



POLICY BRIEF

Bridging the Adaptation Finance Gap in Asia

Practical recommendations to address the barriers to adaptation finance in Asia



CLIMATE
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BRIDGING THE ADAPTATION FINANCE GAP IN ASIA

WHY ADAPTATION FINANCE MATTERS IN ASIA

Climate change poses an existential threat to the world. Asia, home to 58.74% of the global population, is one of the most vulnerable geographies, where the lack of adaptive capacities across countries exacerbates the increasing frequency and severity of climate events due to accelerated warming. Between 1991 and 2022, Asia warmed at nearly twice the rate observed from 1961 to 1990.¹ This rapid warming has led to a surge in climate-related disasters. In 2022 alone, 81 extreme weather events—including floods, storms, and heatwaves—caused over 5,000 deaths and affected more than 50 million people, incurring damages of USD 36 billion. The impact continued in 2023, with 79 weather-related events causing over 2,000 deaths and affecting more than 9 million people.³ According to *Aon Catastrophe Insight 2024*, these events led to economic losses of USD 65 billion in the Asia-Pacific region.⁴

The IPCC's Sixth Assessment Report assessed that Asia also has the highest average mortality per hazard event globally, and more than 50% of events are heat-linked.⁵ This vulnerability is attributed to both dense populations in high-risk zones as well as reliance on climate-sensitive livelihoods such as agriculture, fisheries, and water-based sectors. Many Asian countries also grapple with intersecting challenges like poverty, food and water insecurity, refugee displacement, and unplanned urbanization that serve to increase the baseline vulnerabilities in both rural and urban areas.

Asia has been the fastest-growing economic region in the world. However, without urgent action, climate change could undo decades of development. Recent research from the Asian Development Bank (ADB) forecasts a decline in gross domestic product (GDP) by 17% in developing Asia Pacific economies by 2070,¹⁷ with the impacts of climate change under a high greenhouse gas emissions scenario, which could rise to 41% by 2100. An estimated 3.3 to 7.5 million people in East Asia and the Pacific may slip into poverty by 2030.⁶ The State of the Climate in Asia for 2021 found that the economic losses from disasters in 2021 compared to annual average over the past 20 years (2001–2020), were 63% higher from droughts, 23% higher from flooding, and 147% higher from landslides.^{3,9} Meanwhile, extreme heat is already increasing educational and social gaps among low-income households, which may exacerbate poverty and other development indicators.⁷

This growing crisis shows that climate change is a complex, multi-dimensional challenge with vast economic and humanitarian implications. It is therefore imperative to demarginalize adaptation among overall climate goals and mainstream adaptation finance as an urgent investment in human resources, poverty reduction, and long-term economic stability for the region.

Table 1: Social Impacts of Climate Change Across Asian Regionsⁱ (2023–2024)

Region	Recent Climate Events	Social Impact
South Asiaⁱⁱ	Heatwaves, floods, glacial melt, erratic monsoon	Livelihood losses, food insecurity, internal migration, health burdens ^{8,9,10}
Southeast Asiaⁱⁱⁱ	Sealevel rise, tropical storms, flooding, salinity intrusion, droughts	Coastal displacement, disease outbreaks (e.g., dengue), reduced agricultural productivity ^{11,12,13}
East Asia^{iv}	Urban heatwaves, typhoons, water stress, and inland flooding	Heat-related health issues, infrastructure strain, water shortages ^{13,14,15}
Central Asia^v	Prolonged droughts, glacier loss, and irrigation deficits	Decline in farming and pastoralism, water access tensions ^{13,14}
Western Asia^{vi}	Extreme heat, desertification, and water scarcity	Urban heat stress, competition over water, growing rural–urban disparities ^{12,13}
Himalayan Region^{vii}	Glacier retreat, landslides, flash floods, ecosystem disruption	Threat to mountain communities, biodiversity loss, cultural heritage damage ^{9,10}
Small Island States^{viii}	Sealevel rise, storm surges, and saline intrusion	Loss of land, forced migration, cultural displacement, and increased health burdens ¹⁶

ⁱ The regions shown in Table 1 are defined according to UN [Standard country or area codes for statistical use \(M49\)](#) except for Himalayan and Small Island States, as these are generally addressed separately in climate reports, hence shown here separately.

