

Finance

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► KEY MESSAGES

There is a pressing need to accelerate finance for climate adaptation in Africa over the coming decade. The NDCs of 40 African countries cumulatively show a need for an estimated \$331 billion in investment for adaptation through 2030, with about 20 per cent of this sum coming from their annual budgets.

That would create an adaptation investment shortfall of approximately \$265 billion through 2030, which needs to be met by international donors and domestic and international financiers. In the wake of the COVID-19 shock to the global economy, robust flows of foreign direct investment and domestic private investment are critical to maintain a high baseline for potential adaptation mainstreaming.

Adaptation and resilience spending have not had a prominent role to date in the economic recovery packages adopted by most African countries in the wake of the COVID-19 pandemic. But major Development Finance Institutions (DFIs) around the world have committed an appreciable portion of their budgets to adaptation and to Africa, and are also devising innovative models for the deployment of these funds.

There are many potential sources of adaptation finance for Africa, offering finance on a range of terms from highly commercial to highly concessional. Governments and stakeholders must mobilize different blends of these finances to ensure that adaptation efforts can be sustained on a consistent path, even as there is a greater effort made to generate high-quality, low-cost climate data and to translate climate science into policy.

African countries and governments must also focus on creating an enabling policy and regulatory environment for climate adaptation, and on building institutional capacity and mainstreaming resilience into their economic policy.



We must help people cope with the impacts of a climate that is already changing, thinking more innovatively about adaptation and adaptation finance is key to this.”

Secretary Janet Yellen, US Secretary of the Treasury
Leader's Dialogue on the Africa Covid-Climate Emergency, April, 2021

INTRODUCTION

Current adaptation finance flows to Africa are insufficient to meet growing adaptation needs on the continent.¹ This chapter provides an overview of existing adaptation finance flows in Africa and identifies opportunities to increase the volume and efficacy of that finance. The core objectives of this chapter are to:

- **Assess the state of adaptation finance and risk-finance mechanisms** already available and in use in Africa.
- **Analyze African financial market readiness** for climate adaptation finance and risk-finance mechanisms.
- **Identify gaps where climate risk exists yet there is insufficient finance** to address it, as well as the barriers to implementation.
- **Propose solutions to increase the volume and variety of capital** available for adaptation finance and risk-transfer mechanisms in Africa and to enable pipelines for adaptation and dual-benefits projects in the region.

Financial flows to adaptation in Africa fall far short of the needs

There is a pressing need to increase investment in climate change adaptation in Africa. While only six African countries have submitted National Adaptation Plans (NAPs) to date, all African countries, with the exception of Libya, have submitted Nationally Determined Contributions (NDCs), all of which include an adaptation component, as part of their commitment to the 2015 Paris Agreement. Based on these NDCs, all African regions prioritized at least three of these four sectors: 1) agriculture 2) water 3) health 4) forestry, land-use, and ecosystems. 40 African countries provided estimated investment needs for adaptation, totaling roughly US\$331 billion through 2030.² Fifteen countries³ provided a breakdown of conditional vs unconditional cost estimates,⁴ with an average ratio of 80:20.

An average 80:20 ratio indicates that of the \$331 billion estimated investment need (or \$33 billion annually), countries expect to contribute around \$66 billion (or \$6.6 billion annually) from their national budgets, while the remaining investment gap of \$265 billion (or \$26.5 billion annually) must be met by international donors and domestic and international financiers.

Globally, an annual average of \$30 billion in adaptation finance was tracked for 2017 and 2018, mostly provided by public actors (DFIs alone accounted for 67 percent of the total). Due to data limitations, nearly all flows tracked are from international public finance.⁵ Just over \$6 billion was tracked in adaptation finance to Africa in that period.⁶ If this trend continued through 2030, total finance from 2020–2030 would only amount to \$66 billion, far short of the \$331 billion (or approximately \$30 billion annually) in estimated needs per stated cost estimates in NDCs. Adaptation finance is therefore scaling too slowly to narrow the gap, even as the costs of climate impacts rise.

Of the \$6 billion in adaptation finance tracked, grants and concessional debt accounted for approximately 90% of financial flows to adaptation in Africa. Two sectors—agriculture, forestry, land-use, and natural resource management; and water and wastewater management—combined to receive 62% of total adaptation finance in 2017–18. These results are consistent across African sub-regions (Figure 1).

The majority of finance flowed from Development Finance Institutions (DFIs) both from the region and external to Africa: multilateral, national, and bilateral DFIs contributed and managed 67% of total adaptation finance⁷⁷ flows to the region, followed by bilateral government flows at 19%. The most vulnerable countries in Africa have not been recipients of proportionally high volumes of adaptation finance. There is limited to no correlation at the country level between climate vulnerability and adaptation finance overall or per capita.

Figure 1: Tracked adaptation finance by region and sector (USD, 2017–18 average)

