

Climate Adaptation Finance in Developing Countries: Assessing the Global Financing Gap and Access Barriers

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ABSTRACT

Climate change is already imposing severe and rising costs on developing countries, yet the finance available to help them adapt remains a small fraction of what is required. This paper synthesises recent data from the United Nations Environment Programme (UNEP), the Organisation for Economic Co-operation and Development (OECD), and the Green Climate Fund (GCF) to assess the scale of the global adaptation finance gap and the structural barriers that prevent developing countries from accessing the resources that do exist. Drawing on the UNEP Adaptation Gap Report 2025, the analysis finds that developing countries will require between US\$310 billion and US\$365 billion per year by 2035 to meet their adaptation needs, while international public adaptation finance flows stood at only US\$26 billion in 2023 a decline from US\$28 billion the previous year and a shortfall of twelve to fourteen times current flows. The paper further examines the composition of adaptation finance, noting the continued dominance of loan-based instruments, the disproportionate exposure of low-income countries to debt-creating finance, and persistent access barriers such as complex accreditation procedures, limited institutional capacity, and the fragmentation of the climate finance architecture. Using descriptive statistics, comparative tables, and visualisations, the paper argues that closing the adaptation finance gap requires not only a substantial increase in the volume of finance, but also a fundamental reform of access modalities, a shift toward grant-based and concessional instruments, and sustained investment in the institutional readiness of recipient countries. The paper concludes with policy recommendations for multilateral funds, bilateral donors, and national governments.

Keywords: Climate Adaptation Finance, Financing Gap, Developing Countries, Green Climate Fund, Climate Justice, Access Barriers, Climate Finance Architecture.

INTRODUCTION

The impacts of climate change intensifying floods, prolonged droughts, sea-level rise, and more frequent extreme weather events are falling disproportionately on countries that have contributed least to the problem and are least equipped to respond to it. For these countries, adaptation is not an abstract policy goal but an immediate necessity: it determines whether coastal communities can remain in place, whether agricultural systems can withstand shifting rainfall patterns, and whether public health systems can cope with new disease burdens. Financing this adaptation, however, remains one of the most persistent failures of the international climate regime.

The Paris Agreement (2015) and subsequent decisions under the United Nations Framework Convention on Climate Change (UNFCCC) have repeatedly affirmed the principle of balanced support between mitigation and adaptation, and developed countries have pledged, through the Glasgow Climate Pact of 2021, to at least double collective adaptation finance from 2019 levels by 2025. Yet successive assessments most recently the UNEP Adaptation Gap Report 2025: Running on Empty show that this goal is likely to be missed, that overall adaptation finance flows actually declined in the most recent reporting year, and that the gap between what is needed and what is provided continues to widen in absolute terms even as planning processes improve.

This paper has three objectives. First, it quantifies the current scale of the global adaptation finance gap using the most recent authoritative data available. Second, it examines how adaptation finance is structured and distributed by instrument, by income group, and by access modality to understand why volume alone does not capture the full picture of inadequacy. Third, it identifies and categorises the access barriers that prevent developing countries,

and particularly least developed countries (LDCs) and small island developing states (SIDS), from translating pledged finance into disbursed, usable resources. The paper closes with a set of policy recommendations addressed to multilateral climate funds, bilateral donors, and national governments.

2. CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

Climate finance scholarship distinguishes between mitigation finance, which reduces future emissions, and adaptation finance, which reduces vulnerability to climate impacts that are already locked in. Because adaptation benefits are often local, non-tradable, and difficult to monetise, adaptation projects attract far less private investment than mitigation projects such as renewable energy, which can generate revenue streams. This asymmetry is well documented: private finance is estimated to contribute only a small share of total adaptation finance, in contrast to its substantial role in mitigation, creating a structural reliance on public and concessional sources that are themselves constrained by donor fiscal pressures and competing priorities.

A second strand of literature focuses on the 'access gap' the distinction between finance that is pledged or committed at the international level and finance that developing country institutions can actually mobilise, disburse, and absorb. Analyses of the Green Climate Fund (GCF) and the Adaptation Fund highlight that accreditation procedures, fiduciary standards, and environmental and social safeguards, while necessary for accountability, impose transaction costs that smaller or less-resourced national institutions struggle to meet. Studies of direct access entities in countries such as Jamaica and Senegal find that even after accreditation is achieved, institutions face ongoing difficulties in managing large financial flows and meeting reporting obligations, suggesting that capacity constraints operate at multiple stages of the finance cycle rather than being resolved by accreditation alone.