ⁱⁱ **South Asia:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka

ⁱⁱⁱ **Southeast Asia:** Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam

^{iv} **East Asia:** China, Hong Kong SAR, Japan, Macao SAR, Mongolia, North Korea (DPRK), South Korea, Taiwan

^v **Central Asia:** Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

^{vi} **Western Asia:** Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, Yemen

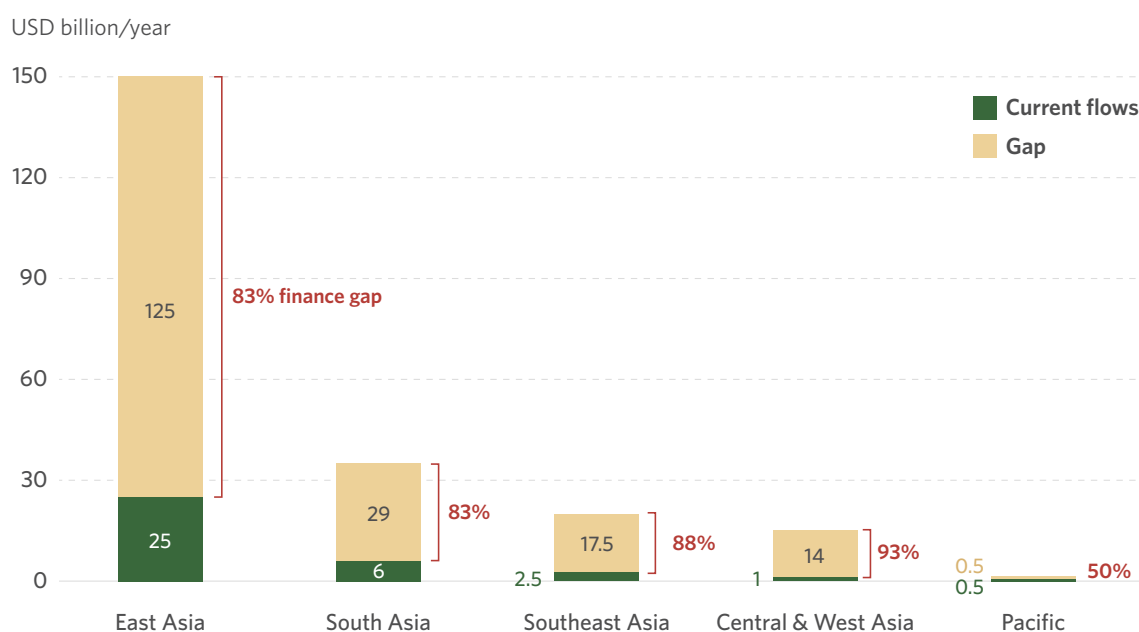
^{vii} **Himalayan Region:** Parts of India (e.g., Uttarakhand, Himachal Pradesh, Sikkim, Arunachal Pradesh), Nepal, Bhutan, northern Pakistan, southern China (Tibet)

^{viii} **Small Island States:** Maldives (South Asia), Timor-Leste (Southeast Asia), Pacific SIDS with ties to Asia: e.g., Marshall Islands, Micronesia, Palau (sometimes included in Asian regional climate assessments)

THE ADAPTATION FINANCE GAP IN ASIA: BIG PROMISE, SMALL PAYOUTS

Asia faces a substantial gap in adaptation finance—the annual investment need to maintain climate resilience is estimated at USD 431 billion, while recent tracked flows are about USD 34 billion in the region in 2021-2022¹⁷. This substantial deficit threatens economic growth, fiscal viability, and social well-being, especially in South Asia’s climate-vulnerable economies. The human costs of the welfare situation described above are equally concerning, as governments already use 2-4% of their GDP for disaster response. Additional expenditure on that front may crowd out spending on health, education, and other development areas in the absence of external adaptation finance. These dynamics are likely to create a vicious cycle of decreasing fiscal viability and social development.