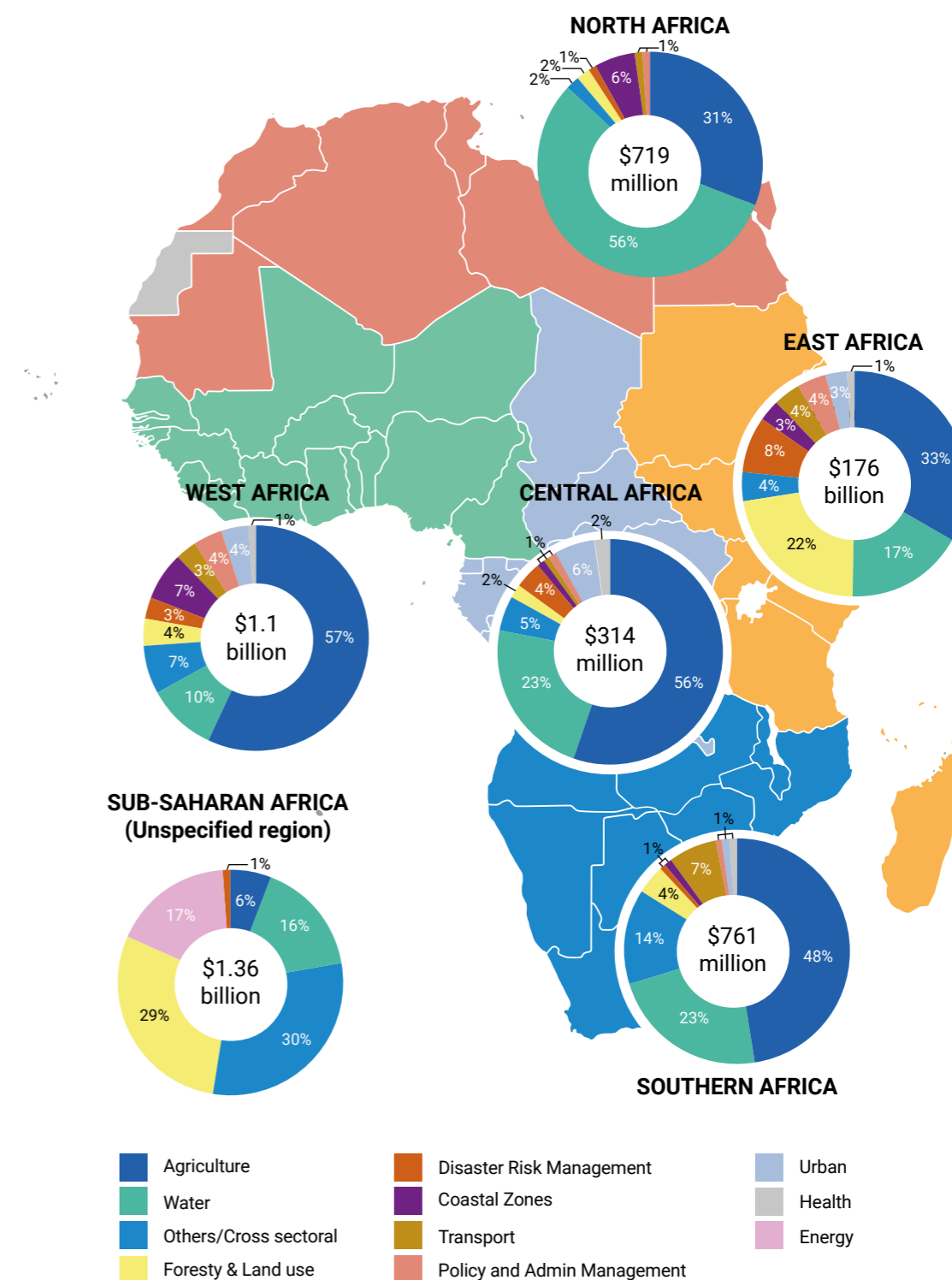




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The COVID-19 pandemic creates significant uncertainty in future adaptation flows, as well as the opportunity to catalyze a resilient recovery

A comprehensive dataset for 2019 and 2020 is not yet available. In particular, the impact of COVID-19 on adaptation finance is not yet well understood.⁸ Key factors likely to impact the volume of 2020 adaptation finance flows and in future years are as follows.

Negative factors:

- **Inclusion of resilience in stimulus packages is limited.** In an upcoming study, the World Resources Institute reviewed the 2020 fiscal stimulus packages of 66 countries—including all G20 and V20 countries—for whether and how they included climate resilience. Less than one-third (18) of the responses were found to integrate physical climate-risk awareness and resilience components, including just two African countries: Niger and Kenya. This limited inclusion of resilience in stimulus packages suggest that there is a potential missed opportunity to ensure that climate risks are considered in new funding allocations. Beyond the limited inclusion of climate resilience, the size of stimulus packages in developing economies has been much smaller than those in developed economies, with middle-income countries spending 6% of GDP and low-income countries spending 2%, compared to 24% of GDP spent in high income countries, in 2020.⁹
- **Private sector investment has declined in the short term.** Although capital outflows stabilized relatively soon after hitting record lows in March 2020, foreign direct investment (FDI) declined 16% in 2020 in Africa to \$40 billion, a decline to 2005 levels of investment.¹⁰ Liquidity support for firms was also largely not conditional on adopting any climate resilience measures. Given the potential for private sector investment in adaptation activities, robust flows of foreign direct investment and domestic private investment are critical to maintain a high baseline for potential adaptation mainstreaming.
- **The COVID-19 pandemic continues to severely impact developing economies.** Just over 50 million doses¹¹ of COVID-19 vaccines have been administered across a continent with a population

of 1.3 billion. As of June 2021, less than 1% of Africa’s population had been fully vaccinated.¹² Adaptation finance flows in future years will depend heavily on vaccine distribution speed and equitability to enable recovery of sectors critical to Africa’s macroeconomic prospects, including international trade and tourism.

Positive factors:

- **Multilateral Development Bank (MDB) adaptation finance commitments to Africa increased substantially in 2020 from 2019 levels.** The group of MDBs reported \$4.7 billion in adaptation finance committed to sub-Saharan Africa in 2020, vs \$3.6 billion in 2019.¹³ For Middle East-North Africa, \$1.4 billion was committed in 2020, vs \$1.0 billion in 2019. It is not clear if this increase is sustainable without re-capitalization or replenishments of MDB funding, which was spent quickly to counter the effects of the pandemic. For example, the 32% increase in adaptation finance commitments across the two regions is roughly proportional to the total increase in MDB commitments in 2020, estimated at 39%.¹⁴
- **MDB climate finance targets are increasingly targeting adaptation.** In 2019, nine MDBs announced a collective commitment to double their total levels of adaptation finance provided to clients by 2025, to \$18 billion annually.¹⁵ Towards that end, the World Bank announced a 35% target for climate finance as a proportion of total finance from 2021–2025, of which at least 50% will support adaptation. The African Development Bank (AFDB) has committed to a target of at least 40% for climate finance by 2025, to a doubling of climate finance to \$25 billion between 2020 and 2025, and to prioritizing adaptation finance.
- **The IMF is firmly committed to deal with climate risks by** integrating climate in its economic and financial services. In addition, a proposed allocation of Strategic Drawing Rights (SDRs) of \$650 billion would benefit all IMF members, including in Africa, and could support a global green and resilient recovery.

