

POLICY BRIEF

German–Pakistani Partnership on Climate Resilience

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Abbreviations

ADB	Asian Development Bank
BMZ	Federal Ministry for Economic Cooperation and Development
CCD	Climate Change Division
DDMA	Disaster District Management Authority
MoCCEC	Ministry of Climate Change & Environmental Coordination
NAP	National Adaptation Plan
NCCP	National Climate Change Policy
NDMA	National Disaster Management Authority
NDMC	National Disaster Management Commission
NDRMF	National Disaster Risk Management Fund
Pak-EPA	Pakistan Environmental Protection Agency
PDMA	Provincial Disaster Management Authorities
PEPA	Pakistan Environmental Protection Act

1 Introduction: Pakistan and the Climate Emergency

Resilience describes how people and systems can recover or adapt after facing climate change impacts. However, this process is far from straightforward, often requiring navigation through complex challenges such as displacement, economic losses, and disrupted lives. Coined in the 1970s to measure a system’s ability to endure and adapt, the concept of ‘resilience’ has become central to contemporary climate policy. Scholars now view resilience in various ways – sometimes as an aspirational outcome, and increasingly as a socio-political process negotiated among diverse actors with different interests and power dynamics.¹ This evolving understanding of resilience is particularly relevant in the context of Pakistan’s recent climate disasters, with an intricate climate governance structure and legislations across the Federal, provincial, and district levels. In 2022, Pakistan experienced record-breaking rainfall – 77% above the average since 1961 – leading to unprecedented flooding during the monsoon season. The catastrophic floods in August 2022, driven by a 1.2°C rise in global temperatures and exacerbated by melting Himalayan glaciers, highlighted the nation’s vulnerability.² Additionally, the country endured its fifth-warmest year on record, with six heatwaves between March and May 2022.³ The subsequent Post Disaster Needs Assessment report, released in October 2022, revealed the staggering economic toll, with damages exceeding USD 14.9 billion and the estimated costs for resilient rehabilitation and reconstruction at least USD 16.3 billion.⁴ Roughly 33 million people were impacted, and many permanently displaced. More than 13,000 kilometres of roads were destroyed, 2.2 million houses were damaged, around 3.8 million hectares of crops were flooded, and an estimated 1.2 million livestock were killed.⁵ Pakistan’s experience underscores the urgent need for adaptive strategies and scaled-up efforts for rehabilitation and reconstruction as the country consistently ranks among the most affected by climate catastrophes.⁶

We provide a brief overview of Pakistan’s climate vulnerability across two key sectors, examine the status-quo of the national climate policy landscape, and then highlight German climate initiatives in Pakistan. Finally, we will provide recommendations based on the analysis of the climate resilience landscape together with inputs from Pakistani civil society members. The recommendations are aimed at German decision makers on how to strengthen the partnership between Germany and Pakistan with an emphasis on the role of civil society to increase climate resilience building.

2 Examples of Pakistan’s Climate Vulnerability: Agriculture and Water

As highlighted in Pakistan’s National Adaptation Plan, the water and agriculture sectors are identified as critical priority sectors due to their essential role in the country’s social, economic, and adaptive trajectory, alongside the looming threat of water scarcity.⁷ Agriculture is central to Pakistan’s socio-economic development, contributing 22% to the GDP, providing essential food security, and employing about half of the workforce.⁸ However, this sector faces significant challenges from climate change. Even a modest temperature increase can drastically impact crop

¹ See Harris, L., et al. 2017, [Negotiated Resilience](#).

² See UNDP, 2022, [Pakistan Floods 2022: Post-Disaster Needs Assessment \(PDNA\)](#).

³ Pakistan Meteorological Department, 2022, [State of Pakistan Climate in 2022](#).

⁴ See UNDP, 2022, [Pakistan Floods 2022: Post-Disaster Needs Assessment \(PDNA\)](#).

⁵ See World Bank, 2024, [The World Bank in Pakistan](#).

⁶ See Eckstein, D., et al., 2019, [Global Climate Risk Index 2020](#).

⁷ See Ministry of Climate Change and Environmental Coordination Pakistan, 2023, [National Adaptation Plan Pakistan](#).