A third and increasingly prominent theme is the debt dimension of adaptation finance. Because a majority of public climate finance is disbursed as loans rather than grants, there is growing concern that climate finance may be compounding rather than relieving the debt burdens of vulnerable economies a concern this paper revisits in Section 5. Together, these strands motivate an analytical framework that treats the adaptation finance problem as having two distinct but interacting components: a volume gap (how much finance exists relative to need) and an access-and-quality gap (how usable, appropriately structured, and equitably distributed that finance is).

3. METHODOLOGY

This paper adopts a desk-based, secondary-data synthesis approach. It draws primarily on three categories of source: (i) authoritative multilateral assessments, principally the UNEP Adaptation Gap Report 2025: Running on Empty, which provides the most recent modelled and NDC/NAP-based estimates of adaptation costs; (ii) OECD statistical reporting on climate finance provided and mobilised by developed countries, which tracks volumes, instruments, and recipient groupings on an annual basis; and (iii) institutional documentation from the Green Climate Fund and the Adaptation Fund concerning accreditation, direct access, and readiness support. Figures and tables presented in Sections 4 through 6 are constructed from the numerical findings reported in these sources; where a figure required combining two reported data points (for example, deriving a prior-year baseline from a reported year-on-year percentage change), this is noted in the relevant source line. The analysis is descriptive and comparative rather than econometric, reflecting the paper's aim of mapping the current state of the evidence rather than testing a causal hypothesis.

4. THE GLOBAL ADAPTATION FINANCE GAP

The headline finding of the UNEP Adaptation Gap Report 2025 is stark: developing countries will need between US\$310 billion and US\$365 billion per year by 2035 to finance adaptation, depending on whether the estimate is based on modelled costs or on the adaptation components of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs). Against this, international public adaptation finance flows to developing countries reached only US\$26 billion in 2023, down from US\$28 billion in 2022. This places current needs at twelve to fourteen times current flows a ratio that has widened rather than narrowed in recent reporting cycles.

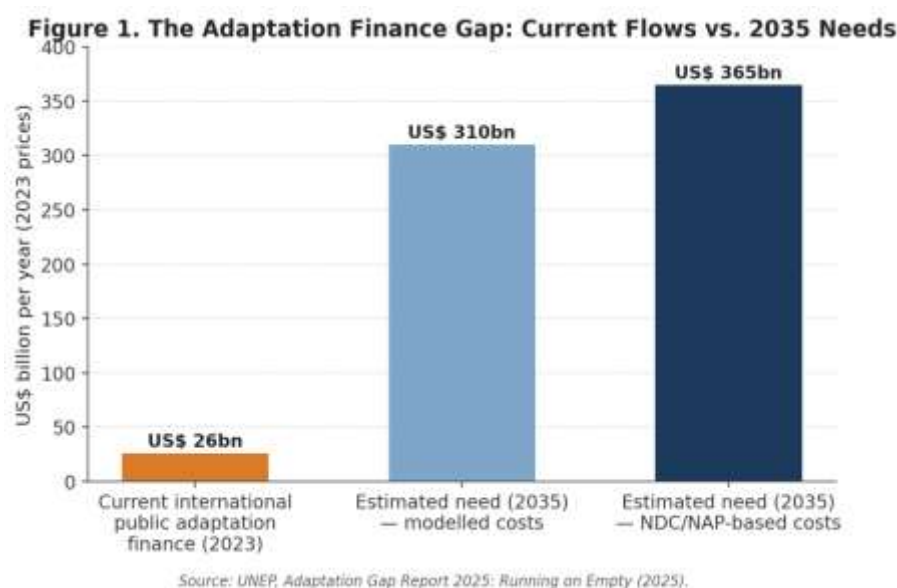


Figure 1. The adaptation finance gap: current flows (2023) compared with two estimates of 2035 need.
Source: UNEP Adaptation Gap Report 2025.

Table 1 summarises the key gap metrics reported in the 2025 assessment. Both the lower- and upper-bound need estimates dwarf current flows by an order of magnitude, and the report notes that even full achievement of the Glasgow Climate Pact's goal of doubling 2019 adaptation finance by 2025 itself now unlikely to be met would close only a small fraction of the projected 2035 gap.