- **A group of Development Finance Institutions is collectively advancing adaptation finance efforts.** Under the DFIs+ Adaptation and Resilience Collaborative, members are advancing a set of actions to accelerate finance to adaptation and resilience. The group has made several commitments, including to pursue a substantial increase in investments in adaptation and resilience, to move towards ensuring all investments made have been assessed for and are resilient to climate risks, and to increase support and collaboration to shape markets and build pipelines of bankable investments in climate adaptation.¹⁶
- **New innovative models are being launched to address the gap.** For example, the GCA and the AfDB have jointly developed the African Adaptation Acceleration Program (AAAP). The AAAP was launched at the Climate Adaptation Summit in January 2021 and aims to mobilize \$25 billion towards adaptation activities in Africa by 2025. AfDB has committed \$12.5 billion to the AAAP. The remaining \$12.5 billion is to be mobilized through partnerships and domestic resource mobilization through national governments and the private sector and will be centered on four action areas:
 - Innovative financial initiatives to enhance access to finance and mobilize new investment in adaptation activities (potential innovative finance mechanisms are highlighted further in Table 3), through support to the development of debt instruments in viable markets and training programs to increase technical capacity in climate risk assessment and financial structuring.
 - Climate-smart digital technology for agriculture and food security to help smallholder farmers increase yields and drive climate resilience in the agriculture sector.
 - An African Infrastructure Resilience accelerator to mobilize investment in climate resilience infrastructure through project preparation initiatives and innovative finance mechanisms including debt-for-resilience swaps.
 - Youth empowerment in entrepreneurship in climate adaptation and resilience with the aim to generate climate-resilient jobs for youth and to strengthen youth entrepreneurship via an incubator program and training programs.

• **With appropriate policy approaches, there is substantial potential for a green and resilient recovery.** There are efforts underway to drive a resilient recovery to COVID-19 in Africa, including through the Debt Service Suspension Initiative, through the Access to COVID-19 Tools Accelerator, and through moves to issue and allocate new Special Drawing Rights. These efforts all have the potential to help facilitate a resilient recovery and additional investment in climate adaptation.¹⁷ A resilient recovery also has the potential to address challenges Africa faced prior to COVID-19, including youth unemployment, high climate risks, poor infrastructure, and weak governance. Investment in climate-resilient infrastructure, nature-based solutions, technology, and other sectors has significant potential to address underlying climate risks and respond to pre-COVID-19 challenges.

Adaptation investment needs to be mobilized from a wider variety of finance sources

Future adaptation finance for Africa is expected to more than double by 2025 based on announced commitments discussed above. However, even if many of the main DFI actors adopted best practice commitments (similar to World Bank's commitment to dedicate 35% to climate finance, of which 50% will be for adaptation), and even if currently announced private sector mobilization efforts are successful (assuming at least 20% of MDBs' \$40 billion private sector mobilization target goes to adaptation in Africa), annual adaptation finance flows may still not meet minimum estimated investment needs by 2025.



Let us come together as it is our mission to protect the planet for today's and for future generations, let us do the absolute best through global solidarity. It is no longer about me, myself, and I – but it is about us as a global community.”

H.E. President Wavel Ramkalawan of Seychelles, Chair of the AU commission on the Island States
Leader's Dialogue on the Africa Covid-Climate Emergency, April, 2021

To mobilize further investments and to increase the impact of investments in terms of building resilience, a wider variety of sources of finance need to be tapped. Public spending alone cannot meet the adaptation finance gap, so private sector investment must scale alongside public investment to supplement limited public resources.¹⁸ Figure 2 summarizes the financial actors which have a role to play in mobilizing finance for adaptation at scale in Africa. These actors offer financing along a spectrum of terms, ranging from highly concessional terms (lower return expectations and/or longer tenors) to commercial terms (market returns and tenors expected). Concessional capital is intended to fill a gap where the private sector (commercial capital) would not otherwise invest.



Figure 2. Potential sources of adaptation finance in Africa











Yet there are numerous barriers to investment in adaptation that must be addressed

There are cross-sectoral barriers as well as sector-specific barriers hindering investment in adaptation

activities. Table 1 summarizes key barriers to investment across seven key sectors assessed in this analysis alongside cross-cutting barriers which affect investment potential across sectors.

Table 1: Barriers to mobilizing adaptation finance by sector and cross-cutting

Sector	Barriers
Cross-cutting 	<p>Inadequate risk-adjusted returns: Returns do not compensate investors in developing countries for the additional risk associated with unfavorable regulations and policies, such as foreign investment restrictions.</p> <p>Complexity of project due diligence: Many private sector actors, including institutional investors, have largely avoided financing infrastructure projects across sectors in the region due to cost recovery challenges and the complexity of the technical due diligence.</p> <p>Limited capacity to collect and analyze relevant climate data: The lack of reliable and accessible information about climate risks and impacts, combined with limited capacity to process available climate data in infrastructure modeling and translate findings into the necessary resilience measures, makes it difficult to adapt proactively.</p>
Water 	<p>Lack of municipal/subnational implementation capacity: Water projects often involve municipal or other subnational implementers with limited implementation capacity (to pursue finance, structure an adaptation project, or access climate analytics).</p>
Agriculture 	<p>Policy and regulatory barriers: Lack of regulatory incentives for climate-smart agriculture in terms of priority lending and mal-incentives in regulatory environments with subsidies for non-adaptive crops.</p> <p>Limitations in aggregation: Difficulty in aggregating or securitizing many small-scale projects due to local contexts and disparate level of development</p>
Transport 	<p>Variability of climatic conditions within a single project: Transport projects are often cross-jurisdictional in nature and therefore face a complex range of climate risks.</p> <p>Public sector nature of the sector: Even more than for other infrastructure projects, some elements of the transport sector including roads, railways, and ports are often publicly owned and operated and private sector investment involvement may not be feasible.</p>
Energy 	<p>Need for regional coordination: As countries are tackling domestic energy security challenges separately, this is creating build-up of overcapacity in some countries and deficiencies in others.</p> <p>Risk attitudes of decision-makers: Given the long lifespan of energy infrastructure, ranging from 50 to 100 years for hydropower assets, it is critical to base expansions and new infrastructure investments on future climate projections. However, uncertainties around climate projections and the magnitude of associated revenue losses contribute to the lower risk perception of decision-makers.</p>
Urban infrastructure 	<p>Lack of subnational fiscal autonomy: Subnational borrowing capacities for infrastructure and other capital needs are severely constrained, making long-term planning for climate resilience challenging and creating delays in responding and recovering promptly from disasters.</p>
Coastal Ecosystems 	<p>Challenging economics: Adaptation in coastal ecosystems zone is often overlapping with flood-risk management and land-use planning which have significant public good characteristics, making it difficult to build an economic case.¹⁹</p>
Land Use and Forestry 	<p>Multi-stakeholder solutions can create complexity for channeling funding: Developing and implementing solutions in land use and forestry involves numerous actors and flows across sectors and jurisdictions. Coordination across these sectors and jurisdictions can make the design and implementation of funding solutions complex.</p>