⁸ See Mustafa, Z., 2017, [Climate Change and its Impact with Special Focus on Pakistan](#).

yields, with a 1°C rise potentially reducing wheat yields by 6–9% and affecting cash crops such as mangoes and cotton.⁹

The increased variability in river flows, glacier retreat, and extreme climate events strain not only agricultural productivity but also water resources. Despite having the world’s largest glaciers, Pakistan faces the prospect of water scarcity.¹⁰ From a historical high of 5,000 m³ of water per capita in the 1950s, availability has now dropped below 1,000 m³, marking Pakistan as water-scarce.

According to recent research, currently, only about 20% of the population have access to clean drinking water, with the majority potentially relying on polluted sources contaminated by sewage, fertilisers, pesticides, and industrial waste.¹¹ This contamination has led to severe health issues, including waterborne diseases and high levels of arsenic poisoning with water pollution accounting for approximately 80% of diseases and 30% of deaths in the country.

The situation is further exacerbated by other stressors such as droughts, drying lakes and rivers, and deforestation. Compounding these challenges are ineffective water storage mechanisms, outdated infrastructure originally built for agricultural needs, and rapid population growth, all of which threaten to trigger large-scale human crises, including potential mass migrations due to floods and the worsening drought conditions.¹² While water and agriculture are one of the most impacted sectors, the impacts of climate change are notably manifest in other sectors and systems as well.

The rising inflation and unemployment rates exacerbate economic strain and deepen social vulnerabilities. Security challenges and Pakistan’s complex geopolitical position further complicate the management of climate and development priorities.¹³ Although the Pakistani government recognised the need to address climate change impacts early on, progress is hindered by limited climate finance, socioeconomic, institutional, and political obstacles, alongside the competing development priorities.

3 National Climate Policy Landscape

Pakistan’s approach to climate change governance has significantly evolved over the past two decades. Before the 18th Amendment in 2010, environmental and climate laws were centrally managed and limited in scope. The judiciary played a key role in environmental justice, notably through the landmark 1994 case of *Shehla Zia vs. WAPDA*, which expanded the ‘right to life’ to include environmental protection and led to the Pakistan Environmental Protection Act (PEPA) of 1997.¹⁴ This Act laid the groundwork for the country’s environmental governance by establishing the Pakistan Environmental Protection Agency (Pak-EPA) and provincial EPAs.¹⁵

The formalisation of climate change as a key public policy issue began with the establishment of the Ministry of Climate Change in 2011, which was later renamed as the Ministry of Climate Change & Environmental Coordination (MoCCEC) in 2023. The Climate Change Division (CCD) within the ministry oversees national programs and international climate commitments.

Alongside the CCD, the National Disaster Management Authority (NDMA) plays a distinctive role. Established in 2007, the NDMA emerged as a military-led initiative in response to the devastat-

⁹ Ibid.

¹⁰ See IMF, 2015, *Issues in Managing Water Challenges and Policy Instruments: Regional Perspectives and Case Studies*.

¹¹ See Daud, M. K., et al., 2017, *Drinking Water Quality Status and Contamination in Pakistan*.

¹² See Latif, A., 2019, *Climate Change Triggers Widespread Pakistan Migration*.

¹³ Nasar, R., 2023, *Navigating Pakistan’s Foreign Policy Challenges*.

¹⁴ See ESCR-Net, 2015, *Ms. Shehla Zia v. WAPDA, PL 1994 SC 693*.

¹⁵ See Transparency International Pakistan, *Financing Climate Action: Enhancing Effectiveness and Transparency in Pakistan’s Climate Governance Frameworks*.

