# A Just Transition for Adaptation

## A Framework and Vision for Africa

2026




POWER SHIFT AFRICA

**A Just Transition for Adaptation: A Framework and Vision for Africa**

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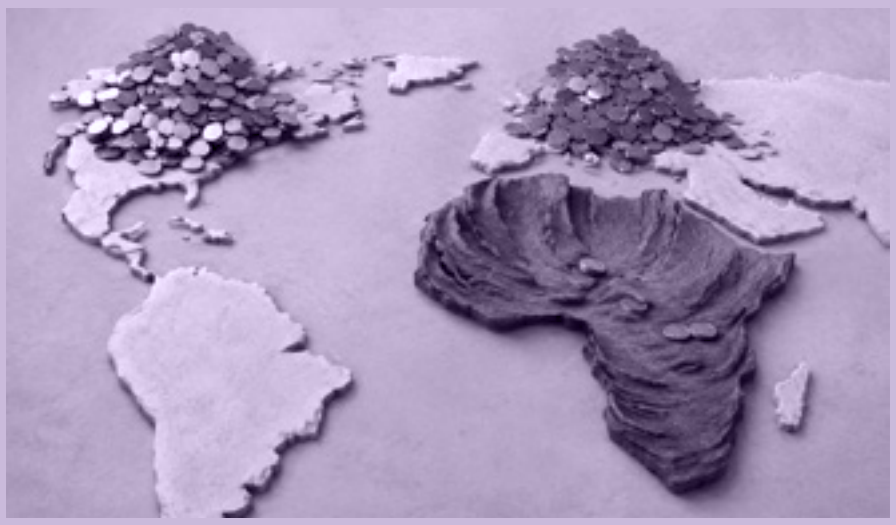
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# Acronyms and abbreviations

| | |
|---|---|
| **AF:** | Adaptation Fund |
| **AfCFTA:** | African Continental Free Trade Area |
| **AfDB:** | African Development Bank |
| **AGN:** | African Group of Negotiators |
| **AMCEN:** | African Ministerial Conference on Environment |
| **AU:** | African Union |
| **CAHOSCC:** | Committee of African Heads of State, and Government on Climate Change |
| **CBD:** | Convention on Biological Diversity |
| **CBDR:** | Common but Differentiated Responsibilities |
| **CBDR-RC:** | Common but Differentiated Responsibilities and Respective Capabilities |
| **CIF:** | Climate Investment Funds |
| **CMA:** | Conference of the Parties serving as the meeting of the Parties to the Paris Agreement |
| **$CO_2$:** | Carbon dioxide |
| **COP:** | Conference of the Parties |
| **CP:** | Country platform |
| **CTCN:** | Climate Technology Centre and Network |
| **FFD4:** | Fourth International Conference on Financing for Development |
| **FPIC:** | Free, prior, and informed consent |
| **G20:** | Group of Twenty |
| **GCF:** | Green Climate Fund |
| **GDP:** | Gross domestic product |
| **GEF:** | Global Environment Facility |
| **GG:** | Global Gateway |
| **GGA:** | Global Goal on Adaptation |
| **GHG:** | Greenhouse gas |
| **GPI:** | Genuine Progress Indicator |
| **GSLTF:** | Global Solidarity Levy Task Force |
| **HDI:** | Human Development Index |
| **ICJ:** | International Court of Justice |
| **IEA:** | International Energy Agency |
| **IFF:** | Illicit financial flow |
| **IK:** | Indigenous Knowledge |
| **ILK:** | Indigenous and local knowledge |
| **ILO:** | International Labour Organization |
| **IMF:** | International Monetary Fund |
| **IP:** | Intellectual property |
| **IPBES:** | Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services |
| **IPCC:** | Intergovernmental Panel on Climate Change |
| **JET-IP:** | Just Energy Transition Investment Plan |

| | |
|---|---|
| **JETP:** | Just Energy Transition Partnership |
| **JTfA:** | Just Transition for Adaptation |
| **JTWP:** | Just Transition Work Programme |
| **LCIPP:** | Local Communities and Indigenous Peoples Platform |
| **LDC:** | Least developed country |
| **LLA:** | Locally led adaptation |
| **MDB:** | Multilateral development bank |
| **NAP:** | National Adaptation Plan |
| **NCQG:** | New Collective Quantified Goal |
| **NDC:** | Nationally Determined Contribution |
| **ODA:** | Official development assistance |
| **OECD:** | Organisation for Economic Co-operation and Development |
| **PPP:** | Public–private partnership |
| **REDD+:** | Reducing Emissions from Deforestation and forest Degradation, plus conservation, sustainable management of forests and enhancement of forest carbon stocks |
| **RST:** | Resilience and Sustainability Trust |
| **SAP:** | Structural Adjustment Programme |
| **SDGs:** | Sustainable Development Goals |
| **SDRs:** | Special Drawing Rights |
| **SIDS:** | Small Island Developing States |
| **STEM:** | Science, Technology, Engineering, and Mathematics |
| **STISA-2024:** | Science, Technology and Innovation Strategy for Africa 2024 |
| **TEC:** | Technology Executive Committee |
| **TRIPS:** | Trade-Related Aspects of Intellectual Property Rights |
| **UN:** | United Nations |
| **UNCCD:** | Nations Convention to Combat Desertification |
| **UNDP:** | United Nations Development Programme |
| **UNDRIP:** | United Nations Declaration on the Rights of Indigenous Peoples |
| **UNEP:** | United Nations Environment Programme |
| **UNFCCC:** | United Nations Framework Convention on Climate Change |
| **USAID:** | United States Agency for International Development |
| **USD:** | United States dollar |
| **WTO:** | World Trade Organization |

# TRUTH: AFRICA'S CLIMATE VULNERABILITY IS NOT ACCIDENTAL.



# Foreword



**Mohamed Adow**
Executive Director
Power Shift Africa

Africa is already living with the consequences of a climate crisis it did little to create. Across the continent, accelerating climate impacts are threatening food and water security, livelihoods, health, infrastructure and ecosystems. Yet the resources available to respond remain far below what is needed, while many African countries are being pushed further into debt simply to protect hard-won development gains, their people and economies.

This report starts with an important truth: Africa's climate vulnerability is not accidental. It has been shaped by a long history of extraction, unequal development, debt, exclusion and global systems that continue to constrain the continent's ability to adapt. Responding to climate change therefore requires more than technical fixes or isolated adaptation projects. It requires confronting the inequalities and power imbalances that determine who is most vulnerable, who has access to resources, whose knowledge is valued and whose priorities shape the response.

*A Just Transition for Adaptation: A Framework and Vision for Africa* offers an African and justice-centred framing for adaptation. It calls for a shift from simply managing climate risks towards transforming the systems that produce and deepen vulnerability. At its heart is a vision of adaptation that strengthens African agency, protects rights and livelihoods, and supports more resilient and prosperous societies. This requires adequate, predictable and grant-based finance; meaningful technology transfer and capacity building; inclusive and locally led governance; and recognition of Indigenous and local knowledge alongside scientific knowledge.

This framing is also important politically. Adaptation has gained greater attention in recent years, but it continues to be sidelined to mitigation in global political priority, institutional attention and financial support. Greater visibility for adaptation must therefore mean more than recognising its urgency. It must translate into political choices, resources and international cooperation at the scale required, while ensuring that African countries and communities have the power to define what effective and just adaptation looks like.

Importantly, the report challenges the persistent portrayal of Africa as simply a continent of vulnerability and need. African communities, institutions and knowledge systems are already generating solutions. Africa must have the space, resources and agency to define and lead its own adaptation pathways, grounded in its development priorities, knowledge systems and lived realities.

This becomes even more important on the road to COP32 in Africa. An African COP offers a critical opportunity to place adaptation more firmly at the centre of the global climate agenda and to shape that agenda around justice, development and African leadership. If COP32 is to become an adaptation COP, it should move beyond recognising adaptation needs and towards delivering the finance, technology and capacity required for implementation, while advancing African-led adaptation that addresses the structural drivers of vulnerability and builds long-term resilience. This report can help inform that narrative and provide a framework for African policymakers, negotiators and civil society as they shape their priorities.

This report is not intended as a single blueprint. It offers a framework for thinking differently about how adaptation is planned, financed, governed and implemented, and for moving from managing symptoms towards addressing the systems that create vulnerability in the first place.

Ultimately, the question is not only how Africa adapts to a changing climate, but on whose terms, with whose resources and towards what future. Our ambition must be an adaptation agenda that does more than help Africa endure a worsening climate crisis: it must help build a fairer, more resilient and more self-determined future for the continent.

**Mohamed Adow,**
Executive Director,
Power Shift Africa.




# Executive summary

**The African continent produces negligible global emissions, yet it suffered 35% of the world's climate-related deaths between 1970 and 2021 amid increasingly frequent and severe climate impacts.**

Deep structural injustices in the distribution of climate risks, resources, and decision-making power shape Africa's climate vulnerability. These include unequal international legal regimes on trade and cooperation, disparate access to international courts or arbitration entities, and weak or non-binding climate obligations. These injustices also intersect with colonial legacies, unequal development pathways, and global economic asymmetries that continually constrain Africa's adaptive capacity.

Alongside these structural injustices, Africa's weak adaptive capacity is a product of, and perpetuated by, the developed world's ongoing failure to meet the legally binding obligations placed on it to finance climate mitigation and adaptation initiatives in the developing world in line with the Paris Agreement. Africa's annual adaptation needs are near USD 70 billion, but annual flows only amount to around USD 14 billion, with a growing trend away from grants and toward commercial loans. The continent, therefore, is spending more from its domestic budgets on adaptation than it receives in international support. This means, effectively, Africa is subsidising the developed world's climate inaction.

The Paris Agreement, and its legally binding commitments for the developed world to provide technology and capacity building support to the developing world for mitigation and adaptation, are also not being met. Meanwhile, Africa's land, resources, and livelihoods are being absorbed into carbon markets and green industrialisation projects that predominantly serve external interests.

Climate adaptation action, thus, must be viewed as inherently political – inseparable from justice, power, and equity – because the framing of adaptation, vulnerability, and resilience ultimately shapes who is recognised, heard, and supported. It also shapes how just outcomes are realised.

A 'just transition' – a framework that ensures a just and inclusive shift to sustainable and climate-resilient economies – should address adaptation gaps and vulnerabilities. However, mainstream discourse has largely ignored how such a transition applies to adaptation. This neglect engenders fragmented, underfunded, and often technocratic adaptation responses that ignore the underlying drivers of vulnerability and fail to incorporate highly relevant African Indigenous Knowledge (IK).

In this report, we advance a Just Transition for Adaptation (JTfA) as a necessary shift. We recognise the transition more broadly, moving beyond traditional or reductionist interpretations focused on emissions reductions towards a paradigm that includes adaptation justice. In so doing, we reframe adaptation as a systemic, justice-centred transformation, rather than a set of technical interventions. This report grounds justice in African realities and emphasises that adaptation must be defined from within, rooted in lived experience, and shaped by the continent's historical, political, and socio-economic circumstances.

Therefore, adaptation is deeply connected to social, economic, political, governance, and behavioural contexts. This means a JTfA is not a simple, linear transition from one state to another. Rather, it entails redistributing finance, transforming knowledge and governance systems, and redressing historical damage. We employ four interlinked dimensions of justice as anchors: recognitional, procedural, distributive, and restorative. From these perspectives, we examine the structural drivers of vulnerability and the equity of adaptation outcomes.

Finally, we present a JTfA framework for Africa developed from African perspectives and realities. Rather than offering a universal blueprint, our framework identifies the key principles, enabling factors and policy changes necessary for supporting more effective, equitable, and just adaptation pathways. We link the global, regional, and national scales, positioning adaptation as an opportunity for broader societal transformation supported by inclusive governance, knowledge justice, and fairly distributed resources and technologies.

**This report provides a foundation for policymakers, practitioners, and civil society to advance adaptation pathways that are not only climate-resilient, but also equitable, restorative, and aligned with Africa's development priorities.**

# Key messages

» **Africa's climate vulnerability is structurally produced, not accidental:** Historical legacies and enduring structural inequalities from colonialism to debt dependencies, aid, global economic asymmetries, procedural exclusion, and knowledge hierarchies shape Africa's climate vulnerability and adaptive capacity. A JTfA must confront these structural drivers, not just their consequences.

» **Rule-based equitable international cooperation and development:** The international governance of climate, trade, development, and debt should ensure that everyone has equal access to decision making. Obligations should be enforceable with fair legal redress that recognises differentiated vulnerabilities and responsibilities. Therefore, justice must be embedded across planning and decision-making processes, implementation, resource allocation, and measures to achieve historical redress.

» **Current adaptation systems are failing to deliver equitable outcomes:** Adaptation remains underfunded, externally imposed, donor-driven, and unevenly implemented despite the increased global attention it has received. Climate finance in the form of loans, tied to donor conditionalities, and increasingly channelled through private capital is deepening the debt burdens and structural dependencies that drive climate vulnerability. Finance systems deepen debt distress among the most vulnerable, governance processes exclude climate-vulnerable actors, and poorly designed interventions risk maladaptation, thereby reinforcing existing inequalities.

» **In line with the Paris Agreement, climate finance must be dramatically increased:** Adaptation finance must be predictable, additional, accessible, and grant-based to achieve a balance with mitigation, delivered through country-led and regionally owned finance mechanisms. As global warming increases, so do the moral and legal obligations placed the developed world to support adaptation in Africa.



- **Indigenous and Local Knowledge (ILK) must be recognised, incorporated, and valued as equal to mainstream climate science:** Climate science and policy systematically exclude ILK. This exclusion is unjust and weakens policy outcomes. African communities hold place-based, ecologically grounded knowledge about climate risks, and they can respond in ways that mainstream scientific models cannot replicate, especially as climate impacts intensify, and as predictive models weaken at the local level. Closing the knowledge gap is as urgent as closing the finance gap.

- **Africa must define and lead its own adaptation pathway:** Africa must not only be seen as climate-vulnerable, it should also be viewed as a climate leader and solution provider in its own right – with the knowledge, agency, and sovereignty to shape global adaptation futures. A JTfA must be rooted in African IK systems, development priorities, and lived realities, with African governments, civil society, and vulnerable groups actively shaping policies, and along pathways that deliver justice, resilience, and long-term prosperity.

- **Adaptation governance:** All adaptation governance must be grounded in FPIC. It must be inclusive, democratic, rights-based, locally led, and accountable, with equitable participation and decision making.

- **Adaptation must shift to a justice-centred orientation:** Adaptation requires transforming the systems that reproduce vulnerability. It is not simply about managing climate risks. A JTfA must embed procedural, recognitional, distributive, and restorative justice across all adaptation policies, policy cycles, finance systems, and how adaptation responses are designed and implemented at the local, national, regional, and global levels.





# 1. Introduction

**Africa's specific vulnerability to climate change is not accidental; it is the product of historical legacies and enduring structural inequalities.**

The African continent has contributed the least to global greenhouse gas (GHG) emissions, yet it is warming at almost twice the global average temperature rise.[1] This pace of change, documented in the African Chapter of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report, threatens the ecological, economic, and political foundations on which African societies depend.[2] It is already reshaping Africa's biodiversity, water, and food systems. Economic projections underscore climate risks' severity. The African Development Bank (AfDB) and World Meteorological Organization indicate that Africa's per-capita gross domestic product (GDP) could fall sharply by 2030 if current high-emissions trajectories persist.[3] These risks overlap pre-existing historical, political, and social vulnerabilities. Some of these stem from Africa's geophysical realities, but many are rooted in a history of extraction, debt entrapment, and externally imposed development agendas. Addressing these challenges demands urgent, balanced, and sustained mitigation and adaptation efforts

1 Tafadzwa Mabhaudhi, "UP expert opinion: Africa's health in a warming world – evidence, urgency and what to do next", University of Pretoria, 11 December 2025. Available at https://www.up.ac.za/news/expert-opinion-africas-health-warming-world-evidence-urgency-and-what-do-next.

2 Intergovernmental Panel on Climate Change. Climate Change 2022: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge, Cambridge University Press, 2022).

3 African Development Bank Group, Annual Report (Abidjan, 2022). Available at https://www.afdb.org/en/documents/annual-report-2022; World Meteorological Organization, State of the Climate in Africa 2023 (Geneva, 2023). Available at https://wmo.int/publication-series/state-of-climate-africa-2023.

that surpass technical fixes and that tackle climate vulnerability's underlying drivers.

Despite these realities, adaptation is systematically neglected compared with mitigation in global climate governance, especially within the United Nations Framework Convention on Climate Change (UNFCCC). Negotiation outcomes disproportionately fund mitigation over adaptation, and intervention designs amplify this reality, as adaptation needs are too often subordinate to global emissions reduction targets.

We conducted interviews and focus group sessions for this report (see Methodology) among African community actors, policymakers, and practitioners. This empirical evidence underscores structural asymmetries in adaptation that visibly obstruct and undermine forms of justice, including distributive, procedural, recognitional, and restorative. Climate finance for adaptation remains limited, fragmented, and subject to conditionalities reflecting donors' interests more than recipients' needs. Technology transfer commitments are underdelivered and often burdened by intellectual property (IP) regimes that obstruct local adoption and ownership. Science and knowledge spaces reproduce knowledge hierarchies, with technical framings that privilege certain epistemologies while sidelining lived experience and IK systems. Meanwhile, measures of progress still primarily rely on throughput production reflected by GDP rather than indicators of human wellbeing and prosperity.[4]

The Paris Agreement, the progressive operationalisation of the Global Goal on Adaptation (GGA), and adaptation considerations in the Just Transition Work Programme (JTWP) in the UNFCCC negotiations are important steps toward correcting this neglect. However, significant gaps remain in translating commitments and decisions into equitable and context-specific actions.[5]

Beyond the UNFCCC, adaptation is gaining traction and political prominence in multilateral fora, such as the UN Convention to Combat Desertification (UNCCD) and Convention on Biological Diversity (CBD), through their focus on land and ecosystem resilience, and the Fourth International Conference on Financing for Development (FFD4).[6] The Second Africa Climate Summit also placed greater emphasis on adaptation and its financing as a political priority, both in terms of needs and the solutions Africa can offer.

In this report, we position JTfA as a necessary course correction for the inequities that have shaped adaptation action in Africa. We seek to expand the evidence base, strengthen African thought leadership, and provide a roadmap through which adaptation can be conceived, planned, financed, and implemented, in ways that advance resilience and justice. This report therefore moves the debate beyond technical adequacy toward more foundational questions of: What kind of adaptation future does Africa need, who defines it, who benefits, and who gets to decide?

This report is geared toward relevant African and global policy and decision-making institutions at all levels, and to academia and wider civil society organisations. We hope for broader public engagement with the report.



4 Laura Quinones, "Indigenous Peoples sidelined in global climate fight, UN warns", United Nations, 24 April 2025. Available at https://news.un.org/en/story/2025/04/1162601; Nicole Goldin and Daouia Chalali, "Moving beyond GDP: measuring human and planetary well-being", United Nations University Centre for Policy Research, 31 January 2026. Available at https://unu.edu/cpr/blog-post/moving-beyond-gdp-measuring-human-and-planetary-well-being.

5 United Nations Framework Convention on Climate Change, The Paris Agreement (2016). Available at https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf; United Nations Framework Convention on Climate Change, "Global Goal on Adaptation". Available at https://unfccc.int/topics/adaptation-and-resilience/workstreams/gga.

6 Adaptation Community, "2026: a critical year for climate adaptation", 29 January 2026. Available at https://www.adaptationcommunity.net/news/2026-a-critical-year-for-climate-adaptation; Kristin Laub, "Shifting the tide? Key outcomes and debates from the Fourth Financing for Development Conference", 9 July 2025. Available at https://donortracker.org/publications/shifting-the-tide-key-outcomes-and-debates-the-fourth-financing-for-development-conference-2025#spotlight-on-solutions.



# 2. Methodology

## 2.1. Research purpose and objectives

This study examines what constitutes an equitable JTfA to climate change from an African perspective. Our central aim was to develop a JTfA framework that can inform national, regional, and international policy processes, ensuring they reflect African experiences and justice imperatives.

Three objectives informed the study:

1. **Defining JTfA:** Using an adapted grounded theory approach to develop a conceptual framework for JTfA in Africa.
2. **Shaping the adaptation narrative:** Establishing a meta-narrative that reframes adaptation as a fundamental justice issue.
3. **Strengthen policy and action:** Promoting a consistent Afrocentric approach to adaptation with relevance to national, regional, and international policy and practice.

We applied qualitative methods comprising open-ended interviews, focus group discussions, expert engagement, and a structured literature review. The research engaged 72 participants in total (35 women and 37 men), nearly achieving complete gender equity. Three participants took part in both an interview and focus group session and were therefore counted only once in the overall total.

## 2.2. Conceptual and methodological approach

We applied an adapted grounded theory approach, guided by Charmaz's constructivist grounded theory, to flexibly merge information from primary and secondary sources, articulate key elements of a JTfA in Africa, and develop a matrix to assess its dimensions across spatial scales.[7] This approach emphasises knowledge co-creation with diverse stakeholders, while remaining sensitive to power dynamics and social justice concerns. Our study also drew on Crenshaw's intersectionality theory, which highlights how overlapping social identities – including gender, class, and poverty – shape differentiated vulnerability.[8] Schlosberg's environmental justice framework – which emphasises fairly distributing benefits and burdens – also informed the study.[9] We applied dependency theory and world systems analysis to examine how global economic and governance structures perpetuate climate inequities, situating Africa's adaptation challenges within broader global structural inequalities.[10] We also adopted the critical theory of the 'Epistemologies of the South,' first developed by de Sousa Santos, as a conceptual framework to inform analysis around knowledge production and knowledge systems.[11]

## 2.3. Operational definitions and epistemological positioning

Several concepts relating to knowledge, identity, and environmental justice recur in this report. Given their centrality to realising a JTfA, the following operational definitions clarify how these concepts are understood and applied in the analysis.

### Indigenous Peoples

Discussion of African Indigenous knowledge (IK) requires asking who and what knowledge counts as 'Indigenous.' Regarding Africa, the Indigenous Peoples concept has been a source of confusion and political contention, with the often-invoked reference to 'first peoples' or original descendants considered inapplicable given the continent's long history of human civilisations that predate colonialism.[12]



7 Narasimha Rao Vajjhala, "Constructivist grounded theory applied to a culture study", The Palgrave Handbook of Research Design in Business and Management, K. Strang, ed. (London, Palgrave Macmillan, 2015).

8 Kimberle Crenshaw, "Demarginalizing the intersection of race and sex: a black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics", University of Chicago Legal Forum, vol. 1, No. 8 (1989).

9 David Schlosberg, Defining Environmental Justice: Theories, Movements, and Nature (Oxford, Oxford University Press, 2007).

10 James Petras, "Dependency and world system theory: a critique and new directions", Latin American Perspectives, vol. 8, Nos. 3 and 4 (1981).

11 Boaventura de Sousa Santos, Epistemologies of the South: Justice Against Epistemicide (New York, Routledge, 2014). See also Boaventura de Sousa Santos and Maria Meneses, eds., Knowledges Born in the Struggle: Constructing the Epistemologies of the Global South (New York, Routledge, 2019).

12 Robert K. Hitchcock and Diana Vinding, eds., Indigenous Peoples' Rights in Southern Africa: An Introduction (Copenhagen, International Work Group for Indigenous Affairs, 2004).

Many African governments have asserted that all their citizens are Indigenous or that no Indigenous groups exist in their country. However, pressure from civil society persuaded the African Commission on Human and Peoples' Rights to establish a Working Group of Experts on Indigenous Populations in the early 2000s. Rather than providing a common definition, it identified three key characteristics that distinguish Indigenous Peoples across Africa: a history of being excluded and marginalised from development processes, cultural distinctiveness, and self-identification.[13] The Indigenous Peoples of Africa Coordinating Committee also indicates the term is relevant for acknowledging groups that primarily rely on natural resources, such as hunter-gatherers and nomadic pastoralists.[14]

### Distinguishing between Western scientific and Indigenous epistemologies

This report distinguishes between Western science and IK so we can examine inequalities in how different knowledge forms are produced, recognised, and used.

Western science is typically viewed as being analytical and using reductionist methods – essentially deconstructing complex phenomena to their most basic or fundamental parts. As a result, Western science often separates itself from its object of study and, more broadly, tends to separate that object (including humans) from nature. It is also objective, positivist, and rigorous, owing to its use of empirical evidence via quantitative or qualitative data collection methods.[15] Western science relies on transmission and being recorded via text-based forms and academic studies.[16]

IK has no single characterisation because of its diversity. The IPCC adopts UNESCO's definition: 'the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings.'[17] IK is dynamic and constantly evolving to meet new challenges or contexts.

Therefore, it is generally considered to hold a comparatively greater holistic, intuitive perspective. It recognises the complexity of the world and the interdependence of its systems. Indigenous worldviews do not separate nature and human society, as humans are part of a deeply interconnected web of life. Relationships with the environment are reciprocal, providing sustenance and autonomy while often fostering its conservation. IK does not distinguish between spiritual, empirical, and sacred forms of knowledge.[18] It is also considered largely subjective and qualitative in nature, informed by contexts and local conditions. Unlike Western science, IK is predominantly passed down through generations orally.[19] It is necessary to critically engage with IK because, as with any knowledge system, IK can exhibit social ontologies – such as patriarchy – that are sometimes historically grounded or mobilised in contemporary society, even when lacking historical basis, to serve particular ends.[20]

### Indigenous environmental justice

Conceptualising forms of justice warrants acknowledgement of the existence of widespread and historically rooted Indigenous versions of environmental justice, including specific African versions.

These versions generally extend the right to justice beyond merely humans and to include Earth and all its living inhabitants in deeply relational and intergenerational ways. This de-centring of humans profoundly impacts what environmental justice means and how it should be achieved because it contrasts

13 Kealeboga N. Bojosi and George Mukundi Wachira, "Protecting Indigenous peoples in Africa: an analysis of the approach of the African Commission on Human and Peoples' Rights", African Human Rights Law Journal, vol. 6, No. 2 (2006).

14 Nigel Crawhall, ed., An Introduction to Integrating African Indigenous and Traditional Knowledge in National Adaptation Plans, Programmes of Action, Platforms and Policies (Cape Town, IPACC, 2016). Available at https://unfccc.int/sites/default/files/resource/IPACC_Integrating_African_Indigenous_Traditional_Knowledge_into_NAPs.pdf.

15 Positivism is the idea that knowledge is only counted as knowledge if it is developed through empirical observation and scientific methods, rather than based on subjective experience, intuition or faith.

16 Fulvio Mazzocchi, "Western science and traditional knowledge", EMBO Reports, vol. 7, No. 5 (May 2006); Walter Leal Filho and others, "Obstacles to implementing indigenous knowledge in climate change adaptation in Africa", Journal of Environmental Management, vol. 373 (January 2025).

17 Intergovernmental Panel on Climate Change, Climate Change 2022, p. 148.

18 Ibid.

19 Ibid.

20 Abu Bakarr Bah and Margaret Nasambu Barasa, "Indigenous knowledge and the social construction of patriarchy: the case of the Bukusu of Kenya", Critical Sociology, vol. 49, No. 2 (March 2023).

with the individualised, human rights-based understandings of justice that dominate environmental justice discussions.[21]

For example, many Ongoni people in Nigeria have spent decades opposing oil exploration on their land because they believe that land and rivers are living and sacred beings in a deeply relational sense. Thus, they must be preserved from harm for the survival of current and future generations. They also believe that spirits and guardian animals live in the forests and must be protected.[22]

## 2.4. Participant selection and data collection

African adaptation negotiators, national climate policy implementers, generalists, thematic focused experts, government representatives, civil society actors, and other non-state actors, as stakeholders, provided primary information for this study through interviews and focus group sessions. We conducted 10 open-ended interviews of seven men and three women. The gender disparity resulted from difficulties in securing interviews with the identified stakeholders and was partly mitigated through the focus group sessions.

We also held two focus group discussions with practitioners and community representatives. The first was online with five participants (three men, two women). The second formed part of an in-person workshop in May 2025, which included a dedicated adaptation research session. A total of 30 stakeholders (19 women, 11 men) participated in breakout group discussions, with all five African regions represented (North, West, Central, East, Southern). The groups discussed key questions, shared inputs during a plenary discussion, and submitted group summaries via email.

As a final step, we held a targeted session with 30 expert stakeholders during a separate workshop at the end of May 2025, involving African and international think tanks.

**Organisations included:**

Power Shift Africa;

Mercy Corps;

Global Centre on Adaptation;

Office of the Kenya Special Envoy for Climate Change;

Global Gas and Oil Network;

Africa Research and Impact Network;
International Organisation for Migration;

Triple Capital; South South North;

African Centre of Meteorological Application for Development

International Crisis Group;

UN Office for Project Services;

SDG2 Advocacy Hub;

University of Kwa-Zulu Natal;

Kenya Ministry of Environment, Climate Change and Forestry;

Ghana Environmental Protection Agency;

Uganda Ministry of Water and Environment;

Kenya National Treasury;

Africa Centre for Technology Studies;

CARE International.

The participants (18 men, 12 women) were presented with the preliminary research findings and then provided feedback on them during a plenary discussion. We recorded their feedback and used it to further refine the research findings.

21 Deborah McGregor, Steven Whitaker and Mahisha Sritharan, “Indigenous environmental justice and sustainability”, Current Opinion in Environmental Sustainability, vol. 43 (April 2020).

22 Unrepresented Nations and Peoples Organization, “Joint submission to the UN Office of the High Commissioner for Human Rights for the consideration of the 3rd Universal Periodic Review of the Federal Republic of Nigeria” (2018), p. 3; Lele Dummene, “Exploring the impacts of Ogoni/African Indigenous Knowledge (AIK) in addressing environmental issues in Ogoniland, Nigeria”, Open Access Library Journal, vol. 10, No. 5 (May 2023).

## 2.5. Secondary research

We gathered secondary evidence through a comprehensive structured review of literature relating to climate vulnerability, adaptation, resilience concepts, just transitions, and environmental justice. We paid particular attention to the four justice dimensions relevant for adaptation: recognitional, procedural, distributive, and restorative. We also examined literature relating to ILK, locally led adaptation, adaptation finance, governance, structural vulnerability, and development pathways.

We reviewed resources including scholarly articles, project and research reports, policy briefs, policy documents, and grey literature. We also reviewed additional strategic policy documents from international organisations, governments, regional institutions, and non-state institutions, striving to use the latest research outputs. We sought to draw on recent evidence while incorporating foundational literature necessary to explain the historical and theoretical development of concepts used herein.

## 2.6. Data analysis and use of participant evidence

We applied iterative thematic coding consistent with grounded theory to analyse interview transcripts, focus groups, and workshop data. We then compared recurring themes, priorities, tensions, and context-specific insights from participants with the literature review to find convergences and areas for further refinement. We paid particular attention to how respondents understood justice in relation to adaptation, vulnerability, agency, governance, and finance within African adaptation contexts across national, regional, and international levels.

Participants' contributions helped identify and refine the central themes and principles underpinning a JTfA. We also used these to test, challenge, and contextualise interpretations emerging from the literature. This evidence directly informed the development of the report's proposed transition pathways and conceptual framework.

Quotations inserted in this report, thus, illustrate recurring or analytically significant perspectives rather than standalone testimonials. They allow participants' experiences and interpretations to speak directly to the report's findings and to enrich, support, or challenge the wider analysis. To balance contextual relevance with participants' right to anonymity, quotations are attributed using broad descriptors – such as stakeholder category, gender, and African region – where this information can be disclosed while maintaining anonymity.

## 2.7. Research ethics, positionality, and limitations

We conducted data collection and engagement with due consideration of research ethics, including informed consent, anonymity, and reciprocity principles. Participants were informed of the purpose of the research and the intended use of their contributions. Identifying information was excluded from the report unless disclosure had been explicitly authorised.

We applied decolonising methodology to centre African voices and critically engage with Western theoretical frameworks, so that we could ensure the research was contextually relevant and respectful of African perspectives. This report, therefore, adopts an unapologetic Afrocentric positionality in its analysis and recommendations, grounding them in the lived realities, priorities, and perspectives of African actors and institutions.

There were, however, a few research limitations. First, limited resources to engage more grassroots voices resulted in our largely engaging professional participants across Africa. Conducting the study entirely in English also limited linguistic diversity and possibly constrained authentic expression for some participants, underscoring the importance of multilingual approaches. Time constraints restricted research to a single-interview format and prevented further interviews with additional experts, potentially limiting deeper engagement. African climate experts and stakeholders' limited availability and uneven distribution across the continent also prevented equitable geographical representation in this study.



# 3. Adaptation concepts for the transition

**Adaptation is already a key component of long-term global responses to protect people, livelihoods, and ecosystems from climate change. Adaption should carry increasing political and practical significance, as climate impacts intensify and the 1.5°C limit is more likely to be exceeded.**

The interrelated concepts of vulnerability, adaptation, and resilience shape how climate risks are understood and addressed, and they are at the core of global adaptation policy and processes. They are distinct concepts, but they have a complex interrelationship. Put simply, vulnerability is the degree to which systems are susceptible to harm and unable to cope with or adapt to climate stress. Adaptation acts as the bridge and process to assess vulnerability and take action to reduce vulnerability to build long-term climate resilience.[23]

Global climate governance widely references the IPCC and UNFCCC definitions of the three concepts. However, how the concepts are understood and framed has evolved considerably and remains dynamic and contested across policy and academic debate.[24] Understanding how relevant parties define and interpret the concepts is critical, as definitions can shape who is recognised and who receives support – when and how. Exploring these concepts and their framings is no mere

23 Intergovernmental Panel on Climate Change, Climate Change 2022, p. 43.

24 See, for example, Greg Bankoff, "Remaking the world in our own image: vulnerability, resilience and adaptation as historical discourses", Disasters, vol. 43, No. 2 (April 2019); Greg Oulahen and others, "Public perceptions of resilience and vulnerability concepts for adaptation", The Professional Geographer, vol. 76, No. 1 (January 2024); Jiang Lanlan and others, "Vulnerability and resilience in the context of natural hazards: a critical conceptual analysis", Environment, Development and Sustainability, vol. 26, No. 8 (June 2023).

academic exercise; it 'influences the questions asked, the knowledge produced, the policies and responses ... prioritized and the justice outcomes of adaptation actions.'[25]

How adaptation, vulnerability, and resilience are conceptualised directly affects how adaptation initiatives are designed and whether they advance or undermine justice.

## 3.1. Vulnerability

Vulnerability is 'the propensity or predisposition to be adversely affected.' It includes elements such as 'sensitivity or susceptibility to harm' and the 'lack of capacity to cope and adapt,' according to the IPCC.[26] Early definitions emphasised measurable negative outcomes of physical exposure to hazards or climate impacts, but the IPCC paradigm evolved to include bottom-up, social, and contextual approaches.[27] These approaches recognise what causes vulnerability and that these aspects are embedded within and informed by diverse social, political, economic, and environmental contexts or forces.[28]

Nevertheless, many studies continue to frame vulnerability as narrowly climate-centred. Eriksen and others critiqued such framings for obscuring the socio-economic and political drivers that perpetuate risk and vulnerability, as well as the socio-environmental processes that enable adaptive capacity and resilience.[29] Studies have also highlighted that fixation on vulnerable groups can depict them as powerless rather than recognising their inherent agency, obscure how actors or institutions create and sustain vulnerability, and entrench top-down, external solutions that sustain capitalist and colonial structures.[30]

A broader understanding emphasises that covert power relations and disparities in knowledge, voice, and resources shape vulnerability, and that wider political economy drivers – such as colonial legacies, debt burdens, inequitable trade, finance regimes, and extractive industries – embed these disparities.[31] Therefore, a thorough understanding of vulnerability, informed by historical, social, economic, and political drivers, is a prerequisite for assessing justice in climate responses.[32] Different framings of vulnerability lead to very different adaptation policy responses. For example, an overly technical view might prompt drought-resistant crop technologies, treating people as passive, while a broader framing that highlights structural drivers could prioritise farmers' land and seed rights, alongside co-ownership of new technologies. The transformation embedded in justice principles becomes possible within this framing.[33]

In this report, we understand vulnerability as differentiated, relational, and structurally produced, rather than inherent to identities or communities. Alongside physical exposure, it arises from unequal historical, social, political, and economic conditions that shape exposure, adaptive capacity, access to resources, and decision making.

> **The report, therefore, recognises that vulnerable groups include smallholder farmers (many of whom are women), pastoralists, fisherfolk, women and girls, Indigenous Peoples, youth, informal workers, persons with disabilities, LGBTQ+ persons, low-income households, persons without work or income, displaced populations, and communities dependent on climate-sensitive livelihoods and ecosystems.**

25 Art Dewulf, "Contrasting frames in policy debates on climate change adaptation", WIREs Climate Change, vol. 4, No. 4 (July 2013).

26 Intergovernmental Panel on Climate Change, Climate Change 2022.

27 Dewulf, "Contrasting frames in policy debates on climate change adaptation".

28 Intergovernmental Panel on Climate Change, Climate Change 2022.

29 Siri H. Eriksen, Andrea J. Nightingale and Hallie Eakin, "Reframing adaptation: the political nature of climate change adaptation", Global Environmental Change, vol. 35, (November 2015).

30 Jon Barnett, "Global environmental change II: political economies of vulnerability to climate change", Progress in Human Geography, vol. 44, No. 6 (December 2020).

31 Terry Cannon and Detlef Müller-Mahn, "Vulnerability, resilience and development discourses in context of climate change", Natural Hazards, vol. 55, No. 3 (December 2010); Mark Pelling, Adaptation to Climate Change: From Resilience to Transformation (New York, Routledge, 2011).

32 Intergovernmental Panel on Climate Change, Climate Change 2022.

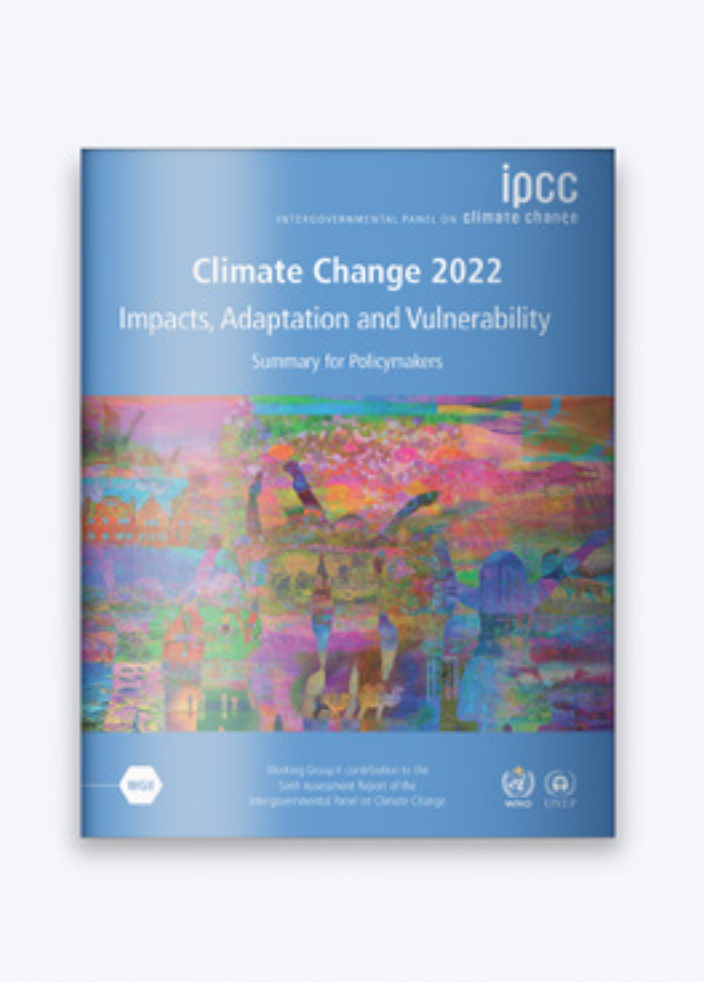
33 Pelling, Adaptation to Climate Change.

## 3.2. Adaptation

Adaptation, in biology, originally referred to 'the process by which an organism or species becomes suited to its environment.' The term entered the climate discourse in the 1990s after the UNFCCC and IPCC were established and as climate change gained global recognition.[34] Early attention to adaptation in UNFCCC and IPCC reports progressed slowly, overshadowed by a dominant focus on mitigation and global GHG emissions.[35] With this historical background, adaptation has since received a more precise definition and attention within the climate regime.

Notably, the IPCC indicates that adaptation in human systems is 'the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.'[36] In natural systems, it is the 'process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects.'[37] The IPCC definition is widely referenced, yet it represents a starting point and not necessarily an endpoint, as this definition continues to evolve in literature and policy debate in contrasting ways.

Perceptions of adaptation as a 'tame' technical or non-political challenge to be addressed primarily through technological or infrastructural fixes are perhaps the most contested understandings.[38] This type of view overlooks how critical factors such as power dynamics, governance, rights-based approaches, socio-economic contexts shape vulnerabilities, and adaptive capacities, which ultimately influence how adaptation is perceived and implemented.[39] Views of adaptation as either defensive or proactive also exist. A defensive response happens during or after climate shocks, such as floods or hurricanes, while proactive adaptation is anticipatory, before a risk turns into a hazard. However, Pelling concedes that there is fuzziness and a nuanced interplay between the two, whereby the decision to adapt can be both a reaction to the experience of previous extreme weather events and proactive anticipation of future risk.[40] Therefore, depending on the socio-political, and economic context, adaptation can take multiple forms: short- or long-term, local to global, incremental or transformative, and either reactive and retrospective or proactive and anticipatory.[41]




34 Definition from the Concise Oxford Dictionary (Oxford, Oxford University Press, 1998). See also, Ben Orlove, "The concept of adaptation", Annual Review of Environment and Resources, vol. 47 (October 2022).

35 Orlove, "The concept of adaptation"; Mikael Granberg and Leigh Glover, "Understanding climate change adaptation as politics: development and implications for the practice and scholarship of adaptation", Local Environment, (March 2026).

36 Intergovernmental Panel on Climate Change, Climate Change 2022, p. 134.

37 Ibid.

38 Pelling, Adaptation to Climate Change; Andrea Joslyn Nightingale and others, "Beyond technical fixes: climate solutions and the great derangement", Climate and Development, vol. 12, No. 4 (April 2020); Granberg and Glover, "Understanding climate change adaptation as politics".