TO MOBILIZE THESE INVESTORS, A THREE-PRONGED STRATEGY IS NEEDED

1. Mainstream resilience into investment decision-making

Many investors are already engaged in investment that has significant relevance to adaptation goals—but their investments are not yet climate resilient. For example, a multinational corporation investing along an agricultural supply chain or an infrastructure investor building a water treatment facility will be operating in a sector with substantial climate risk, but may not be screening for climate risk nor mitigating that risk. For instance, the Infrastructure Consortium for Africa (ICA) finds that water infrastructure sector commitments totaled \$13.3 billion in 2018 in Africa. This compares to the \$1.2 billion tracked in adaptation finance to the water sector in the same year—suggesting that a significant proportion of finance to the sector is not climate resilient, or at least has not been rigorously assessed for physical climate risks.

To enable financial institutions to mainstream resilience into the investments they are making, the following steps are critical:

- Increase access to robust climate data: There is a critical lack of climate data in many parts of Africa, which limits adaptation projects and leads to uncertainty about the optimal approach. The poorest countries have the most significant lack of climate data: either they are post-conflict or fragile states, or simply do not have the funding and technical resources to develop climate data such as groundwater baseline data, 24–48-hour precipitation data, and forward-looking climate projections. Lack of past and current hydromet data particularly hinders design of some types of adaptation activities and finance instruments. Resilience bonds or results-based performance instruments, for example, require disaggregated data across hazards, exposures, and vulnerabilities to accurately inform risk assessments and track impact.

- Concessional funding and grants are needed to increase climate information collection, accessibility, and technical capacity to utilize the information. The ability to access and use climate information is critical for project implementers seeking funding for climate adaptation projects. Without robust climate information on hazards, exposures, and vulnerabilities, implementers in Africa are stuck in a vicious cycle where they cannot prove the adaptation relevance of a project—and are also unable to access finance that would help them collect and utilize that climate information.
- More targeted concessional finance and grants, from DFIs, donor governments, and foundations are needed to support policy makers and other implementers in collecting and providing access to sufficient data, as well as to support collaboration and training on open-source models that can utilize the data. Across the board, there should be an emphasis on increasing access to high-resolution climate data at low cost so that implementers may undertake climate risk assessments as a basis for future adaptation planning.
- Incubate technical expertise in financial structuring: Adaptation work requires the blending of public, private, domestic, and international finance and therefore calls for substantial financial engineering expertise. Donors are also increasingly requesting quantitative adaptation metrics, including data on physical infrastructure. It is very difficult to assess what volume of adaptation finance is needed and where it should be directed, due to the shortcomings of our current approach to aggregating adaptation finance flows. Policymakers should prioritize development of frameworks for measuring adaptation progress at the global level. This step will be especially critical to drawing in the private sector and to developing a more robust analysis of investment gaps in terms of direct impact on resilience outcomes.
- Pension funds should be engaged through appropriate financial instruments: Pension funds are instrumental in mobilizing long-term saving and can support long-term investments.

However, traditionally they have low risk appetite due to liquidity requirements. The percentage of people covered by pension schemes has reached about 80% in some North African countries, while it is still as low as 10% in sub-Saharan Africa. Pension funds are especially strong in South Africa, Botswana and Namibia per their assets-to-GDP ratio. Total assets under management in 12 emerging markets in Africa are close to \$400 billion. Reports suggest that the assets-under-management of African pension funds were expected to rise to \$1.1 trillion by 2020.



- Build capacity of African financial institutions and government entities to evaluate and act on climate risks: A concerted effort should be made to increase membership of Pan-African Banks, locally based pension funds, and national development banks in international financial initiatives such as the UN Principles for Responsible Investment and Banking, and the International Development Finance Club—and to provide these institutions with the resources to participate actively. Capacity building is also crucial to strengthen African financial institutions' capacity to access finance from Climate Funds through pre- and post-accreditation support.

- National Designated Authorities (NDA), Direct Access Entities (DAEs) and the other Accredited Entities (AEs) also require technical and institutional capacity building to build project pipelines and proposals to the Green Climate Fund (GCF). These needs are especially acute in the most vulnerable countries where access to international climate finance is also difficult. The support of International Accredited Entities and readiness programming is crucial in strengthening the DAEs and NDAs to achieve the goal of a bottom-up, country-driven approach of mobilizing adaptation finance.
- Require disclosure of climate risks, via national legislation and/or via DFI on-lending. Domestic financial regulators in Africa should consider requiring financial institutions to disclose climate-related risks in line with the Task Force for Climate-related Financial Disclosures recommendations. Moody's has found that the 49 banks it rates across Africa have more than \$200 billion in lending across sectors with high potential climate risk, so disclosure of climate risks is critical.²⁰
- Support small and medium-size enterprises (SMEs) that are offering adaptation-relevant products and services. There should be increased attention on the considerable potential value that SMEs hold in unlocking climate adaptation solutions and engaging the private sector. There are 100s of SMEs across Africa that have valuable adaptation solutions and have developed viable business models to implement those solutions. Significantly more focus and finance are needed in this space to support the number of SMEs with potential to deliver adaptation solutions.