Table 1. Key Adaptation Finance Gap Indicators

Indicator	Value	Reference Year
Current international public adaptation finance	US\$26 billion/year	2023
Prior-year adaptation finance	US\$28 billion/year	2022
Projected need — modelled costs	US\$310 billion/year	2035
Projected need — NDC/NAP-based costs	US\$365 billion/year	2035
Ratio of projected need to current flows	12–14×	2035 vs 2023
Glasgow Climate Pact adaptation finance target	US\$40 billion/year	2025
Estimated potential private-sector contribution	~US\$50 billion/year (with targeted policy support)	n/a

Source: UNEP, Adaptation Gap Report 2025: Running on Empty (Nairobi: UNEP, 2025).

Figure 2 illustrates the recent trend in international public adaptation finance, showing a year-on-year decline between 2022 and 2023 that the report attributes largely to reduced multilateral development bank funding, compounded by broader cuts to official development assistance (ODA) budgets among several major donors. This decline is significant because it runs counter to the trajectory required to meet the Glasgow doubling goal, and it illustrates that the adaptation finance gap is not simply a matter of needs growing faster than a stable supply in the most recent year for which data exists, the supply of adaptation finance contracted in absolute terms.

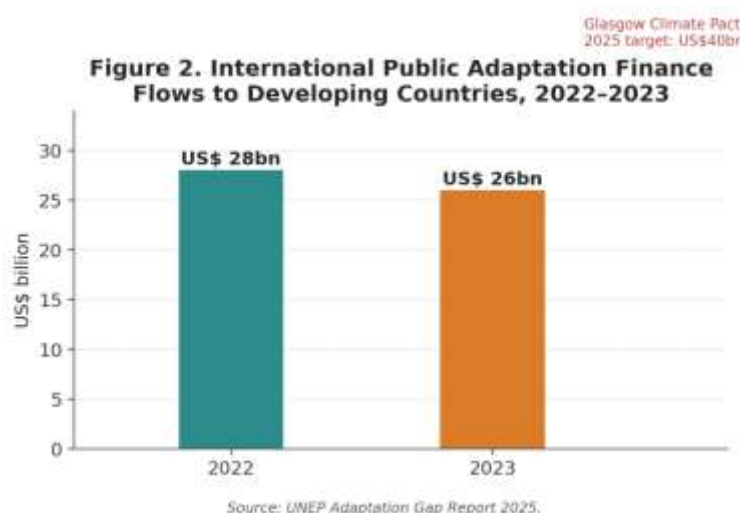


Figure 2. International public adaptation finance flows declined between 2022 and 2023, moving further from the 2025 Glasgow target. Source: UNEP Adaptation Gap Report 2025.

It is important to situate the adaptation-specific gap within the broader trend in total climate finance (adaptation, mitigation, and cross-cutting activities combined), which has continued to grow. OECD data indicate that climate finance provided and mobilised by developed countries for developing countries rose from an estimated US\$89.6 billion in 2021 to US\$115.9 billion in 2022 the first year in which the collective US\$100 billion goal was met, two years later than originally targeted and further to US\$132.8 billion in 2023 and US\$136.7 billion in 2024.

