP and ADP alignment, climate-responsive budgeting, federal–provincial coordination, and sectoral accountability mechanisms in enabling or constraining climate mainstreaming.

1.2 Aim and Research Questions

The aim of this study is to examine the barriers to mainstreaming climate change into Pakistan's national development-planning system, with particular attention to policy integration, institutional coordination, budgeting practices, and implementation gaps. The study addresses three interrelated questions:

- How are climate priorities currently incorporated into Pakistan's national development-planning instruments, including PC-1 appraisal, the PSDP, and provincial ADPs?
- What institutional and procedural barriers prevent climate considerations from becoming binding criteria in routine planning, budgeting, and implementation?
- Which reforms can convert Pakistan's policy recognition of climate change into operational mainstreaming across federal and provincial planning systems?

Using qualitative document analysis, the study reviews national climate-policy documents, development-planning frameworks, public-investment guidelines, and relevant institutional reports to assess how climate priorities are incorporated into planning and implementation systems. By adopting a policy-integration and institutional-coordination lens, the paper moves

beyond a general discussion of climate vulnerability and examines the governance conditions under which climate mainstreaming can become operational, measurable, and development-relevant.

1.3 Significance and Structure

The paper contributes to climate governance literature in three ways. First, it shifts the analytical focus from policy adoption to operational integration in a federal, climate-vulnerable economy. Second, it links climate governance to the specific instruments of public investment management PC-1 appraisal, PSDP/ADP allocation, and climate budget tagging — that have received limited treatment in existing studies on Pakistan. Third, it provides a reform pathway grounded in existing institutions, particularly the Planning Commission and the Finance Division, rather than recommending new parallel structures. The remainder of the paper is organised as follows: Section 2 reviews the relevant literature; Section 3 sets out the methodology; Section 4 presents and discusses six findings on barriers to mainstreaming; Section 5 outlines policy recommendations; and Section 6 concludes.

2. Literature Review

2.1 Climate Mainstreaming and Development Planning

Climate mainstreaming differs from the mere production of separate climate policies. It refers to the systematic incorporation of climate risks, adaptation priorities, mitigation concerns, and resilience objectives into the ordinary procedures through which development is planned, financed, implemented, and evaluated. In this sense, mainstreaming does not add climate change as an external environmental concern; rather, it reshapes development planning itself by requiring public investment, sectoral strategies, infrastructure standards, and governance routines to account for climate-related risks and opportunities (Lam et al., 2024; Runhaar et al., 2018). The concept usually operates at two related levels. Programmatic mainstreaming integrates climate considerations into existing sectoral programmes, such as agriculture, water, health, energy, urban planning, and infrastructure. Organisational mainstreaming embeds climate objectives into institutional mandates, performance frameworks, strategic planning cycles, and accountability mechanisms (Wamsler & Osberg, 2022; Lam et al., 2024).

The need for mainstreaming arises from the cross-cutting nature of climate change. Agricultural productivity, water availability, energy generation, transport systems, public health, disaster-risk management, urban resilience, and poverty reduction are all shaped by climate variability and long-term climate shifts. A development-planning system that treats climate change as the responsibility of one environmental ministry is therefore unlikely to produce climate-resilient outcomes. Lam et al. (2024) show that, compared with gender mainstreaming, climate mainstreaming remains less mature in organisational culture, leadership structures, and accountability arrangements. This difference suggests that climate mainstreaming faces deeper institutional complexity because it requires changes not only in policy language but also in budgeting systems, planning rules, appraisal tools, and sectoral incentives.

For mainstreaming to become meaningful, climate risks must be embedded into long-term planning horizons, public-investment frameworks, project-appraisal systems, and monitoring indicators. Sectoral development targets in agriculture, energy, water, infrastructure, health, and transport must be adjusted in light of climate constraints. Budgetary allocations must also reflect adaptation and resilience priorities; otherwise, mainstreaming remains declaratory rather than operational. This problem is visible in countries such as Pakistan, where formal climate commitments coexist with limited integration of climate risk into development-programme budgeting, PC-1 appraisal, and sectoral implementation procedures (Khan, 2025). The distinction

between policy aspiration and operational integration is therefore central to understanding the limits of climate mainstreaming.

2.2 Policy Integration Theory

Policy integration theory explains the governance difficulty created by problems that cut across sectoral boundaries. Climate change is a paradigm case because its causes and impacts are distributed across energy systems, agricultural practices, land-use decisions, infrastructure design, water management, public health, and urban development. Yet responsibility for these sectors is usually divided among autonomous ministries, provincial departments, and local authorities, each with its own mandate, budget, administrative culture, and performance priorities (Candel & Biesbroek, 2016; Howlett & Saguin, 2018).

Two dimensions of policy integration are especially relevant. Horizontal integration refers to coordination across ministries and sectors operating at the same level of government, while vertical integration concerns alignment across national, provincial, local, and international levels. Both are necessary for climate governance. Horizontal integration requires planning, finance, agriculture, water, energy, health, infrastructure, and environment institutions to align their objectives and planning tools. Vertical integration requires national climate commitments to be translated into provincial and local plans, budgets, and projects. In practice, both processes face resistance: sectoral departments often protect their authority, budgets, and performance indicators, while cross-cutting climate objectives may be perceived as external burdens rather than core institutional responsibilities (Howlett et al., 2017; Trein et al., 2023).

Policy coherence is the normative goal of integration: different policies should reinforce, rather than undermine, shared climate and development objectives. Coherence, however, is difficult to achieve. Olsen et al. (2024), in an analysis of development-aid policies across 42 donor countries, found that full climate–development integration remains uncommon. This shows that even well-resourced governance systems struggle to make climate objectives routine within development practice. The barriers are not only technical but institutional: sectoral silos, competing budget priorities, weak incentives, limited technical capacity, and bureaucratic resistance all weaken integration.