2. Build the enabling environment for adaptation investment

The enabling environment in a country will help determine the viability of certain types of instruments. In some cases, lack of financial sector development or lack of commitment to a particular climate adaptation priority will make certain investments difficult to implement. In these instances, there may be a stronger role for concessional capital from DFIs or foundations to facilitate the effective deployment of an investment.

Countries' readiness for adaptation finance may be assessed via several factors across categories of policy environment, market environment, and stakeholder environment, which are further detailed in Table 3 to indicate which specific factors enable the successful implementation of different instruments. Some instruments and sectors require clear policy support from government in order to be effectively implemented. Table 1 summarizes key factors across these categories.



Table 2: Key factors in the enabling environment

Policy environment	Market environment	Institutional/stakeholder environment
<ul style="list-style-type: none"> • National adaptation plans/strategy in place • Regulations enforcing adaptation measures (i.e., building codes) • Availability and capacity to analyze climate data and modeling 	<ul style="list-style-type: none"> • Access to international markets • Developed insurance market • PE/VC availability • Subnational borrowing capacity 	<ul style="list-style-type: none"> • Availability of accredited entities for accessing climate finance • Engagement of NDBs, regional development banks, and other regional institutions

- Articulate investment-ready National Adaptation Plans (NAPs) and mainstream climate resilience in government procurement: Having a nationally articulated strategy for adaptation is critical for establishing long-term expectations, identifying priority actions across sectors, and indicating areas for private sector participation. Only six countries in Africa have submitted NAPs to date, while 34 other countries have received funding or have submitted proposals to access funding from the Green Climate Fund (GCF) and the Least Developed Countries Fund (LDCF) for NAP development. Policymakers should ensure that adaptation planning is incorporated and mainstreamed into all relevant policy and procurements plans. An increased focus on climate adaptation mainstreaming within procurement plans in particular is critical to ensure that international infrastructure investment must screen for and build in resilience.
- Build capacity to develop science-based policy and projects: For much international public climate finance, there is a need to establish attribution between a climate impact and the corresponding action/measure that aims to mitigate that impact. This attribution is challenging, requires substantial

quantitative and science capacity, and is often a critical factor for mobilizing adaptation finance. There is a substantial need to increase capacity to translate science into policy, and to translate policy into investment needs, for instance by utilizing climate resilience indicators to prioritize budget allocations. Resilience outcomes are also difficult to track against a moving baseline—for example, other development projects may have also contributed to improved social outcomes in a given region.

- Improve macro-economic environments and adopt a multi-faceted approach to address debt burdens faced by African countries: Even before the pandemic, external debt averaged 40% of GDP across the African continent. Gross debt-to-GDP ratios across Africa are projected to have increased by around 8 percentage points in 2020, and by over 20 percentage points in the Republic of Congo, Seychelles, Sudan, and Zambia.²¹ Four countries (Mozambique, Democratic Republic of the Congo, São Tomé and Príncipe, and Somalia) are already in debt distress,²² while 15 other countries are at high risk of external debt distress. Absent substantial global efforts to help reduce the debt burden, many countries are not able to take on additional debt to address climate risk.

- Overall, African countries have low sovereign credit ratings from the three major credit rating agencies (CRA): Moody's, Standard & Poor's (S&P), and Fitch. Just two countries—Botswana and Mauritius—have investment grade ratings from Moody's while all other countries are either sub-investment grade (19 countries) or do not have a rating (26 countries). A low sovereign credit rating or lack of a rating raises the cost of debt and makes attracting foreign direct investment more challenging. Already low sovereign credit ratings are put further at risk by increasing climate-related risks as CRAs begin to incorporate such risks into their ratings. Moreover, increasing climate impacts and a lack of adaptation action pose significant risk to sovereign credit ratings across the region.²³
- African finance ministers have called for external assistance of \$100 billion annually over the next three years to close a financing gap of \$345 billion to achieve a sustainable recovery.²⁴ The participation of private creditors will be critical to relieve existing debt burdens, requiring innovative financing models that set clear incentives. Additional actions that should be considered to address debt challenges in African countries include:
 - Advance efforts to link credit ratings with reductions in climate risk to incentivize resilience and lower the cost of debt.
 - Continue implementation of the Debt Service Suspension Initiative (DSSI) program and seek as many avenues as possible for alleviating debt strain on African countries as a key strategy to increase domestic adaptation finance.
 - Develop sovereign bonds with an adaptation component (e.g., Ghana's 2030 bond with an IDA guarantee of 40 percent) and scale up sovereign debt-for-adaptation swaps to countries where conditions are viable.²⁵

3. Deploy innovative finance instruments

There is a wide array of available investment instruments, risk finance mechanisms, and broader finance-relevant solutions that financial actors are already mobilizing in support of climate resilience across Africa. The universe of financial instruments captured in this analysis is represented in Table 2. The level of "concessionality" required for certain instruments will vary by market or policy environment. Financial instruments can be used to finance activities that build physical resilience to climate change impacts (reducing physical risk) and are also useful in responding to risks where physical climate impacts cannot or have not been eliminated (through risk transfer and risk reduction instruments).

It is critical to carefully select a financial instrument or structure that meets the conditions and activities targeted. Selection of appropriate financial instruments must be informed by the sectoral focus of the adaptation activity, underlying country-level policy and market conditions, and the stakeholders and actors engaged. Instruments will only function successfully when they target an appropriate context. Key factors that must be considered when designing an instrument include currency stability, strength of project pipeline, strength of debt capital markets, presence of strong policy environment, existence of a sovereign credit rating, existence of corporate bond market, robustness of climate information, and engagement/existence of a domestic private sector.