39 Pelling, Adaptation to Climate Change; Granberg and Glover, "Understanding climate change adaptation as politics".

40 Pelling, Adaptation to Climate Change.

41 Granberg and Glover, "Understanding climate change adaptation as politics".

Another view is that adaptation is inherently a governance, equity, and justice issue, wherein it is considered a deeply socio-political process shaped by power, knowledge, and institutional dynamics, influencing how societies navigate multiple social and environmental changes.[42] This framing highlights the need to address what drives vulnerabilities such as structural inequalities, historical injustices, unequal access to resources, opportunities, and decision-making power.[43]

Framing adaptation is therefore not impartial. Certain interests are advanced while others are undermined or sidelined, power dynamics are reinforced or contested, and certain ideas or actors are included or excluded. Adaptation is 'easily framed wrongly, incompletely, or not at all' in key policy frameworks, so it is critical to interrogate dominant adaptation narratives and concepts to ensure that adaptation policies reflect diverse perspectives and lived experiences, and that they promote equitable climate action.[44]

Failure to critically interrogate how adaptation is framed and implemented, especially equity and justice considerations, can lead to maladaptation. This occurs when adaptation actions backfire and unintentionally increase vulnerability, undermining the long-term social and ecological resilience they seek to address, or shifting risks to other groups or locations.[45] Poorly designed or executed adaptation measures can also be unequally distributed, adversely affecting or eroding certain groups' or areas' resilience.[46] Financial, social, technical, legal, and governance barriers can trigger maladaptation, especially when adaptation actions rely on overly technocratic planning and exclusive governance, and they fail to integrate social equity, power, and justice considerations.[47]

Research increasingly highlights maladaptation as a complex and contested phenomenon. This exists along a continuum of success to failure, shaped by technical shortcomings and political choices and assessment decisions regarding whose interests, knowledge, evaluation criteria, and priorities are recognised in adaptation decision making and implementation. From this perspective, adaptation can become maladaptive when existing power imbalances, exclusionary decision-making processes, and unequal resource allocations reinforce or redistribute vulnerability, benefitting some groups while increasing risk for others.[48]

**In this research, we recognise adaptation as a deeply political and contested issue and adopt the widely referenced IPCC definition of adaptation as a starting point yet deliberately situate it within a broader justice lens. We focus on governance, justice, politics, and power relations to illuminate how adaptation pathways can be shaped in ways that address structural vulnerabilities and support more transformative, climate-resilient futures.**

42 Dewulf, "Contrasting frames in policy debates on climate change adaptation"; Eriksen, Nightingale and Eakin, "Reframing adaptation"; Granberg and Glover, "Understanding climate change adaptation as politics"; S.E. Walker and others, "Defining and conceptualizing equity and justice in climate adaptation", Global Environmental Change, vol. 87 (July 2024).

43 Dewulf, "Contrasting frames in policy debates on climate change adaptation"; Eriksen, Nightingale and Eakin, "Reframing adaptation".

44 Dewulf, "Contrasting frames in policy debates on climate change adaptation", p. 321.

45 Intergovernmental Panel on Climate Change, Climate Change 2022; Emmanuel Attoh and others, "Maladaptation in Africa: causes, implications and prevention", AGNES Policy Brief, No. 13 (Nairobi, Africa Group of Negotiators Experts Support, 2023); Philip Tetteh Quarshie and others, "Why 'formal' climate adaptation strategies fail in Sub-Saharan Africa: ignoring adapters' agency in the case of smallholding agriculture farming practices in Bono East Region of Ghana", Climate Resilience and Sustainability, vol. 2, No. 4 (November 2023).

46 Sirkku Juhola and others, "Connecting climate justice and adaptation planning: an adaptation justice index", Environmental Science & Policy, vol. 136 (October 2022).

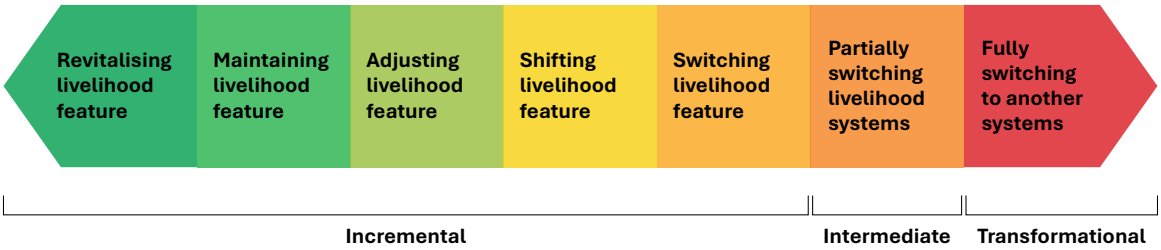
47 Intergovernmental Panel on Climate Change, Climate Change 2022.

48 Leigh Glover and Mikael Granberg, "The politics of maladaptation", Climate, vol. 9, No. 5 (April 2021).

### 3.2.1. Adaptation approaches: From adjustment to transformation

According to the UNFCCC and IPCC, adaptation actions are often discussed along a spectrum, from incremental to locally led and transformational responses, which differ in scope, scale, intent, effectiveness, and the degree to which livelihoods are altered (see Figure 1). Differing adaptation approaches can provide benefit or harm depending on the context, barriers, and type of climate risks faced. Recognising these distinctions is critical for ensuring that adaptation policies and practices are just and equitable, and not only effective, in addressing climate risks. This is especially relevant in Africa, where structural inequities, such as historical marginalisation, reliance on raw material exports, and unequal land tenure systems amplify climate vulnerability (see section 4.1 and chapter 6).

**Figure 1. Continuum of adaptation responses**




*Source: Dampha, Yassin, and Hamadalla.*

#### Incremental adaptation

Incremental adaptation refers to small-scale, gradual adjustments made within existing systems, practices, and structures. Existing systems are preserved, rather than changed, by adjusting livelihood features or practices, established structures or norms, and relying on techno-fixes to address climate risks.[49] It often comes as short-term reactive responses or 'doing slightly more than what is already being done.'[50] (See Table 1 below for more detail.)

A core criticism of incremental adaptation, supported by growing scientific evidence, is that small-scale fixes to systems are insufficient for meeting 'the pace or scale of climate disruption.'[51]

Such fixes also cannot address the root causes of vulnerability. Despite these shortcomings, from a Global South perspective, incremental adaptation is a vital adaptation approach and often a critical first step for climate-vulnerable countries to prepare for and build more transformative (discussed below) adaptive capacity.[52] In fact, it can be a preferred approach among climate-vulnerable communities, especially those in LDCs, because these countries can adjust their livelihoods and traditions, rather than completely abandon or change them.[53] From a justice perspective, incremental adaptation still should be paired with locally led and transformational responses to adequately address structural inequalities and vulnerabilities in the African context.

49 Nfamara K. Dampha, Lina Yassin and Hana Hamadalla, "Reframing transformational adaptation in the UNFCCC: lessons and pathways", briefing paper (London, International Institute for Environment and Development, 2025). Available at https://www.iied.org/sites/default/files/pdfs/2025-05/22628iied.pdf.

50 Pelling, Adaptation to Climate Change; Robert W. Kates, William R. Travis and Thomas J. Wilbanks, "Transformational adaptation when incremental adaptations to climate change are insufficient", Proceedings of the National Academy of Sciences, vol. 109, No. 19 (May 2012), pp. 7156.

51 Dampha, Yassin and Hamadalla, "Reframing transformational adaptation in the UNFCCC".

52 Ibid.

53 Ibid.

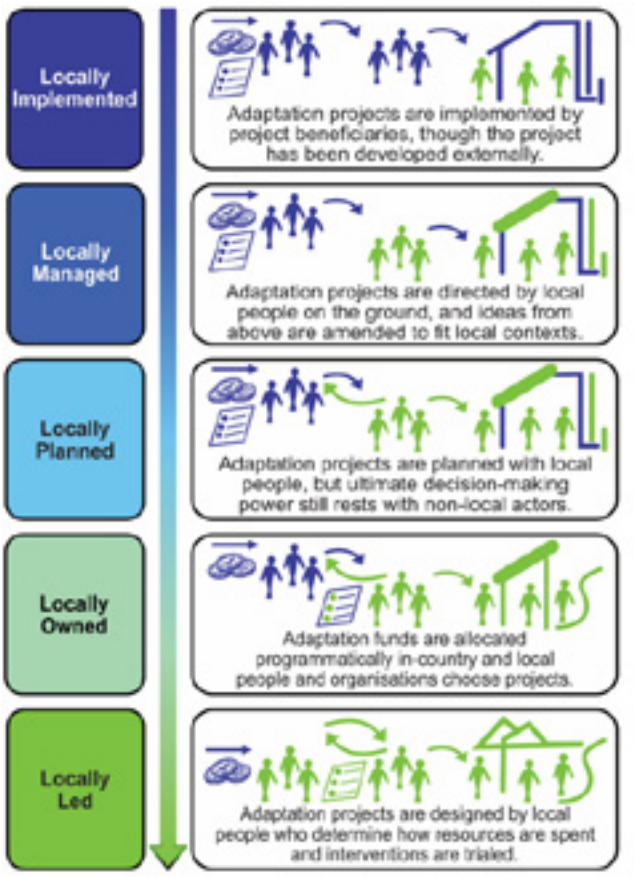
## Locally led adaptation

Locally led adaptation (LLA) approaches are instrumental for avoiding maladaptive outcomes. They shift power and control from non-local actors to local ones for defining and leading adaptation processes and actions. The core of locally led adaptation (LLA) comprises four key elements: local people, institutions, and knowledge systems drive decision making and implementation; local control is exercised over funds and resources; local realities and framings inform evaluations of success; and local inequities and exclusion dynamics are considered.[54] The Principles for Locally Led Adaptation, developed through a multi-stakeholder consultation process and launched at the 2021 Climate Adaptation Summit, have emerged as the most widely endorsed framework for such adaptation. Its eight principles emphasise devolved decision making; addressing structural inequalities, especially for women, youth, persons with disabilities, displaced people, Indigenous Peoples, and marginalised groups; promoting accessible and predictable finance; investing in local capabilities; integrating ILK; encouraging adaptive learning and flexibility; fostering transparency and accountability; and facilitating collaboration across actors and scales.[55]

Figure 2 shows a continuum of locally led responses, ranging from projects offering little to no agency (top) to those with complete agency (bottom). The arrow is deliberately downward, showing a shift away from top-down business-as-usual approaches toward LLA.[56] Like other adaptation approaches, LLA can result in maladaptive outcomes if not implemented carefully. For example, inequities and injustices can occur at the local level because of micropolitics – such as elite capture, patronage networks, and agenda-setting power – while who is defined as local, who controls resources, and who tracks success are potential problems. Therefore, recognition of layers and complexities in local and community framings is critical because local communities are not necessarily homogenous groups.[57] Essentially, LLA is positioned as a more transformative approach that can facilitate benefits that non-local approaches cannot.

Finally, recognition that 'locally led' does not imply a spatial limitation to climate adaptation initiatives is imperative. For example, successfully implemented LLA initiatives in a local area, or even within a specific country, can enter the international policy arena as globally relevant and repeatable adaptation initiatives.[58]

### Figure 2. Locally led adaptation engagement exists along a continuum




*Source: In Rahman et al.*

54 M. Feisal Rahman and others, "Locally led adaptation: promise, pitfalls, and possibilities", Ambio, vol. 52, No. 10 (October 2023).

55 Marek Soanes and others, "Principles for locally led adaptation: a call to action", Issue Paper (London, International Institute for Environment and Development, 2021). Available at https://www.iied.org/10211iied.

56 Ibid.

57 Ibid.

58 Katharine Vincent, "Development geography II: community-based adaptation and locally-led adaptation", Progress in Human Geography, vol. 47, No. 4 (August 2023), p. 605.

## Transformational adaptation

Transformational adaptation (TA) entails fundamental shifts in systems, structures, values, and power relations. TA is typically framed as tackling the root causes of climate vulnerability by driving large-scale systemic shifts in core aspects of social, ecological, political, and economic systems to proactively prepare for climate impacts and build long-term resilience.[59] It does so by challenging dominant narratives on development, security, and risk; reshaping norms, values, policies, and governance; and driving reforms to decision-making and socio-political structures.[60]

Despite its overall promise, TA's political implications and implementation practicalities have made it a source of contention in the UNFCCC adaptation negotiations, especially among developing countries. The concerns stem from existing power asymmetries underpinning global climate governance, legacies of colonial exploitation, donor conditionalities, an unjust global financial architecture, developed countries' failure to deliver on means of implementation support to developing countries, and skewed development patterns.[61]

Concerns around TA are fourfold. First, its current conceptualisation within UNFCCC adaptation negotiations is ambiguous, Western-centric, and fails to reflect the realities of climate-vulnerable regions that need a spectrum of adaptation approaches – from incremental to transformational – aligned with their climate risks and development contexts. The notion of TA only being large-scale is also problematic in climate-vulnerable countries. In practice, transformational change can occur across multiple scales – from personal, household, and micro to meso or macro levels – making a solely large-scale framing limiting and unrealistic in climate-vulnerable contexts.[62] Second, the high costs and investments needed to reform infrastructure, governance, and economic systems make implementing TA impractical among climate-vulnerable countries. Third, TA is unrealistic given developing countries' needs for finance, capacity building, and technology support, and developed countries' persistent failure to provide these. It is inherently unjust to expect climate-vulnerable countries, which contributed least to the climate crisis, to 'overhaul entire sectors, protect vulnerable communities and safeguard ecosystems … while grappling with debt, economic precarity and historical disadvantage.'[63] The risk of developed countries using TA as a conditionality to dictate acceptable forms of adaptation for finance, and thereby deflect their financial obligations under the UNFCCC, is another concern.[64]



59 United Nations Framework Convention on Climate Change, Transformational Adaptation Report: Defining and understanding transformational adaptation at different spatial scales and sectors, and assessing progress in planning and implementing transformational adaptation approaches at the global level (Bonn, 2024). Available at https://unfccc.int/sites/default/files/resource/tp2024_08.pdf; Intergovernmental Panel on Climate Change, Climate Change 2022.

60 Pelling, Adaptation to Climate Change; United Nations Framework Convention on Climate Change, Transformational Adaptation Report.

61 Under Articles 9, 10, and 11 of the Paris Agreement, developed countries are responsible for providing means of implementation (MOI) support to developing countries in implementing mitigation and adaptation actions. MOI refers to finance, technology development and transfer, and capacity building.

62 Dampha, Yassin and Hamadalla, "Reframing transformational adaptation in the UNFCCC", p. 3.

63 Ibid.

64 Ibid.

However, TA is also seen as critical for Africa, especially among climate scientists, and is already unfolding in diverse ways. Research drawing on African learning labs with local municipalities, non-governmental organisations, civil society organisations, and research institutions identified six guiding principles: changes in thinking and doing, inclusivity, challenging power imbalances, delivering tangible benefits, responsiveness and flexibility, and embracing complex systems thinking.[65]

For Africa, TA can only be fit for purpose if it is reimagined to address historical injustices, an unequal global financial system, the unmet obligations of developed countries, and diversity at the scale at which it occurs (personal, household, micro, meso, and macro levels).[66] This paradigm requires anchoring TA in equitable means of implementation support and aligning it with just transition principles, especially social protection, labour rights, and the justice dimensions discussed in chapter 5. It also demands reframing TA to recognise a flexible continuum of adaptation responses oriented toward transformation, with locally led adaptation at its core.[67] Contextually grounded TA offers a pathway for decolonising adaptation, empowering local communities and actors, and building systems that are just and inclusive, and not only resilient.

### Table 1. Examples of adaptation approaches

| Adaptation approach | Examples |
|---|---|
| **Incremental** | Small alterations to livelihoods, such as adopting crop new species and varieties or technocratic solutions to reduce flood risk, such as building seawalls, flood barriers, improved drainage systems, and infrastructure projects. Initiatives do not usually address root causes of vulnerability or power dynamics.[68] |
| **Locally led** | LLA shifts power to local stakeholders to define, prioritise, design, monitor, and evaluate adaptation, resulting in more effective interventions. For example, 'whole-of-island' or local ecosystem approaches, embedding adaptation in local institutions, such as vocational colleges, or working with specific population groups, such as women or religious minorities.[69] |
| **Transformational** | Community-led land tenure reform strengthens land rights and Indigenous customs, boosting communities' long-term adaptation by altering who owns and controls natural resources and enabling them to protect and manage their land for resilience.[70] |

65 Lorena Pasquini and others, "Pathways to transformative adaptation in southern African cities: a criteria-based assessment in Harare and Durban", Environmental Science & Policy, vol. 158 (August 2024).

66 Dampha, Yassin and Hamadalla, "Reframing transformational adaptation in the UNFCCC".

67 Ibid.

68 Intergovernmental Panel on Climate Change, Climate Change 2022; Pelling, Adaptation to Climate Change.

69 Rahman and others, "Locally led adaptation"; Rachel Clissold and Karen E. McNamara, "Exploring local perspectives on the performance of a community-based adaptation project on Aniwa, Vanuatu", Climate and Development, vol. 12, No. 5 (May 2020).

70 United Nations Framework Convention on Climate Change, Transformational Adaptation Report.

## 3.3. Resilience

Like adaptation, resilience was not originally developed in a climate policy context. It emerged from ecology as a description of how ecosystems absorb disturbances and 'bounce back.'[71] Resilience now has been adopted across disciplines, including climate discourse, and applied to social, economic, and governance systems.[72] Despite its various applications, the resilience concept remains contested, especially regarding its ambiguity, technocratic application, and tendency to overlook how social and political dynamics shape it.[73]

Three distinct interpretations and framings permeate climate resilience literature. The first is conservative and technocratic, and it informs many climate policy contexts. Here, resilience is the ability of a community or system to 'bounce back' to a previous or stable state after a climate shock. This conservative view resists systemic change, emphasising risk management and maintaining system functionality, often through technical or infrastructural fixes. The view is useful in some contexts, but is critiqued as 'backward-looking,' entrenching systems and vulnerabilities that climate shocks expose and being resistant to innovation or shifts toward alternative development pathways.[74] For some, bouncing back often means simply returning to a state of vulnerability.[75]

Second, as with adaptation, resilience is inherently contested and political, rather than a neutral or apolitical concept. For example, researchers highlight the need to ask: resilience of what to what, for whom (power and politics of resource distribution), and to what end (outcome or purpose)?[76] The questions expose underlying power relations, such as who sets resilience goals, who benefits, and who bears the risks. These issues underscore the need to critically examine the internal, social dynamics influencing resilience.[77]

A third interpretation is a transformative vision of resilience, framing it as a dynamic and forward-looking process regarding the capacity to change in the face of crisis, rather than return to 'normal.' Transformative resilience recognises the need for structural change to shift away from systems that reproduce risk and vulnerability, emphasising learning and flexibility, and addressing root causes such as inequality, underdevelopment, and governance failures.[78] People, power, and social change are crucial for shaping and building long-term resilience, aligning with the growing consensus that genuine climate resilience requires deep, systemic shifts, and not only incremental adjustments.[79]

The IPCC's forward-looking and nuanced definition reflects this evolution of views: 'the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.'[80] This definition signals a shift from stability to adaptability and from resisting change to embracing it.

71 Intergovernmental Panel on Climate Change, Climate Change 2022.

72 Katrina Brown, "Global environmental change I: a social turn for resilience?", Progress in Human Geography, vol. 38, No. 1 (February 2014).

73 Karin de Bruijn and others, "Resilience in practice: five principles to enable societies to cope with extreme weather events", Environmental Science & Policy, vol. 70 (April 2017); Simin Davoudi and others, "Resilience: a bridging concept or a dead end?", Planning Theory & Practice, vol. 13, No. 2 (June 2012).

74 Brown, "Global environmental change I".

75 Pelling, Adaptation to Climate Change.

76 Brown, "Global environmental change I"; Davoudi and others, "Resilience".

77 Pelling, Adaptation to Climate Change.

78 Brian Walker and others, "A handful of heuristics and some propositions for understanding resilience in social-ecological systems", Ecology and Society, vol. 11, No. 1 (June 2006); Carl Folke and others, "Resilience thinking: integrating resilience, adaptability and transformability", Ecology and Society, vol. 15, No. 4 (December 2010).

79 Brown, "Global environmental change I"; United Nations Framework Convention on Climate Change, Transformational Adaptation Report.

80 Intergovernmental Panel on Climate Change, Climate Change 2022.




# 4. Adapting in a changing climate: Development context, risk dynamics, and the global response

## 4.1. Adaptation and development

In 1992, the UNFCCC recognised the link between climate change, adaptation, and development.[81] Debates on this relationship have evolved since then, emphasising the need to critically assess whether global development is genuinely reducing vulnerability, supporting adaptation, and addressing emerging risks and opportunities.[82] Poverty, inequality, weak governance, and limited access to essential services such as health, water, education, and infrastructure contribute to development deficits in most developing countries. These deficits heighten vulnerability and result in 'adaptation gaps' – mismatches between risks faced and measures or capacities to respond



**1990**

**UNFCCC and IPCC established. Adaptation entered the climate discourse. Climate change gained global recognition.**

**1992**

**UNFCCC recognised the link between climate change, adaptation, and development.**

81 United Nations Framework Convention on Climate Change, United Nations Framework Convention on Climate Change (1992). Available at https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf; Himangana Gupta, "Adaptation, development, and sustainability nexus: how to attain inclusive growth and a secure future?", Journal d'Economie, de Management, d'Environnement et de Droit, vol. 3, No. 1 (2020).

82 E.L.F. Schipper and others, "The debate: is global development adapting to climate change?", World Development Perspectives, vol. 18 (June 2020).

effectively.[83] Therefore, climate adaptation efforts must be designed and assessed through a baseline of poverty, inequality, and systematic marginalisation. For example, Africa's adaptation needs are inseparable from its developmental contexts, historical colonial legacies, and present-day inequalities. Climate policy and implementation interventions will likely be ineffective or lead to maladaptation unless they account for the intertwined relationship of development and vulnerability.

Development contexts shape adaptation, but this reality must not obscure a critical interrogation of the type of development being pursued – development for whom, by whom, and to what end? For example, in the Xolobeni area of South Africa's Eastern Cape Province, community members have been in a decades-long battle against mine and road development, rejecting the type of 'development' it will bring to their community. The community is choosing a socially and environmentally regenerative order over the environmental destruction and extractivist trajectory promised by the 'development' being imposed on them.[84]



Current development pathways remain market-driven, favouring resource competition, material accumulation, extraction, land use change, or land dispossession, driving the expansion of human settlements into high-risk areas such as flood plains and coastal areas. Far from promoting adaptation, these models further entrench vulnerability.[85] Factors such as the problematic use of GDP as a measure of a country's development reinforce these ineffective development models. For example, GDP counts economic activities such as large-scale logging or fossil fuel extraction as positive contributions to growth and development, while the associated social and environmental costs remain unaccounted for.[86] In this way, GDP reinforces development that is ecologically and socially destructive. Therefore, global conceptualisations and measures of economic growth and development do not necessarily signal a country's prosperity or resilience. GDP alternatives exist, such as the Human Development Index (HDI) and Genuine Progress Indicator (GPI). The HDI, developed by the United Nations Development Programme (UNDP), combines indicators for life expectancy, education, and standard of living to measure people's overall well-being, while the GPI focuses on measuring sustainable economic welfare rather than economic activity alone.[87]

The types of development that address the root causes of vulnerability to climate change and bridge adaptation gaps must be co-created with frontline communities in a participatory, bottom-up manner.[88] This approach will centre local leadership and foster ownership and sustainability as it builds on contextual realities and existing local solutions instead of imposing development interventions and programmes designed elsewhere and parachuted into vulnerable communities.[89]

83 Schipper and others, "The debate".

84 Phillan Zamchiya, "Differentiation and development: the case of the Xolobeni community in the Eastern Cape, South Africa", Working Paper No. 61 (Cape Town, Institute for Poverty, Land and Agrarian Studies, 2019). Jackie Dugard, "Xolobeni's struggle against patriracial-colonocapitalist mining in South Africa: a counterpoint to climate catastrophe?", Wisconsin International Law Journal, vol. 41, No. 4 (2024).

85 Schipper and others, "The debate".

86 Jeremy Williams, "The many absurdities of GDP", The Earthbound Report, 13 September 2017. Available at https://earthbound.report/2017/09/13/the-many-absurdities-of-gdp/.

87 United Nations Development Programme, Human Development Index (HDI). Available at https://hdr.undp.org/data-center/human-development-index#/indicies/HDI (accessed 2 March 2026).

88 Meg Parsons and others, "Participatory approaches to climate adaptation, resilience, and mitigation: a systematic review", Ambio, vol. 54, No. 12 (December 2025); Intergovernmental Panel on Climate Change, Climate Change 2022.

89 Subhashree Nath, "Mobilising transformative community-based climate change adaptation", Urban Transformations, vol. 6, No. 1 (January 2024).

## 4.2. Navigating climate risks in the context of warming and adaptation limits

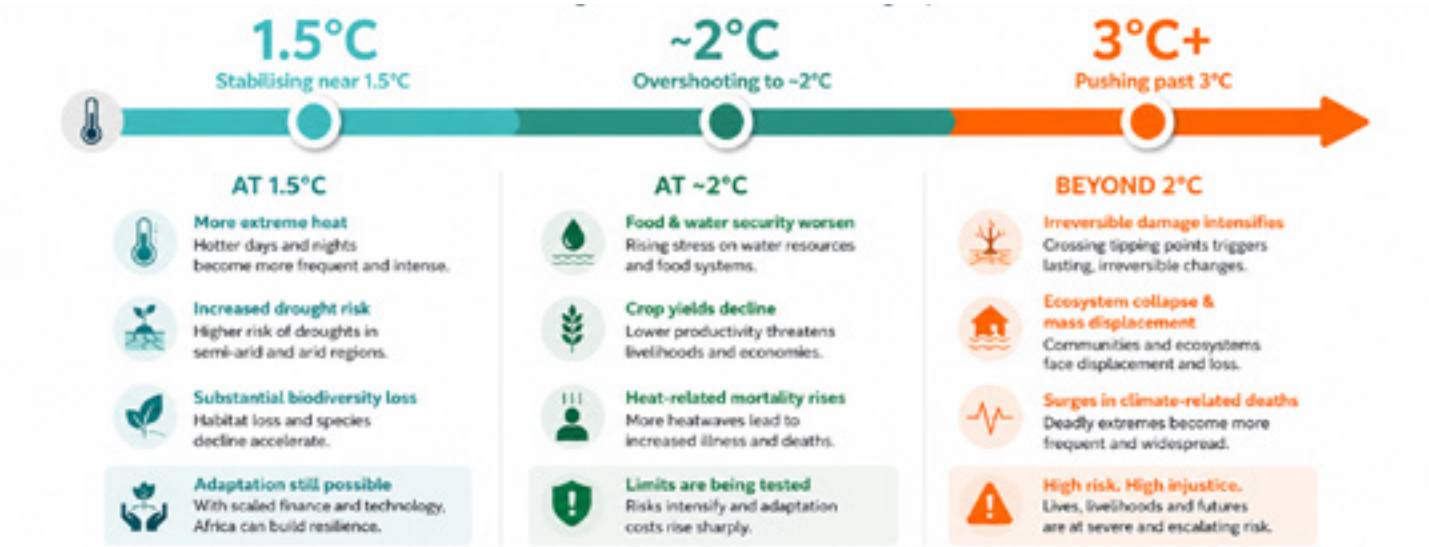
Risk and vulnerability theory explains hazard potential and vulnerability as producing risk.[90] Therefore, climate risk results from the intersection of climate hazards (e.g. extreme heat, floods), vulnerability, and exposure. Historical and current injustices shape this vulnerability by influencing whose knowledge is valued and who has access to decision-making power, resources, finance, and technology.

Across Africa, structural vulnerabilities – such as weak infrastructure, poverty, and reliance on rain-fed agriculture and other climate-sensitive sectors – together with insufficient adaptation finance and limited fiscal space, greatly constrain adaptation. Thus, even moderate increases in warming amplify impacts disproportionately across the continent.

**The IPCC's three broad warming scenarios –stabilising near 1.5°C, overshooting to ~2°C, and pushing past 3°C – are scientific projections of future climate impacts yet they are also potential justice fault lines.**

Each pathway brings escalating climate impacts. At 1.5°C, African regions face more extreme heat, increased drought risk in semi-arid zones, and substantial biodiversity loss; however, adaptation still remains possible if finance and technology flow at scale.[91]

At 2°C, food and water security sharply deteriorate, crop yields decline, and heat-related mortality rises. Beyond 2°C, irreversible damage intensifies – including ecosystem collapse, mass displacement, and surges in climate-related deaths.




90 Satu Kumpulainen, "Vulnerability concepts in hazard and risk assessment", in Natural and Technological Hazards and Risks Affecting the Spatial Development of European Regions, Philipp Schmidt-Thomé, ed., Geological Survey of Finland Special Paper, No. 42 (Espoo, 2006).

91 IPCC, 2018: Global Warming of 1.5°C.An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, 616 pp. https://doi.org/10.1017/9781009157940

The year 2024 was the warmest on record and the first single calendar year in which global average surface temperatures surpassed 1.5°C above pre-industrial levels.[92] Because of this, sub-Saharan Africa is already facing more frequent heat extremes, longer dry spells, and declining crop yields and rainfall.[93] Many African countries are nearing their soft and hard adaptation limits. Soft limits are where solutions exist but are infeasible because of financial, technical, or institutional constraints, while hard limits are where no adaptation measure can prevent loss and damage.[94] Even within the soft limits, regions such as the Sahel and low-lying coastal areas are likely to experience irreversible impacts, especially where adaptation is delayed or under-resourced.[95]

LDCs, most of which are in Africa, are subject to 69% of climate-related deaths. The fact that Africa contributes the least to global emissions, yet climate impacts disproportionately affect it underscores the continent's irrefutable climate justice claims.[96] Adaptation's future depends not only on global warming levels but also on whether adaptation decisions and pathways challenge or reproduce existing systems of exclusion and dependency. A JTfA therefore requires examining different emissions and climate risk scenarios to understand how justice outcomes may evolve under different climate futures. As warming increases, adaptation needs and associated costs rise, raising critical questions on responsibility, support, and accountability, turning the IPCC's scenarios into escalating tests of whether the world will meet its legal and moral obligations.

At 1.5°C above pre-industrial levels, justice obligations would require adaptation finance at least commensurate with adaptation needs (currently estimated at USD 310–365 billion annually by 2035 for developing countries) in grants accompanied by adaptation technology transfer and cancellation of climate-related debt.[97] At 2°C, obligations to provide grant-based adaptation and loss and damage finance scale substantially to include funding for climate-induced migration and full climate-proofing of Africa's infrastructure. Beyond 2°C, justice claims for full compensation for all losses and restorative action become stronger, thereby doubling baseline finance obligations and international support for planned relocations and climate-resilient proofing of infrastructure (see Appendix A).[98]

As climate impacts intensify, Africa's underlying vulnerabilities will thus either be reinforced or transformed through choices made by communities, governments, institutions, and international actors.

## 4.3. Global adaptation response: Falling short of reality

Adaptation's urgency is widely acknowledged, but the global financial and institutional response is not keeping pace with mounting climate risks.

### 4.3.1. Global adaptation governance under the UNFCCC

Adaptation has gained greater visibility under the UNFCCC, with significant milestones and institutional mechanisms achieved since 1994 (Figure 3).[99] Efforts including the Adaptation Committee, Least Developed Countries Expert Group, and Nairobi Work Programme have helped guide adaptation planning processes. Countries are also using their National Adaptation Plans (NAPs) and the adaptation

92 Copernicus Climate Change Service, "Copernicus: 2024 is the first year to exceed 1.5°C above pre-industrial level", 10 January 2025. Available at https://climate.copernicus.eu/copernicus-2024-first-year-exceed-15degc-above-pre-industrial-level.

93 Ove Hoegh-Guldberg and others, "Impacts of 1.5°C global warming on natural and human systems", in Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C Above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty, Valérie Masson-Delmotte and others, eds. (Cambridge and New York, Cambridge University Press, 2018).

94 Copernicus Climate Change Service, "Copernicus: 2024".

95 Hoegh-Guldberg and others, "Impacts of 1.5°C global warming on natural and human systems".

96 United Nations Conference on Trade and Development, The Least Developed Countries Report 2022: The low-carbon transition and its daunting implications for structural transformation (Geneva, 2022). Available at https://unctad.org/system/files/official-document/ldc2022overview_en.pdf.

97 United Nations Environment Programme, Adaptation Gap Report 2025: Running on empty: the world is gearing up for climate resilience – without the money to get there (Nairobi, 2025). Available at https://www.unep.org/resources/adaptation-gap-report-2025. The ICJ ruling affirmed 1.5°C as the primary temperature goal under the Paris Agreement. Each warming increment above 1.5°C deepens existing climate injustices and increases high-emitting countries' obligations in line with the principles of CBDR-RC, equity, and polluter pays.

98 See the Appendix for detailed exploration of how justice pathways respond to the IPCC's three temperature scenarios.

99 United Nations Framework Convention on Climate Change, 30 Years of Adaptation under the Convention and the Paris Agreement (Bonn, 2024). Available at https://unfccc.int/sites/default/files/resource/AC_2024_30YearsOfAdaptation.pdf.

communications of their Nationally Determined Contributions (NDCs) to report their national priorities and actions.[100] More recently, frameworks such as the GGA and the UAE Framework for Global Climate Resilience, which set seven thematic and four adaptation policy cycle goals, have sought to elevate adaptation's political profile. The thematic targets focus on priority adaptation sectors, including water and sanitation, food, agriculture, ecosystems, infrastructure and human settlements, health, livelihoods, and cultural heritage. The adaptation policy cycle goals include targets for impact, vulnerability and risk assessments, planning, implementation and monitoring, evaluation, and learning.[101]

## Figure 3. Adaptation-related milestones under the UNFCCC since 1994

| | | |
|---|---|---|
| **ENTRY INTO FORCE OF THE UNFCCC** | **(1994)** | |
| | **COP 2 (1996)** | **Observing impacts, assessing risks and vulnerabilities**<br>National communications |
| **Moving to planning and pilot implementation**<br>LDC Support (NAPAs, LEG, LDCF), SCCF, and Adaptation Fund | **COP 7 (2001)** | |
| | **COP 11 (2005)** | **Sharing knowledge and lessons learned**<br>Nairobi work programme |
| **Scaling up implementation**<br>Bali Action Plan | **COP 13 (2007)** | |
| | **COP 15 (2009)** | **Mobilizing finance for climate action**<br>Goal of mobilizing jointly USD 100 billion a year by 2020 |
| **Moving towards mid- and long-term adaptation**<br>Cancun Adaptation Framework (Adaptation Committee, NAP process, and Loss & Damage)<br>Establishment of the GCF | **COP 16 (2010)** | |
| | **COP 19 (2013)** | **Addressing loss and damage**<br>Establishment of the Warsaw International Mechanism and its Executive Committee |
| **Paving the way for increased ambition**<br>Adoption of the Paris Agreement (Global goal on adaptation, adaptation communications, technical examination process on adaptation, expedited support for NAP process, enhanced transparency framework, global stocktake) | **COP 21 (2015)** | |
| | **COP 24 (2018)** | **Setting the rules of implementation**<br>Implementation guidelines for the Paris Agreement finalized |
| **Taking action on gender and loss and damage**<br>Enhanced Lima work programme on gender and its gender action plan<br>Establishment of Santiago network | **COP 25 (2019)** | **Recognizing local communities and Indigenous Peoples under the Convention**<br>Establishment of the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform |
| | **COP 26 (2021)** | **Evaluating progress and increasing ambition**<br>Establishment of Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation |
| **Focus on adaptation and loss and damage finance**<br>Encouragement to double adaptation finance from 2019 levels by 2025<br>Establishment of Fund for responding to Loss and Damage and funding arrangements | **COP 27 (2022)** | Establishment of Glasgow work programme on Action for Climate Empowerment |
| | **COP 28 (2023)** | **Course correcting and setting global targets**<br>Conclusion of first global stocktake<br>Adoption of United Arab Emirates Framework for Global Climate Resilience |
| **Setting a new bar for global climate finance flows**<br>New collective quantified goal on climate finance | **COP 29 (2024)** | |

*Source: United Nations Framework Convention on Climate Change.*

100 United Nations Framework Convention on Climate Change, 30 Years of Adaptation under the Convention and the Paris Agreement.

101 United Nations Foundation, "UAE Framework for Global Climate Resilience". Available at https://unfoundation.org/what-we-do/issues/climate-and-energy/uae-framework-for-global-climate-resilience/ (accessed on 15 July 2025).

Despite these gains, adaptation continues to lag behind mitigation in international political focus, institutional clarity, and financial support. For example, the Paris Agreement legally mandates parties to prepare, communicate, and update their NDCs, yet adaptation communications are encouraged rather than mandatory, and NAPs remain voluntary planning instruments.[102] There also is still no equivalent obligatory reporting architecture for adaptation progress. This void reflects a persistent perception that the financial and technical support required for adaptation implementation is primarily the responsibility of individual countries, despite commitments under UNFCCC Article 4.4 requiring developed country parties to assist vulnerable developing countries meet their adaptation costs.[103]

### 4.3.2. Slow progress in adaptation planning, implementation, and finance

Most countries now have at least one adaptation planning instrument in place, with 77 having submitted NAPs to the UNFCCC as of July 2026.[104] Of the 54 African countries that are parties to the UNFCCC, 26 have submitted NAPs. However, planning and implementation barriers continue to hinder progress.[105] For planning, many NAPs lack specific timeframes, costs associated with priorities, and are poorly aligned, especially with the countries' NDCs, which undermines their strategic value. These gaps often carry through to implementation, where inadequate data, low climate awareness, weak institutional coordination, and limited scale, as well as access to financial resources, hamper advancement.[106] In some countries – especially those affected by fragility and conflict – weak institutions, instability, and low prioritisation of climate risks further constrain adaptation planning and implementation.[107] The vast adaptation finance gap is another substantial hurdle to scaling adaptation action globally, coupled with limited international support to developing countries for adaptation technology and capacity building.[108]

Adaptation finance is in crisis. Despite rhetorical progress, actual delivery continues to fall short of developing countries' needs.[109] Africa's annual adaptation needs are near 70 billion United States dollars (USD), yet annual flows only amounted to only USD 14 billion in 2021/2022.[110] The 2025 United Nations Environment Programme (UNEP) Adaptation Gap Report noted that developing countries will need USD 310–365 billion in adaptation finance per year by 2035. However, current international public adaptation finance flows from developed to developing countries are nowhere near this figure; in fact, the total fell from USD 28 billion in 2022 to USD 26 billion in 2023.[111] (See chapter 7 for more details on adaptation finance.)

The current response to adaptation – in terms of conceptualisation, planning, implementation, and financing – is clearly inadequate. If climate adaptation is to produce climate-resilient development pathways grounded in justice and equity, fundamental shifts must occur in how adaptation is understood, implemented, and funded. Adaptation should be reframed to be strongly anchored in justice. It must be acutely sensitive to the forms and concepts of justice that currently inform the wider just transition debate.

102 United Nations Framework Convention on Climate Change, The Paris Agreement; Organisation for Economic Co-operation and Development, "Climate change adaptation policies to foster resilience in agriculture: analysis and stocktake based on UNFCCC reporting documents", OECD Food, Agriculture and Fisheries Papers, No. 202 (Paris, OECD Publishing, 2023). Available at https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/07/climate-change-adaptation-policies-to-foster-resilience-in-agriculture_5b19ff66/5fa2c770-en.pdf.

103 United Nations Framework Convention on Climate Change, United Nations Framework Convention on Climate Change.

104 United Nations Framework Convention on Climate Change, "Submitted NAPs from developing country Parties". Available at https://napcentral.org/submitted-NAPs (accessed on 29 July 2026).

105 United Nations Environment Programme, Adaptation Gap Report 2024: Come hell and high water: as fires and floods hit the poor hardest, it is time for the world to step up adaptation actions (Nairobi, 2024). Available at https://www.unep.org/resources/adaptation-gap-report-2024.

106 Ibid.

107 Ibid.

108 Ibid.

109 United Nations Environment Programme, Adaptation Gap Report 2025, pp. ix and 9.

110 Chavi Meattle and others, Landscape of Climate Finance in Africa 2024 (San Francisco, Climate Policy Initiative, 2024). Available at https://www.climatepolicyinitiative.org/wp-content/uploads/2024/10/Landscape-of-Climate-Finance-in-Africa-2024.pdf.