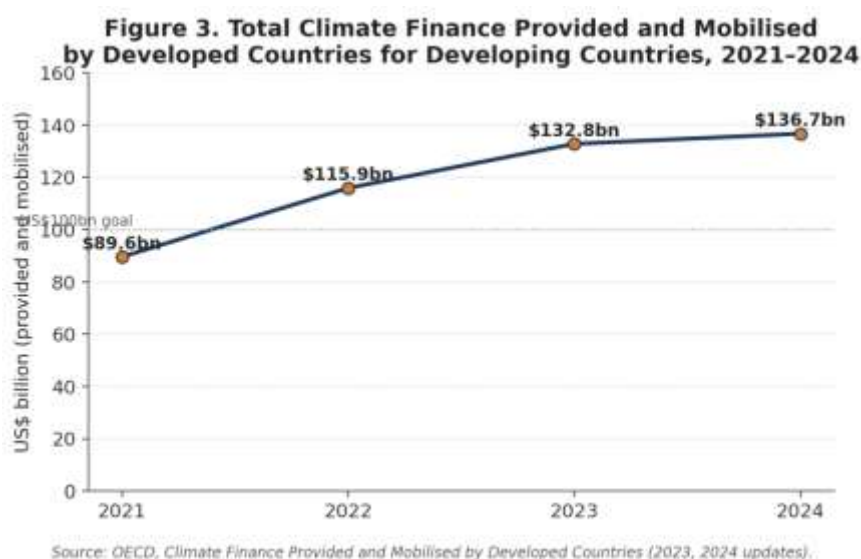


Figure 3. Total climate finance (all themes) has grown steadily, even as the adaptation-specific share has stagnated. Source: OECD, Climate Finance Provided and Mobilised by Developed Countries (2023–2024 data releases).

The divergence between these two trends a growing total climate finance envelope alongside a stagnant or declining adaptation-specific flow is central to understanding the nature of the gap. It indicates that the shortfall in adaptation finance is not primarily a function of an absolute shortage of climate finance overall, but rather of how that finance is allocated between mitigation and adaptation objectives, a theme explored further in Section 5.

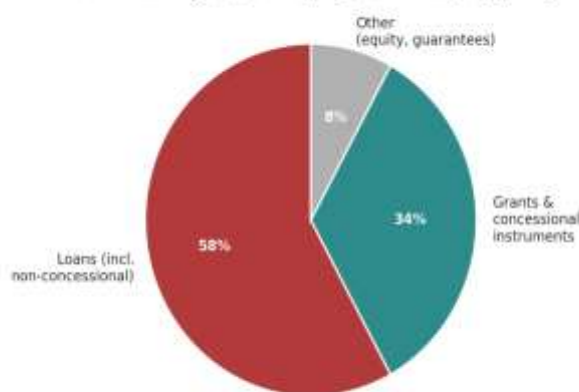
5. COMPOSITION AND DISTRIBUTION OF ADAPTATION FINANCE

Beyond aggregate volume, the composition of adaptation finance shapes its real value to recipient countries. Two dimensions are particularly consequential: the balance between loan-based and grant-based instruments, and the distribution of finance across income groups and country categories such as LDCs and SIDS.

5.1 Instrument Mix and the Debt Dimension

According to the UNEP Adaptation Gap Report 2025, approximately 58 per cent of adaptation finance continues to be disbursed as loans, including a portion classified as non-concessional debt. Because adaptation projects coastal defences, drought-resilient agriculture, early-warning systems typically generate limited or no direct revenue, financing them through loans transfers a repayment obligation onto governments that are often already facing elevated debt distress. The OECD's 2024 reporting on 2013–2022 climate finance flows notes a partially offsetting trend: grants have been increasingly prioritised for lower-income countries, more than doubling in absolute terms between 2016 and 2022, even though loans still represent the larger share of the total.

Figure 4. Composition of Adaptation Finance by Instrument Type (Developing Countries, Approx.)



Source: UNEP Adaptation Gap Report 2025 (loan share); OECD (2024) on grant prioritisation in low-income countries.

Figure 4. Approximate composition of adaptation finance by instrument type. Loans continue to dominate overall, though grants are increasingly prioritised for lower-income recipients. Sources: UNEP Adaptation Gap Report 2025; OECD (2024).

5.2 Distribution Across LDCs, SIDS, and Income Groups

OECD data show that LDCs and SIDS receive a disproportionately adaptation-focused allocation relative to the average developing country: adaptation finance accounted for roughly 50 per cent of climate finance reaching LDCs and SIDS in 2022, compared with approximately 25 per cent for developing countries as a whole. This reflects both the acute physical vulnerability of these country groups and, in the case of SIDS, the narrower scope for mitigation-related investment given their small economies. At the same time, private finance mobilisation for LDCs and SIDS remains limited, and climate finance directed to low-income countries overall represented only about 10 per cent of the global total in 2022 underscoring that the poorest and most vulnerable countries continue to receive a small slice of an already inadequate pie.

Table 2. Adaptation Finance Characteristics by Country Grouping

Country Grouping	Adaptation Share of Climate Finance	Notable Characteristic
All developing countries (average)	~25%	Loans remain the dominant instrument
Least Developed Countries (LDCs)	~50%	Higher grant share; limited private mobilisation
Small Island Developing States (SIDS)	~50%	High per-capita vulnerability; small absolute volumes
Low-income countries (all)	n/a	Received only ~10% of total global climate finance (2022)

Source: OECD, Climate Finance Provided and Mobilised by Developed Countries in 2013–2022 (Paris: OECD Publishing, 2024).