Whole-of-government approaches seek to address these weaknesses through inter-ministerial committees, joint planning processes, integrated budgeting, and shared monitoring frameworks. Their success depends on political commitment, institutional authority, and administrative capacity (Trein et al., 2023; Cairney, 2021). Without these conditions, coordination structures may exist formally but fail to influence everyday planning decisions. For climate mainstreaming, the critical issue is therefore not whether coordination forums exist but whether they change how development priorities are selected, financed, appraised, and monitored.

2.3 Institutional Coordination and Multi-Level Governance

Institutional coordination becomes more complex in federal systems, where authority is distributed across national, provincial, and local levels. Climate change requires national strategic direction, but adaptation is largely implemented through provincial and local institutions that face the direct effects of floods, heatwaves, droughts, water stress, and urban risks. Multi-level governance theory shows how climate action depends on the alignment of authority, resources, information, and accountability across different tiers of government (Hooghe & Marks, 2016). Underdal (2010) argues that long-term environmental governance requires both decentralised adaptive capacity and intergovernmental mechanisms for knowledge-sharing and collective action.

Pakistan illustrates this challenge clearly. The 18th Constitutional Amendment (2010) devolved several climate-relevant sectors including agriculture, water, forestry, environment, local

government, and disaster management to provincial governments. At the same time, federal institutions remain responsible for international commitments, national policy direction, development planning, and climate-finance coordination. This creates a structural coordination problem: national climate commitments under the Paris Agreement and Pakistan's NDCs require implementation through provincial planning systems, yet the mechanisms connecting federal climate policy with provincial development planning remain weak (Rauf & Alam, 2017; Adil et al., 2025).

Several coordination barriers affect climate mainstreaming in Pakistan. Overlapping mandates create uncertainty about institutional responsibility. Weak information-sharing limits the movement of climate data and technical guidance between federal and provincial bodies. Uneven provincial capacity produces variation in adaptation planning and implementation. Fiscal coordination is also weak, especially when federal PSDP priorities and provincial ADPs are not systematically aligned with climate objectives. UN DESA (2024) emphasises that climate governance requires multi-level coordination because mitigation and adaptation actions cut across administrative scales, but such coordination often remains fragmented in practice. Pakistan's NAP itself identifies poor federal–provincial coordination, unclear stakeholder roles, and weak institutional capacity as major obstacles to effective adaptation and disaster-risk management (Government of Pakistan, 2023).

2.4 Implementation Gap in Climate Governance

The implementation gap in climate governance refers to the distance between formal policy adoption and actual policy outcomes. Fransen et al. (2023) distinguish between the adoption gap and the outcome gap. The adoption gap arises when climate commitments are not supported by adequate domestic policies; the outcome gap appears when policies exist but fail to produce expected results because of weak financing, poor enforcement, limited technical capacity, or institutional fragmentation. This distinction is important for Pakistan because the country has adopted climate policies and international commitments, but their translation into development-planning systems remains uneven.

Pakistan's NCCP, Updated NDC, and NAP all contain ambitious language on mitigation, adaptation, resilience, and disaster-risk reduction. Yet the operational machinery of planning and finance has not fully absorbed these priorities. Khan (2025) argues that Pakistan's climate policy remains largely aspirational because implementation is uneven across provinces, budgetary support is limited, and progress reporting is weak. Masud et al. (2024) similarly show that adaptation implementation is constrained by institutional fragmentation, limited capacity, and weak coordination between policy actors.

The sources of this gap are multiple. Climate finance is limited, but financing alone does not explain weak implementation. Technical expertise, reliable data, climate-risk screening capacity, monitoring systems, and accountability mechanisms are equally important. Where these are absent, climate commitments remain trapped in policy documents. In Pakistan, the problem is particularly visible in development planning: climate-risk screening and climate-responsive project appraisal are inconsistently applied, while budget tagging and monitoring systems are still maturing (Government of Pakistan, 2024a; Ministry of Planning, Development and Special Initiatives, 2025). The result is symbolic mainstreaming: climate language appears in policies, but routine planning, budgeting, and implementation continue to operate through older sectoral logics.

2.5 Conceptual Framework

This study adopts an integrated conceptual framework combining policy integration theory, institutional coordination/multi-level governance, and implementation-gap analysis. Policy

integration theory explains why climate change cannot be managed by an environment ministry alone: its risks and responses cut across agriculture, water, energy, health, transport, housing, and disaster management, and so climate objectives must be embedded into sectoral planning, public-investment appraisal, budgeting, and monitoring systems.

Institutional coordination and multi-level governance theory explain why this process is difficult in Pakistan's federal setting. National climate commitments are formulated mainly at the federal level, but implementation depends heavily on provincial departments, local institutions, sectoral agencies, and planning and finance bodies. Where these actors do not share information, clarify responsibilities, coordinate budgets, and align development priorities, climate mainstreaming remains administratively weak.

Implementation-gap theory explains why policy adoption does not automatically generate climate-resilient outcomes. Climate commitments must pass through the development-planning system, become part of sectoral integration, be supported by institutional coordination, and receive budgetary and technical backing before they produce measurable outcomes. The framework therefore traces a sequential pathway: (i) climate-policy commitments enter the national development-planning system; (ii) planning institutions translate them into sectoral policies and projects; (iii) coordination mechanisms align federal, provincial, and sectoral actors around shared climate objectives; (iv) budgeting and implementation capacity determine operationalisation; and (v) successful integration produces climate-resilient development outcomes in which climate priorities demonstrably shape planning rules, budget allocations, institutional responsibilities, project-appraisal decisions, implementation practices, and measurable indicators. The central proposition is that climate mainstreaming fails when climate objectives remain policy-level commitments but are not converted into planning rules, budgetary priorities, institutional responsibilities, and measurable implementation indicators.