111 United Nations Environment Programme, Adaptation Gap Report 2025, p. ix.

# AFRICA IS WARMING AT ALMOST TWICE THE GLOBAL AVERAGE TEMPERATURE RISE.





# 5. Justice and the transition

**The just transition concept has emerged, permeated climate negotiations, and influenced the mitigation and adaptation debates.**

## 5.1. Origins and evolution of the just transition concept

The concept originated from the US labour movement and was codified by the International Labour Organization (ILO) 2015 'Guidelines for a Just Transition.' Its inclusion in the Sixteenth Conference of the Parties (COP16) agreement in Cancun signalled its entry to the international climate policy arena.[112] The concept was more formally adopted five years later in the Paris Agreement preamble, which acknowledged the need to fairly transition workers in accordance with nationally defined development priorities.[113]

Despite the ILO Guidelines' broad focus on social protection, skills development, and social dialogue, just transition narratives within the climate agenda have tended to narrowly focus on protecting jobs and leaving no one behind

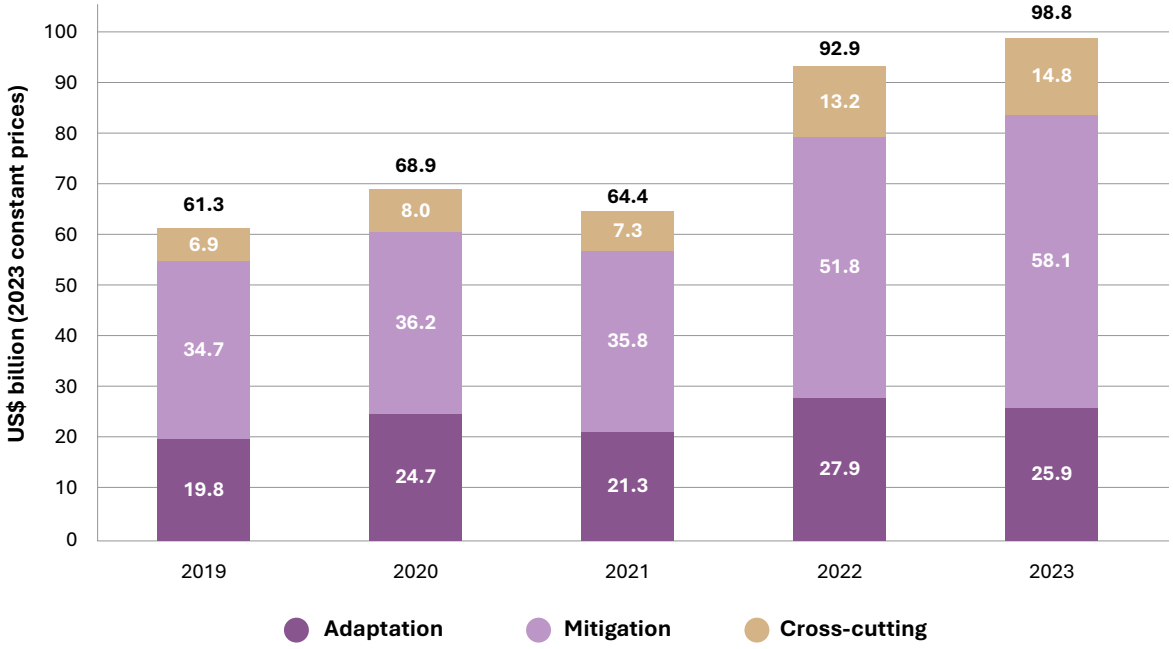
112 Giorgos Galanis and others, "Defining just transition", Ecological Economics, vol. 227 (January 2025).

113 United Nations Framework Convention on Climate Change, The Paris Agreement; International Labour Organization, Guidelines for a just transition towards environmentally sustainable economies and societies for all (Geneva, 2015). Available at https://www.ilo.org/publications/guidelines-just-transition-towards-environmentally-sustainable-economies; Sinem Hizliok and Annabel Scheer, "What is the just transition and what does it mean for climate action?", Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, 20 February 2024. Available at https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-just-transition-and-what-does-it-mean-for-climate-action/.

within decarbonising sectors of the economy – oil, coal, and gas.[114] The just transition concept, thus, has been largely concerned with mitigation and energy rather than adaptation. While wider understandings are emerging, such as just urban, just food system transitions, and just rural transitions, compared with the just energy transition concept, these are 'still evolving concepts, with different levels of engagement.'[115]

Recent developments, such as the JTWP's creation at COP27 (see below) prompted the important process of deepening the just transition process. Despite this shift and the provisions of Paris Agreement Article 9.4, emphasising a balance between mitigation and adaptation finance, most climate finance to date has, nonetheless, been directed toward mitigation while further relegating adaptation (Figure 4).[116]

## Figure 4. Developed countries' public finance commitments to developing countries by thematic area in 2019–2023




*Source: United Nations Environment Programme, 2025.*

For example, in 2023, mitigation financing reached USD 1.78 trillion, yet only USD 65 billion was allocated to adaptation, with most financing for both coming from the private sector or being debt-based.[117] Additionally, the predominant focus on energy in just transitions led to the establishment of Just Energy Transition Partnerships (JETPs) at COP26 in Glasgow. These focused on financing energy rather than 'whole-of-society' transitions.

JETPs may mobilise finance for energy transitions that would not otherwise exist, yet they have major limitations. The majority of JETP finance is loan-based, with grants comprising only a small share of total funding – 5% for South Africa, 3% for Indonesia, and 4% for Vietnam. Also, only a marginal share of JETP financing is explicitly directed to justice-related projects, raising concerns that the partnerships' justice components lack substance.[118]

114 Hizliok and Scheer, "What is the just transition and what does it mean for climate action?"; Minna Kaljonen, Teea Kortetmäki and Theresa Tribaldos, "Introduction to the special issue on just food system transition: tackling inequalities for sustainability", Environmental Innovation and Societal Transitions, vol. 46 (March 2023); Leigh Johnson and others, "Intervention: the invisible labor of climate change adaptation", Global Environmental Change, vol. 83 (December 2023).

115 Monkgogi Otlhogile and Rebekah Shirley, "The evolving just transition: definitions, context, and practical insights for Africa", Environmental Research: Infrastructure and Sustainability, vol. 3, No. 1 (March 2023), p. 4; Kaljonen, Kortetmäki and Tribaldos, "Introduction to the special issue on just food system transition".

116 United Nations Framework Convention on Climate Change, The Paris Agreement.

117 Baysa Naran and others, Global Landscape of Climate Finance 2025 (San Francisco, Climate Policy Initiative, 2025), p. 6. Available at https://www.climatepolicyinitiative.org/wp-content/uploads/2000/06/compressed_Global-Landscape-of-Climate-Finance-2025.pdf.

118 Alexander Csanadi and Daniel Helmeci, "The Just Energy Transition Partnership crossroads", Carnegie Endowment for International Peace, 20 October 2025. Available at https://carnegieendowment.org/research/2025/10/the-just-energy-transition-partnership-crossroads.

Mitigation clearly captures most funding, yet there is growing recognition that adaptation must be a key component of any just transition.[119] As with the energy transition, adaptation measures can have unequal and unjust outcomes because adaptation is not a neutral process; political and normative choices shape whose risks are prioritised, whose livelihoods are protected, and whose futures are safeguarded.[120] It is also inherently broad and complex, spanning many development and social sectors. This raises a critical question: How does adaptation fit within the dominant just transition agenda and narrative?

Adaptation is increasingly recognised and linked to the just transition framework in international climate governance. For example, the JTWP, established at COP27 in Sharm-el-Sheikh (Egypt) decision 1/CMA.4, aligns with the Paris Agreement goals, covering mitigation, adaptation, and finance pathways. The decision emphasises the importance of energy, socioeconomic, workforce, and other dimensions, based on nationally determined priorities, in facilitating just and equitable transitions.[121]

Subsequent JTWP decisions, such as 3/CMA.5 and 2/CMA.7, have further recognised that just transition pathways are relevant to, and contribute to, more equitable outcomes for adaptation. They also require 'whole-of-society' and 'whole-of-economy' approaches.[122] Despite evident progress, negotiations under the JTWP have been deeply contested, reflecting long-standing tensions between Global North and Global South actors over the pathways' scope and meaning. Researchers highlight how Global South efforts to advance a holistic, 'whole systems' approach encompassing adaptation, equity, means of implementation, and broader justice dimensions (i.e. recognitional, procedural, distributive, and restorative) have been repeatedly watered down.[123] Instead, the Group of Twenty (G20) countries have pushed through reductionist framings centred on labour and energy transitions, with only more recent COP outcomes securing greater recognition of broader justice elements.[124]




## 5.2. Expanding just transition research and narratives to a whole-of-society approach

Recent studies have started to address the intersection of sustainability transitions and the wider global political economy, but further examination is needed to understand how diverging adaptation priorities and livelihood considerations influence policy outcomes.[125] Additionally, despite the rise of the just transition paradigm in global discourse and international climate governance, researchers argue that most research remains heavily skewed

119 Laura Kuhl, "Engaging with climate adaptation in transition studies", Environmental Innovation and Societal Transitions, vol. 41 (December 2021).

120 Friederike Lager and others, "A just transition for climate change adaptation: towards just resilience and security in a globalising world", Adaptation Without Borders Policy Brief, No. 2 (Stockholm, Stockholm Environment Institute, 2021). Available at https://weadapt.org/wp-content/uploads/2023/05/pb2_rev4_web.pdf.

121 United Nations Framework Convention on Climate Change, decision 1/CMA.4 Sharm el-Sheikh implementation plan – pathways to just transition (2023). Available at https://unfccc.int/sites/default/files/resource/cma2022_10_a01E.pdf.

122 United Nations Framework Convention on Climate Change, decision 3/CMA.5 United Arab Emirates just transition work programme (2024). Available at https://unfccc.int/sites/default/files/resource/cma2023_16a01_adv_.pdf; United Nations Framework Convention on Climate Change, decision 2/CMA.7 United Arab Emirates just transition work programme (2025). Available at https://unfccc.int/sites/default/files/resource/cma2025_19_a01.pdf.

123 Alix Dietzel, "Negotiating just transition at the UNFCCC", Global Environmental Politics, vol. 25, No. 4 (November 2025), p. 87.

124 Dietzel, "Negotiating just transition at the UNFCCC"; United Nations Framework Convention on Climate Change, Report of the Conference of the Parties to the Paris Agreement on its seventh session, held in Belém from 10 to 22 November 2025.

125 Flor Avelino, "Power in sustainability transitions: analysing power and (dis)empowerment in transformative change towards sustainability", Environmental Policy and Governance, vol. 27, No. 6 (November 2017); Jonathan Köhler and others, "An agenda for sustainability transitions research: state of the art and future directions", Environmental Innovation and Societal Transitions, vol. 31 (June 2019); Eriksen, Nightingale and Eakin, "Reframing adaptation".

toward the industrialised economies of the developed world and often sidelines the distinct transition challenges of the Global South, especially Africa.[126] Africa, therefore, needs a different understanding of just transitions, which considers the continent's structural realities, including its dependence on extractive industries, economic fragility, high levels of inequality, limited fiscal space, and vulnerability to climate impacts.[127] Just transitions on the continent also should carefully consider Africa's high levels of unemployment and the highly informal (precarious) nature of most of the labour force.[128]

For adaptation, labour and 'workers' extend beyond the fossil fuel employment sectors typically associated with the just transition discourse. Both climate impacts and adaptation responses directly shape the livelihoods and labour conditions of smallholder farmers, pastoralists, fisherfolk, informal urban workers and food traders, frontline healthcare and emergency response personnel, and women undertaking disproportionate and unpaid adaptation and care labour.[129]

Emerging research recognises these groups not only as climate-vulnerable populations but also as central actors performing adaptation labour itself, including through unpaid, informal, voluntary, and socially reproductive forms of work.[130] However, adaptation as 'work' or labour is rarely recognised in scholarship or climate policy.[131]

Johnson and others defined adaptation labour as 'everyday productive and socially reproductive strategies to bear the actual or expected impacts of climate change, including human actions to build or repair environments, infrastructures, or production systems.'[132] This includes activities such as forest management, mangrove planting, agricultural production and food distribution, flood works, community planning and training exercises, and household relocation, and their adoption.[133]

Beyond labour- and energy-centred approaches, emerging scholarship advances a more holistic, 'whole-systems' framing of just transition that recognises multiple, interconnected dimensions of justice, the non-linearity of transitions, and the intersection of political, economic, technological, and cultural drivers.[134] This approach adopts an explicitly transformational agenda that aligns with the Global South's calls within the UNFCCC for a whole-of-society approach to the JTWP.

Expanding just transition research to more fully incorporate and investigate adaptation-related priorities, livelihoods, and labour realities in the Global South is, therefore, essential for crafting climate strategies that are equitable, context-sensitive, and attuned to structural vulnerabilities. A just transition lens on adaptation would critically shape how investments flow and labour capacities are supported across key adaptation sectors, including climate proofing infrastructure, agriculture and food systems, healthcare, water systems, urban and settlements planning, and disaster response. A JTfA, thus, should be viewed as complementary to, not competing with, mitigation-focused transitions, requiring attention to how the benefits and burdens of unavoidable climate impacts and adaptation action are distributed in socially just and politically legitimate ways.

126 Bipashyee Ghosh and Johan Schot, "Towards a novel regime change framework: studying mobility transitions in public transport regimes in an Indian megacity", Energy Research & Social Science, vol. 51 (May 2019); Mara J. van Welie and others, "Analysing transition pathways in developing cities: the case of Nairobi's splintered sanitation regime", Technological Forecasting and Social Change, vol. 137 (December 2018).

127 David Ciplet, J. Timmons Roberts and Mizan R. Khan, Power in a Warming World: The New Global Politics of Climate Change and the Remaking of Environmental Inequality (Cambridge, Massachusetts, MIT Press, 2015); Aaron Atteridge and Claudia Strambo, "Seven principles to realize a just transition to a low-carbon economy", SEI Policy Brief (Stockholm, Stockholm Environment Institute, 2020). Available at https://www.sei.org/wp-content/uploads/2020/06/seven-principles-for-a-just-transition.pdf.

128 Otlhogile and Shirley, "The evolving just transition", p. 6.

129 Xiaoting Hou-Jones and Nicola Sorsby, "The unsung giants of climate and nature investment: insights from an international survey of local climate and nature action by smallholder forest and farm producers", IIED working paper (London, International Institute for Environment and Development, 2023). Available at https://www.iied.org/sites/default/files/pdfs/2023-11/21976IIED.pdf; Leigh Johnson and others, "Intervention".

130 Yamini Yogya and Hallie Eakin, "The labor of adaptation: unacknowledged work and household decisions in Indian climate adaptation projects", Geoforum, vol. 172 (June 2026).

131 Kaljonen, Kortetmäki and Tribaldos, "Introduction to the special issue on just food system transition". & Johnson and others, "Intervention".

132 Johnson and others, "Intervention", p. 2.

133 Johnson and others, "Intervention".

134 Dietzel, "Negotiating just transition at the UNFCCC"; Simone Abram and others, "Just Transition: A whole-systems approach to decarbonisation", Climate Policy, vol. 22 (2022).

## 5.3. Justice dimensions

Evidence also shows that adaptation interventions lacking justice and equity considerations can deepen existing inequalities or create new ones, resulting in maladaptation.[135] Moreover, considering the scant funding allocated to justice-related projects in current JETP financing, it is critical to explore how equity and justice intersect with adaptation to ensure these nuances are embedded in future just transition narratives, research, policy processes, and finance.



Adaptation research is often critiqued for invoking justice and equity without analytical clarity. Therefore, we adopt the following working definitions as starting points in this report.[136]

- **Justice** is the recognition, redress, and restructuring of historical and systemic inequalities. It addresses past harms, present asymmetries, and future risks to enable fair, inclusive, and dignified adaptation.[137]
- **Equity** is the fair distribution of power, resources, and opportunities in adaptation. It is aligned with differentiated needs, vulnerabilities, and responsibilities.[138]

The 2022 IPCC Sixth Assessment Report indicates three justice dimensions as pivotal to enabling effective and successful adaptation, which we examine and use throughout this report.

- **Recognitional** – e.g. fair consideration and recognition of diverse views, cultures, and perspectives
- **Procedural** – who decides and participates in decision making
- **Distributive** – distribution of burdens and benefits[139]

We integrate **restorative** justice (restoring dignity and agency) as a fourth dimension to showcase how adaptation policy and planning can be used to correct existing and historical injustices.[140]

These four dimensions are all necessary for understanding a just transition as a holistic, whole-systems approach.[141] We use these dimensions as a starting point from which to elaborate on justice's implications for climate adaptation. Understandings of justice as they apply to adaptation are, however, extended and reinterpreted by African Indigenous versions of justice, including environmental justice.

135 Walker and others, "Defining and conceptualizing equity and justice in climate adaptation", p. 87.
136 Walker and others, "Defining and conceptualizing equity and justice in climate adaptation".
137 Juhola and others, "Connecting climate justice and adaptation planning".
138 Ibid.
139 Intergovernmental Panel on Climate Change, Climate Change 2022.
140 Juhola and others, "Connecting climate justice and adaptation planning".
141 Dietzel, "Negotiating just transition at the UNFCCC".

### 5.3.1. Recognitional justice

Recognitional justice emphasises acknowledging and addressing the unequal power structures that shape climate impacts.[142] It underscores the need to acknowledge diverse vulnerabilities across race, gender, socio-economic status, disability, and age. It is a prerequisite for procedural and distributive justice, because failing to acknowledge historical and social inequalities risks perpetuating exclusion, marginalisation, and vulnerability in adaptation processes.[143]

Cognitive justice is a key component of recognitional justice. It ensures that all knowledge systems are recognised and included in decision making. It aims to broaden what counts as valuable knowledge to challenge the current paradigm that sees the majority of people in the developing world 'degraded to the status of consumers of knowledge generated in other contexts, and denied their rights as creators of knowledge.'[144] Fair knowledge production and questioning whose knowledge is valued are key features of cognitive justice.

Cognitive justice is not just a matter of fairness, however, as 'it is also a pragmatic necessity for achieving truly sustainable and equitable futures.'[145] For example, climate change impacts are increasingly exposing the limits of relying on single knowledge systems to understand and respond to complex socio-ecological changes with implications for adaptation responses. As climate impacts deepen, Western scientific knowledge and modelling, despite its advances, still contains uncertainties and 'known unknowns,' such as when tipping points will be reached and what their impact will be, especially at the local level. These uncertainties show why adaptation should draw on diverse forms of knowledge (i.e. epistemic generosity), including ILK, to complement scientific understandings of climate risk and adaptation.[146] Thus, the justice element is imperative because it implies that pre-existing biases toward Western epistemologies (linked to colonial legacies, economic power, and cultural biases) must be dismantled.[147]

More recent justice research has expanded questions of justice beyond a narrow focus on human societies to include non-human beings, ecosystems, future generations, and broader spatial and historical relationships within moral and political communities.[148] For example, for the Indigenous hunter-gatherer Ogiek people of northern Kenya, the Mau Forest is a socio-ecological and spiritual system in which human wellbeing, cultural identity, and ecological integrity are fundamentally interconnected. The Ogiek's customary governance systems, spiritual practices, and ecological knowledge are grounded in reciprocal relationships with the forest, emphasising collective stewardship, sustainability, and interdependence of human and non-human life.[149]

142 Sara Hughes and Matthew Hoffmann, "Just urban transitions: toward a research agenda", WIREs Climate Change, vol. 11, No. 3 (May 2020); Eric K Chu and Clare EB Cannon, "Equity, inclusion, and justice as criteria for decision-making on climate adaptation in cities", Current Opinion in Environmental Sustainability, vol. 51 (August 2021).

143 Sara Meerow, Pani Pajouhesh and Thaddeus R. Miller, "Social equity in urban resilience planning", Local Environment, vol. 24, No. 9 (September 2019).

144 Jane Burt, "Research for the people, by the people: the political practice of cognitive justice and transformative learning in environmental social movements", Sustainability, vol. 11, No. 20 (October 2019), p. 4.

145 Sustainability Directory, "Cognitive justice", 4 February 2026. Available at https://climate.sustainability-directory.com/term/cognitive-justice/.

146 See, for example, Robert S. Pindyck, "What we know and don't know about climate change, and implications for policy", Environmental and Energy Policy and the Economy, vol. 2 (2021); Renee Cho, "What uncertainties remain in climate science?", Columbia Climate School, 12 January 2023. Available at https://news.climate.columbia.edu/2023/01/12/what-uncertainties-remain-in-climate-science/; Ian Shine and Gill Einhorn, "From 'tipping points' to 'sleeper species': this year's known unknowns of the climate crisis", World Economic Forum, 17 December 2024. Available at https://www.weforum.org/stories/2024/12/tipping-points-to-sleeper-species-known-unknowns-climate-crisis/; Mark Maslin and Patrick Austin, "Climate models at their limit?", Nature, vol. 486, No. 7402 (June 2012), p. 183; Zoë Schlanger, "Climate models can't explain what's happening to Earth", The Atlantic, 6 January 2025. Available at https://www.theatlantic.com/science/archive/2025/01/climate-models-earth/681207/.

147 Sustainability Directory, "Cognitive justice".

148 Munamato Chemhuru, "Environmental challenges and the place of African relational environmental ethics of Unhu/Ubuntu", Filosofia Theoretica: Journal of African Philosophy, Culture and Religions, vol. 13, No. 3 (December 2024); Workineh Kelbessa, "Intergenerational justice and the environment in Africa", in Intercultural Philosophy and Environmental Justice between Generations: Indigenous, African, Asian, and Western Perspectives, Hiroshi Abe, Matthias Fritsch and Mario Wenning, eds. (Cambridge, Cambridge University Press, 2024); Aniek de Bruin and others, "Easier said than defined? Conceptualising justice in food system transitions", Agriculture and Human Values, vol. 41 (2024); Hannah Coulson and Paul Milbourne, "Food justice for all?: searching for the 'justice multiple' in UK food movements", Agriculture and Human Values, vol. 38, No. 1 (2021); Minna Kaljonen and others, "Justice in transitions: widening considerations of justice in dietary transition", Environmental Innovation and Societal Transitions, vol. 40 (September 2021).

149 Mau Forest and others, "Removing an Ogiek from the Forest is like removing a fish from water: a qualitative examination of Ogiek community impacts from forced land eviction for conservation", PLOS Global Public Health, vol. 5, No. 6 (June 2025); Natural Justice, Ogiek biocultural community protocol, 2nd ed. (2015). Available at https://naturaljustice.org/publication/ogiek-biocultural-community-protocol/.

These expanded perspectives challenge Western legal and philosophical traditions that treat nature primarily as property or a resource, and they show the relevance of Indigenous worldviews that understand humans, ecosystems, and spiritual life as deeply interconnected. In this sense, recognitional justice is not only about acknowledging social difference; it is also about recognising how historic injustices shape current opportunities and vulnerabilities (overlapping with restorative justice), while valuing plural ontologies, knowledge systems, and responsibilities to future generations, distant communities, and the natural world.[150]

### 5.3.2. Procedural justice

Procedural justice examines the fairness of climate adaptation decision-making processes. Some researchers have stressed that inclusive, transparent, and accountable governance is essential for ensuring that adaptation policies equitably represent affected communities.[151] This approach requires considering who has access to decision-making, whose perspectives are included, and whose needs are prioritised. Rawls' framework of justice, which integrates procedural and distributive justice, provides a foundation for structuring fair adaptation policies.[152]

Along similar lines, the IPCC, the leading climate change science authority, has been criticised for organisational and functional biases that directly undermine procedural justice.[153] These biases include a 'geographical bias favouring experts from the Global North, a gender bias favouring men, a disciplinary bias favouring natural sciences over humanities and social sciences, and an epistemological bias that prioritises Western science over Indigenous approaches to science and Indigenous science.'[154]

More recent studies have also shown growth in the content on, and references to, Indigenous Peoples and colonialism between the IPCC Fifth and Sixth Assessment Reports, suggesting progress in overcoming biases. However, the latter still shows inconsistencies in meaningfully including Indigenous perspectives, voices, and experiences, and a reductionist approach, which reinforces 'harmful stereotypes of Indigenous Peoples and Indigenous Knowledge Systems.'[155] Thus, biases still influence or restrict who can access decision-making platforms and whose perspectives are genuinely integrated and prioritised in global climate assessments. This, in turn, limits the fairness and inclusivity essential to just governance.

### 5.3.3. Distributive justice

Distributive justice concerns fair allocation of climate adaptation's benefits and burdens across society.[156] Equity, a central tenet of distributive justice, mandates that resources, opportunities, and protection from climate risks be distributed impartially, irrespective of individuals' identities or backgrounds. However, adaptation benefits and costs often vary markedly between the local and national scales.[157]

Concrete distributive justice failures are evident in food systems, where inequities manifest in unequal access to food, resulting in food insecurity, environmental harms associated with food production, and exploitative labour conditions affecting agricultural workers.[158] A distributive justice lens shows that these patterns reflect the

150 Stephen Whitfield and others, "A framework for examining justice in food system transformations research", Nature Food, vol. 2, No. 6 (June 2021); Rutgerd Boelens and others, "Riverhood: political ecologies of socionature commoning and translocal struggles for water justice", The Journal of Peasant Studies, vol. 50, No. 3 (April 2023); Sarah Rogers and Britt Crow Miller, "The politics of water: a review of hydropolitical frameworks and their application in China", WIREs Water, vol. 4, No. 6 (November 2017), p. e1239; Johanna M. Götz and Carl Middleton, "Ontological politics of hydrosocial territories in the Salween River basin, Myanmar/Burma", Political Geography, vol. 78 (April 2020).

151 Schlosberg, Defining Environmental Justice; Joseph Wenta, Jan McDonald and Jeffrey S. McGee, "Enhancing resilience and justice in climate adaptation laws", Transnational Environmental Law, vol. 8, No. 1 (March 2019); Hanne J. van den Berg and Jesse M. Keenan, "Dynamic vulnerability in the pursuit of just adaptation processes: a Boston case study", Environmental Science & Policy, vol. 94 (April 2019).

152 John Rawls, Theory of Justice (Cambridge, Harvard University Press, 1971); Pelling, Adaptation to Climate Change.

153 Ritodhi Chakraborty and Pasang Yangjee Sherpa, "From climate adaptation to climate justice: critical reflections on the IPCC and Himalayan climate knowledges", Climatic Change, vol. 167, No. 3-4 (August 2021), p. 49.

154 Pasang Yangjee Sherpa, "Relevance of the Sixth IPCC assessment report to Indigenous lived realities", AlterNative: An International Journal of Indigenous Peoples, vol. 21, No. 3 (September 2025), p. 464.

155 Sherpa, "Relevance of the Sixth IPCC assessment report to Indigenous lived realities", p. 464.

156 Chu and Cannon, "Equity, inclusion, and justice as criteria for decision-making on climate adaptation in cities".

157 Sarah Colenbrander, David Dodman and Diana Mitlin, "Using climate finance to advance climate justice: the politics and practice of channelling resources to the local level", Climate Policy, vol. 18, No. 7 (August 2018).

158 Clement Loo, "Towards a more participative definition of food justice", Journal of Agricultural and Environmental Ethics, vol. 27, No. 5 (October 2014); Charlotte Glennie and Alison Hope Alkon, "Food justice: cultivating the field", Environmental Research Letters, vol. 13, No. 7 (July 2018).

tendency of food system burdens and benefits concentrating unequally across populations and geographies.[159] However, not all uneven distributions amount to injustice.[160] Natural disparities – such as soil fertility or access to water – are not, in themselves, justice issues unless historical legacies or human decisions exacerbate or unfairly institutionalise their effects. For example, agricultural policy that disproportionately channels investment toward already advantaged regions can politicise environmental conditions and lead to unjust outcomes.

Another key concept, especially relevant in emergency situations, is the principle of remedial responsibility. This concept posits that those with the capacity to assist should do so, irrespective of their contribution to the crisis.[161] The concept resonates with one interpretation of the Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) principle outlined in the UNFCCC international treaty framework commonly advanced by developing countries. Under this interpretation, developed countries (Annex I) bear greater obligation to support mitigation and adaptation efforts in developing countries (Annex II) because of both their historical contribution to climate change and greater economic and technological capabilities.[162] However, since the Copenhagen Accord and the Paris Agreement's reformulation of CBDR-RC 'in light of national circumstances,' alternative interpretations, mostly advanced by developed countries, have increasingly emphasised present capabilities and evolving national circumstances. Ongoing contention over how historical responsibilities should be allocated has resulted.[163]

A distributive justice perspective provides a moral and legal framework that supports differentiated obligations and developed countries' provision of finance, technology, and capacity-building support to developing countries. It reflects disparities in historical responsibility, capabilities, and vulnerability, and is consistent with Articles 9, 10, and 11 of the Paris Agreement.[164]

### 5.3.4. Restorative justice

Restorative justice remains comparatively underdeveloped within climate adaptation discourse. The concept began in criminal justice, focusing on repairing harm and restoring dignity and relationships, rather than applying punishment and retribution.[165] For adaptation, this approach requires acknowledging how historical injustices, colonialism, and unequal contributions to climate change have shaped present patterns of vulnerability and adaptive capacity.

Two core positions emerge in the literature. First, reparations are viewed as a form of moral repair that requires acknowledging historical harm, accepting responsibility, and rebuilding trust between those most responsible for climate change and those most affected by it (Box 1).[166] Notions of fairness or justice cannot be 'abstracted from history.'[167] From this perspective, adaptation responses that fail to confront what has historically driven vulnerability, risk reproducing injustice, even where technical or financial support is provided.

Second, caution against reducing reparations to abstract moral gestures or symbolic recognition is equally important. Fanon rejected the notion of 'moral reparations' as hollow, arguing instead for tangible 'material and technical aid' as rightful redress for the economic, environmental, and human exploitation of colonialism. To make a new world of justice for all 'demands that we distribute the costs of making the just world toward those corporations, governments, and

159 Robert Gottlieb and Anupama Joshi, Food Justice (Cambridge, Massachusetts, MIT Press, 2013).

160 David Miller, Justice for Earthlings: Essays in Political Philosophy (Cambridge, Cambridge University Press, 2013).

161 Ivo Wallimann-Helmer and others, "The ethical challenges in the context of climate loss and damage", in Loss and Damage from Climate Change: Concepts, Methods and Policy Options, Reinhard Mechler and others, eds. (Cham, Springer, 2019), pp. 39–62.

162 United Nations Framework Convention on Climate Change, United Nations Framework Convention on Climate Change; Aileen Brechin, "Top-down to bottom-up: a critical analysis of the approach to the principle of common but differentiated responsibilities and respective capabilities under the Paris Agreement", St Andrews Law Journal, vol. 5, No. 1 (October 2025); Amrendra Kumar, "Principle of 'common but differentiated' responsibility under global climate change legal regime: mapping future pathways from the lens of redistributive justice", Indian Journal of Law and Justice, vol. 16, No. 1 (2025).

163 Brechin, "Top-down to bottom-up"; Kumar, "Principle of 'common but differentiated' responsibility under global climate change legal regime".

164 Kumar, "Principle of 'common but differentiated' responsibility under global climate change legal regime".

165 Juhola and others, "Connecting climate justice and adaptation planning".

166 Margaret Urban Walker, Moral Repair: Reconstructing Moral Relations after Wrongdoing (Cambridge, Cambridge University Press, 2006).

167 Olúfẹ́mi O. Táíwò, Reconsidering Reparations (New York, Oxford University Press, 2022), p. 85.

people that have inherited the moral liabilities of the worldmaking that preceded us.'[168] Thus, restorative justice requires tangible measures to address unequal vulnerabilities and capacities, not only acknowledgement of historical harm.

Within adaptation discourse, restorative justice is increasingly understood as both a process of historical redress and a means of addressing contemporary climate inequalities. Adaptation researchers have focussed on vital measures to repair climate-related injustices.[169] Robinson and Carlson argued that restorative justice in climate contexts requires confronting the lived experiences of dispossession – loss of land, culture, identity, and future – and repairing the moral relationships that centuries of colonial and post-colonial exploitation have fractured.[170] Building on this perspective, Juhola and others identified several adaptation-specific dimensions of restorative justice: compensating for unequal climate impacts, remedying maladaptation that reinforces existing vulnerabilities and inequalities or creates new ones, and redistributing adaptation finance and resources to address access.[171] In African contexts, restorative justice for adaptation could include securing land tenure for communities dispossessed through colonialism or 'land grabs' (see chapter 6), compensating communities, and adaptation labourers disproportionately affected by climate impacts (see section 5.2), and directing adaptation finance, technology, and capacity building toward historically marginalised groups (see chapters 7 and 8).[172]

### Box 1. From colonial extraction to climate vulnerability: Lessons from Cameroon

Colonial interventions, especially German plantation models, reshaped Cameroon's agricultural production by displacing traditional food crops with monoculture ones (e.g. tobacco, cocoa, bananas, oil palms), undermining local agroecological knowledge and traditional food systems, and degrading the ecosystem.[173] Cameroon's transformation into a 'commercial and plantation colony' also entrenched long-term economic dependence on climate-sensitive export commodities such as coffee and cotton. These structural shifts generated enduring vulnerabilities: economies exposed to climate shocks, marginalised rural populations, and degraded ecosystems ill-equipped to buffer increasingly erratic weather patterns.[174] Technocratic adaptation measures alone are insufficient in such contexts. Building long-term resilience requires addressing historical drivers of vulnerability.



168 Franz Fanon, The Wretched of the Earth (New York, Grove Press, 1963), pp. 102 - 105; Olúfẹ́mi O. Táíwò, Reconsidering Reparations.

169 Emily Boyd and others, "Loss and damage from climate change: a new climate justice agenda", One Earth, vol. 4, No. 10 (October 2021); Juhola and others, "Connecting climate justice and adaptation planning".

170 Stacy-ann Robinson and D'Arcy Carlson, "A just alternative to litigation: applying restorative justice to climate-related loss and damage", Third World Quarterly, vol. 42, No. 6 (May 2021).

171 Juhola and others, "Connecting climate justice and adaptation planning".

172 Adaptation labourers are those workers who shoulder the physical burden of climate change and/or those who build social and environmental resilience in the face of climate change.

173 Ornella Mfochivé, Clara Rübe and Kai Kuhnhenn, The Damage (Being) Done: The Case for Climate Reparations from Germany to Cameroon (Leipzig, Konzeptwerk Neue Ökonomie, 2025). Available at https://konzeptwerk-neue-oekonomie.org/wp-content/uploads/2025/08/Reparations_Cameroon_en.pdf.

174 Ibid.

Additionally, in this context, the UN General Assembly formally recognised the transatlantic slave trade as the 'gravest crime against humanity,' in a landmark decision in March 2026. Ghana led the resolution, which recognises:

> the profound and lasting impacts of the abhorrent regimes of slavery and colonialism and the persistence of racial discrimination and neo-colonialism on Africans and people of African descent and how this continues to cause immense suffering, cultural disruption, economic exploitation, emotional trauma and unending discrimination endured by Africans.

It calls on member states to:

> engage in inclusive, good-faith dialogue on reparatory justice, including a full, and formal apology, measures of restitution, compensation, rehabilitation, satisfaction, guarantees of non-repetition, and changes to laws, programmes and services to address racism and systemic discrimination.[175]

This resolution marks a pivotal step in advancing restorative justice for Africa, and it provides a clear entry point for linking historical redress to modern-day climate action. More specifically, it strengthens the case for aligning reparations with the continent's adaptation needs, given the well-established links between the slave trade, colonial exploitation, and the structural drivers of climate vulnerabilities across the continent.

In African contexts, Indigenous justice systems offer essential perspectives that complement and expand conventional justice frameworks. For example, African philosophical traditions such as communitarianism and Ubuntuism emphasise community well-being over individual entitlement. They highlight interconnectedness and collective responsibility between people, nature, and the cosmos.[176] From this perspective, justice is a shared duty for sustaining social harmony, and not a transactional or individualised claim. Some researchers extend this perspective and demonstrate that African restorative justice systems prioritise reconciliation, restoring social cohesion and reintegrating offenders into the community. These practices may offer transformative pathways for climate justice rooted in relational and procedural ethics.[177] Linking these philosophical traditions to the Cameroon case (Box 1) shows the need for community-wide historical redress versus narrow technocratic adaptation measures that address individual problems yet fail to properly consider communities' deeply interconnected holistic needs.



175 United Nations General Assembly, "Declaration of the trafficking of enslaved Africans and racialized chattel enslavement of Africans as the gravest crime against humanity", draft resolution (A/80/L.48), 17 March 2026.

176 Grivas Muchineripi Kayange, Meaning of Justice in African Philosophy (Cham, Springer, 2023); Chemhuru, "Environmental challenges and the place of African relational environmental ethics of Unhu/Ubuntu"; Kelbessa, "Intergenerational justice and the environment in Africa".

177 Peter Maregere, "The (un)finished business of transitional justice in South Africa: 'the past is in the present'", doctoral dissertation (Coventry University, 2019); Ade Arga Wahyudi, Marlian Arif Nasution and Paisal Rahmat, "The concept of justice in the perspective of Greece philosophy and its relevance to the development of modern political law", Journal of Law, Politic and Humanities, vol. 2, No. 3 (May 2022); Ifeanyi A. Chukwudebelu, "Reconciling cultural values with legal principles: traditional African justice systems in contemporary context", Journal of Legal Subjects, vol. 44 (July 2024), p. 12.

## 5.4. Chapter summary

Table 2 summarises the core elements and guiding questions associated with the four dimensions of justice explored here. These dimensions collectively emphasise that adaptation is a deeply political process shaped by power, representation, resource allocation, and historical responsibility, and not only a technical or environmental challenge.

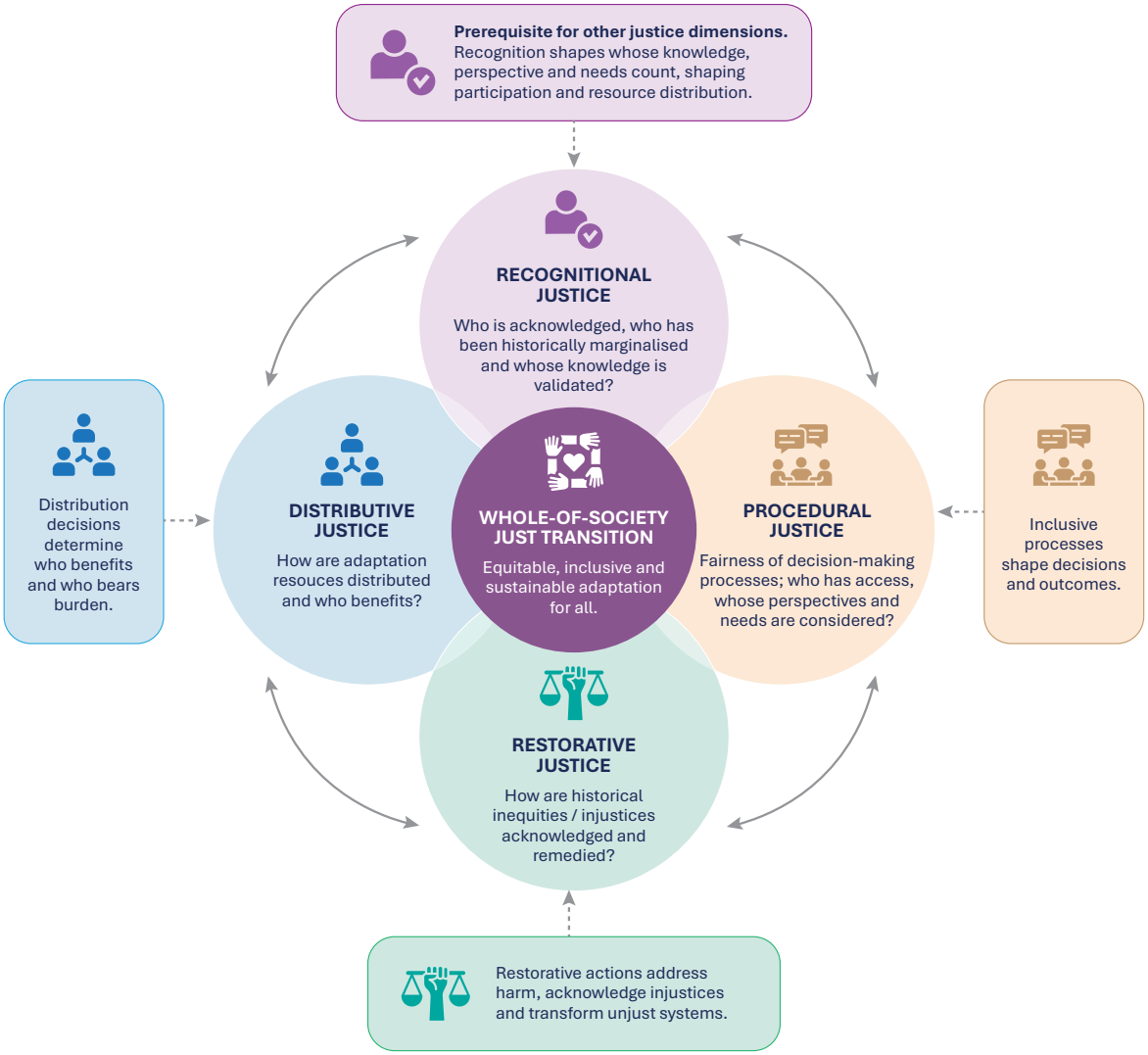
**Table 2. Key components and questions related to the four justice dimensions**

| Justice dimension | Core elements | Key questions |
|---|---|---|
| **Recognitional justice** | » Unequal power structures<br>» Intersectional vulnerabilities (age, gender, race, etc.)<br>» Epistemic/knowledge justice<br>» Spatial/intragenerational justice<br>» Temporal/intergenerational justice | » Who has been historically marginalised?<br>» Whose knowledge is validated? |
| **Procedural justice** | » Fairness of decision-making processes<br>» Inclusivity<br>» Transparency<br>» Accountability | » Who has access and can participate meaningfully?<br>» Whose perspectives are included?<br>» Whose needs are considered? |
| **Distributive justice** | » Fair allocation of benefits & burdens<br>» Equal distribution of resources, opportunities & protection<br>» Aligns with UNFCCC CBDR-RC principle | » How are adaptation resources distributed?<br>» Who benefits?<br>» Is allocation based on vulnerability? |
| **Restorative justice** | » Acknowledgement of historical harm<br>» Acceptance of accountability<br>» Rebuilding trust<br>» Restoring dignity | » What entities are held accountable?<br>» How are historical injustices acknowledged and remedied?<br>» What mechanisms exist for compensation?<br>» How are colonial/neocolonial legacies perpetuated? |

Insights from the literature and our interviews revealed that the four justice dimensions are deeply interconnected rather than siloed.[178] Each dimension (see Figure 5) has the capacity in practice to reinforce or undermine the others: who is acknowledged (recognitional) shapes whose knowledge, perspectives, or participation are included in decision-making processes (procedural). That, in turn, affects how resources are allocated and to whom (distributive), and whether historical inequities are addressed through reparative measures (restorative).

178 Maregere, "The (un)finished business of transitional justice in South Africa; Wahyudi, Nasution and Rahmat, "The concept of justice in the perspective of Greece philosophy and its relevance to the development of modern political law"; Chukwudebelu, "Reconciling cultural values with legal principles: traditional African justice systems in contemporary context".

## Figure 5. Intersection of recognitional, procedural, distributive, and restorative principles of justice




*Source: Adapted from De Bruin, 2024, and Dietzel.*

These justice lenses must be applied together to ensure adaptation processes and outcomes are inclusive, equitable, and able to address current vulnerabilities and their structural drivers, and to help communities thrive and prosper.

The four justice dimensions explored here provide the foundation for a JTfA, which are applied to climate adaptation, seeking to address not only climate risks, but also the structural inequalities, power imbalances, and historical injustices that shape vulnerability.

As such, a JTfA goes beyond technical adaptation measures to address inherently political questions of participation, finance, knowledge, rights, and accountability (see chapter 8).

