Sustainable Development Goals

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KEY MESSAGES

- **A climate risk-blind pursuit of the Sustainable Development Goals (SDGs) can exacerbate climate-related impacts in Africa**, whereas an integrated approach to achieve the SDGs and build climate resilience at the same time can significantly reduce systemic vulnerability, optimize the use of resources, and enable transformational adaptation.
- **The current adaptation ambition of Nationally Determined Contributions (NDCs) in Africa may not be sufficient.** African NDCs should strengthen SDG-related adaptation action, in particular action related to SDG 3 (health); SDG 4 (quality education); SDG 5 (gender equality); SDG 9 (infrastructure); SDG 10 (reducing inequalities); and SDG 11 (sustainable cities). Measures that target national vulnerabilities, build the resilience of human systems, and deliver multiple SDGs should be prioritized to synergize efforts and optimize the use of resources.
- **Single climate disaster events can negatively impact multiple SDGs** through, for instance, loss of life, increase in malnutrition and disease, and the destruction of water sources, arable land, infrastructure, and the natural environment. The only way to stop this cycle of negative synergies is to accelerate effective action to achieve the SDGs and adapt to climate change.
- **Unlike adaptation, the SDGs are supported by a robust set of indicators and targets to measure progress.** Identifying the links between the SDGs and adaptation can therefore help track progress on adaptation, and to identify gaps.

> **We need massively scaled-up investment in adaptation and resilience. This is absolutely critical for those at the frontlines of the climate crisis. Yet, only 21% of climate finance is channelled to adaptation efforts. (...) We have a moral imperative to close this gap."**
>
> **Amina Mohammed, Deputy Secretary-General of the United Nations**

INTRODUCTION

In 2015, two major international agendas were agreed: the Paris Agreement and the 2030 Agenda for Sustainable Development. The adaptation component of the Paris Agreement focuses on building adaptive capacity, reducing vulnerability to climate change, and enhancing resilience.[1] The 2030 Agenda seeks to advance social, economic, and environmental dimensions of development through 17 Sustainable Development Goals (SDGs).[2] Despite apparent differences in primary objectives, the two agendas overlap considerably. There are significant opportunities for catalytic synergies and linkages between the two—along with the significant danger that lack of progress in one could heavily compromise progress in the other.

The GCA analysis presented in this chapter explores these synergies and linkages between efforts to adapt and build resilience to climate change in Africa, and to achieve the SDGs. It then identifies opportunities to strengthen links between strategies, plans, and actions to achieve the SDGs and the Nationally Determined Contributions (NDCs); explores the multiple negative impacts of climate disasters on SDGs; and finally offers some recommendations for the way forward.

LINKAGES BETWEEN CLIMATE ADAPTATION AND SDGS

Sustainable development and climate change adaptation are inextricably intertwined. Climate change can undermine sustainable development efforts without adequate adaptation responses to support food security, poverty alleviation, human health, and other determinants of sustainable development for Africa. Adaptation and resilience actions, meanwhile, can lower the impacts of climate change and variability, and help deliver sustainable development.[3] Similarly, robust sustainable development measures can help build adaptive capacity and reduce vulnerabilities.[4] The Intergovernmental Panel on Climate Change (IPCC) finds that sustainable development can enable transformative adaptation when an integrated approach is taken, social inequalities are addressed, and multiscale planning considers wider socioeconomic barriers to enable effective local participation and promote livelihood security.[5]

The sustainable development, adaptation, and resilience-building agendas are therefore mutually reinforcing, and their convergence presents a significant opportunity to deliver mutual benefits.[6] Despite this opportunity for alignment, only 13 SDG targets and 21 indicators (eight percent) of the 169 targets and 232 indicators include an explicit reference to adaptation and resilience (mentioning adaptive capacity, vulnerability, hazards, exposure, and/or resilience), as shown in Box 1. A further 27 SDG targets that contribute to resilience and adaptive capacity for disaster risks, and enable inclusion and accessibility through good governance, have been identified by the UN Office for Disaster Risk Reduction (UNDRR).[7] Other SDG targets may also be relevant to climate change adaptation,[8] depending on the underlying vulnerability contexts.[9]

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> **Scaling up resources to support adaptation for the most vulnerable is particularly important and yet, while climate finance will be key, our recent analysis shows that only 21% of flows to developing countries were going to climate adaptation."**
>
> **Mathias Cormann, Secretary-General, Organisation for Economic Co-operation and Development**
> High-Level Dialogue "An adaptation acceleration imperative for COP26", September, 2021