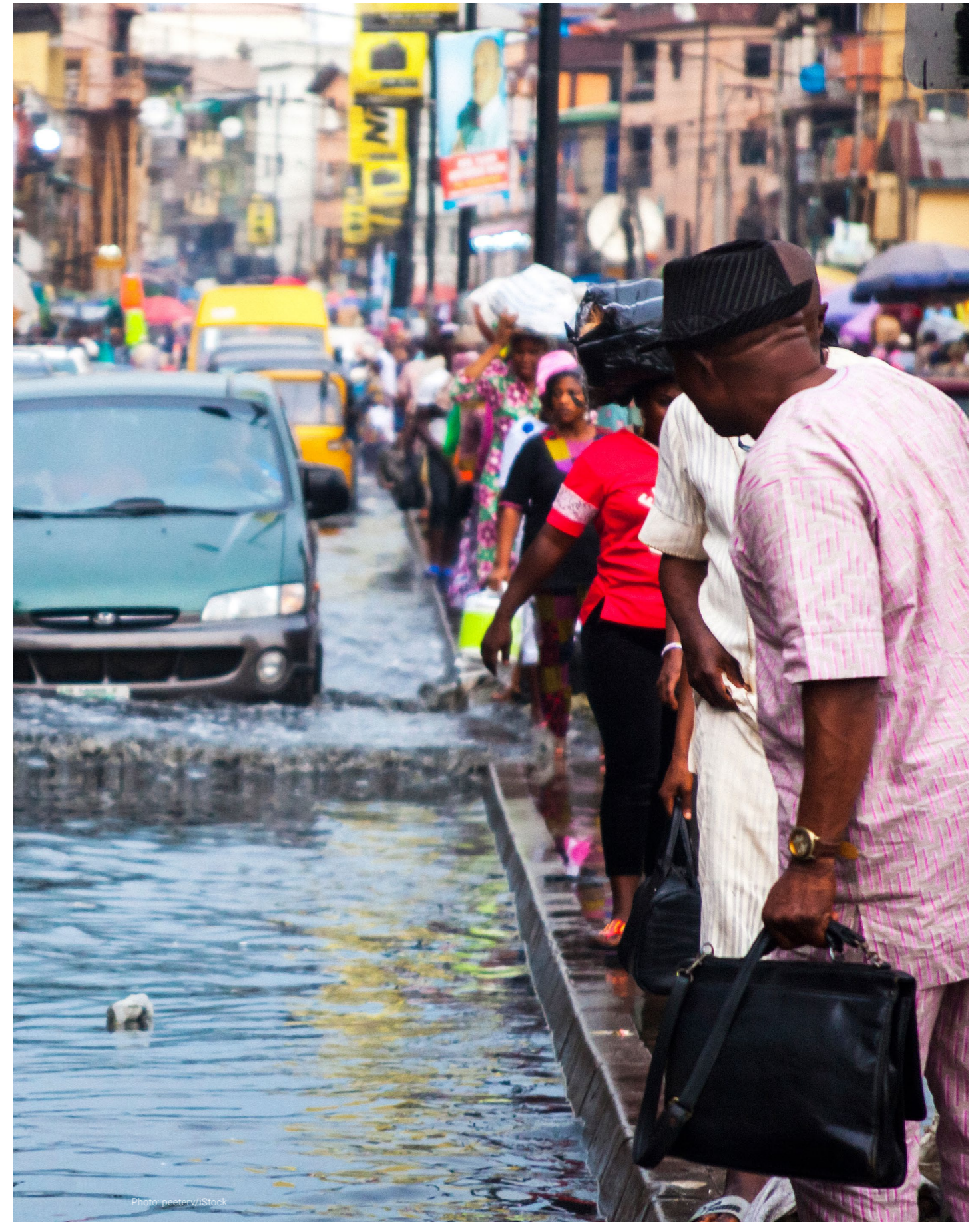


Table 3: Financial instrument types

Instrument typology	Example
<p>Grants: Funding (non-repayable or reimbursable) typically used for technical assistance, early-stage project development, and capacity building.</p>	<p>Example (application in the agriculture sector): The Ethiopian government launched the Productive Safety Net Program (PSNP) in 2005 in partnership with international and aid organizations. The program finances conditional or unconditional cash or food transfers for undertaking public works or social infrastructure in response to chronic food insecurity or short-term shocks like droughts targeting the highly-climate vulnerable population.</p> <p>Stage of implementation: In November 2020, Phase V of PSNP began through Strengthen Ethiopia's Adaptive Safety Net Project (SEASN) project. This financing includes a \$200 million credit and a \$312.5 million grant, with additional support from USAID (\$430 million), UK FCDO (\$281 million) and Government of Ethiopia (\$600 million). The project aims to expand geographic coverage and enhance service delivery of PSNP and effectively respond to disasters.</p> <p>Country context: Countries with relatively challenging underlying market and policy conditions are well suited to this instrument because it is largely concessional in nature. This could include countries with low sovereign credit ratings, high sovereign debt, and limited capital markets. The implementing environment does require at least some monitoring and evaluation capacity, in the form of at least a sufficiently stable political environment to allow for the evaluation of progress to take place.</p>
<p>Project finance: Typically involves direct debt or equity investments into a single project; can be fully commercial, or forms of concessional finance could include loan guarantees, first loss debt, and off-taker guarantees</p>	<p>Example (application in the agriculture & urban infrastructure sector): Cooling as a Service (CaaS) aims to deploy efficient cooling technology at scale through a pay-per-service model that enables customers to pay per unit of cooling consumed and eliminates upfront investment in cooling technology. CaaS supports dual benefits projects across mitigation and adaptation, reducing emissions through cleaner cooling technology deployed and addressing underlying climate risks associated with increased heat.</p> <p>One current application of the CaaS model is in Nigeria where increased temperatures associated with climate change affect food storage capacity and will lead to increased harvest losses, increased food waste, and adverse health outcomes. The social enterprise ColdHubs designs, installs, commissions and operates solar-powered walk-in cold rooms in produce aggregation centers and outdoor markets that can help address those climate risks and support agriculture sector adaptation. Farmers and retailers pay a fixed price per 20kg crate per day to store their goods inside the cold room.</p> <p>Country context: Servitization instruments work well in country contexts with relatively strong country-level market and policy enabling environments, basic legal and regulatory frameworks in place for contract enforcement, and availability of local commercial banks. 21 countries indicated urban planning and infrastructure as a priority sector in their NDCs.²⁶ The SADC Center for Renewable Energy and Energy Efficiency (SACREEE), a member of the CaaS Alliance, recently launched an Industrial Energy Efficiency Program (SIEEP) which will run through 2018–2023 and will involve providing training for bankers, creation of project pipelines, and seed funding. Participating countries in this program may be good candidates for CaaS.</p>
<p>Financing facilities: Involve debt or equity funding for a pool of projects, companies, or individuals (as opposed to single projects); can offer varying levels of concessionality including subordinate debt or equity, longer debt tenors or fund horizons, or supplemental grant capital.</p>	<p>Example (application in the water sector): Climate Investor Two is a fund structured to finance projects across three stages: 1) a development fund, 2) a construction fund, and 3) a re-financing fund. Climate Investor Two will focus on water, oceans, and sanitation subsectors, including: municipal and industrial water and wastewater supply, desalination, bulk water supply, waste and wastewater to energy, and riverine and coastal ecosystem management and protection.</p> <p>Country context: Climate Investor Two requires a strong project pipeline in the water sector in target countries. A strong ecosystem of project developers is critical to this criterion. The project pipeline can be supported by a favorable policy environment where it is feasible to engage private capital in water infrastructure projects and where there is sufficient climate risk information available to ensure the projects meet set climate adaptation criteria. In addition, the Fund makes investments in non-local currency, so a relatively stable currency environment is needed to avoid significant foreign exchange losses or hedging costs that would erode investor return. The ability to move capital in and out of the country without significant penalty or delay is also critical.</p>