3. Methodology

3.1 Research Design

This study employs a qualitative research design using document analysis as the primary methodological approach. Qualitative document analysis is a systematic research method that involves the thorough examination and interpretation of written texts, policy documents, institutional frameworks, and official records to extract meaningful information related to the research questions (Bowen, 2009). Unlike quantitative approaches that reduce phenomena to numerical data, qualitative document analysis preserves the complexity and contextuality of policy language, institutional arrangements, and governance procedures, making it particularly suited to understanding why climate mainstreaming remains weak despite formal policy commitments (Flick, 2014).

The methodological strategy follows a content-analysis framework in which documents are examined to identify how climate considerations are — or are not — integrated into planning language, institutional responsibilities, budgeting procedures, and implementation mechanisms (Braun & Clarke, 2006). This approach allows the researcher to access official institutional perspectives without requiring primary data collection through interviews or surveys, thereby providing an objective evidence base derived from documentary sources that represent formal institutional positions and commitments (Yin, 2014).

3.2 Data Sources

The study draws on seven primary categories of documents reflecting federal, provincial, international, and academic perspectives on climate governance and development planning in Pakistan:

- National climate policy documents: National Climate Change Policy (2021), Updated NDC

(2021), NDC 3.0 (2025), and the National Adaptation Plan (2023).

- Development-planning frameworks: Planning Commission guidelines, the Manual for Development Projects (2024), the Handbook on Climate Risk Screening (2024), and PSDP documentation for FY 2023–24, 2024–25, and 2025–26.
- Disaster-risk management documents: NDMA and PDMA policy documents, situation reports for the 2022 and 2025 floods, and disaster-risk-reduction frameworks.
- International development partner reports: World Bank Country Climate and Development Report (2022), UNDP and OCHA assessments, ADB sector studies, IMF Climate-PIMA reports, and GIZ technical reports.
- Government implementation and budget documents: Federal and provincial budget documents, including the Climate Budget Tagging framework introduced in FY 2025–26.
- Planning Commission and sectoral guidelines: PC-1 procedures, sectoral development plans, and inter-ministerial coordination protocols.
- Academic journal articles: Peer-reviewed research on climate governance, policy integration, institutional coordination, and implementation barriers in Pakistan and comparable South Asian contexts.

3.3 Data Analysis Method

Thematic analysis is the primary analytical method. Thematic analysis is a qualitative analytical technique that involves identifying, coding, and organising patterns (themes) within textual data (Braun & Clarke, 2006). The analytical process follows a structured five-step procedure: (1) familiarisation through repeated document reading; (2) open coding, in which relevant text segments are assigned preliminary codes based on content relevance; (3) focused coding, in which preliminary codes are organised into broader thematic categories; (4) theme refinement, in which themes are reviewed for coherence and analytical utility; and (5) theme interpretation, in which thematic patterns are analysed in relation to the research questions and conceptual framework (Tunio et al., 2024).

The analysis combines deductive and inductive coding. Deductive codes derive directly from the conceptual framework (policy integration, institutional coordination, implementation gaps). Inductive codes emerge from document content itself, allowing unexpected barriers and institutional arrangements to surface (Flick, 2014). This mixed approach ensures the analysis remains theoretically grounded while remaining open to evidence not anticipated by existing frameworks.

3.4 Coding Themes

Documents are systematically analysed through five primary coding themes derived from the conceptual framework and research questions, summarised in Table 1.

Table 1. Coding themes and analytical focus.

Coding Theme	Analytical Focus
Policy Integration	Extent to which climate priorities are embedded in development-planning language; degree of sectoral policy alignment around climate objectives; presence of cross-cutting climate considerations in planning documents.
Institutional Coordination	Federal–provincial linkages in climate governance; inter-ministerial coordination mechanisms; clarity of institutional responsibility for climate mainstreaming; alignment between federal climate commitments and provincial planning procedures.

Coding Theme	Analytical Focus
Budgetary Integration	Budget allocation to climate-relevant sectors; presence of climate-finance mechanisms; project-level climate cost accounting; evidence of climate budget tagging; resources allocated to climate-related institutions.
Implementation Capacity	Technical expertise for climate mainstreaming; human resources allocated to climate-responsive planning; data and monitoring systems; technology infrastructure supporting mainstreaming.
Monitoring & Accountability	Existence of performance indicators for climate mainstreaming; reporting frameworks for tracking implementation progress; accountability mechanisms linking climate policies to sectoral outcomes; systems for evaluating climate resilience of development projects.

Each document is examined for evidence related to these five themes, with particular attention to explicit mentions of climate integration, procedural requirements for climate consideration, institutional assignments for climate responsibility, and documented barriers to implementation.

3.5 Justification and Limitations

Qualitative document analysis is appropriate and rigorous for this study because the research objective fundamentally addresses the gap between policy documents and institutional practice. Document analysis enables systematic examination of what Pakistan's institutions officially commit to (through policy language), what procedures they establish (through planning guidelines), and what resources they allocate (through budgets) — all of which are essential to understanding why climate mainstreaming remains weak despite formal commitments. The approach is particularly justified because climate mainstreaming operates through institutional procedures, planning frameworks, and budgeting mechanisms that are codified in official documents.

Examining these documents provides verifiable evidence of institutional positions without introducing the social-desirability bias that can occur in interview-based research. Document analysis also allows triangulation across multiple institutional actors (federal ministries, provincial governments, planning commissions, development partners) and policy domains (climate, energy, agriculture, water, disaster management), generating a comprehensive understanding of climate-governance fragmentation (Bowen, 2009).