5.3 Adaptation Planning Progress

A partial counterweight to the finance shortfall is the progress made in adaptation planning. The UNEP Adaptation Gap Report 2025 finds that 172 of 197 countries now have at least one National Adaptation Plan (NAP), strategy, or policy in place, with only four countries yet to begin the process. However, the report cautions that 36 of these plans are now outdated, and that planning progress has not been matched by commensurate implementation or financing, meaning that many countries possess a roadmap for adaptation investment that they lack the resources to execute.

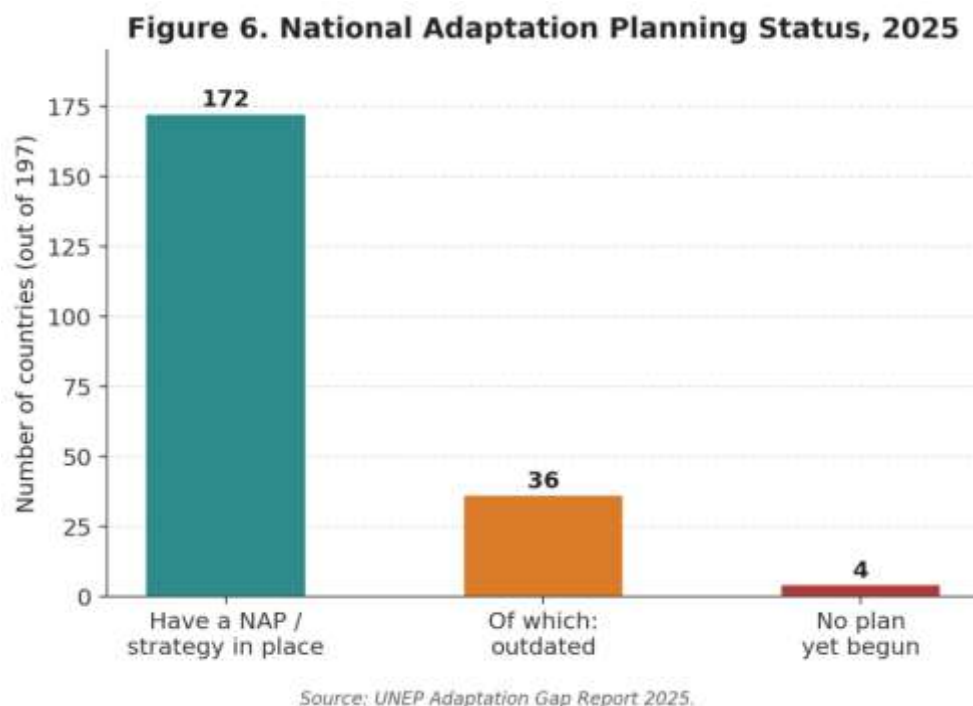


Figure 6. National adaptation planning has advanced substantially, but a meaningful share of existing plans are now outdated and implementation lags behind planning. Source: UNEP Adaptation Gap Report 2025.

6. ACCESS BARRIERS

The volume gap documented in Section 4 is compounded by an access gap: even where finance is pledged or theoretically available, developing country institutions often struggle to mobilise it. This section categorises the principal barriers identified in the literature and institutional reporting into four types: institutional and procedural barriers, capacity constraints, structural and architectural fragmentation, and debt-related barriers.

6.1 Institutional and Procedural Barriers: Accreditation

Multilateral funds such as the Green Climate Fund (GCF) require national, regional, or international entities to become formally accredited before they can receive and manage fund resources directly. Accreditation involves meeting fiduciary standards, environmental and social safeguards, and gender-policy requirements that were designed to ensure accountability but that impose substantial transaction costs often taking multiple years to complete. As of recent reporting, 59 entities were accredited to the GCF, of which 32 (54 per cent) were direct access entities meaning sub-national, national, or regional institutions nominated by a country's National Designated Authority while the remainder were international entities such as United Nations agencies and multilateral development banks.