Instrument typology	Example
<p>Results-based finance: Involves debt or grant capital for a project or portfolio of projects that is contingent on the achievement of a certain climate adaptation outcome.</p>	<p>Example (application to land use and forestry): The African Conservancies Fund (ACF) was established by Conservation International (CI) with the objective to align economic and conservation objectives in the communities in and around the Maasai Mara in Kenya. The ACF provides debt capital to a trust to develop sustainable revenue generating activities such as eco-tourism, sustainable agriculture, and carbon credit generation. The loans are to be repaid from this revenue. To-date, CI and its affiliates have provided \$500,000 in loan capital to the Trust and aim to increase this to \$5 million over two years.</p> <p>Country context: The Trust model relies on the authority of local communities to make decisions around how their land is managed, and to be able to earn income from activities carried out (or avoided) on the land. Areas under national government control are less likely to be able to benefit from this highly local, highly participatory structure. In addition, trusts need a legal framework to be able to incorporate and have authority to take investments, borrow money, distribute funds, and oversee and</p>
<p>Debt-for-climate swaps: Debt-for-climate swaps are a type of debt swap in which the debtor nation, instead of continuing to make external debt payments in a foreign currency, makes payments in local currency to finance climate projects domestically on agreed upon terms.</p>	<p>Example (application to coastal ecosystems): In 2017, the Seychelles became the first country to successfully undertake a debt-for-climate swap aimed specifically at protecting the world's oceans. The Nature Conservancy (TNC) acquired Seychelles' foreign external debt at a discounted price and raised additional funding worth \$5 million from private donors. In return, the government of Seychelles promised to repay the loans to TNC to a specially created the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT). Since 2017, SeyCCAT has issued over \$1.5 million in grants to more than 25 grantees implementing a total of 33 projects. More than half of the funds have gone towards projects led by or benefitting women and a third towards youth-led or projects where youth are the primary beneficiary. 23 projects have benefited small-scale artisanal fisheries.</p> <p>Country context: Countries with sovereign debt held bilaterally and not at imminent risk of default are likely the most conducive to debt for climate swaps, to ease negotiations and as they still require repayment into a trust. In addition, high-level political support and whole-of-government support from the debtor's government is needed.</p>
<p>Liquidity instruments: Grant or debt facilities designed to provide immediate access to capital; typically established to help governments, businesses, or individuals cover their immediate needs in the wake of a major event.</p>	<p>Example (application in the agriculture sector): Cash transfer programs provide unconditional cash transfers to poor and vulnerable households. Research suggests that these programs have significant climate resilience benefits and that households receiving cash transfers suffered much less from weather shocks, their food security increased, and poorest households saw the biggest gains.²⁷ These programs are especially critical in countries with a high proportion of the labor force in the agriculture sector.</p> <p>For example, Mozambique suffered from severe droughts in 2015–16, which negatively impacted agricultural yields in 2017–18. Cyclones Idai and Kenneth in 2019 exacerbated the crisis faced by farmers, leaving nearly 3% of the population at risk of severe food insecurity. In response to these crises, the World Food Programme, with funding from DFID, developed a program to supply the affected population with either cash or food vouchers to allow them to obtain food for themselves and their households.</p> <p>Country context: Access to climate data relevant to vulnerable populations and geographic areas in order to target assistance most effectively is needed. In the case of Mozambique this was done by using other indicators of social and economic vulnerability as proxies for food insecurity. In addition, a reliable mechanism for distributing funds, either through physical networks (such as local banks or community organizations), or mobile payments systems, is needed.</p>
<p>Insurance: Most common form of risk transfer and captures catastrophe bonds, parametric insurance, index insurance, and risk pooling.</p>	<p>Example (application in the agriculture sector): The African Risk Capacity (ARC) is a sovereign risk pool and early response mechanism designed to provide insurance to countries in the event of a contingency. ARC's mission is to help members of the African Union to protect the food security of their vulnerable populations. As an insurance risk pool, ARC's objective is to capitalize on the natural diversification of weather risk across Africa, allowing countries to manage their risk as a group in a financially efficient manner to respond to probable but uncertain risks.</p> <p>Country context: To participate in ARC, countries must undertake several processes, including customizing the Africa RiskView (ARV) software, signing MOUs for in-country capacity building, defining a contingency plan for ARC payouts, and determining risk transfer parameters. ARC currently offers maximum coverage of \$30 million per country per season for drought events that occur with a frequency of 1 in 5 years or less. 34 African Union member states are a part of ARC in 2020, 24 have active MOUs, 13 are Class A Members who have purchased the policy, and 7 countries have received payouts. Since 2014, ARC Ltd has collected over \$100 million in premiums, provided \$720 million of insurance coverage, and paid a total of \$65 million in payouts, mainly in the agriculture sector that has financed efforts including scale-up on cash transfers and replenishment of strategic grain reserves in Malawi in 2017 and response to severe drought in Mauritania in 2018 and in Madagascar in 2020.</p>

In sum, African countries are among the most at risk of increasing frequency and severity of climate-related shocks and stressors. There is a pressing need to invest in climate change adaptation to support individuals, SMEs, municipalities, corporations, financial actors, and governments in building resilience to climate impacts.