Figure 1: Adaptation finance flows and gaps^{41,42,43}



The figures above, based on analysis from various sources, highlight the gap between the funding currently allocated to different Asia-Pacific regions and the amount of adaptation finance needed. With an annual requirement of USD 150 billion, East Asia faces the largest funding shortfall of 83%, receiving only USD 25 billion.^{41,42,43} Similar trends are evident in South and Southeast Asia, where 83% and 88% of needs, respectively, remain unmet. While the Pacific has a 50% funding gap despite modest needs (USD 1 billion), Central and West Asia experience the most significant shortfall at 93%. Overall, 84% of the Asia-Pacific’s annual financial needs go unmet, as the region currently receives only USD 34 billion of the USD 212 billion required.

More recent CPI analysis indicates that global climate finance reached USD 1.9 trillion in 2023, with Asia Pacific maintaining its significant share.¹⁸ However, **private investment in adaptation remains negligible** in both East Asia-Pacific (excluding China) and South Asia,¹⁹ highlighting the persistent challenge of mobilizing private capital for adaptation projects.

CHALLENGES AND BARRIERS TO BRIDGING ASIA'S ADAPTATION FINANCE GAP

Asia is a major contributor to global growth, yet its heavy reliance on fossil fuels also makes it a major contributor to greenhouse gas emissions.²⁰ Investments in climate-resilient infrastructure and adaptive capacity are paramount in the region, as it is highly vulnerable to climate hazards because of its high population density and geographical characteristics. Yet, financing to support urgently needed adaptation measures remains highly inadequate, fragmented, and inequitable. During the *Bridging Gaps in Climate Change Adaptation* workshop conducted by Climate Adaptation and Resilience (CLARE) at International Centre for Integrated Mountain Development (ICIMOD) on **8 October 2024**, more than **160 participants** (80 in-person and 80 online) from governments, civil society, academia, and development institutions from across Asia converged to examine these widening adaptation finance gaps in Asia and the barriers to progress.²¹ The challenges identified during the workshop included:

- **Access to capital markets and significant climate funds:** Countries in Asia, especially small and frontier economies, often struggle to access international capital markets or obtain financing from global climate funds. These include significant capacity constraints, complex and resource-intensive application procedures, and lengthy project approval processes. For example, projects seeking Green Climate Fund (GCF) approval must meet six investment criteria, including demonstrating a “paradigm shift.”²² While the intention behind this criterion is to foster transformative climate action, for many developing countries, particularly those with constrained institutional capacity and immediate adaptation needs, designing projects that can convincingly demonstrate a “paradigm shift” can be an uphill task. This requirement may favor larger, complex projects developed by sophisticated entities over smaller, community-level initiatives. Despite the GCF’s efforts to improve access, such as through its Readiness Programme (which has provided over USD 630 million) and a new Project-specific Assessment Approach (PSAA), the barriers related to procedural and capacity persist, limiting direct access for many countries.²² The OECD notes that few of the adaptation project concepts in least-developed countries (LDCs) are at a bankable stage due to the limited technical capacity and project preparation resources.²³
- **Capacity and Institutional Constraints:** Many national governments and institutions in Asia lack the capacity, coordination, and policy frameworks to plan and spend climate adaptation funds effectively. IMF research highlighted that **well-defined climate strategies with strong institutional oversight**, including clear climate budget tagging, taxonomies, and data systems, are often missing in adaptation projects in Asia. In practice, adaptation planning is usually fragmented across ministries, and few countries have robust monitoring of climate finance flows. For example, Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) in Asia sometimes omit cost estimates or financing plans, making them challenging to implement.²⁴ As a result, the available finance often fails to reach the most vulnerable segments.
- **Disbursement Failures and Implementation Barriers:** Failures to implement planned adaptation projects in Asia render available adaptation financing mechanisms ineffective. Between 2017 and 2021, only about 66% of allocated adaptation finance was disbursed