The next section builds on this foundation and examines how historical injustices and global power asymmetries continue to shape Africa's position within the international system and, in turn, its capacity to respond to climate adaptation needs.



# 6. ‘Africa is a victim of historical injustices’[179]: from colonialism to neo-colonialism

Any rational consideration of Africa’s ability to meaningfully and justly adapt to the climate crisis cannot ignore how the continent’s colonial past has profoundly shaped its current adaptation potential. Africa’s colonial history is one of injustice, characterised by colonial powers’ brutal and systematic dispossession and exploitation of African people and natural resources. These crimes underpinned how colonialism shaped African economies to be sites of primary resource extraction that feed European economies within the wider global economy. They also fundamentally reordered African political, cultural, and epistemic logics by hierarchically privileging respective colonial logics, reducing most Africans to little more than labourers to be exploited.[180]

As an adaptation practitioner from West Africa interviewed in our study noted,

> **‘the resources that were supposed to be used to develop the continent were shipped away, including some human resources.’**

Slavery and colonialism involved both the forcible removal of Africa’s material wealth and the displacement of its human potential. Only by recognising the continued impact of this dispossession and exploitation as the primary drivers of Africa’s climate vulnerabilities can new radical possibilities for transformative just adaptation policies and practices that tackle the systemic causes of vulnerability emerge.

179 A focus group participant from North Africa.

180 This research does not involve Africa’s pre-colonial past, but we should recognise that the continent’s history did not begin with colonization. Africa has long been home to powerful civilizations, sophisticated governance systems, and rich ecological knowledge traditions. This must be acknowledged, even if the analytical frame here focuses on the structures of colonial and post-colonial historical disruption.

Exploring the colonial era in Africa is beyond the scope of this report. However, the following section briefly explains the adverse legacy of colonial exploitation.

## 6.1. Resource extraction and economic dependency

### From colonialism to the 'resource curse'

Colonialism, for economic and political reasons, left Africa with a critical lack of infrastructure, chronic skills shortages, democratic deficits, distorted knowledge systems, and economies perversely skewed to the developed world's narrow economic interests.[181] Since the wave of independence in the 1960s, these structural legacies have thwarted attempts to develop and diversify African countries' economies. This phenomenon has been called the 'resource curse' or 'paradox of plenty,' whereby countries with abundant natural resources but weak political institutions tend to have less inclusive economic development and growth, more inequality, and poorer governance than those without.[182]

While the resource curse does not fall equally on all African countries (South Africa and some Northern Africans countries, such as Tunisia and Morocco, have relatively diversified economies compared with the rest of Africa), it is nonetheless a common feature across the continent.

The resource curse is not a coincidence; it exists because of interrelated issues – all of which are directly linked to colonialism's deeply entrenched legacies.

### Lack of economic diversification

Resource-rich countries in Africa generally have failed to diversify their economies post-colonialism, prioritising the gains that come from entrenched historic patterns of extraction over longer-term, inclusive economic planning. As a result, 12 of the 20 least diversified economies in the world are in Sub-Saharan Africa.[183] A lack of economic diversification partly explains why 33 of the 44 LDCs are in Africa.[184] As noted above, while a few African countries have diversified their economies further, most have failed to make any significant gains since the end of the colonial era.[185] Income, therefore, is 'largely based on rents extracted by selling basic, low-value primary resources, and not on diverse productive sectors. Primary goods export remains African economies' defining characteristic, with 45 of 54 countries dependent on agricultural, mining, and other extractive exports. This has resulted in Africa remaining on the periphery of the global economy.[186]




181 Walter Rodney, How Europe Underdeveloped Africa (London, Verso, 2018); Jason W. Moore, Capitalism in the Web of Life: Ecology and the Accumulation of Capital (London, Verso, 2015); Samir Amin, Maldevelopment: Anatomy of a Global Failure (Oxford, Pambazuka Press, 2011). The following sections also draw upon Greenpeace Africa, Exploring the Critical Minerals Landscape in Sub-Saharan Africa: Insights for Development Policy and Practice (Johannesburg, 2025).

182 Andrew Rosser, "The political economy of the resource curse: a literature survey", IDS Working Paper, No. 268 (Brighton, Institute of Development Studies, 2006); Charles Udosen, Abasi-Ifreke S. Etok and I.N. George, "Fifty years of oil exploration in Nigeria: the paradox of plenty", Global Journal of Social Sciences, vol. 8, No. 2 (2009); Magali Dauvin and David Guerreiro, "The paradox of plenty: a meta-analysis", World Development, vol. 94 (June 2017); Macartan Humphreys, Jeffrey D. Sachs and Joseph E. Stiglitz, eds., Escaping the resource curse (New York, Columbia University Press, 2007); Halvor Mehlum, Karl Moene and Ragnar Torvik, "Institutions and the resource curse", The Economic Journal, vol. 116, No. 508 (January 2006); Luke Patey, Nelson Oppong and Ricardo Soares de Oliveira, eds., "Special section: governing African oil and gas: boom-era political and institutional innovation", The Extractive Industries and Society, vol. 7, No. 4 (November 2020); Jedrzej George Frynas and Lars Buur, "The presource curse in Africa: economic and political effects of anticipating natural resource revenues", The Extractive Industries and Society, vol. 7, No. 4 (November 2020); Neil Overy and Daniel Ribeiro, South African Public Financing of the Mozambique Liquid Natural Gas Project (Fair Finance Southern Africa, 2024).

183 Eric Ogunleye, The Current Landscape of Economic Diversification in Africa (Abidjan, African Development Institute, 2024), p. 5.

184 Kunal Sen, "Least Developed Countries are facing five major challenges", United Nations University World Institute for Development Economics Research, October 2021 (available at https://www.wider.unu.edu/publication/least-developed-countries-are-facing-five-major-challenges); United Nations Department of Economic and Social Affairs, The Least Developed Country Category: 2024 Country Snapshots (New York, 2024), p. 4.

185 United Nations Department of Economic and Social Affairs, The Least Developed Country Category, p. 4.

186 United Nations Conference on Trade and Development, Economic Development in Africa Report 2022: Rethinking the Foundations of Export Diversification in Africa: The Catalytic Role of Business and Financial Services (Geneva, 2022), p. 6.; Ogunleye, The Current Landscape of Economic Diversification in Africa.

Developed countries, aided by technology they persistently fail to transfer to developing countries, process Africa's natural resources into high-value climate solutions, such as solar panels, windmills, batteries, and microchips. These are then sold back to the continent. The pattern results in imbalanced payments that rob the continent of its wealth.[187]

### Export price volatility

The colonial legacy of overreliance on primary goods export leaves African countries especially vulnerable to primary resource price volatility. Volatility in internationally traded primary resources makes revenue streams unpredictable, discouraging long-term strategic industrial and economic planning, and strongly disrupts the labour market. Sustained high prices for primary goods can also act as a serious brake on economic diversification.[188] Revenue streams' unpredictability often leaves African countries resorting to costly loans so they can purchase essential high-value imported goods. This pattern then brings the added burden of exposing African countries to foreign exchange risks.

### Limited intra-African trade

Colonial regimes were only interested in extracting resources from Africa and to Europe, so there was no incentive to develop trade within Africa. As a result, most African countries lack the infrastructure to trade meaningfully among themselves. African countries also generally have limited goods to trade with each other because of their over-reliance on the export of basic primary goods. Only 14% of African exports now go to other African countries.[189] In contrast, approximately 60% of European Union (EU) exports went to other EU countries.[190] The EU also accounted for 33% and 31% of Africa's exports and imports, respectively, in 2020.[191]

China also has greatly contributed to Africa's trade imbalance. In 2024, Africa–China trade reached USD 296 billion (22% of Africa's total trade). Yet while a quarter of Africa's imports came from China, less than one-fifth of its exports went there, for a USD 62 billion net trade deficit – nearly two-thirds of Africa's overall trade deficit. Left unremedied, the imbalance of payments and trade deficits may worsen if China seeks new markets to absorb industrial overcapacity amid tariff tensions with the US.[192]

### Structural adjustment

Though primarily the result of colonialism, the above systemic economic problems can also be traced to the International Monetary Fund (IMF) Structural Adjustment Programmes (SAPs) of the 1980s and 1990s. Upon gaining independence, African countries tried to break free of their dependence on primary exports via the imposition of state-led industrialisation policies. These efforts initially generated encouraging economic growth and nascent economic diversification. However, factors including deteriorating terms of trade, resistance from former colonisers, the 1970s oil crises, and poor economic management by various African state actors plunged many states into debt distress (debt crises fuelled by the developed world's eagerness to lend money because of its excess liquidity) from the 1980s and into the 1990s.[193]

187 United Nations Conference on Trade and Development, Economic Development in Africa Report 2022; Zainab Usman and David Landry, "Economic diversification in Africa: how and why it matters", working paper (Washington, D.C., Carnegie Endowment for International Peace, 2021).

188 United Nations Development Programme, Primary Commodity Booms and Busts: Emerging Lessons from Sub-Saharan Africa (New York, UNDP Regional Bureau for Africa, 2016), p. 4; John Narh, "The resource curse and the role of institutions revisited", Environment, Development and Sustainability, vol. 27, No. 4 (April 2025); Satar Bakhsh and Wei Zhang, "How does natural resource price volatility affect economic performance? A threshold effect of economic policy uncertainty", Resources Policy, vol. 82 (May 2023).

189 United Nations Economic Commission for Africa, "The AfCFTA, boosting regional integration through trade", 29 August 2023. Available at https://www.uneca.org/stories/the-afcfta%2C-boosting-regional-integration-through-trade.

190 European Union, Eurostat, "Euro area international trade in goods surplus €15.5 bn", 17 February 2025. Available at https://ec.europa.eu/eurostat/web/products-euro-indicators/w/6-17022025-ap.

191 AZA Finance, "Africa–EU: international trade in goods performance", 7 September 2022. Available at https://azafinance.com/africa-eu-international-trade-in-goods-performance/.

192 Marvellous Ngundu, "Africa–China trade: openness without industry", ISS African Futures, 2 September 2025. 'Extractivism' is 'the political-economic structure whereby African countries, which are primarily situated at the periphery of the world economy are (re) moulded into providers of raw or minimally processed resources for industries in the core capitalist countries': see Emilinah Namaganda, "Contradictions to decent African jobs under energy transition-related extractivism: the case of graphite mining in Mozambique", Review of African Political Economy, vol. 50, Nos. 177–178 (2023), p. 441.

193 Franz Heidhues and Gideon Obare, "Lessons from structural adjustment programmes and their effects in Africa", Quarterly Journal of International Agriculture, vol. 50, No. 1 (2011); Youba Sokona and others, Just Transition: A Climate, Energy and Development Vision for Africa (Independent Expert Group on Just Transition and Development, 2023), pp. 15–16. Available at https://justtransitionafrica.org/wp-content/uploads/2023/05/Just-Transition-Africa-report-ENG_single-pages.pdf.

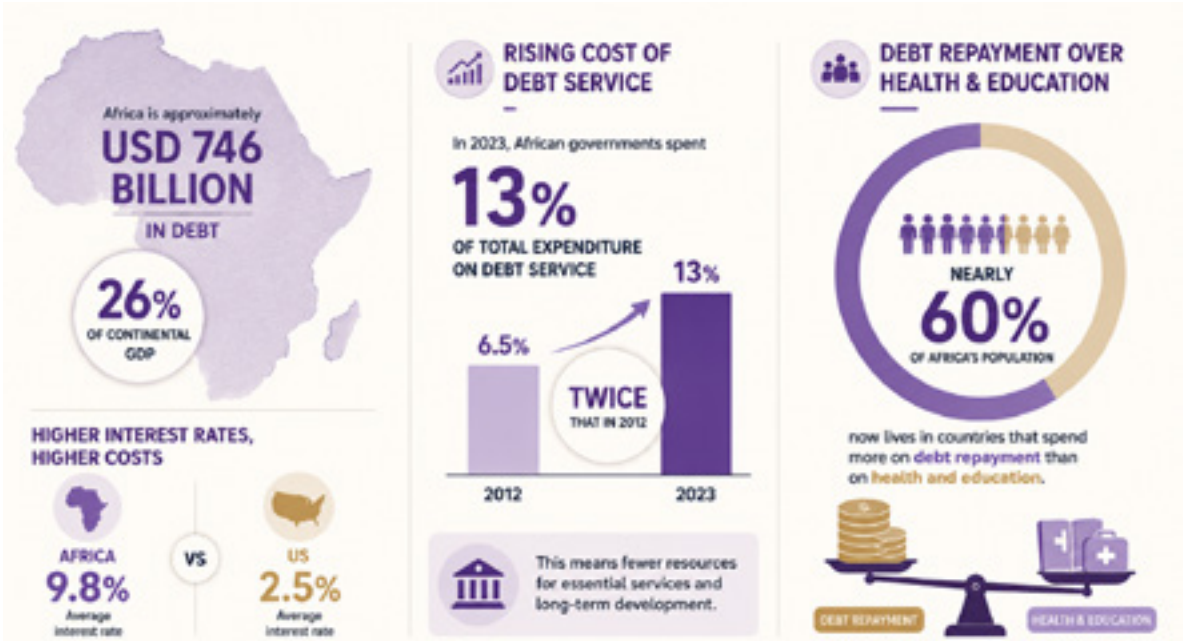
This distress compelled African countries to approach the IMF for financial relief, for which the IMF, in return, imposed strict economic conditions via SAPs. Such programmes forced African countries to devalue their currencies, eliminate subsidies, greatly reduce the state's role in managing the economy, and completely open their economies via trade liberalisation 'in order that they become viable components of a global system' (the so-called Washington Consensus).[194]

While SAPs' impact is complex, in this report, we must acknowledge how SAPs quashed industrial development in many African countries and reinforced the existing over-reliance on primary goods export. SAPs turned the 'clock back to the type of economic system that most governments have been trying to restructure since independence – the production of cheap raw materials for the developed parts of the world in exchange for more expensive processed goods.'[195]

## Unsustainable sovereign debt

Africa is facing another debt crisis, largely resulting from deteriorating terms of trade, expensive credit terms, currency shocks, COVID-19's impacts, and mounting climate-related loss and damage, along with adaptation costs.[196] The scale of this debt is immense and debt repayments redirect funds needed for sustainable development and implementing climate mitigation and adaptation measures.[197]

Africa is approximately USD 746 billion in debt (26% of continental GDP) and paying average interest rates of 9.8%, compared with just 2.5% in the US.[198] In 2023, African governments spent 13% of total expenditure on debt service – twice that in 2012.[199] Nearly 60% of Africa's population now lives in countries that spend more on debt repayment than on health and education.[200]




194 J. Barry Riddell, "Things fall apart again: structural adjustment programmes in sub-Saharan Africa", The Journal of Modern African Studies, vol. 30, No. 1 (March 1992), p. 53.

195 Riddell, "Things fall apart again", p. 58.

196 Marina Zucker-Marques and others, "Diverting development: the G20 and external debt service burden in Africa", Sovereign Debt Working Paper Series, No. 3 (Johannesburg, Institute for Economic Justice, 2025), p. 8.

197 The relationship between resource dependency and debt in Africa is a well-researched subject; see Wencheng Wang and others, "Natural resource rents and public debts nexus in African resource-rich and most indebted nations: issues with aggregation bias", Resources Policy, vol. 82 (May 2023); Nelson Derrick Nguepi, Nadia Demgang Nguefack and Guivis Zeufack Nkemgha, "The effects of natural resource exploitation on external debt dependence in Africa: does the Extractive Industries Transparency Initiative play a role?", Natural Resources Forum (February 2026).

198 ActionAid, Who Owes Who? External Debts, Climate Debts and Reparations in the Jubilee Year (Johannesburg, ActionAid International, 2025).

199 Alexander Dryden and Ulrich Volz, Africa's Vicious Cycle of Debt and Climate Change, Debt Relief for Green and Inclusive Recovery Project (Berlin and London, Heinrich-Böll-Stiftung and Centre for Sustainable Finance at SOAS, University of London, 2025), p. 4.

200 Institute for Economic Justice, "Why do countries pay financial institutions instead of building schools and hospitals?", G20 Factsheet, No. 3 (Johannesburg, 2025).

### Elite capture

Many post-independence political elites have tended to redirect rents made from primary product export to themselves and their extended political support networks. This habit severely compromises attempts to diversify economies. Yet we cannot place blame on African leaders alone, as many transnational corporations and their home governments encourage elites in African countries to agree to neo-colonial extractive deals.[201]

### Poor institutions

Government fiscal, environmental, and social support institutions are often poorly staffed and under-resourced, and therefore unable to effectively undertake their mandates. Limited technical and financial capacities severely and chronically undermine their capacity to establish and implement long-term development plans. This is certainly a symptom of a lack of institution-building during colonialism, yet it continues to hamper African development, sometimes deliberately to facilitate rent-seeking by political elites. This institutional dysfunction leads to policy incoherence, a lack of transparency, poor regulatory controls, and corruption – factors that hinder political investments in economic diversification and skills development.[202]

### Land grabs

Africa is at the centre of a neo-colonial scramble for land – one that foreign companies and governments are driving. This is reminiscent of colonial land grabs and researchers argue that it relies on the same logics of dispossession, whereby customary systems of land use and the principles of free, prior, and informed consent (FPIC) are often ignored at local people's expense.[203] Globally, between 2000 and 2020, investors acquired 30 million hectares of agricultural land; of which, 7.2 million hectares (24%) was in Sub-Saharan Africa.[204] Three specific goals primarily motivate this land grabbing, which occurs in addition to that associated with mining and timber.

The Gulf States and China in particular, under the guise of promoting their own food security, are purchasing vast tracts of land in Africa (especially in the Democratic Republic of the Congo, Cameroon, and Sudan). Research finds this phenomenon is less about food security and more about breaking traditional farming practises to force farmers into corporate value chains and enable foreign control over agro-food commodity chains. Research shows that 'land is being transformed from a communal means of subsistence into a financial asset' that substantially increases the vulnerability of huge numbers of people to climate change and other shocks.[205]

There are also attempts to hand over vast areas of African land to produce carbon credits for the carbon market. Under Article 6 of the Paris Agreement, activities that reduce emissions can create credits (in theory, one credit is issued for each tonne of GHG that a project sequesters). Polluters looking to 'offset' their



201 Gorden Moyo, Africa in the Global Economy: Capital Flight, Enablers, and Decolonial Responses (Cham, Palgrave Macmillan, 2024). For a contemporary example, see Caitlin Maslen, "Corruption risks in Mozambique's energy sector", U4 Anti-Corruption Resource Centre, 30 July 2024.

202 Charles Manga Fombad, "The state of governance in Africa", in Contemporary Governance Challenges in the Horn of Africa, Charles Manga Fombad, Assefa Fiseha and Nico Steytler, eds. (London, Routledge, 2022); Fritz Nganje, "Moving beyond Africa's crisis of institutions", occasional paper, No. 222 (Johannesburg, South African Institute of International Affairs, 2015); Jerry Ahadjie, Africa's Green Minerals Strategy: Bolstering Africa's Role in the BEV and RE Value Chain (Abidjan, African Development Bank, no date); Eugene N. Nforngwa, Philip Kilonzo and Mithika Mwenda, "Leveraging critical minerals to catalyze inclusive broad-based development in Africa: outcomes of the African Regional Consultative Forum on Critical Minerals and Just Transition", briefing paper (Nairobi, Pan African Climate Justice Alliance, 2024).

203 Lorenzo Cotula, The Great African Land Grab? Agricultural Investments and the Global Food System (London, Zed Books, 2013). See also Christopher Zambakari, "Land grab and institutional legacy of colonialism: the case of Sudan", Consilience, No. 18 (July 2017).

204 Jann Lay and others, Taking Stock of the Global Land Rush: Few Development Benefits, Many Human and Environmental Risks – Analytical Report III (Bern, Centre for Development and Environment, University of Bern, 2021), p. 24.

205 Sarah Cotte, "Food, land, water: Africa and emerging Gulf sub-imperialisms", Review of African Political Economy, 20 February 2026. Available at https://roape.net/2026/02/20/food-land-water-africa-and-emerging-gulf-sub-imperialisms/.

emissions can then purchase these credits. The Reducing Emissions from Deforestation and Forest Degradation (REDD+) framework, which is part of the Paris Agreement, and private and state companies negotiating via voluntary carbon markets with African governments, have facilitated this process.[206]

African land is also under the threat of renewable energy expansion on the continent, which may result in 'climate-justified enclosure.'[207] A metastudy of renewable energy projects in Africa found that 18% involved some form of 'resource dispossession.'[208] Similarly, there is a very real threat that green hydrogen projects for supplying European markets will result in land grabs in Africa. For example, in Namibia, thousands of square kilometres of land have already been set aside, raising the spectre of colonial-era land dispossession to serve European needs.[209]

### The political economy of donor finance

Africa's structural underdevelopment and the political economy of aid are at the heart of these problems and result in Africa's heavy reliance on external funding.[210] From 2002 to 2021, global funders committed over USD 1.49 trillion in development finance to the continent. This is fashioned as a mechanism for alleviating fiscal and developmental constraints in Africa, yet structural, political, and economic factors make foreign aid largely ineffective at addressing the continent's vulnerabilities.[211]

Large inflows of aid, while still insufficient, undermine self-sustaining growth on the continent.[212] Inefficiently administered aid undermines governmental incentives to build robust and effective tax systems and accountable institutions that nurture home-grown fiscal solutions.[213] Fragmented aid and donor-funded programmes also create high administrative costs, and policy incoherence.[214] Donor funds and foreign aid to governments are often diverted through corruption, which undermines democratic governance and distorts local markets by favouring foreign contractors and short-term visibility over long-term capacity building.[215] Another long-running feature of the political economy of aid is the notion of tied aid linked more to the donor countries' commercial or political interests than to genuine developmental needs in recipient countries.[216]

Additionally, the conditionalities and expectations attached to donor funds – often including a rigid focus on specific sectors that donors consider critical at the expense of others that may yield long-term local impacts – undercut the sustainability and ownership that donor funds should otherwise facilitate.[217] Even well-intentioned funding streams may limit local ownership, lean toward technocratic fixes, undermine local governance frameworks, introduce procedural complexities, and weaken local accountability, inadvertently eroding locally led efforts.[218]

206 United Nations Framework Convention on Climate Change, "What is REDD+?" Available at https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd (accessed on 31 March 2026); United Nations Office of the Special Adviser on Africa, "The promise of African voluntary carbon markets", February 2026. Available at https://www.un.org/osaa/content/promise-african-voluntary-carbon-markets.

207 Phillan Zamchiya, "Globalised extractive territorialisation and changing land uses in Africa", Institute for Poverty, Land and Agrarian Studies, 16 February 2026. Available at https://plaas.org.za/globalised-extractive-territorialisation-and-changing-land-uses-in-africa/.

208 Mark M. Akrofi, Benjamin C. McLellan and Mahesti Okitasari, "Characterizing 'injustices' in clean energy transitions in Africa", Energy for Sustainable Development, vol. 83 (December 2024).

209 Sarah Bisping and Fabian Loriais, Green at Home, Harm Abroad: Germany's Role in Global Resource Exploitation (Berlin, Rosa Luxemburg Stiftung, 2025).

210 Statista, "Gross domestic product (GDP) in Africa from 2010 to 2027". Available at https://www.statista.com/statistics/1300858/total-gdp-value-in-africa/ (accessed on 3 March 2026).

211 Dambisa Moyo, Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa (New York, Farrar, Straus and Giroux, 2009).

212 Raghuram G. Rajan and Arvind Subramanian, "Aid and growth: what does the cross-country evidence really show?", Review of Economics and Statistics, vol. 90, No. 4 (November 2008).

213 Deborah A. Bräutigam and Stephen Knack, "Foreign aid, institutions, and governance in Sub-Saharan Africa", Economic Development and Cultural Change, vol. 52, No. 2 (January 2004); Todd Moss, Gunilla Pettersson and Nicolas van de Walle, "An aid-institutions paradox? A review essay on aid dependency and State-building in Sub-Saharan Africa", Working Paper, No. 74 (Washington, D.C., Center for Global Development, 2006).

214 Organisation for Economic Co-operation and Development, Paris Declaration on Aid Effectiveness (Paris, OECD Publishing, 2005).

215 Ritva Reinikka and Jakob Svensson, "Local capture: evidence from a central government transfer programme in Uganda", The Quarterly Journal of Economics, vol. 119, No. 2 (May 2004).

216 Axel Dreher, Valentin Lang and Bernhard Reinsberg, "Aid effectiveness and donor motives", World Development, vol. 176 (April 2024).

217 Bernhard Reinsberg and Jack Taggart, "How does earmarked foreign aid affect recipient-country ownership?", Journal of International Development, vol. 37, No. 3 (April 2025).

218 Taofik Oyewo Hussain, "Decolonising aid architecture: a postcolonial critique of donor practices in West Africa", Development in Practice, vol. 36, No. 4 (May 2026).

A donor-driven architecture shaped more by conformity to donors' expectations or needs than context-specific needs upholds dependency through mandates, conditionalities, and standardised funding modalities.[219] Clearly, stronger local ownership, transparency, and alignment with domestic development priorities remain crucial.[220] As one adaptation negotiator from North Africa put it: 'The aid system, the way it's set up, cannot be decolonised. You need to disrupt the whole idea of aid'.[221]

### Dependency, unequal exchange, and Africa's position in the global system

Developed-world economies and transnational corporations continue to benefit from a global political-economic system shaped by dependency, unequal exchange, and core-periphery relations. This system perpetuates Africa's structurally disadvantaged position, irrespective of the historic and ongoing costs inflicted on the continent.[222] International trade and financial institutions such as the World Trade Organization (WTO), IMF, and World Bank also reinforce this reality by failing to provide a conducive or fair environment in which emerging economies can thrive.

This ongoing exploitative relationship results in vast transfers of wealth from the developing world to the developed world. Between 1995 and 2015, approximately USD 242 trillion was transferred from the developing to the developed world. In 2015 alone, an estimated USD 10.8 trillion in embodied resources – 12 billion tonnes of raw material equivalents, 822 million hectares of land, 21 exajoules of energy, and 188 million person-years of labour – was appropriated by the North from the South.[223]

These results demonstrate that the general pattern of appropriation that characterized the colonial period has been maintained and indeed expanded into the postcolonial era through the mechanism of unequal exchange, despite significant changes in the structure of the world economy.[224]

Africa, therefore, remains at the bottom of supply chains providing raw materials to the core where manufacturing and distribution takes place. This is precisely the relationship of dependency created by colonialism and purposefully continued into the post-colonial era. In short, a vicious cycle plays out whereby African countries cannot diversify their economies without massive capital investments but lack the capital for such investments because of their supply chain position.



219 Célestin Monga and Bouba Housseini, "Hysteresis, aid, and governance: theories and empirics from Africa", in Handbook of Aid and Development, Raj M. Desai, Shantayanan Devarajan and Jennifer Tobin, eds. (Cheltenham, Edward Elgar, 2024).

220 Organisation for Economic Co-operation and Development, Paris Declaration on Aid Effectiveness.

221 See also Ken Ochieng' Opalo, "The political economy of aid in African states", in Handbook of Aid and Development, Raj M. Desai, Shantayanan Devarajan and Jennifer L. Tobin, eds. (Cheltenham, Edward Elgar, 2024).

222 Transnational corporations manage global commodity chains which extract resources in much the same way as nations did during the colonial era. See, for example, Ifeanyi John Obikwelu, Gérard-Marie Messina and Andy Chukwuemeka Odumegwu, "The effects of neocolonialism on Africa's development", PanAfrican Journal of Governance and Development, vol. 4, No. 2 (August 2023); Overy and Ribeiro, South African Public Financing of the Mozambique Liquid Natural Gas Project; Jia Liu and Olatunde Julius Otusanya, "How multinationals avoid taxes in Africa and what should change", The Conversation, 5 April 2022. Available at https://theconversation.com/how-multinationals-avoid-taxes-in-africa-and-what-should-change-179797.

223 Jason Hickel and others, "Imperialist appropriation in the world economy: drain from the global South through unequal exchange, 1990–2015", Global Environmental Change, vol. 73 (March 2022), pp. 1 and 6.

224 Hickel and others, "Imperialist appropriation in the world economy", p. 8.

## 6.2. The 'colonised mind' and Western epistemic myopia

The colonial project in Africa was not merely a campaign of resource expropriation. It also constituted a foundational reordering of political power and cultural and epistemic hierarchies. Perhaps even more dangerously than the material theft and the problematic inherited governance logics, colonialism's legacy is in its reshaping of subjectivities. As one adaptation practitioner from West Africa reflected: 'Education that we were even taken through prepared our mind … to be looking up to the white man … everything you do here is aiming at achieving what the white man does.' Generations across Africa internalised a sense of inferiority, producing what Ngũgĩ wa Thiong'o famously termed the 'colonised mind.'[225] In adaptation, this manifests as a privileging of imported expertise and technocratic solutions over locally grounded responses, while African actors are frequently viewed as recipients of adaptation interventions rather than knowledge holders and innovators.[226]

### Epistemic hierarchies and the politics of knowledge

Alongside the resource curse lies another, subtler form of inequality: knowledge production. A female civil society adaptation expert from North Africa observed that, 'Most of climate change science is dominated by knowledge that is produced in the Global North … that cannot always address the specific challenges faced by those who are living in the Global South.' Epistemic authority is the issue here, not simply inclusion. Hierarchies forged during the colonial encounter and in the Global North continue to shape whose knowledge is validated, whose models are funded, and whose expertise gets heard. An 'epistemic community' has formed in climate change adaptation, which defers to technical-fix rationalities and external consultant knowledge, despite attempts to incorporate IK in climate debates.[227]

As one female adaptation researcher and policy expert from West Africa said, 'with locally led adaptation, many strategies are grounded in Indigenous Knowledge, but scientific knowledge often dominates in international discussions, such as those in the IPCC.' Efforts to integrate IK into fora such as the IPCC have struggled with debates over evidence thresholds and verifiability, as Western scientific paradigms and technocratic fixes are implicitly privileged.[228] This reality reflects deep structural and epistemological biases in knowledge production in both the IPCC and UNFCCC, which often only have recognised IK as a source of information to supplement science rather than its own authoritative knowledge system.[229] This disempowers IK, communities, and knowledge holders.

Several interviewees noted the paradox of 'acknowledging' the knowledge of Indigenous Peoples without integrating it. For instance, a female adaptation researcher and policy expert from West Africa reflected that 'Indigenous Knowledge is acknowledged, but it's not always integrated in a balanced way'. A male adaptation researcher and policy expert from Southern Africa said, 'there's still debate … about how to include Indigenous peoples in the scientific process.' Thus, IK evidently is still being reduced to a cultural footnote rather than a substantive epistemological resource. The problem is not only failed integration but also the symbolic positioning of such knowledge as anecdotal, emotional, alternative, or 'additional sources of information,' which marginalises it.[230]

Given these limitations, IK holders increasingly harbour distrust of conventional scientific knowledge because of past experiences of

225 Ngũgĩ wa Thiong'o, Decolonising the Mind: The Politics of Language in African Literature (London, James Currey, 1986).

226 Siri Eriksen and others, "Adaptation interventions and their effect on vulnerability in developing countries: help, hindrance or irrelevance?", World Development, vol. 141 (May 2021).

227 Silja Klepp and Hartmut Fünfgeld, "Tackling knowledge and power: an environmental justice perspective on climate change adaptation in Kiribati", Climate and Development, vol. 14, No. 8 (September 2022), p. 765; Eriksen and others, "Adaptation interventions and their effect on vulnerability in developing countries".

228 Chakraborty and Sherpa, "From climate adaptation to climate justice", p. 49.

229 Pedram Rashidi and Kristen Lyons, "Democratizing global climate governance? The case of indigenous representation in the Intergovernmental Panel on Climate Change (IPCC)", Globalizations, vol. 20, No. 8 (November 2023); Rosario Carmona and others, Consolidating the rights of Indigenous Peoples in climate governance through the Local Communities and Indigenous Peoples Platform (International Work Group for Indigenous Affairs, 2023). Available at https://www.indigenousclimateaction.com/entries/lcipp-report.

230 Rashidi and Lyons, "Democratizing global climate governance? The case of indigenous representation in the Intergovernmental Panel on Climate Change (IPCC)".

knowledge extraction or misuse, and cultural traditions around how knowledge is shared and passed on. IK systems face an added challenge in that their 'underlying belief systems and environmental ethics are at odds with capitalist economic systems,' which inevitably results in powerful vested interests resisting IK's inclusion in decision-making forums.[231]

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has attempted to integrate IK into its assessments with its ILK framework. Indigenous researchers have welcomed this attempt at epistemic pluralism, but several substantial barriers to true knowledge integration exist.[232]

Some Indigenous researchers indicate that a primary limitation is the 'significant influence' that 'Western science' still has on 'defining valuation concepts ... to fit neatly into pre-existing frameworks.'[233] Another major challenge is how IK is incorporated into research findings. Indigenous researchers note that when the IPBES analysed IK, 'the underlying epistemologies informing these analyses leaned heavily on Anglo-Eurocentric approaches for data analysis; there was eagerness to find patterns and processes that fit into existing categorizations and frameworks.'[234] This same challenge exists in a 2023 IPBES internal assessment of IK incorporation into the IPBES in that, 'within assessments, ILK (Indigenous and local knowledge) is often interpreted through a scientific lens, using scientific frameworks and methods.'[235]

An added challenge is the ongoing burden placed on IK participants in the IPBES to justify their participation. Indigenous scholars who have worked with the IPBES mention they expended 'time and energy to justify our positionality as Indigenous scholars.'[236] This limitation was confirmed by the 2023 internal report that notes, 'authors working with ILK are often challenged regarding the methods and approaches they use, and need to justify these.'[237]

**Despite these challenges, African IK systems offer vast opportunities and a practical foundation for strengthening adaptation.**

African communities, for example, rely heavily on local indicators, such as animal behaviour, insect activity, plant flowering, and seasonal changes to plan agricultural cycles. Knowledge of climate-resilient crops and seed varieties strengthens food security and resilience to extreme weather events. The Maasai communities in Tanzania, for instance, use reserved grazing land to both ensure food for livestock in dry seasons and rehabilitate degraded rangelands. This approach bolsters food system and ecosystem resilience.[238]
The Machobane Farming System in Lesotho applies Indigenous practices such as crop diversification, water conservation, and soil management practices. This approach increases productivity, reduces vulnerability to climate risks, and strengthens drought resilience.[239]



231 Jan Petzold and others, "Indigenous knowledge on climate change adaptation: a global evidence map of academic literature", Environmental Research Letters, vol. 15, No. 11 (November 2020), p. 2.

232 Mariaelena Huambachano, Gabriel R. Nemogá Soto and Tuyeni H. Mwampamba, "Making room for meaningful inclusion of Indigenous and local knowledge in global assessments: our experiences in the values assessment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services", Ecology and Society, vol. 30, No. 1 (2025), p. 1.

233 Ibid.

234 Huambachano, Soto and Mwampamba, "Making room for meaningful inclusion of Indigenous and local knowledge in global assessments", p. 3.

235 Simone Athayde and others, Review of the inclusion of Indigenous and local knowledge in IPBES functions and deliverables (Bonn, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2023), p. 8. Available at https://files.ipbes.net/ipbes-web-prod-public-files/2023-06/Review%20of%20Indigenous%20and%20local%20knowledge%20in%20IPBES.pdf.

236 Huambachano, Soto and Mwampamba, "Making room for meaningful inclusion", p. 3.

237 Simone Athayde and others, "Review of the inclusion of Indigenous", p. 8.

238 Leal Filho and others, "Obstacles to implementing indigenous knowledge in climate change adaptation in Africa".

239 Paramu L. Mafongoya and Oluyede Clifford Ajayi, eds., Indigenous Knowledge Systems and Climate Change Management in Africa (Wageningen, Technical Centre for Agricultural and Rural Cooperation, 2017).

Table 3 shows the link between these IK practices and their adaptation value, underscoring the value of place-based, ecologically rich knowledge systems for strengthening adaptive capacity and resilience.

### Table 3. Examples of IK practices that strengthen climate adaptation in Africa

| Adaptation aspect | IK practices | Adaptation value |
|---|---|---|
| **Biodiversity conservation** | Indigenous communities often possess extensive, place-based knowledge of local species, ecosystems, and their interdependencies. | Supports the protection of biodiversity and sustains ecosystems that underpin climate resilience |
| **Disaster risk reduction** | Local knowledge systems incorporate early warning signs (e.g. shifts in animal behaviour, cloud formations, tidal changes) to anticipate hazards and difficulties such as flooding, drought, and rainfall variability. | May improve communities' readiness for, and response to, extreme events such as flooding, storms, and drought |
| **Water resource management** | Techniques including small-scale irrigation, natural reservoirs, and other locally adapted water-saving measures are tailored to specific environmental conditions. | Reinforces water security and efficiency, especially in drought-prone and water-scarce contexts |
| **Resilient agriculture** | Familiarity with diverse, hardy and underutilised traditional crops (e.g. cowpea), Indigenous livestock, edible insects, and heritage seed varieties suited to varying conditions ensures adaptability. Practices such as rotational cultivation, water harvesting, mulching, and carefully managed burning have helped maintain ecosystems over generations. | Improves farming systems' capacity to withstand shifting climate patterns and extreme events, offering sustainable alternatives to industrial farming while bolstering food security |
| **Community-based adaptation** | Traditional governance and collective decision making promote unity and coordinated adaptation strategies. | Strengthens social cohesion and ensures responses are tailored to local needs and priorities |
| **Land stewardship and forest management** | Practices including agroforestry, selective harvesting, and the safeguarding of sacred forest areas sustain forest ecosystems. | Helps maintain carbon sinks, reduce deforestation, and improve land-use practices, contributing to both adaptation and mitigation |
| **Cultural heritage and identity** | Spiritual and cultural traditions that guide human–nature relationships, which include language, rituals, naming and classification practices for resource use, and spirituality. | Preserves cultural continuity while drawing on historical coping strategies to strengthen adaptive capacity |

*Source: Information adapted from Leal Filho et al; Mafongoya and Ajayi, eds.*

Structural inequalities in research funding and capacity, however, constrain the potential of local knowledge. Across Africa, limited research infrastructure and resources often restrict locally driven research agendas, hindering African institutions' ability to generate context-specific knowledge and collaborate on equitable terms with international partners.

**European and North American (Northern) institutions monopolise Africa-focused climate research, receiving 78% of all funding while African nations receive just 14.5%.[240]**

As one adaptation practitioner from West Africa emphasised: 'We need more local scientific institutions to be better at understanding nuances such as how Indigenous Knowledge cannot fit in the Western understanding of academia and research.' The implications are tangible because adaptation finance mechanisms typically require standardised indicators that are neither locally meaningful nor feasible to collect, positioning local actors as implementers of externally designed solutions rather than co-producers of knowledge.

IK and Western scientific paradigms should be carefully melded into new forms of hybrid knowledge for climate adaptation policies to encompass all sources. This 'parliament of epistemic debates' would ensure that holistic knowledge gathering informs critical climate vulnerability and risk assessments, adaptation planning and implementation, technology transfer initiatives, and reveals gaps requiring capacity building.[241]

## 6.3. Multi-scalar marginalisation and exclusion in adaptation governance

Globally and across Africa, deep-rooted inequalities in land rights, food system governance, political voices, economic opportunity, and access to information shape who participates in adaptation planning (procedural), whose knowledge is validated (recognitional), and who benefits from adaptation interventions (distributional). Women, youth, Indigenous Peoples, smallholder farmers, persons with disabilities, and other marginalised groups face overlapping forms of exclusion, from the local to global levels, which limit their ability to influence decisions that affect their livelihoods and future. Top-down governance approaches often reinforce these structural inequalities, with international institutions, national governments, and external actors defining and driving solutions rather than climate-vulnerable communities owning these tasks.

### 6.3.1. African and Indigenous Peoples' marginalisation in global climate governance

IK and African knowledge systems' historical marginalisation extends beyond knowledge production into global climate governance. The underrepresentation of African and Indigenous leadership, perspectives, priorities, and forms of expertise in international decision-making processes reflect a broader pattern of recognitional and procedural injustices. Thus, those most affected by climate change have the least representation and, therefore, the least influence over decisions shaping responses to it. For instance, inequalities in representation and negotiating capacity between developed and developing countries in the UNFCCC limit African countries' decision-making power and ability to influence negotiation outcomes and priorities.[242]

Such dynamics play out within United Nations (UN) climate governance meetings such as the Conferences of the Parties (COPs) and IPCC, which have been described as 'theatres of climate colonialism.'[243] The term is invoked to convey the continued marginalisation of post-colonial states and Indigenous Peoples in negotiations, compared with the significant control and power that high-emitting countries, elites and corporations wield over climate outcomes. Within this system, procedural

240 Indra Overland and others, "Funding flows for climate change research on Africa: where do they come from and where do they go?", Climate and Development, vol. 14, No. 8 (September 2022).

241 Burt, "Research for the people, by the people", p. 4.

242 Gerardo S. Martinez and others, "Delegation size and equity in climate negotiations: an exploration of key issues", Carbon Management, vol. 10, No. 4 (July 2019).

243 Siobhan McDonnell and Brianna Gordon, "Indigenous participation in the Local Communities and Indigenous Peoples' Platform: the need to decolonize UN climate governance", Geoforum, vol. 169 (February 2026), p. 6.

mechanisms such as visas, delegation structures, and party badges shape whose knowledge, representation, and voices are considered legitimate. However, COPs are also considered sites of decolonial, anti-colonial, anti-racist, and feminist politics, shaped by the influence and mobilisation of activists, civil society and Indigenous groups, women, youth, and unions who oppose the ongoing exclusion of their respective voices.[244]




Despite formal commitments to inclusive negotiation processes, African leadership, civil society, Indigenous, and grassroots groups face procedural barriers to participating in COPs and the mid-year climate conference in Bonn. The barriers include resource constraints, high visa costs, and rejections, rapid delegation turnover, insufficient institutional and technical support for negotiators, and difficulties securing badges.[245] Interviewees in our study highlighted structural disadvantages ranging from logistical hurdles, such as selective visa denials for African delegates and lack of travel support, to marginalisation within agenda-setting and technical drafting spaces.