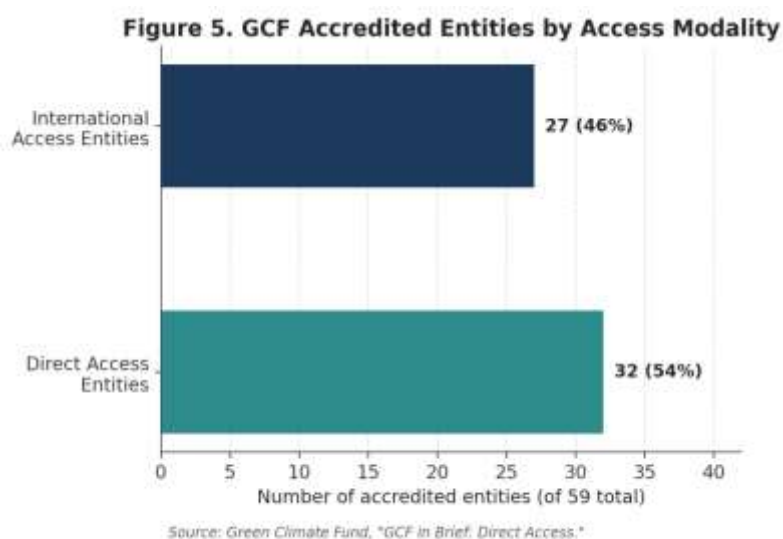


Figure 5. Direct access entities represent just over half of GCF-accredited institutions, but international entities still account for a substantial share of accreditation and, historically, of resource flows. Source: Green Climate Fund, "GCF in Brief: Direct Access."

The predominance of international intermediaries matters because it affects country ownership: when funds flow primarily through UN agencies, multilateral development banks, or international NGOs rather than domestic institutions, developing countries have less direct control over project design, implementation timelines, and the retention of institutional knowledge and capacity built through project delivery. The GCF has introduced instruments intended to ease this burden including a Readiness Programme, a Project Preparation Facility, and a Simplified Approval Process for smaller, lower-risk projects but assessments of these instruments find that they do not yet fully cover the costs entities incur (such as staff time), and that even the 'simplified' approval track remains slower and more burdensome than intended, contributing to project pipeline bottlenecks.

6.2 Capacity Constraints

Case evidence from the Adaptation Fund's early direct-access experience is instructive. Studies of National Implementing Entities (NIEs) accredited in Jamaica and Senegal found that institutions faced significant challenges managing large sums of money and meeting ongoing fiduciary standards even after accreditation was granted indicating that capacity constraints are not resolved at the point of accreditation but persist through implementation, financial management, monitoring, and reporting. Smaller and lower-capacity states, including many LDCs and SIDS, are disproportionately affected because they have fewer technical staff, less developed public financial management systems, and limited experience preparing 'bankable' project proposals that meet the technical and financial documentation standards multilateral funds require.

6.3 Structural and Architectural Fragmentation

Developing countries seeking adaptation finance must navigate a fragmented architecture comprising multiple multilateral funds (the GCF, the Adaptation Fund, the Global Environment Facility, and others), bilateral programmes, multilateral development banks, and an emerging set of loss-and-damage mechanisms, each with distinct application procedures, reporting requirements, and eligibility criteria. This fragmentation multiplies the transaction costs identified in Section 6.1, since institutions with limited technical capacity must simultaneously satisfy the differing requirements of several funding sources rather than a single harmonised process. It also complicates efforts to track and coordinate finance at the country level, making it difficult for national governments to align external finance with domestic adaptation priorities set out in NAPs and NDCs.

6.4 Debt-Related Barriers

As noted in Section 5.1, the continued dominance of loan-based instruments including non-concessional loans creates a distinct barrier for the most debt-vulnerable countries: accepting available adaptation finance may itself worsen fiscal sustainability. For countries already navigating debt distress, this can create a perverse disincentive to pursue available finance, or force a trade-off between climate resilience investment and other fiscal priorities such as health and education spending. The UNEP Adaptation Gap Report 2025 explicitly warns against a pattern in which the pursuit of the Baku to Belém Roadmap's US\$1.3 trillion annual climate finance target by 2035 adds

materially to the debt burdens of already-vulnerable countries, calling instead for a substantially higher share of grant and highly concessional finance.