worldwide, compared to 98% for general development finance.²⁵ In South Asia, the disbursement rate was just 51%, compared to 79% in sub-Saharan Africa. The type of funding seems to be the main reason—African countries tend to receive more grants, which are simpler to access and implement than loans. However, the problem is deeper; many adaptation projects are designed with a limited understanding of local realities. At the same time, officials often lack the required technical know-how or climate background to evaluate and clear proposals quickly. As a result, funds get stuck in approval processes, while communities continue to suffer without support.²⁵

- **Quality of Adaptation Finance:** The CLARE-ICIMOD workshop in Kathmandu concluded that: “The quality of climate finance is as important as the quantity: additionality, flexibility, and grant-funding are central to ensure it supports local needs.”²¹ However, CPI’s Global Landscape of Climate Finance 2025 Data Dashboard shows that about 85% of adaptation finance flows to Asia in 2023 took the form of loans.²⁶ This loan-heavy structure is fundamentally misaligned with the characteristics of adaptation projects, which typically generate public goods and services without clear revenue streams to service debt obligations. Commercially viable adaptation projects can be well financed from alternative sources locally by tapping into local financing mechanisms (domestic commercial banks, municipal green bonds, impact investments, etc.), reducing their sole dependency on international grants. Analysis by the International Institute for Environment and Development of 58 LDCs and Small Island Developing States (SIDS) found that these countries paid twice as much in debt servicing as they received in adaptation finance in 2022. SIDS’ risk profiles make loans costlier, combined with forex risk and the cost of hedging, meaning that loan finance for adaptation can further destabilize their economies and increase repayment burdens for communities.²⁷
- **Lack of Integration of Local and Indigenous Knowledge:** A major bottleneck to the effective use of adaptation finance in Asia is the lack of integration of local needs and knowledge in adaptation project design. Globally, adaptation projects are designed top-down, and local communities are treated as beneficiaries rather than participants in project design. A World Resources Institute study notes: “Despite the recognized need for climate adaptation efforts to be participatory, context-specific, and fully transparent, finance for local adaptation is still severely lacking, and the voices and concerns of local actors who are at the forefront of climate impacts have generally not been meaningfully included in deciding how interventions are financed, designed, and implemented.”²⁸ In Asia, many projects overlook community practices, particularly indigenous water-harvesting techniques and community-based disaster-response systems. Similarly, many early warning systems and apps are deployed with tech-heavy language that does not consider communities’ language and literacy levels.
- **Lack of Local Finance Undermines Locally Led Adaptation:** Local communities, institutions, and organizations that are hardest hit by climate impacts receive a disproportionately small share of adaptation finance in Asia. While they are often the most engaged and innovative in identifying context-specific and sustainable adaptation solutions, only 17% of international public adaptation finance was directed to projects with a specific local focus during the 2017–2021 period, according to Stockholm Environment Institute (SEI)’s analysis.²⁵ Multilateral climate funds, such as the GCF, Adaptation Fund, and Global Environment Facility, provide only 9% of total public adaptation finance, and their allocation to local communities remains unclear or insufficient. The absence of clear mechanisms, safeguards, and accountability for directing resources to local levels hinders the implementation of locally led adaptation

principles. This underscores the urgent need for donor governments and multilateral institutions to adopt more transparent, equitable, and devolved funding models that prioritize direct access and participation by local agencies. Enhancing the role of local organizations through dedicated finance channels, simplified access processes, and better tracking mechanisms is essential to ensure that adaptation is both inclusive and effective.