One adaptation negotiator from North Africa noted,

'Travel costs, language barriers, visas, these are all things that actually are linked to procedural justice … Russia is able to very comfortably pause a negotiation when their negotiators don't get a visa, but an African country can never say, **"Oh, we're not going to talk until our farmer from Kenya gets his visa."**'

> **In 2024, African countries collectively lost around EUR 60 million (approx. USD 68 million) in non-refundable fees from rejected Schengen visa applications.[246]**

As Marta Foresti, founder of LAGO Collective (a research and creative collective focused on changing the narrative around global migration), observed, 'the poorest countries in the world pay the richest countries in the world money for not getting visas.'[247] Visa rejection rates in African countries such as Ghana, Senegal, and Nigeria reach 40–50%.[248]

Not only African representatives experience procedural exclusion in travelling to or attending UN climate fora. Indigenous Peoples' and local communities meaningful participation as non-state actors within the UNFCCC also remains constrained. Before identifying these constraints, we must first acknowledge that the UNFCCC has taken steps to build Indigenous Peoples' engagement and recognition, most notably by establishing the Local Communities and Indigenous Peoples Platform (LCIPP) in 2015. The LCIPP has provided Indigenous Peoples with a platform, strengthened transnational networks, and achieved 'increased awareness and visibility of Indigenous Peoples' climate leadership and crucial role in climate governance.'[249]

244 McDonnell and Gordon, "Indigenous participation in the Local Communities and Indigenous Peoples' Platform".

245 Martinez and others, "Delegation size and equity in climate negotiations"; Anselm Dannecker and Monica Giannone, "Learning from practice to teach for practice: reflections from a novel training series for international climate negotiators presented at PON's 40th anniversary symposium", Negotiation Journal, vol. 40, Nos. 3–4 (December 2024), pp. 211–226.

246 Larry Madowo, "Africans lost nearly $70M to denied visas applications to Europe in 2024", CNN, 21 May 2025. Available at https://edition.cnn.com/2025/05/21/travel/africans-europe-schengen-denied-visas-applications.

247 Quoted in Madowo, "Africans lost nearly $70M to denied visas applications to Europe in 2024".

248 Madowo, "Africans lost nearly $70M to denied visas applications to Europe in 2024".

249 Carmona and others, Consolidating the rights of Indigenous Peoples in climate governance through the Local Communities and Indigenous Peoples Platform, p. 4.

However, greater recognition of Indigenous Peoples has not necessarily brought greater influence or changes to state-centric power dynamics underpinning the UNFCCC structures and processes. Several ongoing barriers continue to limit meaningful participation, including states' reluctance to acknowledge Indigenous rights to self-determination, how IK is framed as 'practices' rather than distinct knowledge systems (as with discussions in section 6.2), and a tendency to treat Indigenous participation as a procedural requirement rather than a right. These barriers engender persistent marginalisation, limited engagement between UNFCCC negotiating parties and Indigenous Peoples, and procedural constraints, leaving the platform marginal to wider UNFCCC processes and negotiations and unable to effectively centre Indigenous Peoples within them.[250] However, Indigenous groups are also using their agency to reconfigure the LCIPP into a more meaningful and decolonial space for 'Indigenous Peoples by Indigenous Peoples' to counter-script discussions, share IK, and forge solidarity and relationships with each other.[251]

### 6.3.2. Internal marginalisation and unequal adaptive capacity

While external and global asymmetries are immense, there are also barriers to just adaptation within African societies themselves. Land, gendered, economic, and geographic inequalities within and between African countries exacerbate climate vulnerability and fragment populations' adaptive capacity.

#### Land tenure, gender inequality, and FPIC processes

In most African contexts, land holds greater significance than its economic value. Land functions as a basis of identity, cultural heritage, spirituality, and social relations, as well as a fundamental source of livelihood for pastoralist, agrarian, forest-dependent, and Indigenous communities.[252] Indeed, 'to lose one's land is to lose one's source of livelihood.'[253]

Across much of Africa, weak land governance and insecure tenure leave women, Indigenous communities, and farmer communities vulnerable to dispossession and land grabs (see section 6.1). Sub-Saharan Africa is diverse, yet colonial legacies of land dispossession continue to shape present-day land ownership, governance, and tenure frameworks.[254] In many countries, this dichotomy has produced overlapping regimes of land tenure – one based on private property rights and the other on customary rights. This coexistence has led to legal ambiguity and uneven protection of rights.[255] These systems, combined with weak institutions and poor enforcement, contribute to widespread tenure insecurity across Africa. The Status of Land Tenure and Governance Report from 2026 indicates that, while 73% of land in Sub-Saharan Africa is held under customary tenure, only 1% is formally recognised. Consequently, most customary land is undocumented and under state ownership, heightening communities' vulnerability to dispossession and exclusion. Communities' ability to invest in their land, plan their future, sustainably manage resources, and build climate resilience is compromised without tenure security.[256]

These dynamics are also deeply gendered. Women, despite being central in food production, biodiversity stewardship, informal economies, and IK preservation, remain structurally marginalised in land ownership and related decision making.[257] Intersecting factors drive gender inequality in land access and land

250 Carmona and others, Consolidating the rights of Indigenous Peoples in climate governance through the Local Communities and Indigenous Peoples Platform; McDonnell and Gordon, "Indigenous participation in the Local Communities and Indigenous Peoples' Platform".

251 McDonnell and Gordon, "Indigenous participation in the Local Communities and Indigenous Peoples' Platform".

252 Zambakari, "Land grab and institutional legacy of colonialism"; FAO, ILC and CIRAD. 2026. The status of land tenure and governance. Rome and Paris. https://doi.org/10.4060/cd8473en.

253 Zambakari, "Land grab and institutional legacy of colonialism", p. 199.

254 George Mark Onyango and others, "African Food Systems Transformation Brief 12: land tenure, land reform and agroecological transition" (Cape Town, African Food Systems Transformation Collective, 2025). Available at https://africanclimatefoundation.org/wp-content/uploads/2025/07/801023_S-Land-tenure-regime_WEB-1.pdf.

255 Zambakari, "Land grab and institutional legacy of colonialism"; Onyango and others, "African Food Systems Transformation Brief 12"; FAO, ILC and CIRAD, The status of land tenure and governance.

256 FAO, ILC and CIRAD, The status of land tenure and governance.

257 FAO, NRI and AWARD, The status of women in agrifood systems in sub-Saharan Africa (Rome, 2026). Available at https://doi.org/10.4060/cd9262en; FAO, ILC and CIRAD, The status of land tenure and governance; Mfundo Mandla Masuku, Zinhle Mthembu and Victor H. Mlambo, "Gendered effects of land access and ownership on food security in rural settings in South Africa", Frontiers in Sustainable Food Systems, vol. 7 (August 2023).

tenure security, including patriarchal customary and social norms that define women's rights in terms of their relationship with male relatives, weak legal protections, unequal access to land documentation and registration processes, and limited availability of sex-disaggregated land data. In practice, women often lack secure and independent control over land, especially in cases of divorce, widowhood, and inheritance disputes.[258]

As *The Status of Land Tenure and Governance Report* highlights, 'land tenure is not just a technical matter, but a profoundly political issue rooted in historical power dynamics and social structures.'[259] Consequently, approaches that focus exclusively on formalising land rights or technical tenure reforms without addressing underlying drivers, risk reinforcing continued marginalisation of women, Indigenous Peoples, customary landholders, and other vulnerable groups. Moreover, securing tenure alone 'may be insufficient to prevent encroachment if extractive industries and large-scale industries are unchecked and are not based on free, prior, and informed consent (FPIC).'[260] In this context, legal recognition of communities' governance roles and collective rights to land and forests is closely linked to their ability to exercise authority over decisions affecting their lands and resources. Through FPIC, communities can exercise this authority.

As enshrined in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the International Labour Organisation Convention 169, FPIC requires consent to be: (1) **Free**: given voluntarily and without coercion; (2) **Prior**: sought sufficiently in advance of authorisation or commencement of activities; (3) **Informed**: based on full information about projects' potential harms and benefits; and (4) **Consent**: people must have the right to approve or reject a project.[261]

Secure land tenure and effective FPIC processes have increasing significance amid growing 'green' land grabs linked to carbon markets, conservation initiatives, and green industrialisation projects in Africa (see land grabs in section 6.1).[262] FPIC implementation, despite its growing recognition, remains uneven across much of Africa. This comes especially as some states – including Kenya and Nigeria – have not ratified the UN Declaration on the Rights of Indigenous Peoples, which sets minimum standards for the survival, dignity, and well-being of Indigenous Peoples. However, FPIC is



*Daniele Bendelac (far left) stands with her family and community members as Umarizal quilombo receives its land title in a ceremony on Nov. 17, 2025, in Umarizal, Brazil. Photo credit: Malungu*

258 Marisa Balas and others, "Factors contributing to gender inequality in land access and land tenure security in Sub-Saharan Africa: a literature review", paper presented at the 27th FIG Congress, Warsaw, 11–15 September 2022. Available at https://research.utwente.nl/en/publications/factors-contributing-to-gender-inequality-in-land-access-and-land/; Masuku, Mthembu and Mlambo, "Gendered effects of land access and ownership on food security in rural settings in South Africa"; FAO, ILC and CIRAD, The status of land tenure and governance.

259 FAO, ILC and CIRAD, The status of land tenure and governance, p. 203.

260 Ibid.

261 Karabo Mokgonyana, "Protect local people's rights in renewable energy projects", Mail & Guardian, 27 August 2024. Available at https://mg.co.za/thought-leader/2024-08-27-protect-local-peoples-rights-in-renewable-energy-projects/.

262 Danique de Ronde, Land Rights in the Rio Conventions: Technical Guide for Advocates (International Land Coalition, 2025). Available at https://d3o3cb4w253x5q.cloudfront.net/media/documents/2025_9_land_rights_in_the_rio_conventions_single_pages_1.pdf.

gaining traction on the continent. In Liberia, no development can take place on customary land without adhering to FPIC principles, while in South Africa, legal cases have strengthened land rights to include forms of consent.[263]

Beyond protecting rights, secure land tenure and FPIC are also gateways to political agency, justice, community-led, bottom-up adaptation, and better environmental outcomes. Evidence shows that Indigenous Peoples, women, local communities, pastoralists, and small-scale farmers who have secure tenure are better able to manage their land equitably. They are also more likely to invest in long-term sustainable practices, such as reforestation and agroforestry, knowing their families and successors will benefit.[264] For example, legal recognition of community access to forests in Cameroon's Mount Oku region strengthened local stewardship and reduced environmentally harmful practices, while Rwanda's Land Tenure Regularization Program improved tenure security and gender equity, encouraging more sustainable land use.[265]

These findings align with Ostrom's work, which illustrates how Indigenous communities have long managed land and natural resources sustainably through established 'rules' within common property regimes.[266] These forms of common property regimes 'based on membership, boundaries, coordination, rules for harvest techniques, timing of use, knowledge-sharing, and monitoring and sanctioning devices' are historically common throughout Africa.[267] While such institutions continue to be under tremendous pressure from various political and economic forces, they remain important bottom-up governance arrangements that can strengthen communities' resilience to environmental pressures.[268]

## Unequal representation in national adaptation governance

From the local to the national and regional scales, marginalised communities, especially rural or informal settlement communities, remain structurally excluded from decision-making spaces in which adaptation priorities and interventions are defined. As one adaptation practitioner from West Africa observed, 'Those who are affected largely are not at the table where the major decisions are being taken.'

An adaptation negotiator from North Africa added further nuance by noting limitations in national representation 'The decisions are usually made by national delegates. So, these are often environment ministers or negotiators. And they are, at the end of the day, politicians.' Procedural injustice, therefore, stems not only from exclusion but also from the institutional and political conditions and choices shaping representation. Even when there is representation, decision making is frequently mediated from the top down through national actors or state structures that may not adequately reflect affected communities' priorities, IK, and livelihood dynamics.[269] Ongoing weak democratic decentralisation in Africa often reinforces this dynamic, as policy development and implementation tend to favour national priorities and elite interests over local and regional concerns, creating further obstacles to justice.[270]

263 Proforest, "Bringing FPIC to life in Liberia for communities", 21 December 2022. Available at https://www.proforest.net/id/news-and-events/news/bringing-fpic-to-life-in-liberia-for-communities-14253/; United Nations Environment Programme, "South African indigenous community win environmental rights case over mining company", 7 December 2018. Available at https://www.unep.org/news-and-stories/story/south-african-indigenous-community-win-environmental-rights-case-over-mining.

264 de Ronde, Land Rights in the Rio Conventions; FAO. 2018. The State of the World's Forests 2018 - Forest pathways to sustainable development. Rome. Licence: CC BY-NC-SA 3.0 IGO.

265 Jicenta N Foncha and Dora Mojoko Ewule, "Community forest management: a strategy for rehabilitation, conservation and livelihood sustainability: the case of Mount Oku, Cameroon", Journal of Geoscience and Environment Protection, vol. 8, No. 2 (February 2020); Thierry Hoza Ngoga, Rwanda's Land Tenure Reform: Non-existent to Best Practice (Wallingford, CABI, 2018). Available at https://www.cabi.org/Uploads/CABI/OpenResources/41037/Rwanda%20Land%20Tenure%20Reform%20Ngoga.pdf.

266 Elinor Ostrom, Governing the Commons: The Evolution of Institutions for Collective Action (Cambridge, Cambridge University Press, 1990).

267 Mafaniso Hara and others, "Governance of the commons in southern Africa: knowledge, political economy and power", Development Southern Africa, vol. 26, No. 4 (October 2009), p. 523.

268 Tobias Haller, "From commons to resilience grabbing: insights from historically-oriented social anthropological research on African peasants", Continuity and Change, vol. 37, No. 1 (May 2022); Franklin Obeng-Odoom, "Marketising the commons in Africa: the case of Ghana", Review of Social Economy, vol. 74, No. 4 (October 2016).

269 Eriksen and others, "Adaptation interventions and their effect on vulnerability in developing countries".

270 Rogers Rugeiyamu and Adam Msendo, "Success, challenges and prospects of decentralization in Africa: a systematic review", Cogent Social Sciences, vol. 11, No. 1 (December 2025). This is, of course, one of the key features of the 'resource curse.' See Wale Adebanwi and Rogers Orock, eds., Elites and the Politics of Accountability in Africa (Ann Arbor, University of Michigan Press, 2021); Ibrahim Baba, "Elites and exclusive politics in Sub-Saharan Africa", African Journal of Political Science and International Relations, vol. 8, No. 8 (November 2014).

Exclusion may also lead to maladaptation when adaptation interventions overlook or override traditional land uses, gendered labour roles, local knowledge systems, and existing coping mechanisms. For example, forced pastoralist resettlement programmes linked to Ethiopia's Climate Resilient Green Economy Strategy suggest resilience-building efforts have 'led to further marginalisation, decreased food security and exacerbated vulnerability.'[271] A justice-based approach to adaptation, therefore, requires recognising communities as political actors with a right to shape their own climate futures, rather than as passive beneficiaries. As the adaptation negotiator from North Africa emphasised: 'Communities should be active agents and not victims'.

### Rural-urban and intra-urban inequalities

Deeply entrenched spatial inequalities within urban and between rural–urban areas also shape adaptive capacity and internal marginalisation across Africa. In many countries, rural areas remain 'sidelined, underinvested, and largely excluded from national development agendas,' contributing to rural populations' relative vulnerability.[272] Persistent spatial inequalities between African rural and urban areas often leave rural communities with lower levels of electrification, service delivery, and infrastructure investment, though these communities have greater exposure to climate impacts.[273] One female climate activist from Southern Africa noted the multidimensionality of marginalisation: 'People tend to be more vulnerable to climate hazards when they are less educated, in poor health, politically disempowered, or economically insecure.' She added, 'If you're poor and vulnerable, with a history of being marginalised … you're the one most impacted.'

Marginalisation and inequalities are also profound within urban areas, despite these areas receiving greater attention. African cities face significant overlapping pressures posed by growing climate risks amid rapid urbanisation, migration, and several other development related pressures. Roughly 59% of Sub-Saharan African urban residents live in informal settlements and rely heavily on the informal economy, underscoring the scale of informality and service delivery challenges.[274]

In urban areas, the adverse conditions are not experienced equally. Africa's urban poor are disproportionally exposed to climate risks and disasters in hazard-prone areas, such as low-lying or underserved settlements, with limited pro-poor planning and unequal access to resources, infrastructure, and services.[275] Many contemporary urban spatial inequalities and injustices – including inadequate or unaffordable housing, land dispossession, and exclusion from economic opportunities – are rooted in the historical legacies of colonial and Apartheid urban planning, especially in South Africa. One male climate policy practitioner from Southern Africa reflected, 'Economic apartheid remains a critical issue in South Africa, linking it to the broader theme of climate justice.' Historical injustices continue to shape present-day spatial inequalities and, therefore, adaptive capacity.



271 Eriksen and others, "Adaptation interventions and their effect on vulnerability in developing countries", p. 6.

272 Wisdom Zimuto, "Africa's missed economic turnaround: the urgent case for rural investment", Stellenbosch Business School, 3 June 2025. Available at https://www.stellenboschbusiness.ac.za/news/2025-06-03-africas-missed-economic-turnaround-urgent-case-rural-investment.

273 Abdifatah Ahmed Hersi and others, "Beyond convergence: climate stress, rural–urban electrification disparities, and agricultural transformation in the east African community", Frontiers in Climate, vol. 7 (November 2025).

274 Gina Ziervogel, "Building transformative capacity for adaptation planning and implementation that works for the urban poor: insights from South Africa", Ambio, vol. 48, No. 5 (May 2019); Christopher Trisos and others, "Africa", in Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Hans-Otto Pörtner and others, eds. (Cambridge, Cambridge University Press, 2022).

275 Ziervogel, "Building transformative capacity for adaptation planning and implementation that works for the urban poor".

## 6.4. Chapter summary

Climate vulnerability in Africa is not simply a consequence of exposure to climate hazards, but also the outcome of deeply rooted historical and contemporary patterns of economic exploitation, epistemic marginalisation, and socio-political exclusion at multi-scalar levels. The legacies of colonialism and their neo-colonialism manifestations continue to shape development pathways, adaptive capacities, and access to resources, while unequal global climate governance structures limit African and Indigenous influence over climate knowledge production and decision making.

At the same time, vulnerability is reproduced in African societies through unequal access to land, insecure tenure, gendered inequalities, uneven FPIC process enforcement, and weak representation and participation in governance processes. African domestic governance failures need to be addressed to help facilitate the realisation of a meaningful JTfA, but such failures are not the focus of this report, which mainly addresses external reforms necessary to realise a JTfA. This is not to imply that external reforms should take place before internal ones; they must happen simultaneously. However, as emphasised herein, many of the barriers to equitable and just African development, some of which create the very conditions that precipitate governance failures, are externally imposed.

Collectively, the dynamics described in this chapter reveal how recognitional, procedural, distributive, and restorative injustices continue to shape adaptation outcomes nationally, regionally, and globally. Adaptation, therefore, is not only a technical challenge, but inherently a political and justice challenge.

All these highly interrelated structural impediments and injustices make Africa especially vulnerable to climate change impacts. This vulnerability can only be overcome with appropriate climate financing, technology and capacity-building support, in line with the obligations placed on developed countries under Articles 9–11 of the Paris Agreement.[276] The next chapter explores these questions of climate financing, technology transfers, and capacity building in Africa as they relate to adaptation.

276 United Nations Framework Convention on Climate Change, The Paris Agreement.



# 7. Climate financing for adaptation, technology transfer, and capacity building

## 7.1. Overall climate finance allocations

Despite Paris Agreement Article 9.1 acknowledging that the developed world should finance mitigation and adaptation in the developing world, 'climate finance' remains a highly contested domain in terms of adequacy and in the underlying structuring logics that govern its flow, access, and purpose. Even how climate finance itself is defined remains fluid and contested.[277]

> **The developing world needs an estimated USD 2.4 trillion/year in climate finance by 2030.[278]**

Of this, Africa's needs until then are USD 190 billion/year.[279] At COP16 in 2010, developed countries set a target of providing the developing world with USD 100 billion of climate finance annually by 2020. The Organisation for Economic Co-operation and Development (OECD) reported that the figure was exceeded for the first time in 2022, reaching USD 116 billion.[280] However, the Climate Finance Shadow Report 2025 argued that the actual value of funds provided in 2022 was far less than what was officially reported – closer to USD 28–35 billion.[281]

277 See Jan Kowalzig and others, Climate Finance Shadow Report 2025: Analysing Progress on Climate Finance under the Paris Agreement (Oxford, Oxfam GB, 2025). Available at https://oxfamilibrary.openrepository.com/server/api/core/bitstreams/a60a1750-0769-49e1-a3dc-1e0fbab84eec/content; Shally Venugopal and Shilpa Patel, "Why is climate finance so hard to define?", World Resources Institute, 8 April 2013. Available at https://www.wri.org/insights/why-climate-finance-so-hard-define.

278 Vera Songwe, Nicholas Stern and Amar Bhattacharya, Finance for Climate Action: Scaling Up Investment for Climate and Development (London, Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, 2022), p. 7.

279 Meattle and others, Landscape of Climate Finance in Africa 2024. p. 17.

280 Organisation for Economic Co-operation and Development, "Developed countries materially surpassed their USD 100 billion climate finance commitment in 2022 – OECD", 29 May 2024. Available at https://www.oecd.org/en/about/news/press-releases/2024/05/developed-countries-materially-surpassed-their-usd-100-billion-climate-finance-commitment-in-2022-oecd.html.

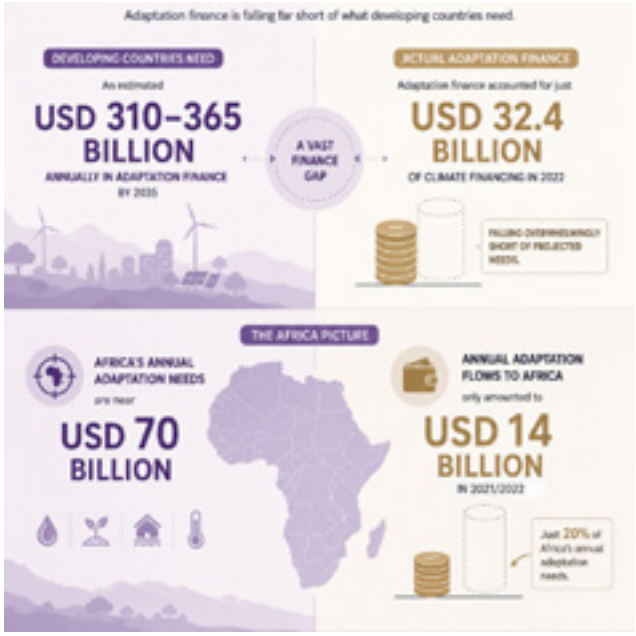
281 Jan Kowalzig and others, Climate Finance Shadow Report 2025, p. 4.

After great anticipation, a New Collective Quantified Goal (NCQG) on climate finance was adopted at COP29 in 2024. The NCQG called on developed countries to lead in mobilising at least USD 300 billion/year by 2035. The decision calls on all actors to scale up climate finance to USD 1.3 trillion/year by 2035 – the Baku to Belém Roadmap. Though impressive on paper, the USD 300 billion target and the Roadmap to USD 1.3 trillion effectively dilute developed countries' responsibility under Article 9.1 'to provide financial resources to assist developing country parties with … mitigation and adaptation.'[282] They do so by broadening the contributor base to include the private sector and multilateral development banks (MDBs) and undermine Article 9.3's emphasis on public finance by including all finance sources, such as loans.

## 7.2. Adaptation finance

Perhaps unsurprisingly, given climate finance' overall deficiency, adaptation finance is also completely inadequate. Developing countries need an estimated USD 310–365 billion annually in adaptation finance by 2035.[283] Despite the scale of this need, such finance accounted for just USD 32.4 billion of climate financing in 2022, falling overwhelmingly short of projected needs.[284] In Africa, annual adaptation needs are near USD 70 billion, but annual flows only amounted to USD 14 billion in 2021/2022.[285]

The COP26 Glasgow pledge to double adaptation finance to USD 40 billion/year by 2025 will only cover 5–10% of developing countries' estimated annual needs.[286] While COP30 reaffirmed developed countries commitment to that annual figure, it failed to agree on a specific financing goal beyond this period. Instead, the final COP30 decision issued a vague call 'for efforts to triple adaptation finance by 2035,' without defining the reference year or baseline level from which the increase would be calculated.[287] The decision also did not indicate which countries are financially responsible for this 'tripling,' thus watering down Paris Article 9.1. As the decision does not say financing will be provided as grants, any new finance that is mobilised is highly likely to be in the form of loans, including from the private sector.[288] And while the final NCQG decision of USD 300 billion reaffirmed that financial resources should 'aim to create a balance between mitigation and adaptation,' its failure to include a quantified adaptation sub-goal repeats the mistake of the USD 100 billion target that directed the majority of funds to mitigation.[289]




282 United Nations Framework Convention on Climate Change, The Paris Agreement. p. 13.

283 United Nations Environment Programme, Adaptation Gap Report 2025, p. ix.

284 Organisation for Economic Co-operation and Development, "Climate finance and the USD 100 billion goal". Available at https://www.oecd.org/en/topics/sub-issues/climate-finance-and-the-usd-100-billion-goal.html (accessed on 3 March 2026).

285 Meattle and others, Landscape of Climate Finance in Africa 2024.

286 United Nations, "COP26 Day 13: An agreement to build on" (2021). Available at https://www.un.org/en/climatechange/cop26-day-13-agreement-build; United Nations Environment Programme, Adaptation Gap Report 2024.

287 United Nations Framework Convention on Climate Change, "Global Mutirão: uniting humanity in a global mobilization against climate change", draft decision -/CMA.7, FCCC/PA/CMA/2025/L.24, 22 November 2025, p. 7. Available at https://unfccc.int/sites/default/files/resource/cma2025_L24_adv.pdf.

288 Saada Mohamed, "COP30 triples troubles for adaptation finance", Power Shift Africa, 2025. Available at https://www.powershiftafrica.org/in-the-news/cop30-triples-troubles-for-adaptation-finance; Amy Giliam Thorp, "The adaptation trust jar is not half-full; COP30 completely emptied it", Power Shift Africa, 2025. Available at https://www.powershiftafrica.org/in-the-news/the-adaptation-trust-jar-is-not-half-full-cop30-completely-emptied-it.

289 United Nations Framework Convention on Climate Change, Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on its sixth session, held in Baku from 11 to 24 November 2024. Addendum. Part two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its sixth session, FCCC/PA/CMA/2024/17/Add.1, 27 March 2025. Available at https://unfccc.int/documents/644937; Said Skounti and Iskander Erzini Vernoit, Rebuilding Confidence and Trust after the $100 Billion: Recommendations for the New Collective Quantified Goal (NCQG) (London, IMAL Initiative for Climate and Development, 2024). Available at https://media.odi.org/documents/060824Rebuilding_Confidence_and_Trust_after_the_100_billion___Recommendations__lmmwzFT.pdf.

The Adaptation Fund (AF), established in 2010 in Kyoto Protocol terms, also struggles to meet its finance targets, though it is the only multilateral fund dedicated exclusively to supporting concrete adaptation projects in developing countries. Financial pledges to the fund at COP30 amounted to only USD 135 million. That was better than the USD 61 million received in 2024, but still far short of its USD 300 million annual target.[290]

The gross mismatch between needs and delivery leaves climate-vulnerable regions without the fiscal means to respond to escalating climate risks. The Global Centre on Adaptation and Climate Policy Initiative indicates the foregone economic benefits of missing adaptation investments in Africa could reach USD 6 trillion by 2035.[291]

### 7.2.1. The nature of adaptation finance

The quantity of adaptation finance matters, but so does the form. While 70% of international public adaptation finance was concessional in 2022–2023, 58% was in debt instruments, with non-concessional loans exceeding concessional loans for many middle-income countries. LDCs received only 51% of adaptable finance as grants, with the rest in loans, 10% of which were non-concessional.[292] As the UNEP observed:

> The increasing proportion of non-concessionary debt instruments raise concerns about long-term affordability, equity, and the risk of an 'adaptation investment trap' where the rising climate disasters increase indebtedness and make it harder for countries to invest in adaptation. This is particularly true for vulnerable countries, especially LDCs and SIDS, which have contributed very little to the climate crisis but suffer the most from its effects.[293]

In 2022, developing countries received an estimated USD 62 billion in climate finance that incurred repayments of up to USD 88 billion.[294] Loans account for about 57% of adaptation finance flows to the African continent.[295] In this way, countries already on the frontlines of climate impacts, despite contributing <4% to global carbon emissions, are being pushed further into debt under the guise of climate assistance.[296] In 2024 alone, African nations spent a projected USD 163 billion on debt servicing, far exceeding the total commitments made under major global climate finance mechanisms such as the Copenhagen Accord and Green Climate Fund (GCF).[297] A recent calculation showed 'debt servicing will account for 137% of Africa's climate finance needs' between 2024 and 2030.[298] For example, in Nigeria in 2021/2022, USD 2.5 billion was raised as climate finance, while USD 2.3 billion went to debt repayment.[299] Thus, 'debt distress and the rising cost of capital is making it increasingly difficult for Sub-Saharan African countries to mobilise resources for climate transformations.'[300]

Delivering debt-entrapping loans for climate adaptation is a profound contradiction, as grant-based and grant-equivalent adaptation finance, which is crucial for avoiding deeper debt burdens

290 Molly Caldwell and others, "COP30 laid a path to $1.3 trillion in climate finance: what's next?", World Resources Institute, 18 December 2025. Available at https://www.wri.org/technical-perspectives/cop30-progress-1-3-trillion; Megan Rowling, "Adaptation Fund head laments 'puzzling' lack of pledges at COP29", Climate Home News, 16 November 2024. Available at https://www.climatechangenews.com/2024/11/16/adaptation-fund-head-laments-puzzling-lack-funding-pledges-cop29/.

291 Global Center on Adaptation and Climate Policy Initiative, Accelerating Adaptation Finance – Africa and Global Perspectives: Conference Version (Rotterdam, Global Center on Adaptation, 2023). Available at https://www.climatepolicyinitiative.org/wp-content/uploads/2023/09/GCA-CPI-Accelerating-Adaptation-Finance.pdf.

292 United Nations Environment Programme, Adaptation Gap Report 2025, p. xiv.

293 United Nations Environment Programme, Adaptation Gap Report 2025, p. 48. SIDS: Small Island Developing States.

294 Oxfam International, "Two thirds of climate funding for Global South is loans as rich countries profiteer from escalating climate crisis", 5 October 2025. Available at https://www.oxfam.org/en/press-releases/two-thirds-climate-funding-global-south-loans-rich-countries-profiteer-escalating.

295 United Nations Environment Programme, Adaptation Gap Report 2024, p. 48.

296 United Nations Conference on Trade and Development, The Least Developed Countries Report 2022.

297 African Development Bank Group, "Annual Meetings 2024: old debt resolution for African countries – the cornerstone of reforming the global financial architecture", 15 May 2024. Available at https://www.afdb.org/en/news-and-events/annual-meetings-2024-old-debt-resolution-african-countries-cornerstone-reforming-global-financial-architecture-70791.

298 Zucker-Marques and others, "Diverting development", p. 15.

299 Sean Stout and others, Landscape of Climate Finance in Nigeria 2024 (Climate Policy Initiative, 2024), p. IV.

300 Kevin P. Gallagher and others, "Debt distress and climate-resilient development in sub-Saharan Africa", Journal of African Economies, vol. 33, supplement No. 2 (2024), p. 14. See also Preeya Mohan, "From debt burden to climate burden: a historical look at debt and climate change", WIREs Climate Change, vol. 17, No. 1 (January 2026).

in climate-vulnerable regions, has stagnated in the current climate finance architecture.[301] According to a male civil society climate advocate from West Africa, 'You have a practice where somebody gives you money with the right hand, and they use the left hand to collect the money.' Thus, 'scaling up adaptation efforts simply cannot happen without improvements in fiscal sustainability, and vice versa.'[302]

Climate finance lacks an agreed-upon definition; therefore, both concessional and non-concessional loans can be counted as adaptation support. This ambiguity has enabled a financing model in which debt-based instruments dominate. An irony here is that climate vulnerability and risk raise the average borrowing cost by 1.2%.[303] This means African countries are now spending more from their domestic budgets on adaptation than the support they receive, forcing them to choose between urgent climate action and essential developmental needs, such as health and education.[304]

The current climate finance regime, thus, fails to realise the principles of procedural, distributive, recognitional, and restorative justice. Without addressing historical liabilities (climate debt), current mechanisms risk replicating the very extractive logics they purport to redress. A deeper tension is at the heart of these dynamics: the logic of global climate finance continues to treat Africa as a recipient rather than a rights holder. MDB lending is one major channel through which this debt-heavy finance logic operates.

### 7.2.2. MDBs and adaptation finance

MDBs are a pivotal source of climate funds, accounting for 57% of international public adaptation finance flows to developing countries.[305] However, most public climate finance from MDBs continues to flow to mitigation and at the cost of adaptation. For example, in 2023, low- and middle-income countries received USD 50 billion in mitigation finance from MDBs, yet only USD 25 billion for adaptation.[306] Only the AfDB essentially balanced allocations between the two in 2023, with 52% allocated to adaptation.[307] MDBs do show signs of increasingly working climate adaptation into their country strategies and have committed to raising allocation to adaptation to USD 42 billion by 2030. However, and strikingly, 'most MDBs are struggling to maintain or increase their share of adaptation flows.'[308]




301 United Nations Environment Programme, Adaptation Gap Report 2025, p. 49.

302 Jasper Verschuur, Nicola Ranger and Jim W. Hall, "Climate adaptation finance: from paper commitments to climate risk reduction", Science, vol. 388, No. 6754 (June 2025), p. 1376.

303 Global Center on Adaptation, Adaptation Finance Flows to Africa – State and Future Trends (Global Center on Adaptation, 2025). Available at https://gca.org/wp-content/uploads/2025/09/CPI-Report-Adaptation-Finance-Flows-to-Africa.pdf.

304 Kowalzig and others, Climate Finance Shadow Report 2025

305 United Nations Environment Programme, Adaptation Gap Report 2025, p. 22.

306 European Investment Bank, 2023 Joint Report on Multilateral Development Banks' Climate Finance (Luxembourg, 2024), pp. 13 and 18.

307 Natalia Alayza and others, "Multilateral development bank climate finance: the good, bad and the urgent", World Resources Institute, 14 November 2024. Available at https://www.wri.org/insights/mdb-climate-finance-2023.

308 Nancy Lee, Samuel Matthews and Bekir Armutlu, "MDB Strategies in the Most Climate-Vulnerable Countries: Is Adaptation a Priority?", CGD Note (Washington, D.C., Center for Global Development, 2024), p. 12; Asian Development Bank and others, From Innovation to Impact: Building Resilience for People and Planet: An MDB Technical Paper (2025), p. 7; Alayza and others, "Multilateral development bank climate finance".

MDBs are also responsible for most global climate adaptation lending as debt instruments such as loans. And 'given the nature of their business model, MDBs tend to prioritise financially viable projects' over critical adaptation initiatives that offer low or no financial returns.[309]

### 7.2.3. Adaptation finance at a crossroads?

The urgent need to mobilise far more climate finance and shift it from loans to grants comes when total global official development assistance (ODA) is falling and is set to continue to fall, at least in the short term, because of shifting geopolitical faultlines. Meanwhile, its form is changing as developed countries turn away from using public funds for climate finance in favour of encouraging a far greater fundraising role for the private sector.[310]




#### Falling ODA

After a 9% drop in 2024, global ODA dropped by an estimated 9–17% in 2025, while, by 2027, it will be only 82% of the 2024 total.[311] How this will directly impact climate finance is not yet known, but there are already signs of a negative impact. For example, the German government is proposing a substantial cut to its overseas aid in 2026, which could prevent it from meeting its pledge to provide USD 7 billion/year in climate finance.[312] The US proposed cutting ODA by 84% in 2026, including a specific cut of USD 275 million meant for the Global Environment Facility (GEF) and Climate Investment Funds (CIF).[313] And in March 2026, the UK cut its climate finance to the developing world by 14% over the next three years, to just USD 2.7 billion/year.[314]

#### The Wall Street consensus and the changing form of development aid

Economist Daniela Gabor argues that development funding is being fundamentally reorganised to ensure much greater penetration by private capital. This process enables social goods previously provided by the state – such as energy, water, and education – to be 'minted into bankable, investable projects' via blended finance mechanisms that tend to shift financial risk onto the balance sheets of developing world governments, development finance institutions, and MDBs.[315] These processes, she contends, are designed to 'protect the political order of financial capitalism against climate justice movements and Green New Deal initiatives,' and provide new markets for private capital.[316]

309 United Nations Environment Programme, Adaptation Gap Report 2025, p. 48.

310 Naomi Majale and Sara Duvisac, "Changing face of aid in Africa: outlook, failures, and reform potential", Oxfam briefing note (Oxford, Oxfam GB, 2025); Masood Ahmed, Rachael Calleja and Pierre Jacquet, eds., The Future of Official Development Assistance: Incremental Improvements or Radical Reform? (Washington, D.C., Center for Global Development, 2025).

311 Organisation for Economic Co-operation and Development, "Cuts in official development assistance: OECD projections for 2025 and the near term", Policy Brief (Paris, OECD, 2025), pp. 1 and 4.

312 German Climate Finance, "2025 and 2026 aid cuts likely to push Germany's climate finance pledge out of reach", 22 October 2025. Available at https://www.germanclimatefinance.de/2025/10/22/aid-cuts-german-2025-climate-finance-pledge-likely-out-of-reach/.

313 Adva Saldinger and Elissa Miolene, "Trump budget proposes unprecedented, 'reckless' cuts to foreign aid", Devex, 3 May 2025. Available at https://www.devex.com/news/trump-budget-proposes-unprecedented-reckless-cuts-to-foreign-aid-109988; Office of Management and Budget, Executive Office of the President, "Major discretionary funding changes", United States Government, 2 May 2025. Available at https://www.whitehouse.gov/wp-content/uploads/2025/05/Fiscal-Year-2026-Discretionary-Budget-Request.pdf; Solomon Ekanem, "Trump's plan to halt payments to the African Development Fund: what it means for Africa", Business Insider Africa, 5 May 2025. Available at https://africa.businessinsider.com/local/markets/trumps-plan-to-halt-payments-to-the-african-development-fund-what-it-means-for-africa/ewjemr9.

314 Fiona Harvey and Jessica Elgot, "UK to cut climate aid to developing countries by 14% to £2bn a year in 'refocus'", The Guardian, 19 March 2026. Available at https://www.theguardian.com/environment/2026/mar/19/uk-cut-climate-aid-budget-developing-countries-refocus.

315 Daniela Gabor, "The Wall Street Consensus", Development and Change, vol. 52, No. 3 (May 2021), p. 433. Gabor specifically draws attention to the 'Billions to Trillions' agenda (see https://unfccc.int/news/from-billions-to-trillions-setting-a-new-goal-on-climate-finance), Group of 20's Roadmap to Infrastructure as an Asset Class (see https://www.g20.utoronto.ca/2018/2018-03-30-g20_finance_communique-en.html), and World Bank's Maximizing Finance for Development (see https://documents1.worldbank.org/curated/en/168331522826993264/pdf/124888-REVISED-BRI-PUBLIC-Maximizing-Finance.pdf).

316 Gabor, "The Wall Street Consensus", pp. 429–430 and 455. Yannis Dafermos, Daniela Gabor and Jo Michell, "The Wall Street Consensus in pandemic times: what does it mean for climate-aligned development?", Canadian Journal of Development Studies, vol. 42, Nos. 1–2 (April 2021), p. 240; Rick Rowden, From the Washington Consensus to the Wall Street Consensus: The financialization initiative of the World Bank and multilateral development banks, (Washington, DC, Heinrich Böll Stiftung), October 2019.

This agenda is evident in several recent policy outputs, such as the G20's Roadmap to Infrastructure as an Asset Class, the World Bank's Maximizing Finance for Development initiative, and the EU's Global Gateway (GG). For example, the GG noted that ODA is the 'oil' to 'lubricate' investments that come from public and private funds, with private capital considered 'a critical actor under Global Gateway.'[317] Similarly, the British government recently stated its desire to transition from being a 'donor' to an 'investor' to 'unlock more private capital for development.'[318]

These changes in the forms of ODA have serious implications for the climate and adaptation finance landscape because they have given rise to several false adaptation finance solutions disguised as innovative financing solutions, while other proposed solutions remain largely untested for climate finance for adaptation.

### Private sector appetite

An increased emphasis on private finance will inevitably and increasingly link climate finance to profitable climate investments. This is deeply troubling for adaptation finance because the private sector has very limited appetite for adaptation projects and prefers mitigation 'because of its clearer metrics and financial returns.'[319] Only an estimated 25% of priority adaptation needs are theoretically likely to appeal to the private sector.[320] The IMF noted that overcoming the private sector's reluctance to finance adaptation will require 'policy reforms, incentives, and partnerships between governments, businesses, and communities and public-private risk sharing,' especially recommending the use of blended finance and public–private partnerships (PPPs).[321]

We see the lack of desire in current private sector flows to developing countries for adaptation, as they represent only 3% of projected total adaptation needs.[322] The OECD reported that international public finance mobilised only USD 3.5 billion of private finance for adaptation in 2022.[323] Currently, the private sector could deliver only around 15% of adaptation priorities in developing countries by 2035, and just 5% for LDCs.[324]

The nature of adaptation projects likely to interest the private sector is also a concern. Researchers argue, 'the private sector will naturally gravitate toward short-term, incremental adaptation in market sectors: this concentration could lead to underinvestment in action to deliver long term climate resilience.'[325] With its profit-driven, rather than needs- or justice-based focus, private investment in adaptation could deepen existing structural vulnerabilities and the unequal distribution of benefits and burdens linked to climate impacts and action, especially where it prefers certain adaptation sectors. Moreover, the private sector is not accountable to the current international climate regime that establishes CBDR-RC. In essence, the capitalisation of climate financing by the private sector deflects accountability and responsibility away from developed countries' public sectors, thus undermining the developed world's responsibility in the UNFCCC and Paris Agreement to provide sufficient climate finance.