Box 1: Explicit references to adaptation and resilience in SDG targets

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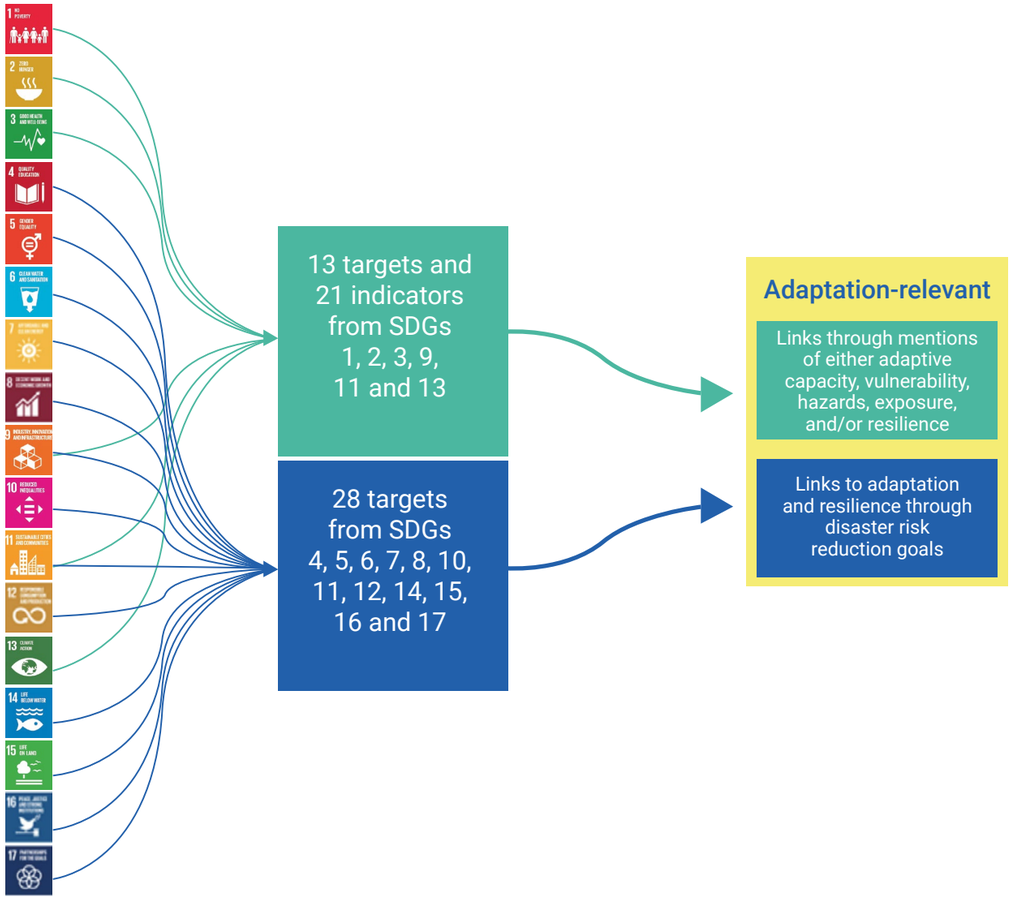
- **SDG 1 (no poverty), target 1.5:** By 2030, reduce by at least half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.
- **SDG 2 (zero hunger), target 2.4:** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters, and that progressively improve land and soil quality.
- **SDG 3 (good health and well-being) target 3.d:** Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.
- **SDG 9 (industry, innovation, and infrastructure) target 9.1:** Develop quality, reliable, sustainable, and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. **9.a** specifically mentions Africa: Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological, and technical support to African countries, least developed countries (LDCs), landlocked developing countries, and small island developing States (SIDS).
- **SDG 11 (sustainable cities and communities) target 11.5:** By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations. **11.b** calls, by 2020, for substantially increasing the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters; and developing and implementing, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels. **11.c** calls to support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.
- **SDG 13 (climate action) target 13.1:** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. **13.2** calls for integration of climate change measures into national policies, strategies, and planning. **13.3** calls for improved education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. **13.a** calls on developed country parties to the UN Framework Convention on Climate Change to meet their commitment to jointly mobilize US$ 100 billion annually by 2020 from all sources, to address the needs of developing countries. **13.b** calls for the promotion of mechanisms for raising capacity for effective climate change-related planning and management in LDCs and SIDS, including focusing on women, youth, and local and marginalized communities.

Failure to integrate the adaptation and resilience agenda into sustainable development action will therefore substantially hinder progress towards the SDGs, especially for developing countries.[10] Parallel agendas can increase the risks of negative outcomes (maladaptation) to additional target groups and actors (rebounding vulnerability); compromise the ability of other groups to respond to climate change (shifting vulnerability); and result in failure of or constraints on sustainable development.[11] An example is shown in Box 2.

Figure 1: Connections between SDGs and adaptation*



*Other SDG targets may be adaptation-relevant when applied in an adaptation and resilience context

Box 2: Siloed approaches can lead to maladaptation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The case of the Sebou-Saïss basin in northern Morocco illustrates how siloed decisions to cope with climate variability can deliver short-term positive outcomes for one SDG (in this case, SDG 2 on zero hunger), but can also have long-term negative impacts on other SDGs (SDG 6, on water and sanitation, and potentially, through the loss of livelihood, on SDG 1, SDG 2, and others).

The Saïss Plain is home to 1.8 million people. It faces chronic water scarcity due to a combination of reduced and unpredictable rainfall due to climate change.[12] Groundwater has helped the population deal with climate impacts in the short term and enlarge agricultural production and food safety (linked to SDG2). However, the Saïss aquifer faces significant pressures, and it is expected to deplete in 25 years if current unsustainable water abstraction practices continue. The significant reductions in precipitation and surface runoff predicted by most climate change models will make the situation worse. A collapse of the groundwater aquifer will result in the collapse of agricultural production and of rural livelihoods in a country where 40 percent of the population—particularly the poor—rely on the agricultural sector for jobs (hence affecting SDGs 1 and 2). It will also affect drinking water sources (SDG 6).[13]

In 2017, the US$ 203 million Saïss Water Conservation Project was initiated with grant and loan funding from the European Bank for Reconstruction and Development, the Green Climate Fund, and the government of Morocco. It aims to strengthen the adaptive capacity of the community through the adoption of efficient drip-irrigation techniques under a public-private partnership scheme. The project will also improve the efficiency of irrigation systems, prevent the depletion of the Saïss aquifer, and raise climate-resilience awareness. The project will finance infrastructure for a bulk water transfer scheme from the M'dez Dam to the Saïss Plain. It is expected to deliver climate-resilient irrigation services for more than 2,800 farms and increase irrigated agricultural land in the Saïss Plain from 18,450 hectares to 21,600 hectares.[14] The project demonstrates how an integrated approach can reduce the risks of maladaptation and maximize links between the SDGs.

The risk-blind pursuit of SDGs can create and exacerbate climate-related risks and disasters in Africa.[15] For example, pursuing SDG 2 (zero hunger) targets without consideration of disaster risk or climate change impact projections may result in agricultural, husbandry, fishery, and forestry policies and practices that degrade ecosystems, exacerbate existing risks, or introduce new hazards. Social protection programs (SDG 1, target 1.3) that do not consider climate risks and potential climate disasters in their design could potentially hinder progress and push vulnerable communities back into poverty, creating a two-step-forward, one-step-back scenario in Africa.[16] Healthcare facilities (SDG 3) may deteriorate or collapse when exposed to climate hazards if they are not designed and built for resilience. Risk-blind urbanization, industrialization, and construction (SDG 9 and 11) can all have detrimental effects on water quality, watercourses, and ecosystems such as wetlands silting up, deforestation, and polluting incidents.[17]

It is therefore critical that climate considerations are integrated into the design and implementation of actions delivering SDGs targets. Failure to do so may create or exacerbate climate-related impacts and hazards and perpetuate existing systemic patterns of disaster risk that hinder progress in achieving the SDGs.[18]

Measures such as improving climate and disaster risk information systems and services, strengthening risk governance, and awareness-raising can enable decision-makers to make risk-informed decisions. This, in turn, enables the effective implementation of impactful risk management activities such as risk-proofing the built environment; risk transfer mechanisms such as climate- and shock-responsive scalable social safety nets; and nature-based solutions, such as the protection and restoration of seagrasses, sand dunes, and mangroves. Establishing inclusive multi-sectoral and multi-hazard rapid early warning systems and effective dissemination structures builds anticipatory capacities at multiple levels, and contributes to effective emergency preparedness, response, and recovery mechanisms.[19] Measures need to be context-specific and focused to optimize the use of resources and deliver across agendas.