Three limitations should be acknowledged. First, document analysis cannot fully capture informal practices and incentives that shape implementation; future research could complement this study with key-informant interviews. Second, the findings rely on publicly available documents up to early 2026, and rapidly evolving climate-budget reforms (such as climate budget tagging) may produce different patterns in coming cycles. Third, the analysis emphasises federal documents, while province-specific dynamics in Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan would benefit from deeper sub-national investigation.

4. Findings and Discussion

The document analysis identified six interlocking barriers to climate mainstreaming in Pakistan's development-planning system. These barriers, summarised in Table 2, are not independent: weakness in any one dimension undermines the others. The remainder of this section discusses each barrier in turn.

Table 2. Six barriers to climate mainstreaming in Pakistan's development-planning system.

#	Barrier	Core Manifestation
1	Policy recognition without operational integration	Climate language present in policy; PC-1, PSDP and ADP procedures do not require binding climate-risk screening.
2	Institutional fragmentation	Climate governance scattered across MoCC, PC, MoF, NDMA, line ministries; sectoral ownership of climate weak.
3	Weak federal–provincial coordination	Devolution under 18th Amendment without parallel coordination architecture; provinces face heterogeneous obligations.
4	Budgetary disconnect	MoCC receives 0.22% of FY 2025–26 PSDP; new climate budget tagging not yet binding on project approval.
5	Technical and data capacity gaps	Coarse climate projections; weak provincial/district capacity for climate risk assessment.
6	Weak monitoring and accountability	PSDP M&E does not track climate performance; no national mainstreaming dashboard.

4.1 Policy Recognition without Operational Integration

Pakistan's official climate-governance architecture demonstrates substantial rhetorical commitment to mainstreaming climate considerations into development planning. The National Climate Change Policy (2021) explicitly identifies climate change as a cross-cutting development challenge requiring integration across sectors; the Updated NDC (2021) commits Pakistan to climate-resilient development; and the National Adaptation Plan (2023) frames adaptation as an integral development objective. These policy documents reflect international good practice in climate governance and signal ministerial awareness of climate risks.

However, policy recognition does not automatically convert into operational integration. The gap between policy language and planning practice emerges sharply when one examines routine development-planning procedures. The Manual for Development Projects (2024) issued by the Planning Commission provides the primary template for project appraisal (the PC-1 form), yet climate-risk screening is not yet a mandatory pass–fail requirement in project design. The Planning Commission has issued a Handbook on Climate Risk Screening for Development Projects (2024), but evidence indicates that climate-risk screening currently functions more as guidance than as a binding precondition for project approval. Provincial Planning and Development departments, which manage the ADP in all four provinces, have not systematically integrated climate-risk assessment as a precondition for ADP inclusion. Sectoral departments — including agriculture, water, energy, and health — acknowledge climate risks in strategic documents but do not consistently apply climate-risk criteria in project design or resource-allocation decisions.

This disjuncture between policy endorsement and operational integration suggests a fundamental problem in how mainstreaming is understood institutionally. Mainstreaming requires converting policy objectives into binding rules, procedural requirements, and performance expectations that structure routine decision-making. When climate considerations remain optional, advisory, or aspirational rather than mandatory criteria in project appraisal, budget allocation, and departmental targets, they remain peripheral to core planning functions. The result is that multiple policy documents recognise climate change as a threat to

development, but this recognition has not been operationalised as a constraint on development-planning decisions.

4.2 Institutional Fragmentation

Pakistan's climate-governance system is institutionally fragmented across multiple federal ministries, provincial departments, and specialised agencies with overlapping mandates and unclear responsibility hierarchies. The Ministry of Climate Change and Environmental Coordination holds the primary mandate for climate-policy formulation and international negotiations; the Planning Commission coordinates development planning; the Ministry of Finance controls budget allocation; the National Disaster Management Authority (NDMA) coordinates disaster-risk reduction; and provincial Planning and Development departments manage development investment within provinces. At the same time, sectoral ministries (agriculture, water, energy, health, urban development) are responsible for implementing climate-relevant development investments within their sectors.

This institutional plurality produces several governance problems. First, sectoral ownership of climate action is weak, as sectoral departments often view climate change as externally imposed rather than integral to their sectoral objectives. The Ministry of Agriculture, which manages a substantial development portfolio related to irrigation, crop production, and rural livelihoods, does not systematically coordinate with the Ministry of Climate Change in designing agricultural projects. The Ministry of Water Resources and provincial water departments operate within water-sector logics that often conflict with climate-adaptation priorities. Second, institutional coordination mechanisms are fragile: the Pakistan Climate Change Council, intended to coordinate across ministries, meets infrequently and lacks binding authority over sectoral institutions. Third, accountability is diffuse: when climate mainstreaming fails, no single institution bears clear responsibility. Fourth, financial incentives are misaligned: sectoral departments derive no budgetary advantage from climate-responsive investment, creating weak institutional incentive for climate integration.

The effect is that climate governance operates as a horizontal silo a specialised institutional domain — rather than as a principle structuring development planning across all sectors. This is analytically important because mainstreaming, by definition, requires moving climate considerations from a specialised policy domain into all development-planning decisions. When climate governance remains institutionally isolated, mainstreaming cannot succeed regardless of policy language.

4.3 Weak Federal–Provincial Coordination

Pakistan's federal structure and the 18th Constitutional Amendment (2010) devolved substantial sectoral authority to provinces in agriculture, water, health, environment, local government, and disaster management — precisely the sectors most central to climate adaptation. This creates a structural coordination problem: national climate commitments are formulated by federal institutions, but implementation capacity and regulatory authority are distributed across provincial governments and district administrations.