ing 2005 earthquake in northern Pakistan. Prior to this, disaster response was managed by an Emergency Relief Cell within the Federal Cabinet. The National Disaster Management Act of December 2010 expanded the scope of disaster risk management to encompass climate-related disasters, integrating these into a broader multi-hazard risk management approach.¹⁶ This Act also created the National Disaster Management Commission (NDMC), chaired by the Prime Minister and including representatives from the National Assembly, Senate, provincial governments, major federal ministries, and the Armed Forces. Civil society members can also be included. The NDMC is tasked with developing and updating the National Plan and National Disaster Response Framework. Over the past two decades, the NDMA has become crucial in managing climate-induced disasters. With devolution, Provincial Disaster Management Authorities (PDMAs) and District Disaster Management Authorities (DDMAs) have been established. Despite its broad representation, the NDMC, has seldom convened regularly, which has been said to limit its effectiveness in policy development.¹⁷ At the district level, local involvement in climate planning is limited. The DDMAs, run by District Commissioners, often face challenges due to the lack of local governments in many areas. Consequently, while DDMAs are the first responders and primary information gatherers, they frequently struggle with constraints in human, financial, and logistical resources. Other key elements of Pakistan’s climate policy include the National Climate Change Policy (NCCP) of 2012, the National Adaptation Plan (NAP) of 2023, and the National Disaster Risk Management Fund (NDRMF), established with a USD 200 million loan from the Asian Development Bank (ADB) in 2016, supplemented by contributions from Australia, Switzerland, and USD 25 million from the Pakistani government. Despite subnational financial constraints, the NDRMF has achieved significant results, benefiting over two million people, protecting more than 12,000 hectares of agricultural land, and improving early warning systems through the Pakistan Meteorological Department.¹⁸

While Pakistan has made notable progress in establishing various climate resilience governance schemes and initiatives, significant challenges remain in effectively implementing the different policies and interventions. Analyses of disaster-related policies and experiences reveal a tendency toward short-term response and relief efforts, with comparatively less emphasis on prevention, preparedness, and capacity building.¹⁹ A primary challenge is climate finance, with the needs for adaptation and mitigation estimated at around USD 348 billion between 2023 and 2030 – 10.7% of cumulative GDP of Pakistan.²⁰ To put this into perspective, from 2010–2021, all funders around the world committed USD 3.25 billion in development finance to Pakistan for adaptation with more than 90% in loans, out of this only USD 241 million has actually been disbursed. This is very problematic both in terms of scale and instruments, given the heights of Pakistan’s vulnerability to climate change, and the drastic foreign debt estimated at 42% of GDP in 2024.²¹

Another challenge as identified by the MoCCEC is gaps in knowledge and technical capacities of policy implementation especially at the local governance level.²² These challenges are compounded by institutional limitations in expertise, financial resources, and planning structures, which undermine the effectiveness of planning and implementation.²³ The lack of a well-defined local governance system exacerbates the challenge, making it even more difficult to address knowledge gaps. Scholars also suggest that the limited implementation of climate policies and

¹⁶ See Government of Pakistan, 2010, [The National Disaster Management Act 2010](#).

¹⁷ See Transparency International Pakistan, (n.d.), [Financing Climate Action: Enhancing Effectiveness and Transparency in Pakistan’s Climate Governance Frameworks](#).

¹⁸ See National Disaster Management Authority Pakistan, 2023, [Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030](#).

¹⁹ Ibid.

²⁰ See Ministry of Climate Change and Environmental Coordination Pakistan, 2023, [National Adaptation Plan Pakistan](#).

²¹ See State Bank of Pakistan, 2024, [Bulletin Index](#).

²² See Government of Pakistan, 2016, [Technology Needs Assessment for Climate Change Adaptation: Barrier Analysis and Enabling Framework](#).

²³ See Gasura, M., et al., 2023, [Analysis of Climate Change policy of Pakistan: Hurdles and Loopholes](#).

plans is partly due to the centralised decision-making process at the federal level, which tends to be less robust and adaptable than those that foster collaboration across multiple levels of authority.²⁴

Broader socio-economic and political challenges, such as debt issues, poverty, unemployment, and inadequate infrastructure, further complicate the pursuit of climate resilience. Balancing immediate developmental needs with long-term climate action remains a complex and ongoing challenge for Pakistan.