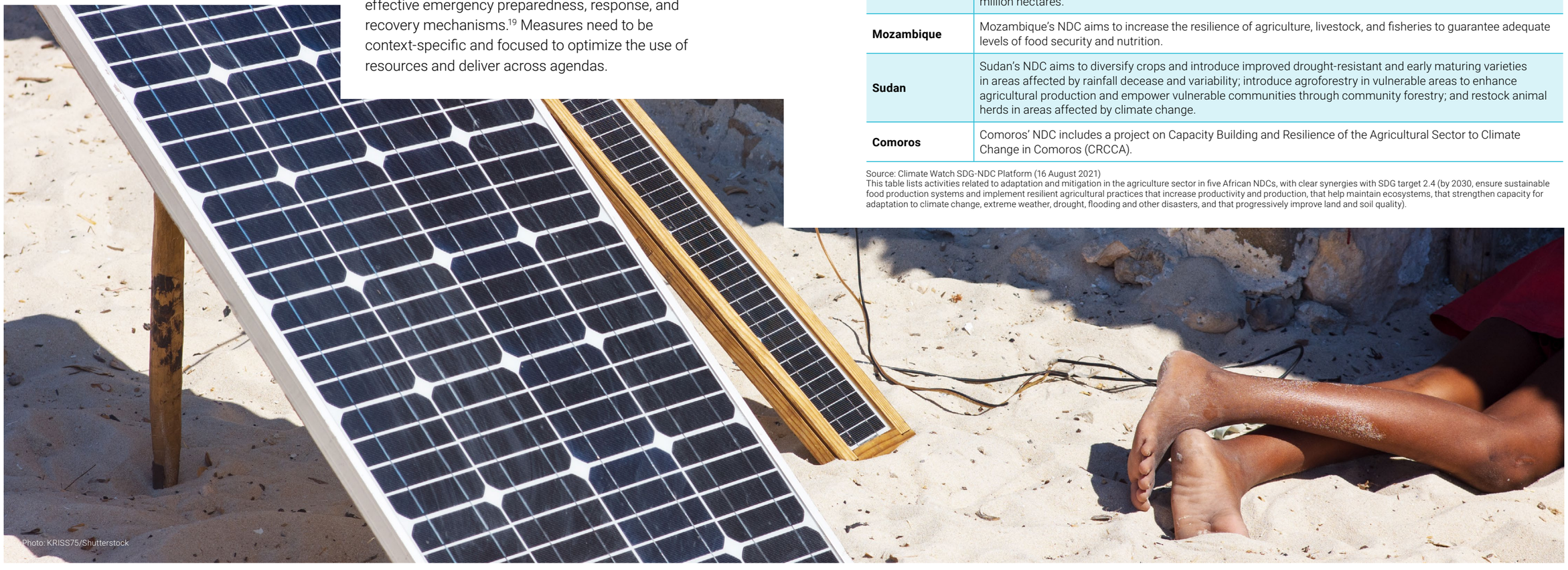
SYNERGIES BETWEEN SDGS AND NDCS

This GCA analysis explored the potential synergies and linkages between SDGs and the strategies, plans, legislation, projects, and actions included in African NDCs to address climate vulnerabilities.[20] While these synergies and linkages can be a key element for creating an enabling environment for climate-resilient sustainable development, many of them have not yet been considered by several countries. This is an area for improvement of NDC effectiveness. Moreover, unlike adaptation, the SDGs are supported by a robust set of indicators and targets to measure progress. Identifying the links between the SDGs and adaptation can therefore help track progress on adaptation, and to identify gaps. Table 1 shows examples from African NDCs that illustrates the strong synergies with SDGs.

Table 1: Examples of potential synergies between NDCs and SDGs

Country	NDC actions that contribute to SDG 2.4
Niger	Niger's intended NDC aims to restore 1,030,000 hectares (ha) of agricultural, forest and grazing land; assist natural regeneration in 1,100,000 ha of land; conduct dune fixation activities in 550,000 ha of land; manage 2,220,000 ha of natural forests; promote 75,000 ha of private forestry; and plant 145,000 kilometers of hedgerows, 750,000 ha of multi-use species, and 125,000 ha of Moringa oleifera, in addition to seeding of 304,500 ha of roadways. Such sustainable land management practices can contribute not only to adaptation and mitigation, but also to SDG 2.4.
Morocco	Morocco's NDC includes several activities related to irrigation, including switching from current irrigation systems to localized irrigation systems over 550,000 ha; developing public-private partnerships to irrigate 15,000 ha with desalinated water; irrigate over 3,200 ha in the coastal Azemmour-Bir Jdid area; build hydro-agricultural infrastructure over 160,000 ha around dams; and offer climate-risk insurance for cereals and legumes over a million hectares.
Mozambique	Mozambique's NDC aims to increase the resilience of agriculture, livestock, and fisheries to guarantee adequate levels of food security and nutrition.
Sudan	Sudan's NDC aims to diversify crops and introduce improved drought-resistant and early maturing varieties in areas affected by rainfall decease and variability; introduce agroforestry in vulnerable areas to enhance agricultural production and empower vulnerable communities through community forestry; and restock animal herds in areas affected by climate change.
Comoros	Comoros' NDC includes a project on Capacity Building and Resilience of the Agricultural Sector to Climate Change in Comoros (CRCCA).

Source: Climate Watch SDG-NDC Platform (16 August 2021)
This table lists activities related to adaptation and mitigation in the agriculture sector in five African NDCs, with clear synergies with SDG target 2.4 (by 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality).