Table 3. Typology of Access Barriers

Barrier Type	Manifestation	Most Affected
Institutional / procedural	Lengthy, complex accreditation; slow approval processes despite 'simplified' tracks	Institutions without prior fund experience
Capacity	Difficulty managing large sums, meeting fiduciary/reporting standards, preparing bankable proposals	LDCs, SIDS, low-capacity states
Structural / architectural	Fragmented funds with differing rules; high cumulative transaction costs	All developing countries, acutely for smaller states
Debt-related	Dominance of loan-based instruments; risk of compounding debt distress	Highly indebted and debt-vulnerable countries

Source: Compiled by the author from GCF documentation, WRI (2023) analysis of GCF access instruments, CDKN case studies of Adaptation Fund direct access, and UNEP (2025).

7. CASE ILLUSTRATION: DIRECT ACCESS IN PRACTICE

The experiences of Jamaica and Senegal in becoming accredited National Implementing Entities (NIEs) under the Adaptation Fund offer an instructive, if cautionary, illustration of how access barriers operate in practice. Both countries pursued direct access specifically to strengthen national ownership and institutional capacity rather than relying solely on international intermediaries. Evaluations of these cases found that involving civil society early in the accreditation process was beneficial for subsequent project implementation, but that both NIEs subsequently encountered difficulties: Jamaica's implementing entity faced challenges balancing its accreditation-related responsibilities against its broader institutional mandate, while Senegal's entity encountered capacity constraints in managing the scale of funding involved.

These cases illustrate a broader point relevant to GCF reform discussions: accreditation should be understood as the beginning, not the end, of the capacity-building process required for effective direct access. Readiness support, they suggest, needs to extend well beyond the accreditation stage to cover implementation-phase financial management, monitoring and evaluation systems, and staff retention areas that are frequently under-resourced relative to the accreditation process itself.

8. POLICY RECOMMENDATIONS

Based on the evidence assembled in this paper, four sets of measures merit priority attention from different actors in the climate finance system.

8.1 For Multilateral Climate Funds

Simplify and accelerate accreditation pathways for direct access entities, with dedicated tracks and cost coverage (including staff time) for lower-capacity institutions.

Expand readiness and preparatory support beyond the accreditation stage to cover implementation-phase financial management and reporting capacity.

Increase the minimum share of resources channelled through direct access modalities, building on the current 54 per cent share of accredited entities toward a comparable share of actual disbursed funding.

8.2 For Bilateral and Multilateral Donors

Shift the instrument mix toward grants and highly concessional finance for adaptation, particularly for LDCs, SIDS, and highly indebted states, to avoid compounding debt distress.

Prioritise meeting and exceeding the Glasgow Climate Pact's US\$40 billion adaptation finance target as an urgent, near-term step, while aligning longer-term pledges with the 2035 needs estimates of US\$310–365 billion per year. Support harmonisation of reporting and eligibility requirements across funds to reduce the cumulative transaction costs imposed on recipient institutions.

8.3 For National Governments in Developing Countries

Update outdated National Adaptation Plans and strengthen the pipeline of 'bankable' projects that can meet the technical requirements of multiple funding sources.

Invest in the institutional capacity of National Designated Authorities and potential direct access entities well ahead of accreditation applications.

Establish or strengthen country-level coordination mechanisms to track and align finance from multiple sources with national adaptation priorities.

8.4 For the Private Sector

Engage with blended finance structures and targeted policy incentives that could unlock an estimated US\$50 billion per year in private adaptation investment, particularly in revenue-generating resilience infrastructure.

9. CONCLUSION

The evidence reviewed in this paper points to a climate adaptation finance system that is failing developing countries on two distinct dimensions. First, in absolute volume, current flows of roughly US\$26 billion per year fall far short of the US\$310–365 billion required annually by 2035, and recent trends show flows moving in the wrong direction even as needs grow. Second, in structure and accessibility, the finance that does exist remains heavily loan-based, unevenly distributed, and difficult for many developing country institutions to access directly, owing to accreditation burdens, capacity constraints, and a fragmented multilateral architecture. Addressing the volume gap alone for instance, through more ambitious pledges under mechanisms such as the Baku to Belém Roadmap will not be sufficient if the access and quality gap is not addressed in parallel. A credible path toward closing the adaptation finance gap requires simultaneous progress on scaling up grant-based and concessional finance, streamlining and harmonising access modalities, and sustaining long-term investment in the institutional capacity of the countries and communities that adaptation finance is meant to serve.

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