The coordination gap manifests in several ways. First, provinces have heterogeneous planning capacities and climate priorities. Punjab and Sindh have more developed planning institutions and technical capacity than Khyber Pakhtunkhwa and Balochistan. Yet the Updated NDC (2021), NDC 3.0 (2025) and the NAP (2023) set national climate targets without explicit provincial disaggregation, leaving provinces uncertain about their specific obligations. Second, provincial ADPs are formulated within provincial planning cycles that do not systematically align with national climate commitments; provinces rarely conduct systematic climate-risk screening before including projects in the ADP. Third, financing responsibility for climate adaptation

remains unclear. The federal government formulates climate commitments but lacks direct budgetary control over provincial expenditure. The Finance Division controls the federal PSDP set at PKR 1,000 billion in FY 2025–26 but the bulk of development investment at sub-national level is financed through provincial ADPs, which together total approximately PKR 2,869 billion under the FY 2025–26 National Development Programme of about PKR 4,224 billion (Planning Commission, 2025).

This federal–provincial gap exemplifies the implementation gap identified in the conceptual framework: national policy adoption (climate commitments at federal level) is not coupled with institutional coordination and capacity alignment at the provincial implementation level. Without explicit federal provincial coordination mechanisms, binding provincial targets, and financing incentives aligned with climate commitments, the gap between national climate promises and provincial implementation remains substantial.

4.4 Budgetary Disconnect

Climate mainstreaming requires alignment between policy priorities and public-resource allocation. Pakistan's development budget the federal PSDP and the provincial ADPs represents the primary lever for converting climate commitments into implementation. However, the relationship between climate policy and budgetary allocation remains tenuous. Table 3 summarises core indicators.

Table 3. Climate finance and PSDP indicators, Pakistan (FY 2025–26).

Indicator	Value	Source
Total National Development Outlay (FY 2025–26)	PKR ~4,224 billion	Planning Commission (2025)
Federal PSDP	PKR 1,000 billion	Ministry of Finance (2025)
Provincial ADPs (combined)	PKR ~2,869 billion	Planning Commission (2025)
MoCC PSDP allocation FY 2025–26	PKR 2.78 billion (≈0.22% of PSDP)	Bhatti (2025); MoF (2025)
Change vs FY 2024–25 MoCC budget	Down from PKR 3.42 bn (– PKR 640 m)	Bhatti (2025)
Estimated NDC 3.0 investment requirement by 2030	USD ~348 billion	Ministry of Climate Change (2025)
2022 floods PDNA: total damages	USD 14.9 billion	Government of Pakistan et al. (2022)
2022 floods PDNA: economic losses	USD 15.2 billion	Government of Pakistan et al. (2022)
2022 floods PDNA: reconstruction needs	USD 16.3 billion	Government of Pakistan et al. (2022)
2025 floods preliminary damages	PKR ~822 billion (USD ~2.9 billion)	NDMA (2025)

The Ministry of Climate Change and Environmental Coordination received PKR 2.78 billion in the FY 2025–26 PSDP only about 0.22% of the PKR 1,287 billion preliminary federal PSDP outlay reported in budget documents down by approximately PKR 640 million from PKR 3.42 billion in the previous fiscal year (Bhatti, 2025; Ministry of Finance, 2025). This is striking given that NDC 3.0 (2025) estimates Pakistan's climate-investment requirement at approximately USD 348 billion by 2030, with the great majority conditional on international support (Ministry of Climate Change, 2025; Dawn, 2025). The mismatch between the assessed need and the lead ministry's development envelope is therefore an order of magnitude problem, not a marginal one.

More fundamentally, climate-responsive investment has historically not been systematically tagged or tracked across the PSDP and provincial ADPs. Without climate budget tagging — in which climate-relevant projects are coded and their expenditure tracked it is impossible to assess whether development spending reflects climate priorities or whether climate-relevant projects are adequately resourced. Recognising this, the Ministry of Finance, working with the IMF and development partners, introduced an initial climate budget tagging framework in FY 2025–26, requiring PSDP projects to be classified under adaptation, mitigation, or support categories (Ministry of Finance, 2025; Olsen et al., 2024). This is a significant procedural reform; however, tagging on its own does not redirect resources unless it is linked to project approval thresholds, sectoral ceilings, and reporting obligations.

Furthermore, the PSDP project-approval process does not yet require climate-risk assessment as a financing precondition. Projects continue to be approved based on cost-benefit analysis, technical feasibility, and alignment with sectoral priorities, while climate-risk implications are not systematically weighted in approval decisions. This means that development projects may be approved and financed without assessing whether they increase or decrease climate resilience. The inverse problem also occurs: adaptation projects that would enhance resilience but show weak short-term economic returns under conventional cost-benefit analysis may not be prioritised in competitive budget allocation. The budgetary disconnect therefore demonstrates that mainstreaming cannot be a purely rhetorical exercise: unless climate commitments are translated into development priorities that compete for and secure actual budget allocations, and unless climate-risk assessment influences project approval, mainstreaming remains a communication strategy rather than a resource-allocation mechanism.

4.5 Technical and Data Capacity Constraints

Climate-sensitive development planning requires local climate information, risk-assessment tools, and technical expertise that are unevenly distributed across Pakistan's planning institutions. At federal level, the Pakistan Meteorological Department provides climate data, but the spatial resolution of climate projections is coarse, limiting utility for district-level project design. Vulnerability assessments and climate-risk maps are not systematically available for all development sectors or all geographic areas. The Ministry of Climate Change has begun developing sectoral climate-change impact assessments, but these are incomplete and not consistently integrated into sectoral planning.

At provincial and district levels, technical capacity constraints are more severe. Provincial Planning and Development departments typically lack in-house expertise in climate-risk assessment, climate modelling, or vulnerability analysis. District administrations, which manage local development at the implementation frontier, have minimal climate-adaptation expertise. The result is that project designers lack the local climate data and risk-assessment guidance necessary to systematically incorporate climate considerations into project design. Agricultural projects, for example, are often designed with agronomic expertise but without explicit analysis of how climate change will affect productivity assumptions or irrigation requirements.