RECOMMENDATIONS TO ENHANCE ADAPTATION FINANCE IN ASIA

A collaborative, integrated, and transformative whole-of-government approach encompassing all of society is required to solve the barriers outlined in the previous section. The following recommendations outline tangible steps that funders and policymakers can take to enhance the flow and effectiveness of adaptation finance in Asia.

1. **A transformative, “whole-of-government” strategy that seeks inclusive, high-priority, and strategic climate actions across sectors and governance levels is needed.** Institutional capacity, inefficient disbursements, lack of local access, and misaligned financial instruments are systemic and interconnected obstacles to adaptation finance. It is unlikely that addressing each of these separately with small-scale interventions will have a significant effect.

Case Study 1: Bangladesh Climate Development Partnership

The Bangladesh Climate Development Partnership (BCDP) is a country-led, integrated climate platform designed to accelerate the implementation of climate action. The BCDP aims to operationalize Bangladesh’s National Adaptation Plan (2023–2050), the Bangladesh Delta Plan 2100, and the country’s updated NDC (2021) through coordinated planning, institutional alignment, and finance mobilization. Recognized globally as a scalable model, the BCDP enables enhanced coordination across ministries, helps create bankable project pipelines, strengthens monitoring and evaluation systems, and facilitates access to diverse sources of climate finance. Aligned with the Paris Agreement goals and supported by ADB’s Country Partnership Strategy for Bangladesh (2021–2025), the BCDP offers a replicable framework for bridging the persistent planning–implementation gap in adaptation finance.²⁹

Case Study 2: Green Resilient and Inclusive Development

Nepal’s Green Resilient and Inclusive Development (GRID), endorsed by the government and 16 partners, has pledged USD 4.2 billion in support to align all investments with resilience goals. The ADB and World Bank have each approved USD 100 million in policy loans to unlock GRID reforms, demonstrating how multilateral institutions can support country-led adaptation strategies. Nepal has also pursued fiscal innovation within its budget constraints. For example, a green tax on imported petroleum and coal creates a domestic revenue stream for environmental action. Additionally, Nepal Rastra Bank’s Green Finance Taxonomy 2024 guides local banks toward resilience sectors, aiming to mobilize domestic financial resources for climate adaptation.³⁰

2. **Scaling international public finance for adaptation and improving its quality is imperative.** Advanced economies must ensure an annual increase in adaptation finance flows of at least 16% to fulfil the Paris Agreement’s Article 9 commitment to provide scaled-up, predictable,

and balanced support for mitigation and adaptation, and to deliver on the Glasgow Climate Pact (COP26) goal of doubling adaptation finance by 2025.²⁵ The quality of finance should also improve across the system, market, and project levels.³¹ It is imperative to shift toward grant-based and highly concessional support. We are seeing some initial indications of this shift; most GCF projects approved in 2025 for LDCs are solely grant-based.³² Existing debt-centered adaptation flows could make greater use of innovative instruments like debt-for-adaptation swaps, in turn aligning the quality of finance with the non-revenue-generating nature of adaptation projects and reducing the burden on LDCs and SIDS in Asia-Pacific³³, whose overall debt-to-GDP ratio looms high at 94.9%.⁴¹

3. **Enhancing local participation and leadership in adaptation finance can help ensure the positive impacts of adaptation finance for communities.** A structural shift to a whole-of-society approach means that investments and projects in adaptation and resilience must incorporate the Principles of Locally Led Adaptation. These include devolved climate finance, performance-based grants for climate resilience, and investing in local institutions to build long-term capacity, prioritizing those experiencing climate impacts and who possess contextual knowledge, such as families, communities, and local public and private institutions.^{34,35}

Case Study 3: Least Developed Countries Initiative for Effective Adaptation and Resilience (LIFE-AR)

A recent effort in this area is LIFE-AR, a country-led initiative by the LDCs group under the UNFCCC. LIFE-AR aims to redefine LDCs' relationships with development partners so that they can determine their own climate priorities and use their own systems to address challenges. This involves devolving decision-making to the lowest appropriate level and seeking inclusive participation that centers local communities in these processes. These delivery mechanisms are being designed or strengthened by countries through a cross-government and whole-of-society approach, in line with the principles for locally led adaptation endorsed by over 130 government and non-government institutions.³⁶