4 Germany’s Climate Initiatives in Pakistan

Germany supports Pakistan’s climate action, notably through the 2021 Climate and Energy Partnership, aimed at boosting Pakistan’s climate resilience, amongst other objectives.²⁵ This partnership fosters political dialogue, bilateral co-operation, and engagement with diverse sectors including the private sector, academia, and civil organisations.²⁶ Germany has been actively supporting Pakistan’s efforts in increasing climate resilience through both financial (via KfW Development Bank) and technical assistance (through the German Agency for International Cooperation), as well as through the Global Shield Initiative. Furthermore, Germany’s role extends beyond its bilateral contributions; it is also one of the largest contributors to the Green Climate Fund²⁷ and the biggest contributor to the Adaptation Fund,²⁸ both of which support various resilience projects in Pakistan.²⁹

Bilateral initiatives from KfW have included flood relief, reinforcing social security and climate resilience³⁰ and the development of a glacier monitoring system.³¹ GIZ implements a range of resilience projects in Pakistan, which focus on adaptive social protection, disaster preparedness, climate risk financing, access to international finance for climate adaptation, and support in implementing the National Adaptation Plan.³² In addition, Germany has launched the Global Shield against Climate Risks, designed to offer enhanced, pre-arranged financial protection against climate and disaster-related risks,³³ with Pakistan as a pathfinder country.³⁴

However, despite these contributions, Germany’s role has been challenged by recent budget cuts, which could result in falling one billion euros short of the pledged six billion euros for climate action from public funds from 2025. This especially impacts the Federal Ministry for Economic Cooperation and Development (BMZ),³⁵ potentially affecting future support for and collaboration with countries of the Global South. This puts Germany’s reputation as a trustworthy partner and heavy weight in climate diplomacy at stake. Additionally, this financial shortfall could also indirectly hit Pakistan’s climate action and resilience efforts, as its implementation of climate change policy is already hampered by financial limitations and could be affected further by German

²⁴ See Masud, S., 2023, ‘Policy Implementation Barriers in Climate Change Adaptation: The Case of Pakistan’, in: Environmental Policy and Governance.

²⁵ See Business Recorder, 2023, Sherry, [German Minister Discuss Climate Change Cooperation](#).

²⁶ See Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung, 2024a, [Strom nachhaltig erzeugen, Katastrophen vorbeugen, an Klimawandel anpassen](#).

²⁷ See Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung, 2024b, [Green Climate Fund](#).

²⁸ See Adaptation Fund, 2024b, [Germany](#).

²⁹ See Adaptation Fund, 2024a, [Enhance Community, Local and National-level Urban Climate Change Resilience to Water Scarcity, Caused by Floods and Droughts in Rawalpindi and Nowshera, Pakistan](#); Adaptation Fund, 2024c, [Reducing Risks and Vulnerabilities from Glacier Lake Outburst Floods in Northern Pakistan](#). Green Climate Fund, 2024a, [FP018](#); Green Climate Fund, 2024b, [FP207](#); Green Climate Fund, 2024c, [FP229](#).

³⁰ See KfW, 2024b, [Stärkung der sozialen Sicherung für Gesundheit und Klimaresilienz](#).

³¹ See KfW, 2024a, [Gletschermonitoring für Energie- und Wassersicherheit](#).

³² See GIZ, 2024, [Projektdatei Pakistan](#).

³³ See Global Shield against Climate Risks, 2024b, [The Global Shield against Climate Risks](#).

³⁴ See Global Shield against Climate Risks, 2024a, [Activities in Global Shield Countries](#).

³⁵ See Pötter, B., 2024, [Sparhaushalt: So bricht Deutschland sein Versprechen zur Klimafinanzierung](#).

budget cuts. With climate change impacts intensifying and financial resources falling short for adaptation and loss and damage measures, Pakistan’s development efforts and its fight for poverty reduction are at risk.

5 Recommendations for the German–Pakistani Climate Resilience Partnership

Germany and Pakistan, building on a long-standing co-operation, are both navigating the challenges posed by escalating climate change. As the two nations work together to enhance climate resilience, it is imperative to fortify this partnership with a strategic, forward-looking approach. This involves not only safeguarding existing initiatives but also ensuring that future efforts are inclusive, human-rights based, gender-sensitive, adaptive, and aligned with Pakistan’s unique vulnerabilities and development goals. Through consultations, three key thematic areas have been discussed as potential entry points for increasing resilience in Pakistan: 1) Establishing a national mechanism for Loss and Damage, drawing from Bangladesh’s model, with an emphasis on enhancing the role of civil society at both national and local levels. This mechanism would also serve as an instrument for improving access to L&D finance; 2) Revitalising political momentum around Pakistan’s National Adaptation Plan by expanding and defining civil society’s role during the implementation phase, particularly with an emphasis on building institutional capacity. 3) Implementing the Global Shield initiative in Pakistan, where civil society plays a crucial role in identifying and supporting recipients of pre-arranged finance, providing educational outreach, and ensuring that the voices of the most vulnerable are heard.