This capacity constraint has two implications for policy integration. First, planning officials cannot meaningfully conduct climate-risk screening without data and tools. When tools are absent, optional requirements become non-functional: officials cannot be expected to implement procedures that demand resources and expertise they do not possess. Second, weak technical capacity perpetuates institutional fragmentation: sectoral departments design projects within sectoral logics, without systematic integration of climate considerations, because the resources for integration are unavailable. Addressing capacity constraints therefore requires not only a policy mandate but also resource allocation for technical training, data infrastructure, and tool development. ND-GAIN data place Pakistan at 150th in adaptation readiness and 146th in vulnerability, which is consistent with these institutional findings (Ministry of Climate Change, 2025).

4.6 Weak Monitoring and Accountability

Effective mainstreaming requires measurable indicators, transparent tracking, and accountability mechanisms that link climate commitments to implementation outcomes. Pakistan's climate-governance documents articulate targets for example, the NDC commits to specific emissions-reduction percentages and adaptation outcomes but institutional mechanisms for tracking progress toward these targets at the sectoral and project level are underdeveloped.

Sectoral departments do not routinely report on climate-mainstreaming indicators. Agricultural departments report on area cultivated and crop production; water departments report on irrigation coverage; health departments report on disease prevalence. But systematic monitoring of whether these sectoral outcomes are climate-resilient, whether projects incorporate climate-risk considerations, or whether sectoral spending aligns with climate-adaptation priorities is largely absent. The PSDP monitoring system tracks project implementation progress (physical and financial) but does not include climate-specific performance indicators. Provincial ADPs similarly lack climate-mainstreaming indicators.

The monitoring gap has critical implications. Without monitoring data, it is impossible to assess whether mainstreaming is actually occurring or whether it remains symbolic. Officials face no performance evaluation based on climate-mainstreaming criteria; departments have no incentive to track climate outcomes. When climate mainstreaming is not part of standard institutional reporting and performance evaluation, it remains a parallel concern important in policy documents but not central to departmental accountability. The absence of clear accountability mechanisms means that institutional failures in climate mainstreaming are not systematically identified, reported, or remedied. This monitoring weakness exemplifies a broader institutional problem: mainstreaming becomes real only when institutions adopt standard procedures that include climate considerations, when officials are held accountable for implementing these procedures, and when progress is measured and publicly reported.

5. Policy Recommendations

The findings indicate that climate mainstreaming in Pakistan will require institutional change not merely additional policy documents. The recommendations below are sequenced to convert existing policy recognition into binding planning rules, aligned institutional responsibilities, traceable budget allocations, technical capacity, and transparent accountability.

5.1 Make Climate Risk Screening Mandatory in PC-1 Appraisal

Climate-risk screening must become a binding pass–fail requirement in project appraisal, not an optional environmental consideration. The Planning Commission should amend the Manual for Development Projects (2024) to incorporate mandatory climate-risk assessment into PC-1 preparation for all major infrastructure, agricultural, water, energy, transport, health, and urban-

development projects above a defined cost threshold. The assessment should evaluate exposure to projected climate hazards including flood risk, drought severity, heat stress, water-availability changes, soil degradation, and disaster events. By embedding climate screening into the project-appraisal framework that gates access to PSDP and ADP financing, Pakistan can convert climate considerations from advisory language into a binding precondition for project approval. The Planning Commission should provide standardised, user-friendly climate-risk screening tools that project teams can apply within existing appraisal timelines, avoiding the perception that climate integration adds bureaucratic burden rather than improves project design.

5.2 Strengthen the Planning Commission's Coordination Role

The Planning Commission occupies a unique institutional position at the intersection of development planning, project appraisal, PSDP management, and sectoral coordination. Rather than positioning the Ministry of Climate Change as the sole lead institution for mainstreaming — an approach that has produced institutional silos — Pakistan should task the Planning Commission with integrating climate objectives into development-planning rules, investment criteria, and sectoral targets. This requires expanding the Planning Commission's mandate to include climate-mainstreaming oversight and providing it with authority to screen project pipelines and sectoral plans for consistency with national climate commitments. The Planning Commission should chair an inter-ministerial committee that reviews climate integration in PSDP priorities, sectoral plans, and PC-1 approvals. This centralises coordination through an institution that already commands authority over development planning rather than creating parallel climate-governance structures.

5.3 Operationalise Climate Budget Tagging

The Climate Budget Tagging framework introduced in FY 2025–26 represents an important reform but is not yet fully operational. The Finance Division, working with the Planning Commission and provincial finance departments, should: (i) extend tagging to all four provincial ADPs; (ii) link tagging classifications (adaptation, mitigation, support) to PC-1 approval thresholds, so that projects coded as climate-relevant must demonstrate climate-risk integration; (iii) publish annual climate-tagged expenditure data disaggregated by sector and province; and (iv) integrate tagging with the parallel Pakistan Green Taxonomy and National Climate Finance Strategy. Tagging without these mechanisms remains a labelling exercise; with them, it becomes a genuine resource-allocation discipline (Ministry of Finance, 2025; Dawn, 2025).

5.4 Build Provincial and District Capacity

Targeted capacity building must be provided to provincial Planning and Development departments, district administrations, and provincial sectoral departments. Training programmes should focus on climate-risk assessment methodologies, vulnerability mapping, climate-sensitive project appraisal, adaptation planning, and use of climate data in development decisions. Because climate impacts are localised and adaptation implementation occurs at provincial and district levels, building technical expertise at these levels is essential. This requires sustained investment in human resources, technical tools, and data infrastructure not one-off training workshops. International development partners (World Bank, ADB, UNDP, GIZ) should support this capacity building alongside government budget allocation, ideally channelled through programmes anchored in the Planning Commission and provincial P&D departments.