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As of the time of this report's publication, out of 55 African countries, 53 have submitted NDCs, and seven have already submitted an updated version (Kenya, Rwanda, Ethiopia, Zambia, Cabo Verde, Angola, and Morocco). Most NDCs describe plans for adaptation and resilience. Few, like Rwanda, explicitly identify synergies with other agendas like the SDGs to optimize the use of available resources; identify a monitoring framework to measure progress; and identify gaps in finance and external funding and capacity building needs. Table 2 shows the climate-vulnerable sectors identified in African NDCs, based on a GCA analysis.

Table 2: Climate-vulnerable sectors identified in NDCs by African countries

		Vulnerable sectors identified (number of countries)							
Sub-region	Total countries	Water	Food and Agriculture	Health and well-being	Biodiversity and ecosystems	Infrastructure and transport	Human settlements	Education	Highly vulnerable groups
Central Africa	9	7	9	7	8	4	7	2	6
Eastern Africa	14	14	14	12	12	8	10	0	10
Northern Africa	5	5	5	4	5	2	5	0	1
Southern Africa	10	10	10	9	9	5	8	1	7
Western Africa	15	14	15	10	11	6	13	1	10

Color code for Table 2, indicating percentage of countries that mention a specific vulnerability

100% | ≥75% | ≥50% | ≤50% | 0

Source: Nature-based Solutions Policy Platform, University of Oxford


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Agriculture, water, and biodiversity—the focus of SDGs 2, 6, 14, and 15—are also identified as key vulnerable sectors in the African NDCs and targeted through policies and strategies that will impact the achievement of the SDGs. For instance, agriculture is covered in 94 percent of the African NDCs, with actions geared towards the implementation of climate-resilient agriculture (target 2.4). Water is addressed in 70 percent of African NDCs, with efforts focused on increasing water-use efficiency and ensuring sustainable withdrawals of freshwater (target 6.4). Biodiversity and ecosystems are addressed in 88 percent of the African NDCs, with responses aimed at increasing afforestation and reforestation (target 15.2). In all these three sectors, trends indicate that SDG targets are not on the path to being achieved, and more action is needed.

Further synergies are also necessary between the three sectors. For instance, agriculture is one of the major contributors to land-use change, land degradation, and desertification; and it accounts for 70 percent of water withdrawals.[21] In the short term, targeted actions towards ensuring the conservation, restoration, and sustainable use of terrestrial and inland freshwater ecosystems and their services (target 15.1) in the NDCs can deliver positive outcomes across all three sectors.[22] In the middle- and long-term, the promotion of sustainable agriculture techniques and technology through policies and plans that enable crop rotation, efficient irrigation, agroforestry, and seed and plant diversity can improve soil and water quality, ecosystem functions, and crop resilience to pests (SDGs 2, 6, 13, and 15).

Additionally, considering that there are an estimated 33 million smallholder farms in Africa, enhancing the adaptive capacity of smallholder farmers through adaptive strategies is essential.[23] The capacity of smallholder farmers to cope with climate change can be improved by providing them with mechanisms that protect and empower them, including climate risk insurance, safety nets, ex-ante access to resources, digital services, and economic resources. These responses can also help deliver results across multiple SDGs, including SDGs 1, 2, and 13.

The vulnerability of human settlements is mentioned in 81 percent of the African NDCs, with responses targeting the enhancement of inclusive and sustainable urbanization, and the capacity for participatory, integrated, and sustainable human settlement planning and management (target 11.3).

While 79 percent of the African NDCs mention the vulnerability of the health sector, only 57 percent address it through strengthening the capacity for early warning, risk reduction, and management of national health risks (target 3.d).

Only 45 percent of the African NDCs refer to building the resilience of the poor and those in vulnerable situations and reducing their exposure and vulnerability to climate-related extreme events and other economic, social, and environmental shocks and disasters (target 1.5). Progress on the adaptation-relevant SDGs (SDGs 3, 5, and 11) is static, with only some countries on track to achieve SDG 1 before the COVID-19 pandemic.[24]

Given that 60 percent of the urban population live in slums in Africa and that the urban population is


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projected to double by 2050,[25] more effort is needed to build the resilience of highly vulnerable groups. In the short term, the NDCs need to place greater emphasis on SDG targets that relate to ensuring the participation of women in decision-making (target 5.5); sustaining income growth for the bottom 40 percent (target 10.1); financial measures for greater equality (target 10.4); affordable housing and upgrading slums (target 11.1); and raising capacity for effective planning (target 13.b). In the middle- to long-term, improving access to adequate housing to reduce sensitivity and exposure to climate change, communicable diseases, and hazardous substances will deliver benefits across SDGs (particularly SDGs 1, 3, 11, and 13) and adaptation. Urban and rural social protection programs can enhance the adaptive capacity of vulnerable groups and lift them out of poverty, delivering benefits for SDGs 1, 2, 10, 11, and 13. Strengthening early warning systems for climate-related urban and agricultural risks can prevent deaths and minimize losses, also benefiting SDGs 1, 3, 11, and 13.

Education and infrastructure are not often mentioned as vulnerabilities in African NDCs, but they are both important crosscutting topics. While education, awareness-raising, and capacity building are key components for mainstreaming adaptation into planning and implementation, the impacts of climate disasters on infrastructure can seriously hamper progress on sustainable development by disrupting access to basic services and causing economic and social losses. Short- and middle-term actions require

targeted responses to enhance policies, strategies, and legislation that address these two challenges at multiple government levels, with more robust integration in the NDCs. In the long-term, climate change should be included in school curricula; and the inclusion of nature-based solutions for infrastructure can serve as a low-cost option that brings environmental, economic, and social benefits to multiple stakeholders.[26]

Based on an analysis conducted by GCA, Table 3 shows the number of countries for each sub-region in African NDCs that identify specific climate vulnerabilities related to various SDGs.