Private finance may have a role, but only if it does not replace public finance or increase debt burdens, and if it remains subject to community consent and public accountability. Given the scale of financial need, the authors of this report are not necessarily opposed to the private sector potentially helping facilitate a JTfA. However, certain non-negotiable conditions for private sector participation must be met. Private sector

317 European Commission, Briefing Book: Policy Field, International Partners (2024), pp. 4–6 and 10. Available at https://www.politico.eu/wp-content/uploads/2024/04/18/draft-IntPa-briefing-for-next-Com-April-2024-1-cleaned.pdf.

318 United Kingdom Parliament, House of Commons Library, "UK aid: reducing spending to 0.3% of GNI by 2027/28", Research Briefing, No. 10243 (London, 2025), p. 8.

319 Deepali Gautam and others, "Unlocking adaptation finance in emerging market and developing economies", IMF Staff Climate Notes, No. 2024/007 (Washington, D.C., International Monetary Fund, 2024), p. 1.

320 Paul Watkiss and Kit England, Adaptation finance and the private sector: opportunities and challenges for developing countries (Zurich Climate Resilience Alliance, 2025), p. 4.

321 Deepali Gautam and others, "Unlocking adaptation finance in emerging market and developing economies", p. 1.

322 Watkiss and England, Adaptation Finance and the Private Sector, p. 5.

323 Watkiss and England, Adaptation Finance and the Private Sector, p. 23.

324 Watkiss and England, Adaptation Finance and the Private Sector, p. 4.

325 Watkiss and England, Adaptation Finance and the Private Sector, p. 6.

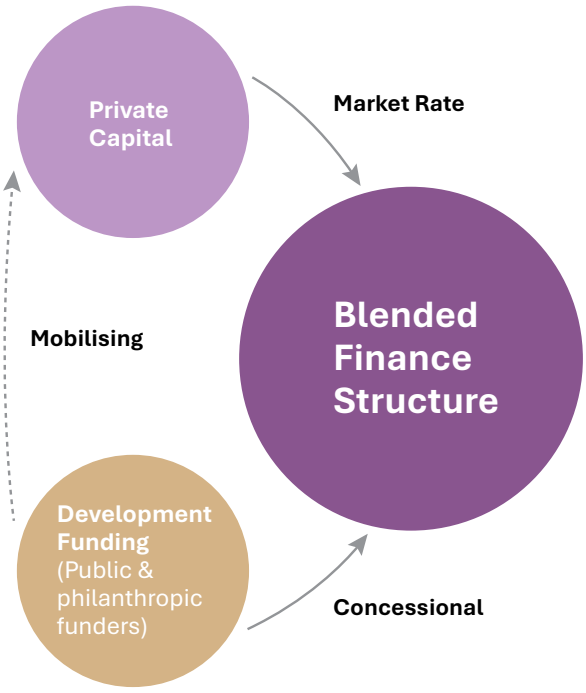
funds should never be viewed as a replacement for public sector financing in terms of adaptation finance. Additionally, widespread community participation should be undertaken before any decision is made to include the private sector in adaptation projects. This participation should adhere to the FPIC principles. Also, the private sector must never have majority control over any project that it financially supports. Controlling interests must be shared among local communities, governments, and the private sector, with community members having full veto rights over project decision making throughout the life of projects.

## Blended finance

The World Bank, OECD, IMF, and various UN agencies have heavily promoted blended finance, a means to increase financial flows toward developmental outcomes.[326] It is essentially a financial instrument seeking to 'leverage' private capital into developmental projects, including those concerning climate change. It does so with donor, philanthropic, or public funds to de-risk projects by providing first-loss capital or other forms of financial guarantee to attract the private sector into developments it may consider too 'risky' without such measures.

Blended finance can lead to infrastructure development, yet it can also risk deepening Africa's debt crisis by placing greater demands on government finances. For example, much of South Africa's renewable energy capacity is financed with private capital de-risked by a USD 18 billion contingent liability on the state – a liability that is becoming untenable.[327] Using public funds to de-risk blended finance also subsidises private profits.

The instrument has not 'leveraged' anywhere near the amount of private capital it was expected to attract. Its proponents originally hoped it would raise at least USD 3–4 from the private sector for every USD 1 of public money. However, at best, for each USD 1 of public money, no more than USD 0.70 of private finance has been raised in middle-income countries, and USD 0.37 for low-income countries. In 2023, just USD 88 billion was raised globally from private investors for low- and middle-income countries.[328] World Bank Group Chief Economist Indermit Gill has described the hope of public funds mobilising four times as much private capital as a 'fantasy.'[329] The OECD recently described blended finance as a 'cottage industry' that 'has not scaled as rapidly as hoped and has mobilised relatively limited private finance.'[330]




326 See, for example, International Finance Corporation: World Bank Group, The Role of Blended Finance in an Evolving Global Context (Washington, DC, 2025). Available at https://www.ifc.org/content/dam/ifc/doc/2025/role-of-blended-finance-in-an-evolving-global-context.pdf; Organisation for Economic Co-operation and Development, G20/OECD Report on Blended Finance Derisking Measures: The case of guarantees and credit enhancement instruments (Paris, OECD, 2025). Available at https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/10/g20-oecd-report-on-blended-finance-derisking-measures_29d012d0/9df5fe74-en.pdf; Bo Li, Fabio Natalucci and Prasad Ananthakrishnan, "How blended finance can support climate transition in emerging and developing economies", International Monetary Fund, 15 November 2022. Available at https://www.imf.org/en/blogs/articles/2022/11/15/how-blended-finance-can-support-climate-transition-in-emerging-and-developing-economies; United Nations Sustainable Development Group, "Blended finance: from buzzword to real-world results", 11 July 2025. Available at https://unsdg.un.org/latest/stories/blended-finance-buzzword-real-world-results.

327 Denene Erasmus, "State guarantees for renewable power projects unsustainable, says Treasury", BusinessDay, 13 June 2024. Available at https://www.businessday.co.za/bd/national/2024-06-13-state-guarantees-for-renewable-power-projects-unsustainable-says-treasury/; United Nations Educational, Scientific and Cultural Organization, "Blended finance", Financing Toolkit factsheet (Paris, 2025), p. 5.

328 MDB Task Force on Mobilization, Mobilization of Private Finance by Multilateral Development Banks and Development Finance Institutions in 2023 (2025), p. 15.

329 Kristina Lanz and Laurent Matile, "World Bank reform: back to the future?", Alliance Sud, 29 June 2025. Available at https://www.alliancesud.ch/en/world-bank-reform-back-future.

330 OECD (2025), OECD DAC Blended Finance Guidance 2025, Best Practices in Development Co-operation, OECD Publishing, Paris, https://doi.org/10.1787/e4a13d2c-en.

Blended finance seems unlikely to make a meaningful impact on the vast sum needed for climate finance, at least for the foreseeable future, given its disappointing record in raising development funds thus far. This is especially so in Sub-Saharan Africa, where the number of blended climate finance deals has fallen in recent years.[331]

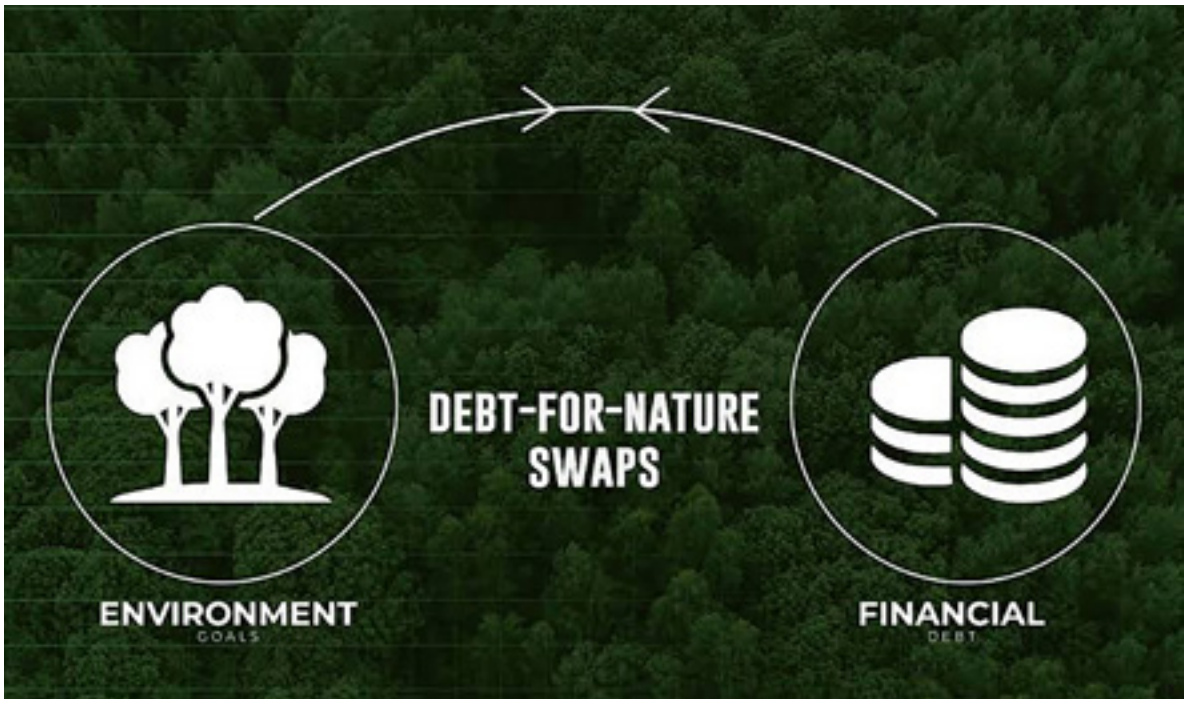
Where blended finance has been used in adaptation, it appears to be predominantly (60%) in the agricultural sector (which has potential for revenue generation). This sector, however, only represents 15% of total adaptation needs in the developing world.[332]

### Public–private partnerships

PPPs using cost recovery or direct user charges can attract additional private finance, filling possibly another 5–10% of the adaptation funding gap in developing countries. However, using PPPs to de-risk projects to attract private capital is also potentially problematic. To ensure 'bankability,' PPPs invariably include contractual obligations on the state, businesses, and users (citizens) to pay for the service(s) that the private sector has provided, introducing potentially 'important negative distributional consequences.'[333] Such developments can be more expensive than direct public financing and difficult to implement politically, and they can place additional financial burdens on already indebted African states.[334]

### Debt for climate adaptation swaps

These swaps either cancel or adjust debt terms in exchange for the funds 'saved' being used specifically on climate adaptation measures. This seems like a win–win arrangement, yet there have been problems. There is evidence that when the private sector renegotiates a debt instrument in return for adaptation actions, it imposes conditionalities more in line with its environmental, social, and governance needs than those of adaptation. Also, when swaps release funds, these funds tend to be relatively small and tied to conditions. For example, in Gabon, a USD 300 million debt was 'swapped' but will only save USD 60 million payable in instalments over 15 years.[335]




331 Convergence, State of Climate Blended Finance 2025, pp. 21 and 38.

332 Watkiss and England, Adaptation Finance and the Private Sector, p. 5.

333 Watkiss and England, Adaptation Finance and the Private Sector, p. 6.

334 John Loxley, "Are public–private partnerships (PPPs) the answer to Africa's infrastructure needs?", Review of African Political Economy, vol. 40, No. 137 (September 2013); EURODAD, History RePPPeated: How Public Private Partnerships are failing (2018). Available at https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/Eurodad_history_reppeated_2018_ENG.pdf; EURODAD, History RePPPeated II: Why Public-Private Partnerships are not the solution (2022). Available at https://assets.nationbuilder.com/eurodad/pages/3071/attachments/original/1671445992/01_history-rePPPeated-2022-EN_19dec.pdf?1671445992.

335 Patrick Kwabena Stephenson, "Trapped in green debt: debt-for-climate swaps are not enough", African Climate Wire, 29 May 2025. Available at https://africanclimatewire.org/2025/05/trapped-in-green-debt-debt-for-climate-swaps-are-not-enough/.

Further problems exist. The idea dilutes the call for debts to be scrapped. Debt for climate swaps are a distraction, giving the global debt architecture a veneer of legitimacy, and potentially legitimising odious debts. The swaps do not generate new funds; rather, they redirect funds from one area to another. Funds that would have financed debt are used to finance adaptation, so they cannot truly be considered climate finance.[336]

### Carbon markets

As already shown, Article 6 of the Paris Agreement facilitates the sale of carbon credits from mitigation activities that reduce emissions. The Agreement encourages participating countries to use any credits generated under it for both mitigation and adaptation. At COP26, it also was agreed that 5% of all proceeds from carbon credits linked to the Agreement should be allocated to the AF.[337]

Most carbon markets in Africa, however, do not fall under the Paris Agreement. Therefore, they are subject to voluntary reporting via institutions such as the Integrity Council for the Voluntary Carbon Market or Verified Carbon Standard, where the 5% requirement does not exist. There also are deep concerns with the integrity of the voluntary carbon market globally, including in Africa, because of extremely weak enforcement of credit-verification regulations. For example, research found that in 2023, 90% of voluntary credits issued were 'fake,' while in 2024, 85% of credits could not be verified.[338]

Because of these ongoing chronic weaknesses, a major carbon credit scheme in Kenya recently collapsed from the inability to verify credits, while recently, the price of voluntary carbon credits in Africa has fallen dramatically, with analysts arguing that 'intractable quality issues' plague the entire carbon market regime.[339] Thus, carbon markets are highly unlikely to ever produce meaningful funds for climate adaptation in Africa, at least for the foreseeable future.

## 7.3. Knowledge and technology transfer failure

Article 10 of the Paris Agreement requires that developed countries facilitate (including via financial support) developing world access to technologies 'for the implementation of mitigation and adaptation actions.'[340] The Paris Agreement mandates this technology transfer via the Technology Executive Committee (TEC) and Climate Technology Centre and Network (CTCN) within the Technology Mechanism, which the UNFCCC established. Technology transfer, therefore, is central in climate diplomacy, bridging technological gaps and broader income and wealth inequalities between developed and developing countries.[341]

The uneven global distribution of climate mitigation and adaptation technologies drives the need for technology transfer. For example, meteorological stations, which are vital for producing basic climate data and enable early warning, are overwhelmingly concentrated in developed countries. The US and EU operate 636 weather radar stations for a combined population of 1.1 billion people, while the entire African continent has 37 stations for roughly the same population.[342] This asymmetry entrenches a cycle of technological scarcity reinforcing climate vulnerability.

A CTCN–TEC joint report from 2025 found both continue to engage partners in developing and deploying climate-relevant technologies. For example, simple mobile technologies have been used to scale up, collect, and process climate observation data to inform adaptation actions

336 Climate Action Network International, "Climate Action Network position on debt swaps" (2023). Available at https://climatenetwork.org/wp-content/uploads/2023/06/CAN-position-on-Debt-Swaps_May-2023.pdf.

337 Charles E. Di Leva and Scott Vaughan, "The Paris Agreement's new Article 6 rules", International Institute for Sustainable Development, 13 December 2021. Available at https://www.iisd.org/articles/paris-agreement-article-6-rules.

338 Patrick Greenfield, "Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows", The Guardian, 18 January 2023. Available at https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe; Benedict S. Probst and others, "Systematic assessment of the achieved emission reductions of carbon crediting projects", Nature Communications, vol. 15, No. 1 (November 2024).

339 Marc Maleika, "What went wrong in carbon markets and what happens next", Africalive.net, 6 January 2026. Available at https://africalive.net/article/marc-maleika-sylva/; William Wallis, "How a clean cooking pioneer combusted", Financial Times, 9 March 2026. Available at https://www.ft.com/content/302d2e77-f9da-4629-9df0-d8fbdc4005ae?syn-25a6b1a6=1.

340 United Nations Framework Convention on Climate Change, The Paris Agreement, Article 10, paragraphs 5 and 6.

341 Article 4.7 of the United Nations Framework Convention on Climate Change and Article 10.5 and 10.6 of the Paris Agreement explicitly situate technology development and transfer as key means of implementation.

342 Friederike Otto, "Without warning: Africa's lack of weather stations is costing lives", African Arguments, 14 November 2023. Available at https://africanarguments.org/2023/11/without-warning-africa-lack-of-weather-stations-is-costing-lives.

in Malawi, while tree monitoring for climate adaptation has been used in South Africa.[343] However, of the 439 technical assistance requests that CTCN received by 2025 (of which, 48% originated in Africa), only 31% exclusively targeted adaptation while 41% were for mitigation and 28% for both.[344]

Trade measures are often presented as a lever for accelerating diffusion of climate-relevant technologies. In principle, when embedded within wider policies to support endogenous innovation and technological uptake, such measures could broaden access and enable developing countries to better adapt to climate change.[345] In practice, however, the global production and trade of such technologies remain concentrated in developed countries. Firms in these countries dominate patents, manufacturing capacity, and high-value segments of the supply chain.[346] Prevailing global trade rules, especially with neither flexibility on IP nor systemic measures to build domestic productive bases, risk locking African economies into an import-dependent model of adaptation.[347]

The paradox here is that African actors still experience marginal access and minimal autonomy, despite repeated references to technology transfer in international climate agreements. As one male climate activist from West Africa noted, 'When we say technology transfer… it does not happen.' Another male civil society climate advocate from West Africa also pointed to the aspiration of technological autonomy: 'We want to ensure that after 5 or 10 years, we have to transfer the knowledge to Ghanaian institutions, so we can also own that knowledge and be able to manage our own affairs. But again, that never seems to happen.'

Part of the problem can be traced to the relative ineffectiveness of the TEC and CTCN, which the UNFCCC has attributed to scarce resources for 'implementing their respective mandates' – due to inadequate financial support from member countries.[348] Between 2013 and 2023, the CTCN only received USD 107 million in funding. The same UNFCCC assessment also noted, 'there are significantly fewer technical assistance projects that focus on adaptation than on mitigation, even though they are just as important.' Another criticism concerns a limited focus on purely technical assistance at the cost of actually transferring climate-friendly technology and IP rights to technology.[349]

A 2020 World Bank report exploring the global diffusion of climate adaptation technologies bluntly noted that the vast majority of cross-border transfers of patented inventions for climate change adaptation occur within a small group of high-income countries, with 'virtually no transfer of patented knowledge to low-income countries.'[350] The report also noted the 'stagnation of research and development towards adaptation' in 'sharp contrast to the trend for climate mitigation.'[351]

IP rights are central to technology transfer, as shown in ongoing campaigns to waive WTO Trade-Related Aspects of Intellectual Property Rights (TRIPS) rules for climate technologies. TRIPS waivers would allow member states to suspend selected IP obligations enabling access to climate-friendly technologies.[352] WTO members have discussed TRIPS waivers for

343 United Nations Framework Convention on Climate Change, Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network for 2025, FCCC/SB/2025/6, 2 October 2025. Available at https://unfccc.int/sites/default/files/resource/sb2025_06_adv.pdf.

344 Ibid.

345 Antoine Dechezleprêtre and others, Invention and Global Diffusion of Technologies for Climate Change Adaptation: A Patent Analysis (Washington, DC, World Bank, 2020). Available at https://documents1.worldbank.org/curated/en/648341591630145546/pdf/Invention-and-Global-Diffusion-of-Technologies-for-Climate-Change-Adaptation-A-Patent-Analysis.pdf.

346 Maximilian Elsen and Frank Tietze, "Contributions from low- and middle-income countries to the development of climate change adaptation technologies: a patent analysis", Technological Forecasting and Social Change, vol. 209 (December 2024).

347 Monirul Azam, "The TRIPS Agreement revisited: time to open up climate technologies for least developed countries", Journal of Intellectual Property Rights, vol. 27, No. 2 (July 2022).

348 United Nations Framework Convention on Climate Change, First Periodic Assessment of the Effectiveness and Adequacy of the Support Provided to the Technology Mechanism in Supporting the Implementation of the Paris Agreement on Matters Relating to Technology Development and Transfer (2022), pp. 22–24. Of particular interest for this report, the same UNFCCC assessment also noted that, 'There are significantly fewer technical assistance projects that focus on adaptation than on mitigation, even though they are just as important.' (p. 24).

349 Sam Stephens, "Underfunded and underappreciated: UNFCCC's Technology Mechanism and the need for stable funding", Arizona Journal of Environmental Law & Policy, vol. 14, No. 1 (2023), p. 116.

350 Dechezleprêtre and others, Invention and Global Diffusion of Technologies for Climate Change Adaptation, p. 7.

351 Dechezleprêtre and others, Invention and Global Diffusion of Technologies for Climate Change Adaptation, p. 6.

352 Publish What You Pay, Breaking Global Trade Barriers to a Just Energy Transition: A Waiver for Climate Tech Access (2025). Available at https://resourcejustice.org/app/uploads/2025/06/TRIPS-Waiver-fact-sheet-1.pdf.

climate-friendly technology since 2013, and the Africa Group has applied renewed pressure since 2023, yet no waivers for climate-friendly technologies have been granted.[353]

Technology transfers have stalled largely because developed world countries are reluctant to reform IP laws that 'prioritize corporate interests over global equity,' making the struggle over IP waivers part of the 'broader struggles over knowledge governance in an era of climate crisis.'[354] This has profound implications for realising a JTfA, which 'requires reimagining innovation as a global commons.'[355]



## 7.4. Capacity building for climate action

Capacity building has been a central component of climate negotiations since the UNFCCC's inception in 1992.[356] In 2015, the Paris Agreement (by establishing the Paris Committee on Capacity-building and the Capacity-building Initiative for Transparency) more formally recognised the importance of capacity building through Article 11. Notably, this includes developed countries' obligation to support capacity building for climate action in developing countries because 'questions of capacity cannot be seen only as issues of domestic or local decision making, but as the site of international contestation,' being linked to histories of dispossession and power.[357]

Contextualising capacity building needs raises important questions, such as who is driving the process, who is being capacitated, and on what is the capacity being built; that is, what knowledge is deemed important?

Research that builds on arguments in section 6.2 (The 'colonised mind' and Western epistemic myopia) indicates that most capacity building for climate change, including for adaptation, is top down and techno-managerial in nature, and it heavily uses standardised data grounded in Western epistemology. This form of capacity building is 'largely centralized, institutionalized and well-supported by the UNFCCC.'[358] Generally, it also tends to be short-term and project-based 'rather than targeting institutional change,' and is concerned with transferring knowledge rather than creating it.[359] Researchers also note that most capacity building under the UNFCCC is nationally, rather than sub-nationally or locally, focussed, which has clear implications for adaptation.[360]

353 World Trade Organization, "Climate change and TRIPS". Available at https://www.wto.org/english/tratop_e/trips_e/cchange_e.htm (accessed on 18 May 2026); Jan Walter and Stephen S. Kho, "Tech transfer in the WTO—what's in it for Africa? And for the rest of the world?", Akin Gump Strauss Hauer & Feld LLP, 25 July 2023. Available at https://www.akingump.com/en/insights/alerts/tech-transfer-in-the-wtowhats-in-it-for-africa-and-for-the-rest-of-the-world.

354 Pratap Devarapalli, "Patent or planet? rethinking IP for just climate tech transition in the Global South", Global Environmental Politics, vol. 25, No. 4 (November 2025), p. 143.

355 Devarapalli, "Patent or planet? rethinking IP for just climate tech transition in the Global South", pp. 143–144.

356 Mizan R. Khan and others, The Paris Framework for Climate Change Capacity Building (Abingdon and New York, Routledge, 2018), p. 10.

357 United Nations Framework Convention on Climate Change, The Paris Agreement, Article 11; Sonja Klinsky and Ambuj D. Sagar, "The why, what and how of capacity building: some explorations", Climate Policy, vol. 22, No. 5 (May 2022), p. 550.

358 Snigdha Nautiyal and Sonja Klinsky, "The knowledge politics of capacity building for climate change at the UNFCCC", Climate Policy, vol. 22, No. 5 (May 2022), p. 576.

359 Gina Ziervogel and others, "Supporting transformative climate adaptation: community-level capacity building and knowledge co-creation in South Africa", Climate Policy, vol. 22, No. 5 (May 2022), pp. 608 and 619; Nautiyal and Klinsky, "The knowledge politics of capacity building for climate change at the UNFCCC", p. 586.

360 Nautiyal and Klinsky, "The knowledge politics of capacity building for climate change at the UNFCCC", p. 584.

While critics note the UNFCCC, more recently, has been trying to incorporate other forms of knowledge for capacity building, such as IK, these attempts are largely 'disparate and frequently lacks necessary financial, technical, and institutional resources.' This pattern again reveals how Western epistemologies' dominance in institutional climate settings determines which forms of climate action prevail.[361]

## 7.5. Chapter summary

Above all, this chapter demonstrates that the developed world is not meeting the climate obligations the Paris Agreement placed on it. Clearly, the current trajectory of climate finance (in terms of both quantity and form) is incompatible with realising the Agreement, let alone achieving a just adaptation. Inadequate technology transfers and problematic capacity building only confirm this contention.

Developed countries must take their obligations far more seriously if Articles 9, 10, and 11 of the Paris Agreement are to be realised. The International Court of Justice (ICJ) ruled in an Advisory Opinion in 2025 that these obligations are legally binding, not voluntary, and they can trigger legal consequences if not met. The Court stated that 'parties to the Paris Agreement have an obligation to act with due diligence in taking measures in accordance with their common but differentiated responsibilities and respective capabilities capable of making an adequate contribution to achieving the temperature goal set out in the Agreement.'[362]

Specifically for adaptation finance, the ICJ noted that the UNFCCC imposes legally binding obligations on the developed world countries listed in Annex II to provide funding and technologies to developing countries to meet their adaptation needs.[363] The Court also ruled that parties to the Paris Agreement, 'have obligations of adaptation and co-operation, including through technology and financial transfers, which must be performed in good faith,' as should capacity-building commitments.[364] The United Nations General Assembly has officially endorsed the ICJ's ruling.[365]

In accepting CBDR-RC as a guiding principle, the ICJ confirmed that developed-world support should not be framed as aid, but as partial repayment of the climate debt owed for historical emissions. 'Every loss from the past must be paid for before we can talk of tomorrow, because the past defines the future,' said an climate change practitioner from West Africa.

361 Nautiyal and Klinsky, "The knowledge politics of capacity building for climate change at the UNFCCC", pp. 577 and 586. The authors continue, 'cultural approaches to capacity building, including those that incorporate local languages and traditional knowledge from a wide range of actors, remain disparately and infrequently recognized,' p. 586. See also Mizan Khan, David Mfitumukiza and Saleemul Huq, "Capacity building for implementation of nationally determined contributions under the Paris Agreement", Climate Policy, vol. 20, No. 4 (April 2020).

362 International Court of Justice, Obligations of States in respect of Climate Change, Advisory Opinion, 23 July 2025, paragraph 457(e).

363 International Court of Justice, Obligations of States in respect of Climate Change, paragraph 211.

364 International Court of Justice, Obligations of States in respect of Climate Change, paragraphs 457(h) and 267.

365 United Nations, "General Assembly backs historic World Court climate crisis ruling", UN News, 20 May 2026. Available at https://news.un.org/en/story/2026/05/1167561.

## Table 4. Summary of barriers to change across justice dimensions identified in chapters 6 and 7

| Justice dimensions | Barriers to change | National expressions | International expressions |
|---|---|---|---|
| **Recognitional and cognitive justice** | Historical and structural injustices and/or colonial legacies, extractive institutions, reshaping of subjectivities, institutional fragility | Unequal regional and urban–rural development, some states or communities lack a political voice and resources | Global historical emissions and extraction patterns create structural debt, Africa bears climate costs disproportionate to its contribution |
| **Distributive justice** | Epistemic hierarchies, privileging Global North knowledge systems and conceptualisations, undervaluing Indigenous expertise<br>Internalised inferiority from colonial education; privileging foreign solutions and knowledge. | International 'experts' inform national debates to the exclusion of local 'experts' and IK holders<br>Western epistemology equated with modernisation<br>Policy decisions mimic Western policymaking<br>Preference for imported solutions; limited confidence in local innovation | International frameworks emphasise imported science and models, African knowledge treated as anecdotal and 'additional' rather than authoritative<br>International discourse reinforces African actors as recipients rather than rights holders |
| **Procedural justice** | Tokenistic participation, limited voice of marginalised actors, top-down planning, bureaucratic capture | Marginalised groups' limited meaningful influence in policy discourse, ineffective consultation mechanisms, elite capture | Dominant financial and policy frameworks externally designed and accountable to donors rather than local communities |
| **Distributive justice** | Unequal and insufficient access to climate finance, technology, land and adaptive opportunities; economic and gendered inequalities | Poor, rural, and marginalised populations receive less adaptation support, women and youth often excluded from benefits and land | Funding and technology flows tied to conditionalities, international climate finance favours donor priorities over local needs |
| **Restorative justice** | Deep distrust, power imbalances, needs vs priorities mismatch, legal and institutional constraints, social fragmentation | Donor conditionalities; weak legal and institutional mechanisms; struggles to attribute, measure, and account for nuanced deficiencies associated with past injustices | Deflection of CBDR-RC, Underwhelming NCQG, shrinking ODA, increased private capital penetration |

# WE CANNOT BUILD A JUST, CLIMATE-RESILIENT FUTURE ON THE SCAFFOLDING OF UNJUST SYSTEMS.





# 8. Vision and framework for a JTfA

**We cannot build a just, climate-resilient future on the scaffolding of unjust systems.**

As set out in chapters 6 and 7, adaptation's failure is not accidental – it is a symptom of outdated systems designed to extract, exclude, and exploit.

The failure stems from colonial legacies to land and green grabs, developmental deficits, and procedural exclusion to donor-driven finance and a global financial architecture that cements structural inequalities and dependencies. These injustices have left deep faultlines in global, regional, national, and local adaptation responses. Adaptation responses, thus, remain embedded in unjust and unsustainable social, economic, political, and governance systems that reinforce risk and vulnerability through persistent power asymmetries.

A JTfA, especially in Africa, must do more than simply prepare for climate impacts; it must confront the underlying systems of extraction, structural dependencies, and exclusion that have shaped vulnerability and underdevelopment across the continent.

A JTfA, therefore, draws on an extensive interrogation of the continent's history and the present. It unravels the structural deficiencies that perpetuate vulnerability and constrain the continent from being climate-resilient. A JTfA must demand a bold shift in how we think, talk about, finance, and implement adaptation so we can move beyond where we are now and get to where is necessary. This chapter explores a shared vision, principles, and framework underpinning a JTfA.

## 8.1. Where do we want to go? A justice-based vision and principles for Africa

A JTfA is an opportunity to assert and reimagine a new vision positioning people, livelihoods, prosperity, and nature at the centre. This demands a bold systemic shift.

### Box 2 – Defining a JTfA in Africa

Our research participants' lived experiences and perspectives inform our following definition of a JTfA in Africa:

a systemic, justice-centred transformation of how climate adaptation is planned, governed, financed and implemented — one that addresses the structural drivers of climate vulnerability, not only its symptoms. A JTfA requires (1) recognitional, procedural, distributive, and restorative justice across the adaptation policy cycle; (2) African leadership and adaptation sovereignty; (3) grant-based, rights-based finance aligned with historical responsibility; and (4) integration of Indigenous and local knowledge systems with scientific knowledge on equal terms.

The aim is to transition to systems and structures that protect people, respect rights and diverse knowledge systems, restore ecosystems, and reduce inequalities. These must enable adaptation that is transformative, redistributive, and accepted as a global responsibility, while being locally determined and driven. It calls for abandoning neocolonial mindsets and embracing Africa and the Global South as active leaders, innovators, and rights holders. These aspirations align closely with and uphold the African Union (AU) visionary Agenda 2063, which foresees an 'integrated, prosperous and peaceful Africa, driven by its own people and representing a dynamic force in the international arena'[366] A JTfA can offer a critical pathway to realising that future.

These ideas draw on Africa's rich intellectual heritage and IK, regional diversity, and lived experiences, in addition to insights from our interviewees, extensive research referenced for this report, Agenda 2063, and the Just Transition: A Climate, Energy and Development Vision for Africa report.[367]

The key principles and components for a JTfA are grouped below. They correspond to the four justice pathways, though some principles realise more than one pathway.

#### Recognitional justice

» **Decolonising and democratising global climate governance and climate finance mechanisms** means confronting climate injustices where Africa bears disproportionate impacts yet remains marginalised in global decision making. It calls for inclusive structures that ensure equal voice and agency for African actors in shaping climate solutions that transcend mere survival to foster long-term prosperity and resilience.[368] UNFCCC Article 4.19(e) and various COP decisions provide the context and political basis behind Africa's call to be recognised as one of the most vulnerable continents to climate impacts, despite its negligible contribution to global GHG emissions.[369]

366 African Union, "Agenda 2063: The Africa We Want." (2015). Available at https://au.int/en/agenda2063/overview.

367 Sokona and others, Just Transition.

368 African Civil Society Common Position for Climate Adaptation + Loss and Damage for COP28 (Nairobi, 2023). Available at https://static1.squarespace.com/static/657880dcd408ac495a5cc888/t/65c4581661886a3906e4cfab/1707366444145/CSO+COP28+Position+Paper+-+Digital_1701244566.pdf.

369 Power Shift Africa, "African priorities for COP30", policy brief (Nairobi, 2025). Available at https://static1.squarespace.com/static/657880dcd408ac495a5cc888/t/690b1f96482d93008c3adb13/1762336662417/African+Priorities+for+COP30+Policy+Brief.pdf.

- **Knowledge justice and integration:** Indigenous and experiential knowledge systems must be fully integrated alongside Western scientific frameworks and valued equally in shaping adaptation solutions.

- **Redefining progress and the adaptation development agenda** by integrating adaptation with broader development goals and centring livelihood security, prosperity, and resilience guided by metrics that capture real well-being and social equity, such as the GPI, rather than conventional economic growth, or GDP, alone.

### Procedural justice

- **Inclusion and meaningful participation of marginalised groups** begins with recognising and responding to the differentiated vulnerabilities of women, youth, Indigenous Peoples, persons with disabilities, and other marginalised groups. This links to, and must be a core dimension of, adaptation sovereignty.

- **Adaptation sovereignty:** African and climate-vulnerable communities and countries must design and lead adaptation pathways grounded in their own solutions, values, histories, cultures, and ecosystems, with full control over food systems through food sovereignty and agroecology, land, water, and other natural resources.[370] Adaptation sovereignty rejects externally imposed agendas, centring African leadership at all levels.

- **Bottom-up, community-led adaptation** is linked to adaptation sovereignty but specifically focuses on the local level and ensuring that communities are at the forefront of designing and leading adaptation initiatives that strengthen local agency and self-determination.

- **Embedding FPIC in all adaptation processes and responses:** Enshrined in UNDRIP, FPIC recognises Indigenous Peoples' right to sovereignty and self-determination. FPIC must be non-negotiable and embedded in all adaptation policy processes, projects, and initiatives from the local to the global level.

### Distributive justice

- **Equitable resource distribution based on need and climate risk:** Resources must be allocated within and across African countries based on climate risk and need – not on institutional capacity, wealth, or political influence. Internationally, this means scaling up grant-based adaptation finance aligned with historical responsibility, the CBDR-RC principle, and equity principles under the UNFCCC, without imposing conditionalities or deepening already burdensome debt. Developing countries' adaptation needs are set to expand as temperatures increase, so there is no quick fix or one-off payment to close the finance gap. Therefore, international financial support must be provided consistently over the long term.

- **Centring feminism, equity, and social justice:** Thriving, resilient societies depend on equitable access to resources, opportunities, and protection – across genders, races, classes, generations, nations, and other identities.[371]

- **Prioritising basic needs and sufficiency:** Access to food, water, energy, shelter, and social protection are fundamental rights and central to reducing vulnerability, building adaptive capacity, and strengthening resilience.[372]

- **Equal and secure land tenure and land rights:** Communities must have equitable access to secure land tenure, including conflict resolution mechanisms, as a foundation for adaptation, resilience, and sustainable livelihoods.

370 United Nations Framework Convention on Climate Change, The Paris Agreement.
371 Ibid.
372 Ibid.

### Restorative justice

» **Climate reparations and compensation as restoration** are a matter of justice and accountability for historical and ongoing climate damage. They are not aid. Restoring harm that climate impacts inflict on communities requires compensation through grant-based, grant-equivalent support, debt cancellation, legal mechanisms, recognition of Africa's unique climate circumstances, and equitable access to, and ownership of, technologies.

» **Technology and capacity-building justice through transfer, co-creation, and ownership:** Achieving climate resilience requires equitable access to technologies and sustained capacity-building support, in line with Articles 10 and 11 of the Paris Agreement.[373] Beyond technology transfer, this entails strengthening local capabilities and institutions, while supporting African leadership, co-creation, and ownership of climate solutions to ensure they are contextually relevant, self-determined, and sustainable.

» **Avoid extractivist practices and respect environmental limits:** Africa is home to eight of the 36 recognised global biodiversity hotspots and hosts 20% of the world's rainforest areas, which are key to communities' and the continent's resilience.[374] All human activities must remain within environmental and planetary boundaries, guided by the precautionary principle of ensuring that Africa is not exposed to precarious technologies or developments that threaten ecosystems and, thus, the resilience of societies.[375]

While this report focuses on advancing a JTfA in Africa, many of the underlying challenges and principles identified are rooted in broader global climate governance structures and patterns of climate injustice.

The vision presented in this section, therefore, has implications for Africa and for efforts to embed justice within adaptation processes and global climate governance more broadly.

## 8.2. How do we get there? Pathways and leverage points

Achieving a JTfA requires pathways that translate justice principles into concrete outcomes. Insights from our research and interviews reveal that the four justice dimensions – recognitional, procedural, distributive, and restorative – are deeply interconnected rather than siloed.

Pathways for change must therefore operate and engage with those four dimensions holistically across all scales, ranging from local to global, to ensure inclusive, ongoing, and fair adaptation. Knowledge justice, inclusive governance with a strong emphasis on bottom-up mobilisation at the national level, and resource redistribution and compensation, including technology transfer and capacity building, emerge as critical pathways for advancing a JTfA for Africa. This section explores these pathways at the African and global levels.




373 Ibid.

374 Bezeng S. Bezeng and others, "An African perspective to biodiversity conservation in the twenty-first century", Philosophical Transactions of the Royal Society B: Biological Sciences, vol. 380, No. 1917 (January 2025).

375 Sokona and others, Just Transition. The concept of 'planetary boundaries' defines the limits of a safe environmental space for human development on Earth. See Potsdam Institute for Climate Impact Research, "Planetary boundaries: defining a safe operating space for humanity", 2023. Available at https://www.pik-potsdam.de/en/output/infodesk/planetary-boundaries/planetary-boundaries (accessed on 19 May 2026).

### 8.2.1. Knowledge justice: Centring African people and knowledge in adaptation

At its core, knowledge justice asks whose knowledge and identity shape climate science, policy, and practice at all scales. While it primarily operationalises recognitional and epistemic justice, it permeates all four justice dimensions. Empirical work and transdisciplinary research methods at a community-level adaptation project for water governance in South Africa show that knowledge justice and epistemic justice are built through co-creation rather than extraction. Both build community ownership and legitimise adaptation interventions by shifting power relations and dominant epistemologies and by empowering communities to assert their knowledge confidently in formal adaptation governance processes.[376] This holistic view positions knowledge justice as a principle and a practice. It requires integrating diverse knowledge systems (epistemological pluralism) into policy and decision-making processes at all levels, and co-creation among communities, policymakers, and researchers, as well as local ownership over how knowledge is valued and used.[377]

#### International levers for knowledge justice

» **Formally and equitably recognise and integrate African ILK systems, and solutions:**[378] IK epistemologies and in-situ local experiential knowledge must be formally placed on an equal footing with Western epistemologies in all international climate frameworks. Recognition must go beyond symbolic references to ensure that IK systems are meaningfully integrated into UNFCCC and IPCC processes, global assessments, and that they inform adaptation metrics and reporting against indicators under the GGA. However, as a male adaptation researcher and policy expert in Southern Africa posed, 'how do you include this knowledge in a meaningful way?' Lessons from IPBES assessments suggest that ILK holders should be engaged from the outset of adaptation research and assessment processes, with targeted support to underrepresented groups.[379] Trust, respect, and protection of IK holders' IP rights are integral to their sustainable and ethical use in climate adaptation.[380] In practice, this means Western scientific epistemologies and Indigenous epistemologies are integrated to address common problems, such as climate adaptation.

» **Reform evidence standards in international scientific policy frameworks:** Global scientific and policy platforms must revise what counts as valid evidence to integrate ILK, lived experience, community-generated data, and citizen science alongside conventional scientific evidence. In incorporating African IK into mainstream science, it must be recognised that much of this knowledge has historically been stored in forms that may not be referenced. Lessons from IPBES assessments suggest that this might entail expanding assessment methodologies to include techniques and methods from IK holders, such as oral histories, narratives, visual media, artworks, and other culturally embedded forms of knowledge.[381] Inclusion of diverse knowledge sources also encourages systems thinking and an interdisciplinary approach to understanding and addressing complex socio-ecological challenges.[382]

Integrating IK (see Box 3) into scientific and policy processes must go beyond extraction from Indigenous communities simply as data to be 'slotted into exogenous Western scientific models.'[383] IK holders must be equitably represented in research leadership, planning, implementation, review, accountability, and research ownership. This integration also requires continued decolonisation or 'Indigenising'

376 Ziervogel and others, "Supporting transformative climate adaptation".

377 Klepp and Fünfgeld, "Tackling knowledge and power", p. 766.

378 Local knowledge, in this context, refers to in situ local knowledge generated from practice and local experience. See Ziervogel and others, "Supporting transformative climate adaptation" for further elaboration.

379 Huambachano, Soto and Mwampamba, "Making room for meaningful inclusion of Indigenous and local knowledge in global assessments", p. 3.

380 Leal Filho and others, "Obstacles to implementing indigenous knowledge in climate change adaptation in Africa".

381 Athayde and others, Review of the Inclusion of Indigenous and Local Knowledge in IPBES Functions and Deliverables, p. 10.

382 Ibid.

383 Nicole Latulippe and Nicole Klenk, "Making room and moving over: knowledge co-production, Indigenous knowledge sovereignty and the politics of global environmental change decision-making", Current Opinion in Environmental Sustainability, vol. 42 (February 2020), p. 2.

of research spaces, such as universities, where Western science should be de-centred.[384] The de-centring must, however, extend beyond academia and into government and civil society institutions involved in knowledge gathering and policy development. Additional lessons from IPBES further demonstrate that meaningful knowledge co-production requires slowing down and allowing sufficient time for dialogue, trust-building, and consensus-building, rather than prioritising narrow notions of efficiency.[385] IK should be 'weaved into' Western scientific discourses to create forms of hybrid (or blended) knowledge that recognise the unique value that different epistemic discourses bring to climate and adaptation debates.[386]

To support these shifts, international scientific policy frameworks should require co-designed research questions, methodologies, and assessment approaches with affected communities, IK holders, women, youth, and other vulnerable groups.