To date, climate adaptation finance is scaling far too slowly to build climate resilience, even as the costs of climate impacts rise.

To mobilize the levels of investment needed and to increase the resilience impact of these investments, a wider variety of sources of finance must be tapped. A three-pronged strategy is needed to tap the wide range of potential actors: 1) mainstream resilience in investment decision-making, 2) build the enabling environment for adaptation investment, and 3) aggressively deploy innovative finance instruments at scale towards adaptation activities. Action taken now across the full range of potential adaptation finance sources will be critical to determining the course of Africa's capacity to respond to present and oncoming climate impacts and to building a more climate-resilient and livable future.



There are two things that motivate business: risks or opportunities. A mandatory Task Force on Climate-Related Financial Disclosures (TCFD) with a focus on adaptation as well as an opportunity agenda will mobilize business."

Peter Bakker, President and Chief Executive Officer, WBCSD



Africa Adaptation Acceleration Program



Photo: gohero/iStock

The Africa Adaptation Acceleration Program (AAAP) was jointly launched by the GCA and the African Development Bank (AfDB) at the Climate Adaptation Summit in January 2021. AAAP is aligned with the vision of the Africa Adaptation Initiative (AAI), which was initiated by African Heads of State in 2015 to ensure that the continent urgently adapts to the adverse effects of climate change. AAAP will contribute to this goal of scaling up and accelerating adaptation in Africa and aims to leverage US\$ 25 billion by 2025.

Pillars of the AAAP

A broad range of stakeholders – including African leaders, institutions, and multiple development partners – were consulted on the design of AAAP. Based on their inputs, and on the priorities and needs identified in Nationally Determined Contributions, National Adaptation Plans, the Africa Adaptation Initiative (AAI), and the Initiative for the Adaptation of African Agriculture, four key pillars were identified: climate smart digital technologies for agriculture

and food security; Africa Infrastructure Resilience Accelerator; empowering youth for entrepreneurship and job creation in climate adaptation and resilience; and innovative finance initiatives. A brief description of the four pillars of the AAAP follows.

Climate smart digital technologies for agriculture and food security

More than 60 percent of the population of Sub-Saharan Africa is employed in smallholder farming.²⁸ At the same time, 51 percent of the population is food insecure, and over 256 million people are malnourished.²⁹ Agriculture and food security are therefore critical sectors in Africa, with considerable potential to contribute to the achievement of several Sustainable Development Goals (SDGs). However, agriculture is also one of Africa's most vulnerable sectors when it comes to climate change, with agricultural yield reductions of over 50 percent predicted in some regions by 2050.³⁰

Digital technologies can help smallholder farmers to adapt better and contribute to overall food security by increasing yields by 40-70 percent. This pillar of AAAP therefore seeks to scale up the uptake of climate-smart digital technologies and associated data-driven agricultural and financial services for at

least 30 million farmers in Africa, particularly women, by 2025. This is expected to:

- Increase food security in 26 least developed countries
- Reduce malnutrition for ten million people
- Increase the agricultural yield of farmers participating in the activities under this pillar by about 40 percent
- Significantly increase smallholder incomes

A microinsurance blueprint and a digital platform for adaptation in agriculture will also be developed.

Africa Infrastructure Resilience Accelerator

The Africa Infrastructure Resilience Accelerator (AIRA) aims to scale up investment for climate-resilient infrastructure and close the infrastructure gap in Africa, to help achieve the SDGs despite climate change. Under AIRA:

- The National Resilient Infrastructure Program will help 16 countries in Africa to strengthen their enabling environment and increase financial flows to make infrastructure investments
- The City Climate Adaptation Accelerator will assist 32 cities in 16 countries in Africa to develop sectoral infrastructure adaptation plans, to guide future investments
- The Build Smart Project Preparation Facility for Water will mobilize about US\$ 7 billion worth of investments
- Influence at least US\$ 30 billion worth of infrastructure investments in the water sector for adaptation and resilience
- Nature-based Solutions will be promoted for new and existing infrastructure, to promote resilience, socioeconomic growth and green jobs

Empowering Youth for Entrepreneurship and Job Creation in Climate Adaptation and Resilience

Africa's burgeoning youth population, the youngest in the world with an average age of 19.7, is expected to double by 2050. It is predicted, however, that 50 percent will be unemployed, discouraged, or economically inactive by 2025.³¹ This pillar aims to unlock the untapped potential of youth in Africa to drive resilience through their innovativeness, energy,

and entrepreneurship. It aims to promote sustainable job creation at scale by 2025, by promoting youth entrepreneurship and innovation for action on climate adaptation and resilience in Africa. Specifically, the pillar will support:

- Legal, policy, and regulatory reforms to remove structural barriers that prevent youth participation in businesses and jobs related to adaptation
- 10,000 youth-led micro, small, and medium-sized enterprises on adaptation
- Enhanced skills for one million youth in jobs related to adaptation and resilience
- Unlocking of US\$ 3 billion in business opportunities for adaptation action by innovative youth-owned enterprises, 50 percent of which will be led by women

Innovative Finance Initiatives

Africa received 4 percent of global climate finance in 2017-2018, of which only US\$ 3.5 billion was for adaptation. While the current estimated annual needs for adaptation in Africa range US\$ 7-15 billion, these are expected to rise to US\$ 50 billion by 2040.³² This pillar aims to increase financial flows for adaptation to Africa by US\$ 12.5 billion by 2025, to complement the US\$ 12.5 billion commitment of the AfDB. Specific activities will include:

- A Technical Assistance Program (TAP) to help eight countries access adaptation funds for projects related to the other AAAP pillars.
- Support to three countries in Africa to develop new tools such as green bonds and debt for resilience swaps.
- Support to strengthen the capacity of national finance ministries, central banks, and financial institutions in eight countries to identify, manage, and disclose climate-related risk, and to integrate climate risks in macroeconomic and risk modelling.

An AAAP Investment Facility is also being established to mobilize resources from innovative public and private sources to finance the AAAP.