Key actors identified whose involvement would be crucial in further realising these ideas include the Ministry of Climate Change, the Ministry of Planning, and the Ministry of Finance. Alongside these governmental bodies, civil society actors, academia, and the private sector – particularly insurance companies – have also been identified as crucial players. Additionally, local media has been recognized for its vital role in raising awareness of climate-related disasters at the community level. Other important groups include religious and medical philanthropists, religious NGOs, and parliamentarians, all of whom contribute to efforts in building climate resilience, and whose inclusion will be necessary in future multi-actor partnerships. In addition to the actors, Pakistani civil society actors have highlighted several relevant cross-cutting considerations. These include the persistent challenge of inadequate finance for implementation of resilience-building policies and programmes, alongside the need to shift the thinking towards sustainable resilience that encompasses response, recovery, reconstruction, and rehabilitation, and the importance of integrating bottom-up solutions meaningfully into policy-making.

In this context, the following recommendations should be considered:

1. **Future proofing the German–Pakistani Climate Partnership:** The German–Pakistani Climate Partnership must be safeguarded against potential budget cuts in German climate and development finance. Germany’s financial contributions should not only be maintained but increased, with a special focus on adaptation, disaster risk management (DRM), and loss and damage. Ensuring that this financing is reliable, accessible, and inclusive – engaging affected communities, civil society, and youth from the beginning – is essential for strengthening Pakistan’s climate resilience and reinforcing the bilateral relationship and maintaining credibility.
2. **Expanding and expediting German-led initiatives in Pakistan:** Existing German-led

initiatives in Pakistan, especially those focused on accessing international climate finance, adaptive social protection, and climate risk management, must be expanded and accelerated. Given the urgent and escalating climate challenges Pakistan faces, swift and effective implementation of initiatives like the Global Shield is critical. Clarity on the implementation roadmap is particularly needed to ensure that support is timely, impactful, and aligned with both Pakistan’s immediate and long-term climate resilience needs. Additionally, it is vital to actively involve civil society at every stage to ensure inclusivity, transparency, and that the needs of the most vulnerable are meaningfully addressed.

3. **German co-operation should anchor its support within existing Pakistan-led initiatives to ensure alignment with the broader development objectives and ensure ownership.** For example, the National Disaster Risk Management Fund (NDRMF) serves as a promising nationally-driven mechanism dedicated to disaster risk reduction, disaster risk financing, and climate change across Pakistan. It presents a strategic entry point for collaboration. Furthermore, policy frameworks like the National Adaptation Plan 2023 and the National Disaster Risk Management Policy 2024 are available, however they need energised political momentum and enhanced implementation support.
4. **At the sectoral level, German co-operation should focus on strategic investments to strengthen resilience and sustainability in Pakistan’s agricultural and water sectors,** both of which are highly vulnerable to climate change. With climate change threatening crop yields, water resources, and public health, Germany should actively support initiatives that enhance food sovereignty by investing in climate-resilient farming practices, strengthening local seed systems, and advancing sustainable water management.
5. **Participatory approaches are key to achieve climate resilience:** Effective participation does not end with policy consultations; it requires the active involvement of stakeholders at every stage of the process – from shaping strategies and offering policy advice to implementing actions and monitoring progress. Pakistan’s experience with climate shocks, although tragic, has generated a wealth of valuable knowledge on crisis response and innovative solutions, which must be recognised, harnessed, and built upon. For example, sirens for floods serve as an efficient and effective early warning system for floods in areas with no access for technology. Such examples, only come from the community level and leveraging these sources of information is not only a matter of justice but a necessity. To do this, inclusive decision-making processes that incorporate inputs from all levels of government, local stakeholders, and affected communities are crucial. Germany should actively support platforms that facilitate collaboration and the joint development of climate policies. These platforms must address power imbalances among different stakeholder groups and deliberately promote genuine engagement by eliminating barriers to participation. This also includes enhancing institutional capacities at the provincial and district levels, with a focus on empowering women and youth to engage meaningfully.

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