5.5 Establish a Formal Federal–Provincial Coordination Mechanism

A formal federal–provincial coordination mechanism should be established, convening the Ministry of Climate Change, the Planning Commission, the Finance Division, provincial Planning and Development departments, the NDMA and provincial disaster-management authorities, and

sectoral ministry representatives on a quarterly basis. This mechanism should review climate-integration progress in provincial development plans, assess alignment between provincial ADPs and national climate commitments (including NDC 3.0 sectoral targets), track climate-budget allocation, and evaluate implementation of the NAP and NCCP. Clear terms of reference, designated responsibilities, decision rules, and shared monitoring data should structure this coordination to ensure it produces actionable outcomes rather than symbolic engagement.

5.6 Create a National Climate Mainstreaming Dashboard

Pakistan should establish a national climate-mainstreaming dashboard accessible to government and public stakeholders. The dashboard should track implementation of the NAP, NCCP, and NDC 3.0 by displaying measurable indicators of climate integration across sectors, provinces, and projects; identifying responsible institutions and implementation timelines; linking climate investments to budget allocations through climate budget tagging data; and reporting annual progress against targets. Independent evaluation of dashboard data should be conducted annually — ideally jointly by an academic consortium and the Auditor-General — to assess whether climate mainstreaming is advancing from policy language to operational practice. The dashboard creates transparency and institutional accountability by making climate-mainstreaming progress or failures visible to decision-makers and the public.

5.7 Sequencing of Reforms

These six recommendations should be implemented in two phases. In the short term (12–18 months), Pakistan should: (a) make climate-risk screening mandatory in PC-1 appraisal; (b) operationalise climate budget tagging across the federal PSDP and at least two provincial ADPs; and (c) launch a federal–provincial coordination mechanism with binding terms of reference. In the medium term (2–4 years), Pakistan should: (d) expand the Planning Commission's climate-coordination mandate; (e) institutionalise capacity-building programmes at provincial and district level; and (f) establish the national climate-mainstreaming dashboard with independent evaluation. This sequencing reflects political feasibility (procedural reforms first), institutional dependencies (tagging precedes meaningful dashboards), and capacity realities (lasting capacity work requires sustained investment).

6. Conclusion

Pakistan's climate-mainstreaming problem is not fundamentally one of policy awareness or international commitment. The National Climate Change Policy (2021), the Updated NDC (2021), NDC 3.0 (2025), and the National Adaptation Plan (2023) demonstrate that Pakistan's government recognises climate change as a serious development threat. The real problem lies in translating policy recognition into operational integration across development-planning procedures, institutions, budgets, and accountability mechanisms. This study has shown that mainstreaming fails at the implementation frontier, where policy commitments must be converted into binding planning rules, institutional coordination, budgetary allocation, technical capacity, and measurable outcomes.

The analysis identified six interlocking barriers. First, climate considerations remain embedded in policy documents but have not been converted into mandatory project-appraisal criteria or sectoral planning targets. Second, institutional fragmentation isolates climate governance in a specialised ministry rather than integrating it into the Planning Commission, sectoral departments, and provincial authorities responsible for development decisions. Third, national climate commitments formulated federally are not aligned with provincial implementation capacity, creating a coordination gap that leaves provinces uncertain about their climate obligations. Fourth, climate-responsive development investment is insufficiently resourced and only partially visible in budget-tracking systems, rendering mainstreaming rhetorical rather than

resource-based; the Ministry of Climate Change's 0.22% share of the FY 2025–26 PSDP, set against a USD 348 billion investment requirement by 2030, captures the scale of this disconnect. Fifth, provincial and district planning institutions lack the technical expertise, climate data, and risk-assessment tools necessary to systematically incorporate climate considerations into routine project design. Sixth, weak monitoring and accountability mechanisms mean that climate mainstreaming remains a policy promise rather than an administrative practice verified through measurable indicators and transparent reporting.

Addressing these barriers requires more than policy revision. It requires embedding climate considerations into the rules, procedures, and incentives that structure routine development-planning decisions. Climate screening must become mandatory in PC-1 appraisal; the Planning Commission must assume central coordination responsibility for climate integration; climate-relevant budgeting must become visible and tracked through a fully operational tagging framework; provincial and district institutions must be equipped with technical capacity and climate data; federal–provincial coordination must occur through formal mechanisms with clear responsibilities; and progress must be monitored through transparent dashboards that hold institutions accountable for mainstreaming outcomes.

The stakes are substantial. Pakistan faces climate impacts intensifying floods, extended droughts, water stress, heat-related mortality, and agricultural-productivity losses that will undermine development gains unless development investment itself becomes climate-resilient. The 2022 floods affected 33 million people and produced damages of USD 14.9 billion; the 2025 monsoon killed more than 1,000 and affected 6.9 million more (Government of Pakistan et al., 2022; OCHA, 2025). Mainstreaming is therefore not a climate-policy option; it is a development necessity. Yet mainstreaming will not happen through exhortation or policy language alone. It requires institutional change altering how development is planned, financed, and evaluated. For Pakistan, the real test of climate governance is not whether climate change is mentioned in policy documents but whether it shapes the everyday decisions through which development is planned, financed, implemented, and evaluated.

References

Adil, S. A., Akhtar, R., & Latif, S. (2025). Federalism and climate governance in Pakistan: Challenges of post-devolution coordination. *Environmental Policy and Governance, 35*(2), 145–162.

Bhatti, M. W. (2025, June 12). Climate change mitigation gets Rs2.78bn out of PSDP outlay. *The News International*.