### Box 3. One way IK can be incorporated: An example from South Africa

Data harvesting by Indigenous communities is one mechanism by which IK of the environment can be better incorporated into adaptation planning and mainstream science.

This process, which must always be community-owned and driven, involves regularly collecting Indigenous observations about the environment (recognitional justice) and feeding them into procedurally just forums where adaptation policies are decided. The process is not simply the gathering of discreet bits of data about the environment, because it provides 'a nested information–practice–worldview knowledge system' combined with Western 'scientific' data gathering, thus offering a more holistic view than traditional science can provide about environmental changes and how to adapt to them.[387]

In South Africa, the Water Research Commission is running a three-year project partnering with Indigenous communities to assess knowledge and response capabilities to local climate risks. The project blends traditional scientific data gathering with Indigenous and local peoples' in-situ knowledge practices to generate 'early warning knowledge and weather and climate risk awareness.'[388]

Climate funds for adaptation or climate research could be used to fund similar projects throughout Africa. Doing so regularly produces IK about climate change, increasing pressure on its inclusion in decision-making fora. A co-creation approach to knowledge generation ensures that communities help define research agendas and embeds them in data collection, interpretation, and dissemination, avoiding extractive dynamics. Without this, IK risks being reduced to 'inputs' rather than living systems of knowledge.[389]

384 Latulippe and Klenk, "Making room and moving over", pp. 7–8.

385 Huambachano, Soto and Mwampamba, "Making room for meaningful inclusion of Indigenous and local knowledge in global assessments", p. 4.

386 Bosco Bwambale, "Integrating indigenous knowledge with science to suitably tackle disasters due to climate and environmental change: an overview of the progress and way forward", in Multi-Hazard Vulnerability and Resilience Building: Cross Cutting Issues, Indrajit Pal and Rajib Shaw, eds. (Amsterdam, Elsevier, 2023), p. 137; Marcela Brugnach, Marc Craps and Art Dewulf, "Including indigenous peoples in climate change mitigation: addressing issues of scale, knowledge and power", Climatic Change, vol. 140, No. 1 (January 2017), p. 27.

387 Robert Zougmoré, Alcade C. Segnon and Philip Thornton, "Harnessing Indigenous knowledge and practices for effective adaptation in the Sahel", Current Opinion in Environmental Sustainability, vol. 65 (December 2023), p. 4.

388 Michael Mengistu and Miriam Murambadoro, "Citizen science: community-based early warning tools improve weather and climate risk awareness and resilience", The Water Wheel, vol. 22, No. 6 (November/December 2023), p. 25. Similar examples of such programmes are the Indigenous Sentinels Network in Alaska, USA (https://www.sentinelsnetwork.com/) and Indigenous Guardians in Canada (https://www.ilinationhood.ca/guardians).

389 Ziervogel and others, "Supporting transformative climate adaptation".

» **Ensure proportional African and Indigenous Peoples' representation in global scientific and research bodies:** Climate vulnerabilities, impacts, and needs should determine such representation. Proportional representation, therefore, should extend to IPCC authorship, IPBES assessments, UNFCCC expert bodies, and other international scientific processes. Representation should not only reflect geographical balance but also the continent's disproportionate vulnerabilities and its position as home to most of the LDCs. Ensuring that African scientists, IK holders, and local practitioners are not only represented, but also actively shape research priorities and assessment, will rebalance global knowledge production.

» **Redirect climate research funding to African-led research:** Evidence in section 6.2 reveals that most (78%) of the funding for climate research on Africa is channelled to Global North institutions, limiting Africa's ability to define its own research agenda and generate knowledge rooted in local realities. Rebalancing these flows is essential to knowledge sovereignty, enabling African universities, research centres, and communities to determine priorities, generate evidence, invest in younger generations to build more technical capacity, and integrate IK into adaptation science on their own terms. Collaboration among African and Global South researchers and practitioners through South–South platforms would reduce dependency on Northern institutions, while also expanding Africa's influence in shaping the global climate and adaptation agenda.

However, redirecting funding alone is insufficient without transforming how knowledge production is funded. Finance for climate research must prioritise transdisciplinary, IK, and locally led knowledge production, moving away from extractive knowledge models.

In practice, donors and funding mechanisms should:

» Redirect 78–80% of funding flows from European and North American research institutions toward African-led research centres and South–South-led research platforms.

» Fund transdisciplinary, knowledge co-production methodologies.

» Create dedicated funding windows or opportunities for co-produced/IK and community-led research from the global South.

» Make co-designed research agendas with African institutions, Indigenous Peoples, and local communities a condition of funding.

» Support long-term partnerships and iterative learning processes, rather than one-off projects.

These reforms would shift climate research from extraction to knowledge justice in practice, positioning African and other climate-vulnerable actors as leaders in knowledge production.

» **Publish Indigenous climate knowledge in Indigenous languages:** Climate evidence and knowledge drawn through IK systems should be collated, documented, and formalised, but, moreover, there should be a concerted effort to ensure publication in Indigenous languages. Where Indigenous communities have undertaken research or substantially contributed to research, the findings should first be presented in Indigenous languages before being translated. This step recognises and supports ownership and local agency, and prevents meanings being lost. In turn, this preserves authenticity and originality while breaking existing cognitive asymmetries and epistemological biases.



## African levers for knowledge justice

### Regional to national level

» **Leadership of knowledge justice and IK recognition must come from regional bodies:** At the regional level, African institutional leadership is key. The AU, African Ministerial Conference on Environment (AMCEN), Committee of African Heads of State, and Government on Climate Change (CAHOSCC), African Group of Negotiators (AGN) and AfDB all play a central role in defining the continent's climate priorities and shaping policy coherence. While the recent AU Addis Ababa Declaration on Climate Change recognised the role of IK in addressing climate change, other than calling for 'increased investment' in it, it failed to indicate how it can become more central to climate adaptation in Africa.[390] These influential institutions should, therefore, put knowledge justice and IK at the centre in all their climate change strategies, positions, and decision-making processes.

» **Establish and fund Pan-African climate knowledge and educational hubs:** Developing African-led research and expertise that can respond to climate impacts and identify context-specific solutions is vital for enabling knowledge justice in the African context. Our interviews and the Just Transition: A Climate, Energy, and Development Vision for Africa report support one proposed approach: establishing and funding Pan-African knowledge and educational institutions comprising regional or national hubs.[391] For example, the AU could establish a Climate Change Adaptation and Indigenous Knowledge Institute that shares best practices across Africa to become a continent-wide centre of excellence on how to use IK for climate adaptation.

Such centres could play an instrumental role by generating African science and knowledge rooted in, and actively integrating, IK while building capacity for Indigenous, youth, and women-led knowledge production. Notably, these hubs should function as long-term locally embedded knowledge platforms that support transdisciplinary collaboration, social learning, and knowledge co-production, rather than short-term, project-based initiatives or traditional research institutes.[392] One climate change practitioner from West Africa summed up the significance of African-generated research: 'Africa must lead the research…when it comes to vulnerability assessment, it has to be African-led vulnerability assessments. When it comes to climate data, temperature, rainfall patterns, other extreme weather events, it has to be led by the African continent. And then we have to also involve the Indigenous people to be able to tell us because they know the problem way ahead of us.'

### National to local level

» **Institutionalise knowledge justice by embedding ILK in national policy processes and plans:** African governments must formally recognise and fully integrate ILK within national research systems, adaptation, development policy processes and frameworks (e.g. NAPs, NDCs, development or sectoral plans), knowledge hubs, and education curricula. As one adaptation negotiator from North Africa reflected, 'governments should be looking at how they can establish a structure in which traditional and local knowledge is considered, and that will then take us to institutional reforms.' At a practical level, African governments should move beyond symbolic recognition and toward structural integration and governance reform. This advance requires actively reversing entrenched national biases against ILK by creating enabling environments and institutional mechanisms that support their recognition, uptake, and coproduction.

Key domestic policy priorities include:

» Recognising hunter-gatherers, pastoralists, and other Indigenous groups as custodians of rich and context-specific knowledge systems.

» Embedding IK as co-equal to mainstream

390 African Union, "African leaders' Addis Ababa declaration on climate change and call to action", 18 November 2025. Available at https://au.int/en/pressreleases/20251118/african-leaders-addis-ababa-declaration-climate-change-and-call-action.

391 Sokona and others, Just Transition.

392 Ziervogel and others, "Supporting transformative climate adaptation".

science in climate adaptation planning, metrics, and solutions.

- Investing in and creating enabling policy environments for local knowledge infrastructures, including IK systems, national and local IK hubs, and co-production platforms.[393]
- Ensuring that climate information is shared in diverse local languages and via accessible communication channels, including local, traditional, and IK systems.
- Fostering collaboration between IK holders, universities, research centres, and practitioners to bridge and strengthen multiple knowledge systems.

- **Protect and sustain IK systems and traditional dissemination:** African governments should also establish legal and cultural safeguards to protect ILK systems and prevent their loss or appropriation. Policies should actively support traditional dissemination methods (e.g. oral, cultural, education, arts, documentation) that have preserved and transmitted knowledge across generations.[394] African governments also must develop policies, standards, and safeguards that protect against the extraction, misappropriation, or tokenistic inclusion of IK, while supporting its use and application alongside scientific knowledge systems.

  Assumed epistemological superiority of Western education, technology, and other challenges of 'modernity' (e.g. migration, erosion of Indigenous languages, culture) are placing pressure on IK systems. Intentional public support is needed to ensure that these knowledge systems remain intact and can continue to inform adaptation responses.[395]

- **Gender must be central to climate and adaptation decision making:** When considering IK's contribution to climate debates and policymaking, it is imperative to take a gender-sensitive approach so as not to marginalise certain types of IK and expertise that men and women may hold or understand differently.[396] A JTfA can be fully realised only with awareness of such nuances.

- **Strengthen and invest in climate education, literacy, and knowledge capacity:** Education, climate literacy, and equitable access to climate information are foundational to building adaptive capacity and resilience. Despite growing climate risks, climate literacy across Africa remains uneven, as low as 10% among rural populations, and shaped by broader developmental challenges, including poverty, persistent gender gaps, and educational inequality.[397] The gender gap in climate literacy is especially concerning given women's disproportionate climate vulnerability and their central role in adaptation at the household, community, and national levels. Closing these gaps in education, information, and skills is therefore essential both for gender equality and climate resilience.[398]

  Strengthening climate education, literacy, and access to information can improve adaptive capacity, support integration of Indigenous and scientific knowledge systems, and equip communities – especially women and youth – with skills to adapt and to drive innovative solutions.[399] Climate literacy must extend beyond formal education to include sustained investment in community-led knowledge production, participatory monitoring systems, and locally embedded learning processes. Doing so will

393 Mafongoya and Ajayi, eds., Indigenous Knowledge Systems and Climate Change Management in Africa.

394 Leal Filho and others, "Obstacles to implementing indigenous knowledge in climate change adaptation in Africa".

395 Ibid.

396 Margot Hurlbert and others, "Risk management and decision-making in relation to sustainable development", in Climate Change and Land: an IPCC special report on climate change and land, Priyadarshi R. Shukla and others, eds. (Cambridge, Cambridge University Press, 2022), p. 748.

397 United Nations Children's Fund, Climate and Education in Eastern and Southern Africa: An Investment Case (Nairobi, 2025). Available at https://www.unicef.org/esa/media/16031/file/Climate-Education-ESA-Investment-Case.pdf; Nick Simpson and Sarah Rosengaertner, "Boosting adaptation through climate change literacy in Africa", Policy Briefing, No. 267 (Johannesburg, South African Institute of International Affairs, 2023). Available at https://saiia.org.za/wp-content/uploads/2023/03/SAIIA_Policy-Briefing-267_simpson-rosengaertner_20230317-1.pdf.

398 United Nations Children's Fund, Climate and Education in Eastern and Southern Africa.

399 United Nations Children's Fund, Climate and Education in Eastern and Southern Africa; Simpson and Rosengaertner, "Boosting adaptation through climate change literacy in Africa".

strengthen Indigenous Peoples' and local communities' abilities to generate, interpret, and use knowledge to engage decision makers on more equal terms.[400] Priority policy actions include:

**1. Embed and mainstream climate literacy and education**

- » Prioritise girls' and women's access to formal and informal education, including completion of secondary schools, as a foundation for development and climate resilience.
- » Integrate climate literacy and climate-resilient education into schools, community centres, youth hubs, and programmes led by women and Indigenous groups.
- » Strengthen green skills development for youth, women, and communities in adaptation and sustainable livelihoods, including agroecology, ecosystem restoration, water-saving techniques, and even clean cooking and renewable energy.
- » Expand formal and informal training opportunities through climate-focused organisations, research institutes, and the private sector, especially for women and girls.

**2. Invest in climate-resilient education infrastructure and information systems**

- » Direct targeted funding to building or upgrading school infrastructure so it is climate-resilient.
- » Establish climate and weather alert systems for schools and education authorities to support timely and adaptive responses to climate hazards – e.g. relocating classes from flood zones and switching to remote lessons where technology or data access allows.

**3. Support community-led research, knowledge systems, and local access to climate information**

- » Promote community- and locally led research that draws on diverse knowledge systems, supported by transdisciplinary researchers and approaches.
- » Strengthen participatory monitoring, learning, and knowledge-sharing systems to improve local decision making and engagement with policymakers.
- » Increase African ownership of and equitable access to climate information, early warning systems, and weather data through local-language translation and communication, strengthened data systems, and reinforcing forecasting capacity.

**4. Mainstream climate literacy and access to information across adaptation sectors and policies**

- » Raise public awareness of climate risks and adaptation options through formal and informal education, local language communication, and media campaigns.
- » Integrate climate literacy and access to information across adaptation-related sectors – including food systems, water, health, urban planning, infrastructure, and cultural heritage – using a gender-responsive approach.
- » Ensure that climate literacy considerations are embedded in government policies and decision-making processes.

### 8.2.2. Reimagining adaptation governance to be inclusive and bottom-up

Addressing the justice deficits covered in section 6.3 demands a shift toward inclusive adaptation governance, wherein Africans and affected communities are recognised as political actors with the right and capacity to determine their own climate solutions and future. Without governance reforms that remove structural barriers to participation and redistribute power, climate-vulnerable groups and IK risk being recognised symbolically while being excluded from shaping real adaptation outcomes. As one male climate-policy practitioner from Southern Africa noted, 'If that voice is not there, then it means that those concerns can be ignored, and nobody needs to pay attention.' Advancing a JTfA requires reimagining adaptation governance. Our findings underscore two mutually reinforcing governance shifts necessary for advancing

400 Ziervogel and others, "Supporting transformative climate adaptation".

adaptation processes and interventions that are just: bottom-up mobilisation and inclusive governance structures.

**Bottom-up mobilisation** strengthens local agency, community organisation, and self-determination, forming adaptation sovereignty's foundation.

**Inclusive governance** removes the systemic and procedural barriers that prevent marginalised groups from influencing decisions at all levels. It ensures that no one is left behind. Together, these pathways advance and mutually reinforce recognitional, procedural, distributive, and restorative justice. This section builds on and extends the eight Principles for Locally Led Adaptation, integrating them within the four-dimension justice framework and adding the political economy lens that the principles do not address.[401]

### International commitments

At the international level, inclusive governance to support a JTfA requires the following.

- **Democratise participation and representation in global climate governance:** Advancing procedural and recognitional justice at the international level requires structural reforms to multilateral climate institutions such as the UNFCCC to ensure that African and other climate-vulnerable countries can equally, meaningfully influence adaptation decision making. Beyond improving access and participation rates, these reforms should strengthen representation and decision-making power within climate governance processes, recognising that non-state actors are often limited to observer roles even though climate impacts and adaptation interventions directly affect them. Immediate operational measures that could be taken include:
  - **Real-time interpretation and translation** in African languages at UNFCCC, UNCCD, and UN CBD, COPs, and associated bodies. Priority languages should be decided in consultation with the AU, AMCEN, and AGN.
  - **Equitable representation and voting power** for African and other climate-vulnerable regions in technical and political committees, expert groups, and working groups under these bodies.
  - **Institutionalise representation and meaningful decision-making roles** for Indigenous Peoples, local communities, women, youth, and civil society organisations within climate governance processes and climate finance institutions. Move beyond observer status toward shared influence over decisions, priorities, and outcomes.
  - **Visa equity by removing visa barriers** for delegates from climate-vulnerable countries and groups (see section 6.3.1).
  - **Travel support and equitable allocation of COP badges** for non-state delegates from climate-vulnerable countries, with badges distributed based on climate vulnerability and participation needs.
- **Decolonise global climate governance:** Longer-term structural reforms are needed to decolonise global climate and financial governance, ensuring African voices shape decision making in the design and allocation of adaptation finance, technical guidance, and global monitoring frameworks. As one adaptation negotiator from North Africa emphasised, 'Africa should be leading this. We have the expertise, we have the knowledge, we have the youth, we have the political leaders.' Securing formal recognition of Africa's special needs and circumstances within COP agendas and processes, reflecting the continent's disproportionate climate vulnerability and development constraints as a central priority. The following are necessary for formal recognition to be operationalised.
  - **Establish a dedicated agenda item on Africa's special needs and circumstances under the COP/CMA** to ensure systematic consideration of Africa's priorities across adaptation, finance, loss and damage, and just transitions. Such recognition must translate into strengthened and differentiated access to finance, technology transfer, and capacity

401 Soanes and others, "Principles for locally led adaptation".

building.[402]

» **Reform financial mechanisms and technical bodies** (including the GCF, GEF, and AF) to give African non-state actors equitable representation and voting power and to create direct access windows that channel finance to country-led and community-driven adaptation processes.[403]

» **Channel funds from rejected or denied visas** back to climate-vulnerable countries, especially African countries, to allocate toward climate action.

Collectively, these measures would address a persistent structural gap in the global climate regime, improve coordination and accountability, and ensure that international climate processes respond more effectively and equitably to Africa's realities and priorities.

» **Further embed and operationalise land tenure rights and women's land rights across Rio Conventions and global environmental governance:** With the three Rio Conventions (UNCCD, CBD, and UNFCCC) convening in 2026, the year presents a critical and time-bound opportunity to advance a just transition by embedding land tenure rights and women's land rights across climate, biodiversity, and land governance frameworks. These rights are increasingly acknowledged as important, yet their integration remains fragmented, inconsistent, and weakly operationalised across the conventions.[404]

To address this, parties should:

» **Elevate land tenure and women's land rights as cross-cutting priorities across the Rio Conventions,** ensuring that explicit provisions are contained in global decisions (including GGA, JTWP, and Article 6), national frameworks (e.g. NAPs, NDCs, national biodiversity strategies and action plans), and implementation processes.

» **Improve coordination and coherence across the Rio Conventions,** including through joint work programmes, collaboration between national focal points and convention bodies, and aligning land tenure monitoring and indicator frameworks. These efforts should include tracking impacts of climate and conservation interventions on tenure rights, and building on existing indicators and methodologies developed under the CBD and UNCCD.

» **Mandate that land tenure reforms and any climate or energy transition projects (including carbon markets) contribute to a just transition:** Address historical and structural inequities in land access and control, especially for women, Indigenous Peoples, and local communities, and safeguard against dispossession linked to climate and conservation interventions via inclusion of explicit provisions to land tenure rights and FPIC in all decisions.

» **Strengthen representation and meaningful participation of Indigenous Peoples and frontline communities:** Global climate processes must institutionalise Indigenous Peoples', women's organisations', and community representatives' representation, meaningful participation, and decision-making authority in scientific bodies, technical panels, and negotiation processes. For example, the LCIPP's significance and role should be expanded and integrated more fully into all climate negotiations. To remedy this, Indigenous Peoples' participation in climate debates at all scales must become entrenched as a right, rather than as a 'box-ticking' procedure, while IK is recognised as a system of holistic knowledge production comprising credible and legitimate 'practices.'[405]

» **Institutionalise FPIC processes and community-led approaches in global adaptation systems:** International climate

402 Power Shift Africa, "African priorities for COP30".

403 Vincent, "Development geography II", p. 607.

404 de Ronde, Land Rights in the Rio Conventions; Valerie Lo and others, Unlocking Land Tenure: Pathways for Policy Action after the Triple COPs of 2024 (Berlin, TMG Think Tank for Sustainability, 2025).

405 Carmona and others, Consolidating the rights of Indigenous Peoples in climate governance through the Local Communities and Indigenous Peoples Platform, p. 4.

and COP agreements, multilateral climate funds, and partnerships must embed FPIC and community-led approaches as core principles and requirements. This approach shifts adaptation governance beyond consultation and toward shared authority, co-creation, and accountability, ensuring that Indigenous Peoples and local communities have the right to shape, approve, and reject decisions or interventions that affect them. Recognition and adherence to FPIC decolonises adaptation governance by permanently shifting authority and resource allocation, and it encourages epistemic plurality (cognitive justice) as IK systems inevitably become part of the process by which Indigenous communities co-create and co-implement adaptation projects.

## African levers for inclusive governance and bottom-up mobilisation

### Regional to national levels

» **Institutionalise meaningful participation of civil society and vulnerable groups in African climate governance:** Key African institutions – including the AU, AGN, and CAHOSCC – must institutionalise inclusive, formal, and accountable processes for civil society and vulnerable groups to shape climate policies, strategies, and negotiating positions for the continent. The AfDB is a major driver of African climate adaptation funding through initiatives such as the Africa Adaptation Acceleration Programme, Climate Action Window, Adaptation Benefit Mechanism, and Africa Climate Change Fund. Therefore, its Civil Society Committee must be strengthened to meaningfully engage the AfDB and strengthen accountability across key issues, including climate change, agriculture, energy, education, and economic governance. The AfDB should also guarantee the active participation of vulnerable groups in Bank-funded adaptation project design, implementation, and monitoring, while systematically integrating their inputs via the Civil Society Committee's engagement with the Bank and into decision-making processes.

### National to local levels

» **Institutionalise inclusive participation across the adaptation policy cycle:** African governments must embed meaningful participation throughout the adaptation policy cycle, including vulnerability assessments, planning, implementation, and monitoring and evaluation. This approach requires moving beyond tokenistic consultation and toward co-creation approaches that recognise intersecting vulnerabilities and let vulnerable groups shape decisions affecting their lives. As a male adaptation research and policy expert in Southern Africa noted, communities are fully 'capable of defining the climate problem themselves.' This requires applying the **just transition principle of 'leave no one behind'** across the adaptation policy cycle and sectors, while shifting from simply identifying vulnerable groups to addressing the structural drivers and inequalities that produce vulnerability. Adaptation policies and interventions, therefore, should be grounded in context-specific assessments that recognise differentiated impacts, underlying drivers of vulnerability, and the potential for unintended consequences.

To achieve this, governments should:

» **Remove structural barriers to participation,** including unequal access to information regarding consultation processes, late notification of consultations, limited feedback or accountability mechanisms, and financial and logistical constraints to participation.

» **Recognise how intersecting forms of marginalisation shape climate vulnerability** in core policy processes and documents, such as NAPs, NDCs, and national development strategies.

» **Ensure meaningful participation by women, youth, Indigenous Peoples, persons with disabilities, and other vulnerable groups throughout the adaptation policy cycle,** from vulnerability assessments and planning to design of adaptation initiatives and budgets, implementation, monitoring, and evaluation.

- **Apply the 'leave no one behind' principle** across adaptation sectors and spatial scales (from local to national, and rural to urban) to promote equitable livelihoods, social inclusion, and ecological sustainability.
- **Strengthen transparency and accountability through** advance notice of consultations, clear timelines for input, and accessible accountability mechanisms through which communities can monitor, challenge, or report maladaptive or exclusionary projects.

- **Strengthen community leadership, bottom-up mobilisation, and LLA alongside government-led approaches:** African governments and regional institutions must embed bottom-up, locally led adaptation within national adaptation frameworks and governance systems to actively enable and scale it. Across Africa, communities are already leading local adaptation efforts through many initiatives, including agroecology, water harvesting, community-led forest restoration initiatives. These often deliver resilience, biodiversity, and climate benefits that outperform top-down approaches.[406] Evidence from across Africa suggests that locally led approaches often strengthen agency, decision-making, and adaptive capacity more effectively than top-down interventions.[407] Food sovereignty movements such as the Alliance for Food Sovereignty in Africa demonstrate how agroecology and IK can strengthen resilience, support equitable livelihoods, and increase community control over food systems, land, and natural resources. These initiatives show, beyond technical adaptation benefits, how locally led adaptation can reinforce agency and collective action.[408]

  **Governments should implement key domestic policy measures, including the following:**

  - Create enabling environments for community organisation, including equitable access to climate information, tools, and decision-making platforms.
  - Integrate locally led approaches – such as food sovereignty, agroecology, and community-led restoration and adaptation initiatives – into NAPs, NDCs, and sectoral policies through co-design and co-implementation mechanisms.
  - Establish mechanisms for co-design and co-implementation with communities.
  - Provide direct and sustained adaptation finance to grassroots and community-based actors.
  - Strengthen land and resource rights, including enforcement of FPIC, and ensure transparent and accountable governance and decision-making processes.

- **Secure land and resource rights of local communities, women, and Indigenous Peoples:** Land and resource rights are foundational to a JTfA because they underpin livelihoods, food and water security, cultural identity, and communities' ability to adapt to climate change. Therefore, recognising land as both a productive asset and a source of social, cultural, and ecological wellbeing is essential to equitable and just adaptation.

  To advance land and resource justice, African governments should:

  - Explicitly link land rights to adaptation in NAPs, NDCs, and development strategies. This should include measures to address historical dispossession and inequitable land distribution due to colonisation, forced evictions, climate impacts, and contemporary land grabs.
  - Simplify and embed inclusivity into land registration procedures, including

406 Sheree Bega, "Alexandra Water Warriors are reviving Joburg's Jukskei River", Mail & Guardian, 17 June 2024. Available at https://mg.co.za/the-green-guardian/2024-06-17-joburg-chosen-as-one-of-three-cities-to-benefit-from-watershed-project-to-tackle-climate-threats/; Alliance for Food Sovereignty in Africa, "Agroecology for sustainable soil health: reversing soil degradation in Sub-Saharan Africa". Position paper. Available at https://afsafrica.org/wp-content/uploads/2026/01/position-paper_kaudain.pdf (accessed on 12 August 2025); Global Center on Adaptation, State and Trends in Adaptation Report 2021: Africa - How Adaptation Can Make Africa Safer, Greener and More Prosperous in a Warming World (Rotterdam, 2021). Available at https://gca.org/reports/sta21/; Hans-Otto Pörtner and others, Scientific Outcome of the IPBES-IPCC Co-Sponsored Workshop on Biodiversity and Climate Change (Bonn, IPBES Secretariat, 2021).

407 Beatrice Kundael Sumari, Noah Pauline and Edmund Bwanduruko Mabhuye, "Integrating bottom-up and top-down approaches in Tanzania's climate change adaptation planning: exploring their impact on adaptive capacity in adaptation projects", The Journal of Development Studies, vol. 61, No. 6 (June 2025).

408 Nnimmo Bassey, "The climate crisis and the struggle for African food sovereignty", in The Climate Crisis: South African and Global Democratic Eco-Socialist Alternatives, Vishwas Satgar, ed. (Johannesburg, Wits University Press, 2018).

recognition of customary and collective tenure systems.

- Strengthen legal protections for community and Indigenous lands, including safeguards against excessive corporate land ownership.
- Enforce FPIC processes for any land transactions affecting local and vulnerable communities.[409] Embedding these principles in governance and policy lets African governments ensure that adaptation decisions, finance, and interventions are just, effective, and shaped by those most affected.

- **Enforce FPIC for all adaptation projects affecting Indigenous Peoples and local communities:** The FPIC principles must be applied to every climate adaptation initiative, no matter the project's form (from research projects to infrastructural development) or size (ranging from local to international). Adhering to these principles should be a non-negotiable requirement for ensuring that Indigenous Peoples are guaranteed the right to withhold consent from any adaptation project.

### 8.2.3. Resource redistribution and compensation

Resource redistribution and compensation are central to a JTfA, as they determine who bears climate impact costs and who has control over and access to the necessary resources required to adapt and build resilience. For Africa, this requires both transforming domestic economic structures to create more fiscal space for adaptation and correcting structural inequalities rooted in colonialism. Internationally, developed countries should take their climate justice commitments seriously and institutions that govern the global economy should undergo fundamental reforms.

The following sections recognise, and make reference to, the Bridgetown Initiative on the Reform of International Development and Climate Finance Architecture (Version 3.0) to 'build a more responsive, fairer and more inclusive global financial system to fight inequalities, finance the climate transition, and accelerate the achievement of the Sustainable Development Goals.'[410] We also acknowledge the important recommendations made within the Accra-Marrakech Agenda of 2023.[411]

This section focuses on two interlinked justice dimensions – resource redistribution and compensation. The former largely centres on mechanisms to restructure domestic and global financial systems to expand fiscal space and enable African-led adaptation. The latter is focused on international transfers grounded in historical responsibility, including climate finance, debt justice, and reparations. Without structural shifts in how resources are governed and redistributed, and past harms compensated, efforts to advance a JTfA through knowledge justice and inclusive governance will remain constrained.

The dominant narrative suggests that low domestic private sector savings, tax revenues, and unsustainable debt levels are why African economies lack the financial resources to finance large-scale adaptation programmes. It argues that governments must grow their economies to generate larger tax revenues, increase exports, and attract more foreign direct investment. They can then generate the financial resources needed to fund large-scale adaptation programmes. However, this pathway risks reproducing the same structural economic dependencies that have constrained Africa's development since the colonial era.[412]

African countries possess a range of domestic and regional financial mechanisms that can enable their economies to prosper and drive development, rather than reinforcing the same dependencies. These mechanisms entail building a resilient Pan-African economic approach by reducing external indebtedness over time and taming inflationary pressures continent-wide. Below, we propose financial mechanisms to address domestic and external factors. These are designed to create additional

409 Fredrick Otieno and Amy G. Thorp, "Strengthening Africa's land rights for climate-resilient agriculture", Power Shift Africa, 2025. Available at https://www.powershiftafrica.org/blogs/strengthening-africas-land-rights-for-climate-resilient-agriculturenbsp.

410 H.E. Mia Amor Mottley, Prime Minister of Barbados, quoted in Bridgetown Initiative, Bridgetown Initiative on the Reform of the International Development and Climate Finance Architecture, version 3.0 (2024), p. 2.

411 V20: Vulnerable Twenty Group, "Accra-Marrakech Agenda", 16 April 2023. Available at https://www.v-20.org/accra-marrakech-agenda/.

412 Sokona and others, Just Transition, pp. 66–67.

fiscal policy space so African countries can help finance structural transformations on their own terms.

### African levers: Domestic fiscal and industrial policies

» **Industrial policy strategies that strengthen domestic productive capacity:** African governments should prioritise economic diversification and green industrialisation to move beyond producing primary goods on the global economy's periphery to a system wherein economies extend their involvement along value chains, from extraction to creating high-value final products. In this way, they can strengthen domestic and regional productive capacity. African states can use policy options – such as local content policies, local ownership requirements, export restrictions on unprocessed materials, tax incentives for small, medium, and micro-enterprises, and tax and tariff harmonisation within the African Continental Free Trade Area (AfCFTA) – to encourage economic diversification.

Coherent industrial policy strategies will advance economic diversification and create the kinds of policy stability that international investors seek. Africa, when developing industrial policies, should maximise its competitive advantages, such as its vast mineral resources, huge renewable energy potential, IK systems, agricultural potential, and youthful populations.

Such policy development will require African leaders' strong political commitments to invest strategically in critical infrastructure and skills development via comprehensive industrial policy strategies looking well beyond resource rents. Cross-border political consensus is also vital because African countries exhibiting solidarity will lead to better negotiation of economic, trade, and finance deals with the developed world and transnational corporations.

» **Address market concentration and abusive price-setting behaviour:** In many African economies, inflationary prices arise not only from currency volatility or global commodity prices but also from the domestic monopolistic or oligopolistic control of key sectors. Diversifying and democratising the economy, strengthening and enforcing antitrust regulations, and rooting out corruption can prevent undue market power from inflating prices. These shifts could, in turn, expand their fiscal space without increasing debt, and could free up public resources for adaptation investments.

» **Redirect public finance and fossil fuel subsidies toward adaptation sectors:** Specifically for adaptation, investments in sectors with direct adaptation implications – such as agriculture, water, and infrastructure – using domestic currency, local materials, and IK systems can generate employment, boost trade, localise value chains, increase food sovereignty, and reduce dependence on costly imports that exacerbate inflation and foreign debt exposure. Policy and market reforms can also strengthen domestic financial capacity vis-à-vis adaptation. For example, subsidies for expensive and harmful chemical inputs – such as fertilisers and pesticides, fossil fuels, and genetically modified seeds – should stop, with the funds reallocated to agroecology training, adoption, and extension support. An ActionAid report showed the scale of these subsidies, with as much as 40% of Ghana's national agricultural budget directed to them.[413] Sustainable reallocation can create fiscal room.

» **Develop intra-African trade:** Developing intra-African trade via the AfCFTA is a key requirement for economic diversification and could link 1.4 billion people. The AfCFTA's massive potential will likely only be realised if member states create synergistic industrial policies that encourage diversification and complementarity rather than intra-African competition.

» **Encourage South-South cooperation:** South–South policy cooperation and trade outside of Africa also should be encouraged. This cooperation should extend to Southern nations exhibiting solidarity in global fora.

413 ActionAid International, "Principles for a just transition in agriculture", 7 January 2020. Available at https://actionaid.org/publications/2019/principles-just-transition-agriculture.

### African levers: Adaptation-specific mechanisms

» **Introduce social protection for climate adaptation:** Social protection encompasses a range of policies and interventions that seek to reduce vulnerability to risk – ranging from direct cash transfers to unemployment insurance, training, and skills development. Social protection is not disaster relief, as its objective is building long-term resilience in communities to make them less vulnerable to disruptive events. Climate change disproportionately impacts vulnerable groups; therefore, well-planned, well-implemented social protection programmes can help communities adapt and build resilience to its impacts.[414]

The IPCC argued that climate adaptation should be integrated into social protection programmes.[415] Providing social protection services to especially vulnerable communities, such as small-scale farmers and fisherfolk, is therefore a form of climate justice. Specifically for adaptation, social protection can help households diversify their income streams or help small-scale farmers to adapt their crop regimes to build resilience against future climate risks.

However, social protection is severely underfunded, accounting for only 2.5% of GDP in middle-to-low-income countries, while low-income countries spend only 1.1%.[416] The AU's African Risk Capacity, which provides insurance against extreme weather events (a form of social protection) and natural disasters is also grossly underfunded, relying on donor support. The extent of this funding shortfall was revealed after Malawi's devastating 2015 flood that caused over USD 366 million of loss and damage, and for which Malawi received only USD 8 million from African Risk Capacity.[417]

» **Coordinate finance through country platforms:** Country platforms (CPs), which thus far have been largely focused on mitigation and not on adaptation, are 'structured' mechanisms by which a national government, its development partners, the private sector, and civil society align resources behind shared priorities and a common investment plan and agenda. Such platforms have become popular in recent years because they promise to overcome the problem of fragmented and often short-term, project-based aid with differing conditionalities. They do so by creating multi-stakeholder, coordinated programmatic approaches to project development and implementation.[418]

When adaptation is included alongside mitigation in a CP, mitigation receives the vast majority of funds. For example, at least 90% of funds for South Africa's Just Energy Transition Investment Plan (JET-IP) are earmarked for mitigation.[419] There is no reason why adaptation-specific CPs cannot be established 'as vehicles for programmatic, inclusive and long-term adaptation finance.'[420] Establishing a CP for adaptation would be a noteworthy act in itself, signalling to stakeholders that adaptation is being given the necessary prominence within wider efforts to address climate change.

Evidence from existing CPs suggests several conditions should be met for their success:

» CPs must be nationally led, not donor-led, and aligned with national developmental and climate goals.[421]

» To ensure CPs are nationally led and properly embedded in national policies, they must have high-level political and institutional support and be housed by

414 Sayanti Sengupta and others, "Addressing climate risks through social protection", Position paper (Red Cross Red Crescent Climate Centre, 2024), pp. 5–7.

415 Global Coalition for Social Protection Floors, "Social protection for climate justice: why and how?" policy brief (2024), p. 3.

416 Global Coalition for Social Protection Floors, "Social protection for climate justice", p. 6.

417 Tracy Carty and Lyndsay Walsh, "Footing the bill: fair finance for loss and damage in an era of escalating climate impacts", Oxfam briefing paper (Oxford, Oxfam International, 2022), p. 22.

418 Green Climate Fund, "Fourteen new Country Platforms announced in collaboration with GCF to drive country-led climate solutions", 15 November 2025. Available at https://www.greenclimate.fund/news/fourteen-new-country-platforms-announced-collaboration-gcf-drive-country-led-climate-solutions.

419 The Presidency, Republic of South Africa, Just Energy Transition Implementation Plan 2023–2027 (2023), p. 45.

420 Christopher Bartlett and Sam Mugume Koojo, "From Seville to Belém: reimagining country platforms for adaptation finance", International Institute for Environment and Development, 21 August 2025. Available at https://www.iied.org/seville-belem-reimagining-country-platforms-for-adaptation-finance.

421 Mohsen Gul and others, "The realities of country platforms for LDCs and SIDS: ten key lessons", briefing paper (Climate and Development Ministerial, 2025), p. 2.

senior ministries. For example, South Africa's Just Energy Transition Country Platform is housed in the Presidency. Ensuring high-level political and institutional support assists their survival if political change occurs.

» Governments alone must not lead CPs. CPs must be inclusive in their organisational form and decision making. Thus, facilitating decision-making forums for regular, multi-stakeholder engagements across national and local government, civil society, and local stakeholders, including previously marginalised people, should be non-negotiable in their establishment.

» The state and donors must fully capacitate and fund CPs for them to be able to effectively undertake their mandates. Ongoing monitoring and evaluation are required for identifying any capacity gaps that occur.

» CPs must fund project preparation (a particular weakness in many existing mitigation CPs), not just delivery, to ensure the capacity exists for creating adaptation project pipelines.[422]

» Financing institutions, such as MDBs and national development banks, must standardise fiduciary and reporting systems via pooled funds or joint appraisal processes to reduce transition costs and speed up adaptation project pipelines.[423]

CPs could overcome some of the problems concerning aid fragmentation and donor conditionalities because they are more country-led, but this has yet to be proven at this early stage.[424] Conditions will always be a part of donor funding; therefore, there is always limited room for CPs to assert national adaptation priorities. Second, and crucially, no evidence thus far shows that funds raised for CPs overcome the serious problem of diminishing grants and increasing debt instruments.

» **Operationalise the African Credit Ratings Agency:** The role of international credit rating agencies is at the heart of the African debt crisis. The 'Big Three' foreign agencies – S&P Global Ratings, Moody's, and Fitch Ratings – control the largest share of the market. They are pivotal in determining a country's risk levels for governments, corporates, and the private sector, including the ability to repay or default on debt and access to international financial markets. Credit rating agencies drive high borrowing costs in Africa based on methodological biases and limited reliable data, which inadequately consider Africa's unique economic realities. This means 'inaccuracy and subjectivity' inform borrowing costs.[425] UNDP research argues that 'the full cost of credit rating idiosyncrasies in Africa is estimated to be USD 74.5 billion.'[426]

The African Credit Ratings Agency is a pan-African initiative intended to deliver independent, credible, African-owned credit ratings to boost transparency, reduce reliance on global rating giants, and foster fairer representation of the continent's creditworthiness. It is a permanent step forward in freeing the continent from sometimes predatory and high-risk premiums that ultimately extract more resources than the borrowed funds ever create. Its success will bring improved access to favourable markets and financing options, improved debt sustainability, accelerated investor inflows, and inclusive economic growth.[427]

422 NDC Partnership, "Country-led approaches: a pathway to scaling adaptation finance", 10 November 2025. Available at https://ndcpartnership.org/news/country-led-approaches-pathway-scaling-adaptation-finance.

423 Gul and others, "The realities of country platforms for LDCs and SIDS", p. 6.

424 Richard Calland, "Beyond JET-P: building country platforms that work for Africa's climate and development goals", African Policy Research Institute, 21 November 2025. Available at https://afripoli.org/beyond-jet-p-building-country-platforms-that-work-for-africas-climate-and-development-goals; Alexia Latortue and Jared Goodman, "Platforms that perform: helping the next generation of country platforms deliver", Center for Global Development, 10 October 2025. Available at https://www.cgdev.org/blog/platforms-perform-helping-next-generation-country-platform-deliver; Melanie Robinson and Crispian Olver, "Are 'country platforms' the key to delivering green growth at scale?", World Resources Institute, 19 February 2025. Available at https://www.wri.org/technical-perspectives/country-platforms-delivering-green-growth-scale.

425 Misheck Mutize, "Africa's borrowing costs are too high: the G20's missed opportunity to reform rating agencies", The Conversation, 29 September 2025. Available at https://theconversation.com/africas-borrowing-costs-are-too-high-the-g20s-missed-opportunity-to-reform-rating-agencies-265766.

426 United Nations Development Programme, Reducing the Cost of Finance for Africa: The Role of Sovereign Credit Ratings (2023), p. 39.

427 Saada Mohamed, "After decades of unfair credit rating, Africa is breaking free", Power Shift Africa, Shifting Power Quarterly, 30 March 2026. Available at https://www.powershiftafrica.org/publications/quarterly-newsletter-edition01.

## International obligations

African countries need robust and fair international public grant-based finance that speaks to their needs and follows principles of equity and redress for historical injustices. Several potential sources of finance could be used to realise a JTfA.

» **Dramatically increase climate finance to realise Article 9:** By 2050, the Global North will owe the Global South as much as USD 192 trillion in emissions debt because of its disproportionate use of historic and available carbon budgets.[428] Other research has calculated that Africa is currently owed USD 36 trillion in climate reparations.[429] If Article 9 of the Paris Agreement is to be realised, countries of the developed world should drastically increase the scale of climate finance for both mitigation and adaptation in line with climate justice obligations. Equally clear is that for climate finance, including adaptation finance, to be just, it must be predominantly made up of grants or highly concessional loans – the ongoing decline in grants and concomitant increases in commercial loans should be swiftly reversed.