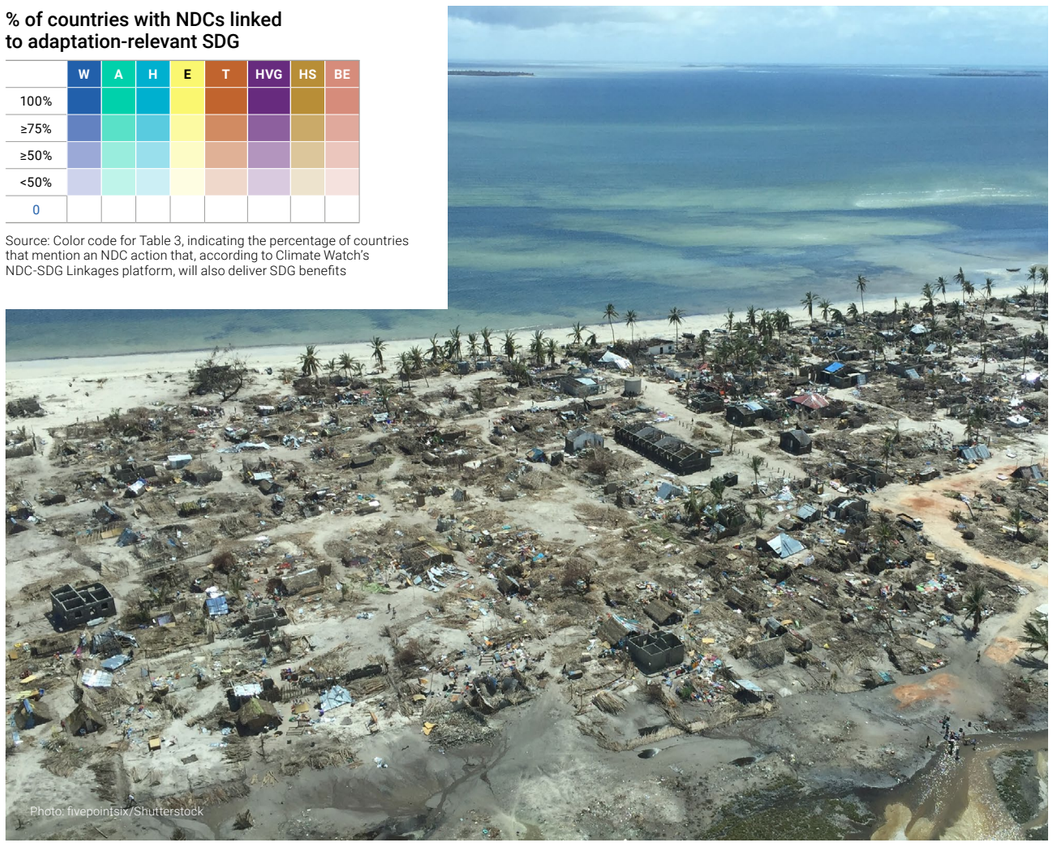
Table 3: Number of countries with climate vulnerabilities that are related to SDGs identified in NDCs

Region	Total countries	NDC Vulnerabilities	Water				Agriculture	Health	Education			Transport and Infrastructure		Highly Vulnerable groups							Human Settlements			Biodiversity and Ecosystems						
		SDGs																											
		SDG Targets	6.4	6.5	6.6	15.1	2.4	3.d	4.7	4.a	13.3	9.1	9.a	1.5	5.5	10.1	10.4	11.1	11.5	13.b	11.1	11.3	11.b	2.4	6.6	14.2	15.1	15.2	15.3	15.4
Central Africa	9		2	4	2	3	8	3	4	0	8	4	0	3	0	0	0	0	1	1	0	1	0	8	2	6	3	8	4	0
Eastern Africa	14		11	11	7	9	14	12	6	0	13	11	0	9	2	1	1	1	1	1	1	6	7	14	7	8	9	13	9	2
Northern Africa	5		4	3	4	2	4	3	2	0	5	4	0	3	0	0	0	0	1	0	0	0	0	4	4	3	3	4	4	0
Southern Africa	10		9	5	5	5	9	5	2	1	10	5	0	4	1	0	0	0	1	1	0	3	2	9	5	3	5	8	6	1
Western Africa	15		11	6	7	3	15	7	5	0	14	9	0	5	3	0	0	2	0	1	2	2	1	15	7	13	3	14	10	0

% of countries with NDCs linked to adaptation-relevant SDG

	W	A	H	E	T	HVG	HS	BE
100%								
≥75%								
≥50%								
<50%								
0								

Source: Color code for Table 3, indicating the percentage of countries that mention an NDC action that, according to Climate Watch's NDC-SDG Linkages platform, will also deliver SDG benefits



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MULTIPLE IMPACTS OF DISASTERS ON SDGS

Climate disasters like droughts, floods, hurricanes, and cyclones have multi-dimensional impacts, affecting several SDG indicators at the same time. This section presents the GCA analysis of seven recent climate-related disasters in Africa related to water scarcity (drought), and excess water (floods and cyclones).

Cyclone Idai in Zimbabwe

Strong winds, heavy rains, overflowing rivers, and storm surges caused by Cyclone Idai affected millions of people across Mozambique, Zimbabwe, Malawi, and Madagascar in 2019. Coinciding with the annual harvest season, Idai destroyed 1.4 million hectares of arable land in Zimbabwe alone, affecting 50,000 farming households and causing losses and damages worth US$ 311 million to the agricultural sector (SDG 2, target 2.4).[27] Rural provinces in the country were worst affected, with schools shut down due to the complete or partial destruction of buildings and property, including teaching materials and damage to sanitary facilities (SDG 4, targets 4.7 and 4.a). Flooding devastated urban and rural infrastructure in the country, destroying 18,000 houses, and causing over US$ 205 million in damages. Significant environmental damage was also caused: 1.17 million hectares of forests were destroyed in Zimbabwe, including over 100,000 hectares within protected areas, causing US$ 37.4 million in losses and damages (SDG 15, targets 15.1, 15.2, 15.3, and 15.4). In neighboring Mozambique, the destruction of 240,000 houses resulted in damages worth over US$ 410 million (SDG 11, targets 11.1, 11.3, and 11.b).