4. **Extending callable capital to community-led adaptation projects, especially those integrated with essential services, can enhance finance at the local level.** Callable capital helps improve project risk profiles, facilitating the mobilization of additional funds. Well-structured callable capital promotes long-term sustainability by preventing defaults and ensuring continuity until alternative relief or financing mechanisms can take effect.³⁷ For the successful integration of callable capital into locally led adaptation efforts, several enablers are required, including capacity building and technical assistance for communities and implementing agencies to enhance their project management, financial literacy, and adaptation planning capabilities. Additionally, callable capital should be provisioned regularly rather than in response to disaster events, allowing a reserve to accumulate over time and avoiding sudden liabilities. Linking callable capital to performance-based triggers—such as infrastructure maintenance and resilience standards—incentivizes responsible operations, thereby strengthening accountability and long-term sustainability.

Case Study 4: Local Climate Adaptive Living (LoCAL) Facility

The Local Climate Adaptive Living (LoCAL) Facility channels performance-based resilience grants directly to local authorities, combining financial resources with targeted technical support. This approach illustrates how locally led finance mechanisms can be not only effective—by strengthening local adaptation capacity and accountability—but also scalable, as the model can be readily adopted across diverse contexts. By tying funding to specific, measurable resilience outcomes and providing accompanying expertise, LoCAL empowers local governments to plan, implement, and sustain climate adaptation actions that are closely aligned with community needs and priorities. This method ensures both transparency in fund allocation and tangible improvements in local resilience, setting a practical example for scaling up locally driven adaptation.³⁸

5. **Strengthening Adaptation Investment Plans (AIPs)** could bridge the gap between national-level strategies and implementable, bankable adaptation projects. An AIP is a detailed set of concrete, investment-ready priority adaptation activities linked to available financial sources and instruments to support their implementation.⁴⁴ AIPs ensure that national adaptation priorities are translated into actionable, fundable interventions, addressing key barriers to scaling adaptation finance.

Significant progress has been made on National Adaptation Plans (NAPs) and identifying adaptation priorities in Nationally Determined Contributions (NDCs); these often remain strategic, missing financing details. AIPs provide a structured, programmatic approach to mobilise capital and accelerate climate resilience.

Effective AIPs include:

- Identifying priority sectors or regions based on vulnerability and development needs.
- Assessing climate risks and selecting investments using criteria such as resilience impact, gender equality, social inclusion, biodiversity, and policy alignment.
- Costing and appraising investments for economic viability and integration into budgets.
- Matching investment packages with diverse finance sources—domestic, international, public, and private—through instruments such as grants, concessional loans, equity, bonds, guarantees, and blended finance

ADB created the Climate Adaptation Investment Planning program to support developing economies in converting their adaptation strategies into adaptation plans. The AFD recently provided a line of credit to the largest public sector bank to support mitigation and adaptation projects, which included a technical assistance component as well.

CONCLUSION

Addressing Asia's climate adaptation finance gap requires a coordinated, whole-of-government approach to overcome systemic barriers such as limited institutional capacity and misaligned financial instruments. Scaling international public finance—prioritizing grants and other concessional funding—is essential to meet commitments under the Paris Agreement and Glasgow Climate Pact. Strengthening local participation and leadership ensures that adaptation finance effectively reaches vulnerable communities, aligning with principles of locally led adaptation.

Innovative tools, such as community-level callable capital and performance-based resilience grants, exemplified by initiatives like the LoCAL Facility, demonstrate practical ways to improve risk profiles, mobilize capital, and enhance accountability at the grassroots level. A holistic, integrated strategy that combines institutional capacity building, improved financing quality, and community empowerment is vital to fostering sustainable resilience and securing a climate-resilient future for Asia.

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