The Bridgetown Initiative calls for vertical climate funds – such as the AF, GCF, GEF, and CIF – to be regularly replenished and strengthened 'to provide the catalytic funding needed to unlock investment in mitigation and adaptation.'[430]

MDBs clearly play a vital role in mobilising additional climate finance as grants and highly concessional loans for developing countries. Far more substantial amounts of public funds from the developed world should be injected into MDBs for this purpose.

» **Push for compensatory reparation payments to African countries for slavery and colonialism:** Building on growing international recognition of historical harm, following the UN General Assembly decision, African countries should continue to push for compensatory reparation payments from countries responsible for slavery and colonialism.[431] The AU's 2025 theme was 'Justice for Africans and People of African Descent Through Reparations,' aiming to forge a common African position on reparations. The Trans-Atlantic slave trade cost Africa an estimated USD 100–135 trillion, while the combined cost of slavery and colonialism was estimated at USD 777 trillion (in 2023 equivalent).[432] Various reparation proposals exist, but the AU noted that 'proposals often include compensatory payments to African nations and communities affected by colonial exploitation. This could also involve investments in infrastructure, education, and healthcare to support economic development.'[433] For a JTfA, such reparations must be linked explicitly to addressing structural drivers of climate vulnerability, including through scaled-up grant-based finance, technology transfer, and capacity building.

» **Cancel unsustainable debt and reform the global debt architecture:** Debt repayments are crowding out resources desperately needed for climate adaptation. Therefore, unsustainable debt burdens require urgent response through cancellation,

428 Andrew L. Fanning and Jason Hickel, "Compensation for atmospheric appropriation", Nature Sustainability, vol. 6, No. 9 (September 2023). Total is calculated using carbon prices from the Intergovernmental Panel on Climate Change in 2023. This calculation is subject to assumptions about the pricing of carbon and is subject to change, either up or down, as carbon prices change.

429 ActionAid International, "Africa is owed US$36 trillion in climate debt by rich polluting countries, a new report by ActionAid shows", 10 February 2025. Available at https://actionaid.org/news/2025/africa-owed-us36-trillion-climate-debt-rich-polluting-countries-new-report-actionaid.

430 Bridgetown Initiative, Bridgetown Initiative on the Reform of the International Development and Climate Finance Architecture, p. 6.

431 Olivette Otele, "More than money: the logic of slavery reparations", The Guardian, 31 March 2023. Available at https://www.theguardian.com/news/ng-interactive/2023/mar/31/more-than-money-the-logic-of-slavery-reparations; Natalie Guibert, "French government faces calls for slavery reparations", Le Monde, 17 April 2025. Available at https://www.lemonde.fr/en/politics/article/2025/04/17/french-government-faces-calls-for-slavery-reparations_6740347_5.html; Michael Franczak and Olúfémi O. Táíwò, "Here's how to repay developing nations for colonialism – and fight the climate crisis", The Guardian, 14 January 2022. Available at https://www.theguardian.com/commentisfree/2022/jan/14/heres-how-to-repay-developing-nations-for-colonialism-and-fight-the-climate-crisis.

432 Nicolò Vertecchi, "Africa is uniting in the call for reparations for historical injustices", Italian Institute for International Political Studies, 4 March 2025. Available at https://www.ispionline.it/en/publication/africa-is-uniting-in-the-call-for-reparations-for-historical-injustices-20210.

433 African Union, "38th African Union Summit to focus on reparatory justice and racial healing under the theme 'Justice for Africans and People of African Descent Through Reparations'", 28 January 2025. Available at https://au.int/en/pressreleases/20250128/38th-african-union-summit-focus-reparatory-justice-and-racial-healing-under.

restructuring, and systemic reform. Debts should be renegotiated in favour of African governments or cancelled entirely if they are odious or illegitimate. Odious debts, such as those accumulated in Mozambique in 2012 without parliamentary approval and with the support of European private banks, should be cancelled.[434]

The Civil Society Financing for Development Mechanism has proposed establishing a United Nations Framework Convention on Sovereign Debt for managing the debt crisis. The framework would create a fair and transparent multilateral sovereign debt resolution mechanism.[435] The FFD4 in mid-2025 made some progress to this end by committing UN member states to initiating an intergovernmental process to 'make recommendations for closing gaps in the debt architecture and exploring options to address debt sustainability.'[436] In line with Bridgetown Initiative recommendations, debt relief offers 'should be sufficiently robust to ensure countries are able to finance their development and climate goals.'[437]

» **Operationalise the JTWP:** The developed world should operationalise the JTWP via the UNFCCC, which has, at its core, the need to diversify economies negatively impacted by the transition away from fossil fuels. Thus, developed countries should provide the necessary means (e.g. finance, technology, capacity building) to support developing countries in implementing just transitions.

» **End biopiracy and redirect funds from compensation schemes to adaptation measures:** Colonial economies' extractive nature included IK exploitation of biological material (such as medicinal plants), which colonial nations then commercialised. This practice continues in the post-colonial era. While the CBD, including the Nagoya Protocol, provides procedures for fair access and use of biological resources, its application has always been skewed. This results in African biodiversity's exploitation. The exploitation's financial costs are difficult to quantify, but vast sums of money have been accumulated in the developed world via commercially exploiting flora from the Global South. Some limited compensatory regimes have been established, but most exploitation cases have not been addressed.[438] Funds from biopiracy compensation schemes could be used for adaptation measures because Indigenous communities are at the frontline of climate change.

» **Implement global solidarity levies on high-emitting sectors and extreme wealth to finance adaptation:** These levies target undertaxed sectors of the global economy that drive carbon emissions. They include proposed levies on aviation, fossil fuels, carbon pricing, shipping, financial transactions, plastic polymers, cryptocurrencies, and high net worth individuals. Proposed and designed by the Global Solidarity Levy Task Force (GSLTF), 'a global levy of 0.1% on trading stocks and bonds has the potential to generate USD 418 billion a year; a levy on fossil fuel extraction of USD 5 per tonne of CO2 could potentially generate USD 210 billion a year; while a global carbon price on international shipping and aviation could generate USD 200 billion a year.'[439]

The Bridgetown Initiative recommends imposing windfall taxes on fossil fuel companies.[440] These could raise up to an estimated USD 400 billion annually.[441] The funds could be directed toward climate adaptation. Windfall taxes on oil and

434 Kalyeena Makortoff, "Swiss prosecutors file charges against Credit Suisse and UBS over 'tuna bonds' scandal", The Guardian, 1 December 2025. Available at https://www.theguardian.com/business/2025/dec/01/swiss-charges-credit-suisse-ubs-tuna-bonds-mozambique.

435 Civil Society Financing for Development Mechanism, "Debt", no date. Available at https://csoforffd.org/work/debt/

436 International Trade Union Confederation, "Financing for development: ITUC statement on the 'Compromiso de Sevilla'", 2 July 2025. Available at https://www.ituc-csi.org/ITUC-Statement-on-the-Compromiso-de-Sevilla.

437 Bridgetown Initiative, Bridgetown Initiative on the Reform of the International Development and Climate Finance Architecture, p. 4.

438 Martin Kuebler, "Biopiracy: making rich nations pay for Indigenous knowledge", DW, 13 December 2022. Available at https://www.dw.com/en/what-is-biopiracy-and-how-could-it-threaten-deal-to-save-nature/a-62172855.

439 Kirsten Pearson, "Global solidarity levies: a call for country participation", South African Institute of International Affairs, 11 June 2025. Available at https://saiia.org.za/research/global-solidarity-levies-a-call-for-country-participation/.

440 Bridgetown Initiative, Bridgetown Initiative on the Reform of the International Development and Climate Finance Architecture, p. 7.

441 Ashfaq Khalfan, "Rich polluter profits tax could raise up to $400 billion and help phase out fossil fuels", Oxfam International, 19 June 2025. Available at https://www.oxfam.org/en/blogs/rich-polluter-profits-tax-could-raise-400-billion-and-help-phase-out-fossil-fuels.

gas profits are not new and are easy to implement. In 2022, the British government introduced a moderate 25% tax on 'the extraordinary profits the oil and gas sector is making,' which raised USD 5 billion in 2024 alone.[442]

Finally, adding 5% to the tax rate of the world's multi-millionaires and billionaires would raise an estimated USD 1.7 trillion/year.[443] Even a 2% tax on billionaires would raise USD 250 billion/year.[444]

» **Scale up and reallocate Special Drawing Rights (SDRs) for climate adaptation in climate-vulnerable countries:** SDRs are an international reserve that the IMF created in 1969. They are available to all IMF member states and can '… boost the international reserves of IMF member countries, which can help lower borrowing costs, provide access to more financing, attract foreign investment, help prevent balance of payments and other potential economic crises, and contribute to the purchasing power stability of the national currency.'[445]

SDRs had remained largely untouched since 1969 before countries successfully used USD 650 billion of them to manage economic difficulties due to the COVID-19 pandemic. Because of this success, allocating SDRs for climate action may be able to provide another climate finance source for developing countries. Oxfam research indicated that USD 200 billion of SDRs could be allocated annually without compromising the reserve's function, while the Bridgetown Initiative is pressing for a new USD 650 billion issuance to 'expand the balance sheets of Multilateral Development Banks to support SDGs and climate action.'[446]

Some limited progress has been made. At the FFD4, the IMF was encouraged to develop an 'SDRs playbook' that 'provides operational guidance and strengthens the role of SDRs during crises and shocks.'[447] This approach suggests SDRs could eventually help resolve the ongoing debt crisis.

Funds from the IMF's Resilience and Sustainability Trust (RST) could be directed to countries most vulnerable to climate change's impacts. The IMF created the RST with SDR funds channelled from G20 countries that did not need full access to the USD 650 billion in SDRs issued during the pandemic. The RST aims to provide long-term funding for pandemic preparedness and measures to address climate change. It had USD 47 billion at its disposal as of November 2024.[448]

A new social contract should be created between developed and developing countries for Africa to access necessary funds for meaningfully addressing its climate adaptation needs. Incremental increases in adaptation finance will help, but they fail to unravel climate vulnerability's causes rooted in the history of colonialism and in an unfair global financial and trade system that prevents African countries from realising their enormous potential. Such a new social compact presupposes a wholesale reimagining of the global economy and the institutions managing it. Examining this issue in detail is beyond this report's scope, but how such a transformation could take place still warrants mention.

» **End fossil fuel subsidies and redirect funds toward climate action:** The OECD estimates that direct fossil fuel subsidies

442 United Kingdom, HM Treasury, "Energy Profits Levy factsheet - 26 May 2022". Available at https://www.gov.uk/government/publications/cost-of-living-support/energy-profits-levy-factsheet-26-may-2022; BBC News, "What is the windfall tax on oil and gas companies?", 7 May 2026. Available at https://www.bbc.com/news/articles/c75v7p9y7w9o.

443 Martin-Brehm Christensen and others, "Survival of the richest: how we must tax the super-rich now to fight inequality", Oxfam briefing paper (Oxford, Oxfam International, 2023), p. 7.

444 Debbie Hillier, "Can the private sector plug the adaptation finance gap?", World Economic Forum, 10 June 2025. Available at https://www.weforum.org/stories/2025/06/can-the-private-sector-plug-the-adaptation-finance-gap/.

445 Patricia Miranda and others, "Special drawing rights (SDRs): a lifeline for the global South and a boost to the global economy", policy brief (Global Solutions Initiative, 2024), p. 4; Bridgetown Initiative, Bridgetown Initiative on the Reform of the International Development and Climate Finance Architecture, p. 5.

446 Didier Jacobs, "Beyond crises: the future of Special Drawing Rights as a source of development and climate finance", briefing paper (Oxford, Oxfam International, 2024), p. 20.

447 United Nations Department of Economic and Social Affairs, Compromiso de Sevilla: Outcome document of the Fourth International Conference on Financing for Development (2025). Available at https://media.unesco.org/sites/default/files/webform/ed3002/compromiso-de-sevilla-for-action-16-june.pdf.

448 Tom Hart and Jessica Pudussery, "The IMF can do more to support the most climate vulnerable countries", ODI Global, 31 July 2025. Available at https://odi.org/en/insights/the-imf-can-do-more-to-support-the-most-climate-vulnerable-countries/.

in 2022 were USD 1.5 trillion, with other estimates closer to USD 7 trillion.[449] South Africa spent USD 7.5 billion on fossil fuel subsidies in 2023 and Nigeria spent approximately USD 3.5 billion in 2024.[450] Short-term compensatory schemes (which additional taxes on fossil fuel companies could pay for) may be necessary to protect people from fuel price rises as subsidies are cut, but these subsidies should be gradually redirected toward climate finance initiatives, with a particular focus on adaptation responses for achieving a balance between adaptation and mitigation finance.

» **End illicit financial flows from Africa:** The AU estimated that illicit financial flows (IFFs) derived from criminal activities and illegal tax and trade practices cost Africa USD 88 billion/year.[451] Greater international efforts to end IFFs are clearly needed – such as closing down tax havens and prosecuting companies found guilty of tax evasion – to bolster African tax revenues. A United Nations Tax Convention could be created to end all forms of IFFs.[452]

» **Reform of international financial institutions:** Institutions such as the World Bank, IMF, and WTO should be comprehensively democratised to properly represent the global population, with emphasis placed on representation from climate-vulnerable countries.[453] This recommendation aligns with the Bridgetown Initiative's call to give developing countries a 'stronger voice … in their governance and decision making.'[454] Such changes would lead to reforms of exclusionary architectures, such as the IMF's quota system, enabling developing countries to have much more influence and control over global finance and trade decision making.

Countries should also reform investor–state dispute settlement mechanisms to stop them from preventing implementation of, or enforcement of, national laws relating to environmental protection, public participation, and benefit sharing.[455] Any existing treaties that prevent governments from acting in their interests must be renegotiated or scrapped.

Finally, and following the Bridgetown Initiative recommendation, international credit ratings agencies should be fundamentally reformed to accurately reflect Africa's creditworthiness.[456]

These changes would make substantial progress toward ending the 'iniquitous, asymmetric, imbalanced and unfair rules' that currently characterise the global financial and trade system.[457] That said, there is a clear case that similar institutional reforms should take place to democratise the United Nations Security Council, UNFCCC, and International Energy Agency (IEA).[458] Private companies' growing

449 Bruce Huber, "Countries spend huge sums on fossil fuel subsidies – why they're so hard to eliminate", The Conversation, 12 November 2024. Available at https://theconversation.com/countries-spend-huge-sums-on-fossil-fuel-subsidies-why-theyre-so-hard-to-eliminate-239346.

450 Anna Geddes and Max Schmidt, Blackouts and Backsliding: Energy Subsidies in South Africa 2023 (International Institute for Sustainable Development, 2024). Available at https://www.iisd.org/publications/report/south-african-energy-subsidies; Isaac Anyaogu, "Nigeria may spend 50% more on fuel subsidies in 2024, draft document shows", Reuters, 6 June 2024. Available at https://www.reuters.com/markets/nigeria-spend-372-bln-fuel-subsidy-this-year-draft-document-says-2024-06-06/.

451 African Union, Successes and Challenges of Implementing the Recommendations of the African Union High Level Panel on Illicit Financial Flows (Addis Ababa, Coalition for Dialogue on Africa, 2025), p. 6.

452 Kudzai Mataba, "UN Convention on Tax: what happened at recent negotiations, and what's next?", International Institute for Sustainable Development, 14 February 2025. Available at https://www.iisd.org/articles/explainer/United-Nations-International-Tax-Convention-Negotiations.

453 For more on this see, Claire Rickard, "Will the green transition be globally just, or a neocolonial resource grab? Trade rules are key", Global Justice Now, 22 May 2024. Available at https://www.globaljustice.org.uk/blog/2024/05/will-the-green-transition-be-globally-just-or-a-neocolonial-resource-grab-trade-rules-are-key/; African Climate Foundation, Priorities for an Equitable Reform of the Global Financial System: Unlocking Climate Investment and Sustainable Development in Africa (Cape Town, 2023); Trade Justice Movement (https://tjm.org.uk/); Kinda Mohamadieh and Daniel Uribe, "The rise of investor-State dispute settlement in the extractive sectors: challenges and considerations for African countries", Research Paper, No. 65 (Geneva, South Centre, 2016), p. 2.

454 Bridgetown Initiative, Bridgetown Initiative on the Reform of the International Development and Climate Finance Architecture, p. 4.

455 Will Davis, How Can Africa Make the Most of Its Transition Minerals: A pledge for enhancing value addition for development and prosperity (Publish What You Pay, 2024), p. 5.

456 Bridgetown Initiative, Bridgetown Initiative on the Reform of the International Development and Climate Finance Architecture, p. 4.

457 Xolisa Ngwadla and others, African Perspectives of a Just Transition to Low-Carbon Economies (African Climate Policy Centre of the United Nations Economic Commission for Africa, 2024), p. 27.

458 See William Gumede, "Democratising the United Nations", Occasional Paper, No. 8/2022 (Inclusive Society Institute, 2022); Franziska Petri and Jan Karlas, "Climate negotiations under scrutiny: is UNFCCC decision-making up to the challenge?", ENSURED Research Report (May 2025).

influence in these forums also should be reversed.[459]

### 8.2.4. Technology co-development and transfer

Technology co-development and transfer are central to advancing technology justice within a JTfA. They primarily operationalise the distributional and restorative justice elements but with implications for the other dimensions as well. As discussed in chapter 7, Africa remains structurally positioned as a consumer within the global technological system, with limited control over the design, ownership, and deployment of technologies needed for climate resilience. Addressing these imbalances requires Global North countries, largely responsible for GHG emissions, to simultaneously accelerate delivery of technologies to Africa and support technology co-creation and development processes that tap into Africa's inventions and innovations, and that build the continent's technological skills, infrastructure, and innovation systems.

#### International levers

» **Fulfil and accelerate technology transfer commitments under the UNFCCC and Paris Agreement:** Developed countries must recognise and fulfil their differentiated responsibility to support developing countries, including through technological transfer. Thus, developed countries should transfer existing working adaptation technologies in the Global North – including early warning systems, flood defences, and clean cooking – to Africa to meet its needs.

As a starting point, developed countries must ensure that the TEC and CTCN within the Technology Mechanism established by the UNFCCC are properly funded so they can fully undertake their respective mandates.

The Convention's financial mechanisms, including the GCF, should be leveraged to fund technology research, development, and capacity building in Africa. Such efforts should focus on technologies that respond to Africa's unique climate vulnerabilities.

» **Developed countries at the WTO must facilitate TRIPS waivers for the transfer of essential climate-friendly technology to Africa:** As the African Group at the WTO stated, the WTO should address:

> How we promote sustainable technological change in a manner that enables not only transfer but diffusion of such technology, achieving radical – and not just incremental – sustainable technological change, and addressing distributional concerns and impacts.[460]

Such technology transfer must also include 'environmental related technical assistance, capacity building and skills transfer.'[461]

» **Push for full transfer of technology and balanced co-development:** Developed countries must transfer existing relevant technologies to the Global South, but technology co-development based on inventions from the South must also occur. A complete technology transfer must surpass merely delivering factory-finished technological devices because technology justice includes transferring entire technological ecosystems, including prototypes, hardware, software, networks, data centres, and servers.

» **Enable non-predatory financing for African inventions and innovations:** Increase the foreign direct investment flows into Africa that target supporting nascent technological innovations. Mutual funds, public capital, and other non-predatory funding instruments should increasingly bridge the financial gap needed to scale Africa's homegrown innovation while ensuring that such technologies' ownership remains locally formalised.[462]

459 Saul Mullard, "Who controls COP30? Confronting corporate influence and closing integrity gaps in global climate governance", U4 Anti-Corruption Resource Centre, 11 November 2025. Available at https://www.u4.no/blog/who-controls-cop30-confronting-corporate-influence-and-closing-integrity-gaps-in-global-climate-governance; Celia Sudhoff, "UN negotiations caught between corporate lobby and the struggle for global justice", briefing paper (Bonn, Global Policy Forum Europe e.V. and Berlin, Rosa-Luxemburg-Stiftung, 2025). Available at https://www.globalpolicy.org/sites/default/files/download/Briefing_1125_UN_Treaty_11_e.pdf.

460 Africa Group, "The role of transfer of technology and resilience building: climate change mitigation and adaptation", communication to the World Trade Organization, WT/CTE/W/254, 5 July 2023.

461 Ibid.

462 AUC/OECD (2023), Africa's Development Dynamics 2023: Investing in Sustainable Development, AUC, Addis Ababa/OECD Publishing, Paris, https://doi.org/10.1787/3269532b-en.

### African levers

» **Promote technology via the AU's Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024):** The AU Commission, regional economic communities, regional research institutions, and national governments must all promote STISA-2024. National governments must integrate STISA-2024 into national development plans and allocate funding to science and technology innovation.[463] Institutions must encourage knowledge sharing continent-wide.

» **Invest in and reform education, innovation, and research institutions to build technology capacity:** African leadership must deliberately shift the education system from theory to practice to nurture a generation of innovators. African educational systems that the continent largely inherited from the colonial era neither recognise the continent's technological innovativeness nor support its advancement to meet local needs.[464] Most African countries have theory-heavy education curricula, with insufficient investment in science, technology, engineering, and mathematics (STEM), areas vital for co-creating industrial technologies with Global North inventors.[465] Universities and technical institutes lack the required levels of research and development funding necessary for stimulating innovation, which results in curricula producing theoretical knowledge that rarely addresses the continent's real-life problems.[466]

» **Build enabling environments for inclusive and sustainable technological innovations:** In the era of big data driving innovations, African governments must invest in ambitious infrastructure projects, such as expanding Internet connectivity and energy provision, which are necessary backbones for technological startups. Africa should be cautious, however, that local technological innovations do not place undue demands on water and energy. Additionally, African governments must institute policies that protect IP rights, de-risk early-stage ventures, and make it easier to establish startups, and establish regional technology hubs that cultivate technological entrepreneurship.

» **Promote progressive PPPs in Africa's technological hubs:** Africa's technological innovation and incubation hubs should be strengthened through inclusive, equitable, and accountable PPPs that align with the Afrocentric developmental objectives of continental frameworks, such as the AU's Agenda 2063 and AfCFTA. If well-equipped and funded, these hubs can produce innovations that reduce technological dependency, stimulate job creation, and promote economic sovereignty continent-wide.

» **Consolidate the African continental market:** Market demand determines whether technological development can scale. The African market remains fragmented and unable to facilitate local innovation. Therefore, overcoming market barriers and consolidating continental innovations requires African governments to support the AfCFTA. The AfCFTA, alongside efforts to promote local problem solving and prevent the ongoing 'brain drain' from the continent, could revolutionise the continent's technological capability, thus contributing to its development, climate adaptation, and resilience.[467]

## 8.2.5. Capacity building for climate action

As shown in section 7.4, the UNFCCC is trying to incorporate different forms of knowledge into capacity building for climate action, but progress has been slow. Reforms are needed for capacity building to be transformative and lead to just adaptation outcomes. Capacity building relates to both distributional and restorative justice.

463 African Union Commission, Science, Technology and Innovation Strategy for Africa 2024 (Addis Ababa, African Union, 2014), pp. 10 and 42.

464 Olaide Agbaje, "Curriculum reform in African higher education: solving society's problems and meeting its needs", Curriculum Perspectives, vol. 43, No. S1 (October 2023).

465 World Economic Forum, The Future of Jobs and Skills in Africa: Preparing the Region for the Fourth Industrial Revolution (Cologne/Geneva, 2017).

466 Calderón, César. 2021. Boosting Productivity in Sub-Saharan Africa: Policies and Institutions to Promote Efficiency. Washington, DC: World Bank. doi:10.1596/978-1-4648-1550-8. License: Creative Commons Attribution CC BY 3.0 IGO).

467 African Union Development Agency, "Tackling Africa's brain drain challenge through smart digital technologies", 20 April 2021. Available at https://www.nepad.org/blog/tackling-africas-brain-drain-challenge-through-smart-digital-technologies.

### International levers

» **Fulfil and accelerate capability-building support commitments under the UNFCCC and Paris Agreement:** Along with finance and technology support, developed countries must fulfil their responsibility under Article 11 of the Paris Agreement to provide developing countries with capacity-building support. This support must be nationally driven and informed by local priorities and knowledge systems.

» **Promote epistemic plurality:** Capacity-building efforts should place greater emphasis on widening 'the set of capacities considered imperative for climate action' to ensure that diverse knowledge systems inform all capacity building for climate action.[468] This is necessary because 'capacity building for transformative adaptation, by its nature, requires integrating different types of scientific and societal knowledge.'[469]

» **Balance financial support for capacity building:** Current mismatches in funding and technical support for traditional 'techno-managerial' capacity building at the cost of ones that promote epistemic plurality should be corrected.

### African levers

» **Promote epistemic plurality:** Epistemic plurality clearly should be promoted at all levels, including within Africa.

» **Reorientate focus of capacity building to the sub-national and local levels:** Consolidating bottom-up processes and ensuring that local communities directly participate in knowledge production can generate the types of cooperative knowledge production necessary for just adaptation. This approach will ensure that reciprocal learning coproduces knowledge for capacity building and keeps it self-determined and locally embedded.



468 Nautiyal and Klinsky, "The knowledge politics of capacity building for climate change at the UNFCCC", p. 588.

469 Ziervogel and others, "Supporting transformative climate adaptation", p. 617.

## 8.3. A global framework for a JTfA: Building from an African vision

A global JTfA requires a structural transformation of global systems, grounded in decolonial approaches and supported through international cooperation. It must break with current climate colonialism patterns by ensuring that climate-vulnerable countries retain sovereignty over adaptation pathways, enabling mandatory global resource transfers from developed to developing countries based on historical responsibility and climate risks, and securing equal participation in international climate governance for climate-vulnerable groups and actors.

Core elements of such a framework include the following.

### Governance and participation

- Decolonise global climate governance by ensuring equitable representation of climate-vulnerable countries and actors in all international forums.
- Eliminate procedural barriers (e.g. visas, language).
- Centre Global South and African leadership in defining adaptation priorities rather than accepting imposed solutions.

### Finance, technology, and liability

- Guarantee grant-based climate finance (USD 310–365 billion annually as a minimum) without conditionalities or debt creation.
- Mandate free technology transfer and co-ownership of adaptation innovations.
- Establish binding international liability for historical emitters to compensate for climate damages.

### Knowledge and epistemic justice

- Recognise ILK systems as equal to Western science in international frameworks.

Translating the vision and values above into practice requires identifying the systemic shifts needed globally and within adaptation sectors. Unlike the relatively clear energy transition (i.e. shifting from fossil fuels to clean energy systems that leave no one behind), just transitions for adaptation are multi-dimensional and complex, context-specific, and deeply embedded in development sectors and pathways.

**To operationalise the vision of a global JTfA, Table 5 outlines illustrative and preliminary 'from-to' transformations, mapping the shift from unequal, unjust, unsustainable systems toward just, equitable, resilient alternatives. These shifts are not exhaustive and require further research, but they ultimately provide an initial conceptual framework to guide policy, finance, and institutional reform, grounded in the principle of leaving no one behind.**

## Table 5. Systemic and sectoral transitions to advance a JTfA

| Domain | From (unjust, unsustainable) | To (just, sustainable, equitable) |
|---|---|---|
| **Global systems** | | |
| Finance | Fragmented, donor-driven, project-based, and conditional finance; over-reliance on loans and private finance, resulting in increasing debt burdens; limited adaptation investment due to low perceived returns on investment | **Scaled up, predictable, additional, accessible, grant-based adaptation finance** to achieve a balance with mitigation, delivered through country-led and regionally owned finance mechanisms |
| Governance | Top-down, externally imposed, exclusionary systems with elite capture and growing private sector influence | **Inclusive, democratic, rights-based governance**, locally led and accountable, with equitable participation and decision making grounded in FPIC |
| Knowledge systems | Dominance of Western scientific epistemologies, marginalisation of ILK systems | **A 'parliament of epistemologies**,' wherein diverse knowledge systems are equally weighted, respected, and integrated into decision making |
| Legal and institutional frameworks | Unequal international legal regime on trade and cooperation, unequal access to international courts or arbitration entities, weak or non-binding obligations, unequal power imbalances | **Rule-based equitable international cooperation and development**, with enforceable obligations, equal access to legal redress, and recognition of differentiated vulnerabilities and responsibilities |
| **Priority adaptation sectors identified in the GGA framework** | | |
| Food and agriculture | Corporate-controlled food systems, export-oriented, and unsustainable production; hunger, food insecurity, food deserts, structural dependencies and overreliance on external inputs, and farmer vulnerability | **Food sovereignty and resilient local food** systems, prioritising local food needs, agroecology recognised as a science, set of practices and a movement, farmer-to-farmer networks, local food markets, food security, and IK systems |
| Water and sanitation | Unequal access to water and sanitation, commodification and corporate control, prioritisation of industrial and agricultural use over human needs | **Equitable, integrated water resource management**, prioritising universal access to safe water and sanitation and human needs over industrial use |
| Health | Unequal health systems with corporate control and underfunded public health systems, restricted access due to IP regimes, marginalisation of traditional and alternative medicines | **Universal, equitable, and democratic health systems**, integrating traditional and modern knowledge with accessible medicines and services, along with strengthened public health infrastructure |
| Human settlements + infrastructure | Unequal access to land and housing, dominance of private property rights; exclusion of customary tenure systems, colonial land policies continue to adversely shape land governance and use | **Inclusive and participatory land, housing, and infrastructure systems**, recognising customary norms, FPIC, secure land tenure, and enabling climate-resilient human settlements and infrastructure |
| Cultural heritage | Marginalisation and erosion of cultural practices and heritage systems (e.g. totemism, sacred sites, health spas, spiritual abodes) that support resilience | **Recognition and revitalisation of cultural diversity, traditions, and heritage**, recognising cultural heritage as a site of adaptive knowledge and practice, with legal protection for sacred sites and customary management systems |
| Poverty + livelihoods | Limited social protection and lack of economic alternatives with little to no state social safety net, no basic income grants or replacement job guarantees, externally imposed and disruptive transitions | **Diversified, resilient livelihoods** supported by social protection systems (e.g. basic income, job guarantees) and locally appropriate transition pathways |

Table 5 outlines those systemic shifts for a JTfA, but this report shows that achieving these transitions also depends on how actors embed justice across planning and decision-making processes, implementation, resource allocation, and measures to achieve historical redress. The four dimensions of justice covered here – recognitional, procedural, distributive, and restorative – provide a set of operational lenses through which actors must design, govern, and assess adaptation actions.

As discussed, recognitional justice regarding adaptation entails acknowledging diverse knowledge systems and that historical and structural injustices shape climate vulnerability. Procedural justice ensures fair decision-making processes in terms of inclusive participation, transparency, and accountability. Distributive justice concerns the equitable allocation of resources, adaptation benefits, and burdens, aligning with the UNFCCC CBDR-RC principle. Finally, restorative justice concerning adaptation aims to restore trust and dignity by addressing historical harms and structural inequalities that continue to shape present-day climate vulnerability. These dimensions are deeply interconnected, as failure in one often reinforces injustices in others.

Table 6 builds on this and sets out key pathways for change covered in chapter 8: knowledge justice, inclusive governance, resource distribution, and compensation, and technology transfer, and co-development. These pathways for change link to the four justice dimensions and include concrete actions at the African/ national and international levels.

## Table 6. Pathways for advancing justice in a JTfA

| Pathways for change | Justice dimensions advanced | African/national actions | International commitments |
|---|---|---|---|
|  **Knowledge justice** | Primarily recognitional and procedural, with implications for other justice dimensions | » Embed ILK as co-equal in NAPs, NDCs, and sectoral policies<br>» Establish co-production platforms and IK hubs<br>» Protect IK from extraction and misappropriation<br>» Invest in climate literacy, education, and epistemic agency (especially for women, youth, and Indigenous communities)<br>» Strengthen African institutional leadership and establish Pan-African knowledge centres<br>» Promote gender-responsive knowledge systems | » Reform evidence standards and what counts as valid knowledge in international science policy frameworks<br>» Formally recognise ILK in UNFCCC, IPCC, and adaptation processes<br>» Require co-design with Indigenous Peoples and local communities<br>» Ensure proportional African representation in IPCC authorship, UNFCCC expert bodies, etc.<br>» Redirect ≥80% of Africa-focused climate research funding to African-led institutions<br>» Establish South–South knowledge exchange and research platforms<br>» Support ethical use, IK protection, and publishing in Indigenous languages |
|  **Reimaging adaptation governance to be bottom-up and inclusive** | Primarily recognitional and procedural, with implications for other justice dimensions | » Institutionalise inclusive, participatory governance across adaptation decision-making processes and policy cycle (NAPs, NDCs, implementation, Monitoring and Evaluation)<br>» Remove structural barriers to participation and ensure representation of women, youth, Indigenous Peoples and vulnerable groups<br>» Ensure transparent, accountable and 'leave no one behind' governance across sectors.<br>» Strengthen civil society engagement in African climate institutions (AU, AGN, AfDB)<br>» Scale locally led adaptation and bottom-up mobilisation through co-design and direct funding to communities<br>» Secure land and resource rights and enforce FPIC | » Democratise global climate governance by ensuring equitable representation and decision-making power for African and climate-vulnerable countries<br>» Remove participation barriers (visa access, language, finance, accreditation) to enable meaningful engagement in global processes<br>» Formally recognise and operationalise Africa's special needs and circumstances in COP agendas<br>» Reverse transnational and fossil fuel corporations' lobbying and influence on climate debates and outcomes<br>» Institutionalise FPIC and community-led approaches across climate agreements, funds, and partnerships<br>» Strengthen and formalise participation of Indigenous Peoples and frontline communities in negotiations and scientific bodies<br>» Embed land tenure and women's land rights as cross-cutting priorities across the Rio Conventions and global adaptation frameworks |

| Pathways for change | Justice dimensions advanced | African/national actions | International commitments |
|---|---|---|---|
|  **Resource distribution and compensation** | Primarily distributive and restorative, with implications for other justice dimensions | » Diversify African economies via coherent green industrialisation strategies<br>» Encourage inter-regional trade via AfCFTA<br>» End fossil fuel subsidies and redirect to adaptation<br>» Root out corruption and elite capture<br>» Strengthen social protection for climate adaptation<br>» Operationalise the Africa Credit Ratings Agency<br>» Coordinate finance through CPs | » Greatly increase climate finance in line with climate justice imperatives<br>» Substantially increase grants and highly concessional loans while reversing trend toward commercial loans<br>» Financial compensation for slavery and colonialism<br>» Fundamental reform of international financial architecture<br>» Debt reform, including cancellation<br>» End IFFs<br>» Solidarity levies and tax reforms<br>» End fossil fuel subsidies and redirect to adaptation<br>» Technology transfers |
|  **Technology transfer and co-development** | Primarily distributive and restorative with implications for other justice dimensions | » AU Commission, regional economic communities, and regional research institutions must promote STISA-2024<br>» STISA-2024 must be integrated into national development plans<br>» Invest in and reform education, innovation and research institutions to build technology capacity<br>» Build enabling environments for inclusive and sustainable technological innovations<br>» Consolidate the African Continental Free Trade Area as a mechanism to revolutionise the continent's technological capacity | » Pressure developed countries to fulfil and accelerate technology transfer commitments under the UNFCCC and Paris Agreement<br>» Properly fund TEC and CTCN<br>» WTO must grant TRIPS waivers for the transfer of essential climate-friendly technology to Africa<br>» Enable non-predatory financing for African inventions and innovations<br>» Promote progressive PPPs<br>» Push for full transfer of technology and balanced co-development |
|  **Capacity building** | Primarily recognitional and restorative, with implications for other justice dimensions | » Epistemic plurality must be promoted to ensure that IK is incorporated into capacity building<br>» Funds allocated to capacity building must reflect epistemic plurality<br>» Focus of capacity building should be reoriented to sub-national and local levels | |



# Conclusion: Advancing a just adaptation future for Africa

Vulnerability, dependency, and externally imposed solutions need not define Africa's adaptation future. A JTfA offers an optimistic and practical framework for moving from crisis response to transformation. It centres African leadership, ILK, inclusive governance, grant-based finance, technology co-development, and restorative justice as the foundations of adaptation that protect lives, strengthen livelihoods, restore ecosystems, and expand democratic agency. In this sense, adaptation is a response to escalating climate risk and an opportunity to build fairer, more resilient, and more self-determined development pathways across the continent.

## Realising this vision now depends on action.

African governments, regional institutions, civil society, communities, and international partners can translate the framework into practice.

They must embed meaningful participation and FPIC in adaptation decisions; shift finance and technology toward locally defined priorities; reform debt, trade, and climate finance systems; and recognise Africa's knowledge, innovations, and leadership as central to global climate solutions.

The choices made in this decade will determine whether adaptation deepens existing inequalities or becomes a pathway toward justice, resilience, and shared prosperity. Adequate resources, political courage, and African-led implementation can move a just transition for adaptation from an emerging concept to a lived reality.

# Annex A

The following table does not present formal IPCC prescriptions; rather, it draws on the emissions scenarios as a basis and then adds a justice-oriented interpretation developed through interview data, adaptation finance literature, and the principles of differentiated obligations under escalating warming scenarios.

| Emissions pathways | Risks and impacts | Justice pathways |
|---|---|---|
| **Scenario 1:** Best-case (low overshoot, early action)<br><br>Strong, early, coordinated global action toward net-zero carbon dioxide ($CO_2$) by ~2055–2066<br>Peak warming ~1.7°C, stabilising around 1.46°C by 2100<br>Only minor overshoot of 1.5°C | **Ecosystems:** Most ecosystems remain intact; biodiversity changes because of species migration, but no major irreversible losses; coral reefs decline heavily but partly recover (10–30% of 2018 levels by 2100)<br><br>**Climate extremes:** Hot summers, more intense precipitation, increased coastal flooding, but largely manageable with proactive adaptation<br><br>**Water and food:** Mediterranean drying; irrigation expansion strains water tables, but crop yields remain relatively stable.<br><br>**Human systems:** Adaptation reduces risks for most, but vulnerable groups still face high climate-related threats; economic damage is small overall<br><br>**Tipping points:** Avoided, Earth system remains broadly recognisable compared with the 2000s | **Finance:** Fulfil assessed adaptation finance needs (USD 310–365 billion annually by 2035) in grant-based adaptation finance to Africa, indexed to inflation and periodically revised in line with observed climate impacts<br><br>**Technology:** Unrestricted access to all adaptation technologies, including IP waivers, with African-led deployment<br><br>**Debt:** Cancel all climate-related and adaptation debt held by African states<br><br>**Recognition:** Formally recognise Africa's right to climate-resilient development, regardless of mitigation pathways |
| **Scenario 2:** Mid-case (delayed action, high overshoot then decline)<br>Weak early targets, more ambitious measures only after 2025 emergency summit<br>Peak warming ~2°C mid-century, declining toward ~1.87°C by 2100<br>Significant overshoot; heavy reliance on bioenergy with carbon capture (BECCS), without minimising land/water footprint | **Ecosystems:** Warming at 2°C for decades causes irreversible loss of coral reefs, major coastal ecosystem collapse, large-scale tropical forest degradation; extinction rates surge<br><br>**Climate extremes:** More deadly heatwaves, droughts in Europe, Africa, Amazon; intensified flooding in Asia<br><br>**Water and food:** BECCS expansion competes with food production; rising food prices drive hunger and poverty; major tropical crop yield declines cause famine in parts of Africa<br><br>**Human systems:** Large-scale migration, displacement, and loss of cultural identity; inequality deepens<br><br>**Tipping points:** Coral reef collapse irreversible; some ecosystems permanently lost to climate and land use change | **Finance:** Grant-based adaptation and loss and damage finance scaled substantially beyond assessed adaptation needs, reflecting non-linear escalation of climate impacts, adaptation limits, and residual losses<br><br>**Planned relocation:** Dedicated international relocation and integration fund for climate-induced migration<br><br>**Infrastructure:** Historic polluters fund complete climate-proofing of Africa's critical infrastructure<br><br>**Loss and damage:** Bind historic polluters with legal liability for all losses since 1.5°C breach, assess and compensate retroactively |

| | | |
|---|---|---|
| **Scenario 3:** Worst-case (late, uncoordinated action)<br>Fragmented global response, no coordinated mitigation until late century<br><br>Warming reaches ~3°C by 2100 and still rising; net zero not achieved<br><br>Multiple climate extremes before major action begins | **Ecosystems:** Almost all ecosystems experience irreversible impacts; high species extinction in all regions; massive forest loss and biodiversity collapse; loss of most ecosystem services<br><br>**Climate extremes:** Frequent deadly heatwaves, mega-droughts (e.g. Amazon, Mediterranean, central North America), extreme flooding in high latitudes/tropics, strong storm surges destroying coastal infrastructure<br><br>**Water and food:** Severe drought renders agriculture unviable in some areas; crop failures trigger global food price spikes and widespread famine<br><br>**Human systems:** Collapse of sustainable development gains, extreme poverty rise, political destabilisation, armed conflict, forced relocation of entire nations (some small islands abandon territory)<br><br>**Tipping points:** Accelerated West Antarctic ice sheet retreat leading to faster sea level rise; Earth system drastically altered and unrecognisable compared with 2020 | **Maximal liability:** Historical emitters provide compensation and restorative support for all climate damages (past and ongoing) under international law<br><br>**Climate reparations:** Reparations framework for climate colonialism, including for land restoration, ecosystem rebuilding and restitution for both non-economic loss and damage<br><br>**International criminal liability:** Recognise ecocide and gross negligence by states/ corporations contributing to a 3°C outcome, with enforceable penalties<br><br>**Emergency reconstruction fund:** Trillions in unconditional finance for post-catastrophe recovery (floods, droughts, displacement, infrastructure collapse)<br><br>**Migration justice:** Guaranteed legal pathways for climate refugees, with host country obligations funded by historical emitters<br><br>**Intergenerational justice:** Legal recognition of African youth and future generations as claimants for reparations due to permanent ecosystem loss and reduced life prospects |

# REALISING THIS VISION NOW DEPENDS ON ACTION. TRANSLATE THE FRAMEWORK INTO PRACTICE





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