Flooding in Mozambique

In 2015, heavy rains hit central and north Mozambique, exposing the Zambezi, Licungo, and Shire River basins to flooding that resulted in water pollution and salinization and destroyed irrigation systems (SDG 6, targets 6.4, 6.5, and 6.6). The destruction of schools, which were not built to withstand the flooding, impacted education. Proximity to riverbeds and the lack of levee protection, drainage ditches, or high foundations resulted in damage to other buildings (SDG 4, targets 4.7, and 4.a). The disaster caused damages worth 2.4 percent of Mozambique's GDP, exacerbating the country's upward debt trajectory.[28]

Drought in Somalia

In Somalia, the drought in 2016/2017 caused US$ 1.5 billion in economic losses to the agricultural sector, pushing a further 50 percent of the population into food insecurity, while eroding around 93,000 tons of topsoil (SDG 2, target 2.4). The drought caused large-scale malnutrition, mass displacement, and the outbreak of diseases like diarrhea, cholera, measles, and malaria (SDG 3, target 3.d). During the drought period, an average of around 18 percent of the total national landmass with natural standing vegetation was lost, costing US$ 1.18 billion in environmental damages (SDG 15, target 15.1). It is important to note that the SDG indicators do not fully capture the impacts of the drought. The health consequences of drought build up over time and can be indirect; and the overall impacts of drought are exacerbated by the wider socioeconomic and political context around political instability and poverty.

Floods and landslide in Sierra Leone

In 2017, a landslide exacerbated existing flooding in Western Area Rural and Western Area Urban of Sierra Leone, leaving 1,141 people dead or missing, 6,000 people directly affected, and economic losses worth US$ 31.65 million (SDG 1, target 1.5). Sierra Leone is one of the poorest and most vulnerable countries in Sub-Saharan Africa, ranking 179th out of 188 countries in the 2016 UN Human Development Index,[29] and 157th out of 182 countries in climate vulnerability as per the latest ND-GAIN index.[30] The disaster exacerbated existing inequalities, with an aggregate impact that is much higher than official figures suggest. The flooding had a devastating environmental impact, particularly in the 17,000-hectare Western Area Peninsula National Park which holds approximately 85 percent of the country's biodiversity (SDG 15, target 15.1).

Floods in Malawi

The highest amount of rainfall in Malawi was recorded in 2015, causing significant flooding in the southern part of the country and triggering a state of disaster for 15 districts. The floods destroyed over 7,000 hectares of forest, over 1,000 beehives, and large areas of fertile land (SDG 15, target 15.1). Although trees and wetlands absorbed much of the damage, illustrating the adaptation benefits of ecosystem services,[31] 10 percent of the railway track in the country was damaged, along with 185

bridges and 1,220 kilometers of road (SDG 11, target 11.2). 461 of the country's 2,662 predominantly rural public schools were impacted. A further 222 schools were converted into camps for displaced people, and consequently suffered damage to property, playgrounds, and sanitary facilities (SDG 4, target 4.7). Overall, the floods triggered a loss in GDP growth of 0.55 percent (SDG 8, target 8.3).

Cyclone Fantala in Seychelles

In 2016, the Farquhar Atoll in the Seychelles was hit by Tropical Cyclone Fantala, damaging most of the infrastructure and 95 percent of the coconut groves in the area (SDG 2, target 2.4). The strongest tropical cyclone ever recorded in the Indian Ocean basin, Fantala caused damages worth US$ 7.5 million (SDG 8, target 8.1). Of this, around 30 percent was sustained by the government sector, and about 40 percent by the environment (SDG 15, target 15.1), a public asset. The impacts of the disaster will continue to accumulate over time: agricultural losses will accrue during the seven years that it will take to replace the coconut groves; and tourism, fishing, and agricultural productivity will only resume once the infrastructure assets have been replaced. The losses to Farquhar Atoll's unique ecosystems cannot be accounted for.

This GCA analysis of the most important recent climate disasters in Africa illustrates how they slow progress towards achieving SDGs, and the multi-dimensional impacts they cause. There is an opportunity to better integrate the SDG framework in post-disaster assessments to map impacts across different socioeconomic systems.

Climate disasters can reverse the progress achieved in SDG indicators at the sub-national level, and even at the national level for small countries. Mainstreaming adaptation and enhancing the resilience of SDG investments can reduce the impact and avoid such reversals. The achievement of the 2030 targets will depend on how well the SDG plans incorporate climate change and adaptation in their design and execution.

Table 4: Multi-dimensional impact of disasters on SDG targets and indicators in Africa

				SDG 1	SDG 2		SDG 4	SDG 8	SDG 11	SDG 15
				Target 1.5 / Target 11.5	Target 2.4		Target 4.7	Target 8.1	Target 11.5	Target 15.1
				Indicator 1.5.1/11.5.1: Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	Indicator 2.4.1: Proportion of agricultural area under productive and sustainable agriculture		"Indicator 4.a.1 Proportion of schools offering basic services, by type of services	Indicator 8.1.1: Annual growth rate of real GDP per capita	Indicator 1.5.2 / 11.5.2: Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters	Indicator 15.1.1: Forest area as a proportion of total land area
Country	Disaster (year)	Total national population (million)	Affected population in millions (percent)	Number of directly affected persons in millions (percentage of total national population) (percentage of population in affected area)	Number of farming households affected	Arable land destroyed	Number of schools affected	Decline in GDP (percentage, projected to real)	Number of houses destroyed	Environmental damage (US $)
Mozambique	**Hurricane Idai** (2019)	**27.91**	**13.5** (48%)	1.51 (5.4%) (11.2%)	433,056 (equivalent to 2.1 million people, 7.5% of total population, 15% of pop in affected provinces)	4,309 ha	1,372	4.7% to 2.5%	240,000	79.8 million
Zimbabwe	**Hurricane Idai** (2019)	**16.5**	**6.3** (44%)	0,27 (1.6%) (4.3%)	50,000	1.4 million ha	Not available	-2.1% to -3.6%	18,000	37.4 million
Sierra Leone	**Flood and Landslide** (2017)	**7.81**	**1.49** (19%)	0,006 (0.08%) (0.4%)	Not available	Not available	59	Not available	349	7,440
Somalia	**Drought** (2016-2017)	**12.3**	**12.3**	0,001 deaths	900,000	93,000 tonnes (topsoil erosion)	Not available	Not available	Not available	1.18 billion
Seychelles	**Cyclone Fantala** (2016)	**0.09**	Not available	Not available	Not available	95% of coconut groves	Not available	Not available	Not available	2.4 million
Malawi	**Flood** (2015)	**16.3**	**1.37** (8.4%)	1.1 (6.7%) (80%)	146,310 (10% of smallholder households)	89,110 ha	461	0.55% loss in growth	52,3347	Not available
Mozambique	**Flood** (2015)	**26.2**	**11.5**	0,16 (0.6%) (1.4%)	102,000	104,430 ha crops lost, 23,000 ha pastoral land flooded	Not available	Not available	30,000	Not available

Source: Adapted from GFDRR (2021). Post-Disaster Needs Assessments. Global Facility for Disaster Reduction and Recovery.