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Cairney, P. (2021). The myth of 'evidence-based policymaking' in a decentred state. *Public Policy and Administration, 36*(2), 127–145.

Candel, J. J. L., & Biesbroek, R. (2016). Toward a processual understanding of policy integration. *Policy Sciences, 49*(3), 211–231.

Dawn (2025, July 3). Parliament's climate role. *Dawn*. https://www.dawn.com/news/1921779

Flick, U. (2014). *An introduction to qualitative research* (5th ed.). SAGE Publications.

Fransen, T., Meckling, J., Stünzi, A., Schmidt, T. S., Egli, F., Schmid, N., & Beaton, C. (2023). Taking stock of the implementation gap in climate policy. *Nature Climate Change, 13*(8), 752–755. https://doi.org/10.1038/s41558-023-01755-9

Germanwatch. (2025). *Climate Risk Index 2025: Who suffers most from extreme weather events?* Bonn: Germanwatch.

Government of Pakistan. (2021a). *National Climate Change Policy 2021*. Ministry of Climate Change.

Government of Pakistan. (2021b). *Pakistan: Updated Nationally Determined Contributions 2021*. Ministry of Climate Change.

Government of Pakistan. (2023). *National Adaptation Plan 2023: For a climate-resilient Pakistan*. Ministry of Climate Change and Environmental Coordination.

Government of Pakistan. (2024a). *Handbook on Climate Risk Screening for Development Projects*. Planning Commission.

Government of Pakistan. (2024b). *Manual for Development Projects 2024*. Planning Commission.

Government of Pakistan, Asian Development Bank, European Union, United Nations, & World Bank. (2022). *Pakistan Floods 2022: Post-Disaster Needs Assessment*. World Bank.

Hooghe, L., & Marks, G. (2016). *Community, scale, and regional governance: A postfunctionalist theory of governance (Vol. II)*. Oxford University Press.

Howlett, M., Mukherjee, I., & Koppenjan, J. (2017). Policy learning and policy networks in theory and practice. *Policy and Society, 36*(2), 233–250.

Howlett, M., & Saguin, K. (2018). Policy capacity for policy integration: Implications for the Sustainable Development Goals. *Policy Studies Journal, 46*(3), 650–669.

Intergovernmental Panel on Climate Change. (2023). *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the IPCC*. Cambridge University Press.

International Monetary Fund. (2023). *Pakistan: Technical assistance report—Public investment management assessment and Climate PIMA* (IMF Staff Country Reports No. 2023/370).

Khan, A. (2025). Climate mainstreaming and sectoral development planning in Pakistan: Institutional barriers and reform pathways. *Pakistan Development Review, 64*(2), 145–168.

Lam, J., Hurlbert, M., Anderson, J., Amir-Tahmuri, B., Bahora, M., Barr, S., … Zakieldeen, S. (2024). Greener through gender: What climate mainstreaming can learn from gender mainstreaming. *WIREs Climate Change, 15*(4), Article e887. https://doi.org/10.1002/wcc.887

Masud, M. H., Gurney, K., Khurshid, T., Azad, A. K., & Khan, K. A. (2024). Policy implementation barriers in climate change adaptation: The case of Pakistan. *Environmental Policy and Governance, 34*(1), 3–18. https://doi.org/10.1002/eet.2054

Ministry of Climate Change. (2025). *Pakistan's Updated NDC 3.0*. Government of Pakistan.

Ministry of Finance. (2025). *Federal Budget 2025–26: Budget in Brief*. Government of Pakistan.

Ministry of Planning, Development and Special Initiatives. (2025). *Public Sector Development Programme 2025–26*. Government of Pakistan.

National Disaster Management Authority. (2025). *Monsoon situation reports and post-monsoon assessment, June–September 2025*. Government of Pakistan.

OCHA. (2025). *Pakistan 2025 Monsoon Floods: Support Plan for Relief and Early Recovery (October 2025–April 2026)*. United Nations Office for the Coordination of Humanitarian Affairs.

Olsen, K. H., Raju, E., Tandon, S., & Weikmans, R. (2024). How do donors integrate climate policy and development cooperation? An analysis of the development aid policies of 42 donor countries. *Climate and Development, 16*(8), 401–421. https://doi.org/10.1080/14693062.2024.2390522

Planning Commission. (2025). *Public Sector Development Programme 2025–26 (Final)*. Government of Pakistan.

Rauf, S., & Alam, K. (2017). Institutional challenges for climate and environmental governance after devolution in Pakistan. *Environmental Science & Policy, 77*, 60–68.

Runhaar, H., Wilk, B., Persson, Å., Uittenbroek, C., & Wamsler, C. (2018). Mainstreaming climate adaptation: Taking stock of 'what works' from empirical research worldwide. *Regional Environmental Change, 18*(4), 1201–1210.

Trein, P., Bauer, J. M., & Busch, P.-O. (2023). Whole-of-government and joined-up governance: Lessons from a systematic literature review. *Governance, 36*(4), 1–28.

Tunio, M. Z., Memon, S., Laghari, A., Tunio, S., & Lashari, M. H. (2024). Empowering climate action through policy analysis and education in Gilgit-Baltistan: A comprehensive mixed-method analysis. *Frontiers in Climate, 7*, Article 1527694.

UN DESA. (2024). *Policy Brief No. 162: Multilevel governance for climate change mitigation and adaptation*. United Nations Department of Economic and Social Affairs.

Underdal, A. (2010). Complexity and challenges of long-term environmental governance. *Global Environmental Change, 20*(3), 386–393.

Wamsler, C., & Osberg, G. (2022). The psychological dimensions of climate change: An emerging research agenda. *Climate and Development, 14*(8), 651–664.

World Bank. (2022). *Pakistan Country Climate and Development Report*. World Bank Group.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). SAGE Publications.