> **"There is a momentum as we recover from the Covid-19 pandemic: we need to mobilise to build back better and greener. This requires both political and financial determination and imagination."**
>
> **Per Olsson Fridh, Minister for International Development Cooperation, Sweden**
> Leader's Dialogue on the Africa Covid-Climate Emergency, April, 2021

CONCLUSIONS

Sustainable development is a key priority for African countries, given its prominence in Agenda 2063, Africa's blueprint for the future. So is adaptation and resilience-building, given the continent's extreme vulnerability to climate change. Unlike adaptation, however, the 2030 Sustainable Development Agenda and the SDGs are supported by a robust set of indicators and targets to measure progress. Identifying the links between the SDGs and adaptation can help track progress on adaptation, and to identify gaps. Both adaptation and the achievement of the SDGs will make the countries on the continent more resilient to the impacts of climate change.


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Africa Adaptation Partnerships

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While the challenges of climate change are expected to manifest in different ways across the African continent, to effectively mitigate and adapt to them will require a unified effort. The partnerships described below are working to develop such an overarching approach among national and local authorities and civil society organizations, thus strengthening the capacity of institutions at all levels of society to adapt.

Africa Adaptation Initiative[32]

Launched at the 21st UN Conference of Parties in 2015, the African Adaption Initiative (AAI) is an initiative of the African heads of state to adapt to the adverse effects of climate change. The initiative, with GCA acting as the lead coordinating partner, aims to enhance action on adaptation by addressing financing gaps and connecting regional partners to find solutions.

Through partnerships with institutions that are undertaking relevant work on the continent, the AAI is scaling up and replicating successful ongoing initiatives and developing proposals for new ones. This begins by coordinating with partners to support four AAI flagship programs: Climate Information Services, Advancing Risk Transfer in Africa, Lake Chad River Basin Early Warning System, and Knowledge Management Programme for Adaptation Planning in Africa. Two additional flagship programs – Adaptation of African Agriculture and African Climate Finance Forum – are also in the pipeline.

AUDA-NEPAD[33]

Established in 2010 as the New Partnership for Africa's Development (NEPAD), the NEPAD Planning and Coordination Agency was transformed into the African Union Development Agency (AUDA - NEPAD). The mandate of AUDA-NEPAD is to coordinate and execute priority regional and continental projects to promote regional integration towards the accelerated realization of Agenda 2063; and to strengthen the capacity of African Union (AU) member states and regional bodies, advance knowledge-based advisory support, mobilize the full range of available resources, and serve as the continent's technical interface with all of Africa's development stakeholders and partners.

The Agency implements its mandate through six thematic areas: economic integration; industrialization; environmental sustainability; technology, innovation and digitization; knowledge management; and human capital and institutions development. The AUDA-NEPAD provides innovative incubator programs and technical, implementation and capacity support to regional economic communities and member states, especially in key areas such as food and nutrition, energy, water, infrastructure, information and communication technology and digital economy, natural resource governance, climate change and institutional and human capital development and innovation.

It also offers advisory support and technical backstopping to the AU; monitoring and assessment of progress and development trends across Africa; promotion of research to inform policy development; facilitation of cooperation with stakeholders in the private sector and African academia, among other sectors; and improved coordination between AU specialized agencies, organs and other institutions to create an enabling and supportive environment to achieve the goals and priorities of Agenda 2063.

The AUDA-NEPAD leads several adaptation-relevant initiatives, such as the African Forest Landscape Restoration Initiative, Comprehensive Africa Agriculture Development Programme (CAADP), Climate Smart Agriculture, Climate Change Fund, etc. The Agency has impacted the lives of nearly 1.2 million women across 38 countries in areas such as business development, microfinance, agriculture, nutrition, and information and communication technologies; 47 countries have signed the CAADP Compact to increase public agricultural expenditure by more than 7 percent per year; regional integration has been strengthened through infrastructure (16,066 km of roads and 3,506 km of power transmission lines built); 85 million ha of degraded and deforested land have been designated for restoration; and 112,900 direct and 49,400 indirect jobs have been created through cross-border infrastructure projects.

African Risk Capacity[34]

African Risk Capacity (ARC) is a specialized agency of the African Union established to help African governments improve their capacity to plan, prepare for, and respond to extreme weather events and natural disasters. ARC works towards these objectives by providing access to customized early warning information for droughts through its Africa RiskView software, supporting governments as they prepare contingency plans to minimize the impacts of disasters, disbursing funding for pre-approved contingency plans to respond rapidly and predictably to disasters, and promoting innovative financing mechanisms (including risk pooling and transfer through African Risk Capacity Insurance Company Limited or ARC Ltd.).

ARC and ARC Ltd. have provided support to several African countries. For instance, in 2020, ARC Ltd. made parametric drought risk insurance payouts of $1.4 million to the Government of Zimbabwe and $290,288 to the UN World Food Programme (WFP) to support extensive drought response efforts in Zimbabwe. In 2018, ARC Ltd. disbursed $2.4 million to the Government of Mauritania in response to a progressively severe drought, with the funds going to subsidize livestock feed for pastoralists in the most affected areas. ARC also provides other capacity building and technical programs and services; e.g. its capacity building program, outbreaks and

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epidemics program, replica coverage program to mobilize humanitarian funds for complex risks, the Extreme Climate Facility to secure additional funding to respond to any increase in the frequency and magnitude of extreme events, and the pan-African flood model, a tropical cyclone risk model to inform parametric insurance measures.

Since its launch, ARC has assisted more than 2.1 million vulnerable people, disbursed more than $61 million in payouts for early responses and provided more than $600 million in drought risk coverage.

Least Developed Countries Universities Consortium on Climate Change[35]

The Least Developed Countries Universities Consortium on Climate Change (LUCCC) is a South-South, long-term capacity-building initiative involving universities in LDCs, with a focus on climate change adaptation, especially community-based adaptation. The main purpose of LUCCC is to help LDCs to build their own capacity to address climate change through research, knowledge sharing and education. The initiative was first conceived at the 22nd Session of the Conference of Parties to the United Nations Framework Convention on Climate Change in Marrakech in 2016 under the leadership of the International Centre for Climate Change and Development (ICCCAD) at Independent University, Bangladesh, and the Makerere University Center for Climate Change Research & Innovations (MUCCRI) in Uganda. Its objectives include:

- Fostering a South-South collaborative network for enhancing research capacity and expertise in climate change.
- Increasing opportunities for networking and enhancing the capacity of universities in the Global South to develop common research projects and implement teaching and training programs on various climate change topics.
- Promoting work with the most vulnerable countries and for the most vulnerable communities.
- Fostering two-way collaborative learning and capacity-building.
- Enabling LDC universities and research institutes to serve as repositories of knowledge and suppliers of capacity in efforts to enable national agencies to effectively implement community-based adaptation initiatives.

The LUCCC membership includes 15 universities, out of which 11 are in Africa (Ethiopia, Malawi, Rwanda, Sudan, Tanzania, Uganda, Burkina Faso, Liberia, The Gambia, Senegal and Mozambique).

United Cities and Local Governments of Africa[36]

Founded in 2005, the United Cities and Local Governments of Africa (UCLG Africa) is an umbrella organization that represents local governments in Africa. It was formed as a result of the unification of three continental groups of local governments; namely, the African Union of Local Authorities, the Union des Villes Africaines, and the Africa Chapter of the Unao dos Ciudades y Capitaes Lusofono Africana. UCLG Africa's mandate is to support the development of local governments to better serve their communities by improving living conditions and driving development from the grassroots. The programs and interventions of UCLG Africa broadly fall under three pillars: institutional capacity development to ensure representation of stakeholders and financial sustainability; advocacy and mobilization to bring together decision makers and facilitate action towards a more decentralized system of governance; and corporate learning and knowledge management to build the capacity of officers in local economic development and provide them with access to best practices and knowledge resources.


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One of the key initiatives of the UCLG Africa is the African Local Government Academy. The academy aims to invest in the human capital of African local governments, notably through the expansion of its network of anchor institutes in Africa and partners around the world, the promotion of quality standards in training and capacity building targeting the local level, designing trainings that respond to the needs and priorities of UCLG Africa members and networks, promotion of human resources at the local level and sharing knowledge, tools and methodologies. As of 2020, the initiative had reported more than 10,000 beneficiaries.[37]

Other programs implemented by UCLG Africa include: Africities and the Africities Summit, which aim to improve livelihoods and promote integration, peace and unity at the grassroots level; the Climate Change Task Force, which is committed to promoting multi-stakeholder initiatives and supporting local governments to access climate financing, particularly the Green Climate Fund; continental dialogues to enhance the role of African local authorities within the African Union; and the Pan-African Peer Review Facility to promote cooperation, learning and organizational improvement of local governments and their associations.

The membership of UCLG Africa includes more than 40 national associations of local governments and the municipal governments of 2,000 cities representing nearly 350 million African citizens.

Global Water Partnership Southern Africa[38]

Global Water Partnership Southern Africa (GWPSA) is one of the 13 regional networks that make up the Global Water Partnership (GWP), an international network created in 1996 to foster the implementation of integrated water resources management and the coordinated development and management of water, land, and related resources that maximize economic and social welfare without compromising the sustainability of ecosystems and the environment. The GWPSA offers practical support in sustainable management of water resources to 16 countries in the Southern African Development Community region. It manages activities and convenes stakeholders in this region and at a pan-African level to address issues that have an impact on water security. GWPSA hosts the coordination unit for all five GWP regions in Africa, known as the Africa Coordination Unit or ACU.

Together, the GWPSA and ACU support the development and implementation of the Continental Africa Water Investment Program (AIP) – a pan-African program to address bottlenecks in financing and transform water and sanitation investments. The AIP aims to mobilize $30 billion in investments by 2030, while creating 5 million direct and indirect jobs.[39] As of April 2020, the GWPSA had initiated implementation of the AIP in five pilot countries (Benin, Cameroon, Uganda, Tunisia and Zambia) across five transboundary basins (North-West Sahara Aquifer System, Volta Basin, Lake Chad Basin, Kagera/Lake Victoria Basin and Zambezi River Basin). The approach of the AIP includes: mobilizing high-level leadership to accelerate water investments, improving the enabling environment to fast-track finance and investment mobilization, addressing bottlenecks during project preparation, strengthening and promoting public-private partnerships, implementing gender-transformative approaches, and supporting regional and national water investment programs. In 2021, the AIP was adopted by the African Union as part of the Programme for Infrastructure Development in Africa (PIDA) Priority Action Plan.

GWPSA is working with representatives of the African Ministers' Council on Water (AMCOW), African Union Development Agency (AUDA-NEPAD), African Development Bank (AfDB) United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), Global Water Partnership (GWP), and GCA to convene an international high-level panel, which aims to drive global political mobilization and international engagement to narrow the water investment gap in Africa and enhance efforts to meet the social-economic needs of the continent, to reach the Sustainable Development Goals' water-related targets and to address the twin challenges of climate change and the COVID-19 pandemic.

Pan African Climate Justice Alliance[40]

The Pan African Climate Justice Alliance (PACJA) is a consortium of more than 1,000 organizations from 48 African countries that brings together a diverse membership drawn from grassroots, community-based, faith-based and non-governmental organizations, trusts, foundations, indigenous communities, farmers and pastoralist groups. The overarching goal of PACJA is to mobilize and empower African civil society to ensure the realization of environmental and climate justice for all African people.

The Alliance focuses on targeted research, particularly on monitoring the outcomes of PACJA's advocacy agenda, mobilizing public engagement on climate change; informing policy formulation, providing a platform for civil society and facilitating civil society organizations' participation in policy making through regional and global dialogues, and ensuring the accountability of governmental and inter-governmental bodies. PACJA works through its national chapters across three thematic areas: climate finance, just transitions and resilient people.

Among the key initiatives of the PACJA are the African Climate Change and Environmental Reporting (ACCER) Awards – which recognize journalists reporting on climate change across Africa, thereby encouraging proactive media participation in African climate change discourse – and the Nairobi Summer School, which aims to bring the issue of climate justice to the forefront of climate change discourse and promote North-South cooperation and knowledge exchange.

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