

## An African perspective on transboundary and cascading climate risks

### KEY MESSAGES

- Africa is even more exposed to the impacts of climate change than has so far been recognized when transboundary and cascading climate risks are considered. Such risks are generated when the impacts of climate change in one country cascade into another. Flows of trade, finance, people, and shared ecosystems and natural resources can all transmit such risks.
- National adaptation plans (NAPs) could play a crucial role in identifying, profiling and assessing the risks that a country is likely to be exposed to from abroad. NAPs could also identify how a country's direct exposure to climate risks could create vulnerabilities for others, and where its adaptation actions enhance the resilience of others and contribute to the global public good.
- National responses to transboundary and cascading climate risks could negatively impact other countries and regions: adaptation can create both winners and losers. There are opportunities for enhanced coordination and cooperation between the African Union, Regional Economic Communities, and Member States as well as sub-national entities in addressing and managing transboundary and cascading climate risks.
- Transboundary and cascading climate risks call for a redefinition of adaptation and approaches that not only transform what is being done but also how adaptation is planned and implemented. A much greater degree of international cooperation is required to address these risks as well as the integration of cascading climate risk considerations in broader national and regional policies, such as security, trade and development, to build resilience and stability to climate risk in Africa.

### Introduction

This brief looks at how transboundary and cascading climate risks could impact different African regions, with a focus on East Africa, West Africa and Southern Africa. It then examines what roles national adaptation plans (NAPs) and regional adaptation plans can play in managing these risks. Finally, it makes recommendations for how the African Group of Negotiators (AGN) could use processes and programmes under the UNFCCC to push for support measures that better manage transboundary and cascading climate risks in Africa.

"Africa is one of the most vulnerable continents to climate change and climate variability", the Intergovernmental Panel on Climate Change (IPCC) concluded as far back as 2007<sup>1</sup>. But while Africa's exposure and vulnerability to direct climate risks have long been recognized, the same cannot be said for the consequential transboundary and cascading climate impacts. Climate change is a threat multiplier that does not only affect places directly: just as with other threats, such as Covid-19 or the disposal of hazardous waste, its effects can ripple out to cascade across sectors, countries and continents.

Let's take an example. As climate change causes sea levels to rise, the low-lying coastal and delta zones that are home to Southeast Asia's rice fields are being salinized as a result of inundation. A knock-on effect of lower rice yields would mean cascading consequences for rice-importing countries around the world – including those like Senegal and Kenya which import most of their rice from India, Thailand, Pakistan, and Vietnam. The food and nutrition security of such countries therefore depend, in part, on the adaptation efforts of countries many thousands of miles away.

In our interconnected world, transboundary climate risks do not just affect neighbouring countries, such as those that share a river basin or ecosystem; they can connect communities many thousands of miles apart through

“Climate change impacts and risks are becoming increasingly complex and more difficult to manage. Multiple climate hazards will occur simultaneously, and multiple climatic and non-climatic risks will interact, resulting in compounding overall risk and risks cascading across sectors and regions. Some responses to climate change result in new impacts and risks.”

– IPCC, 2022: Summary for Policymakers<sup>2</sup>

transmissions pathways such as people, trade and finance (among others). And the effects are most often borne by those with the lowest levels of wealth and resilience. These connections are clear when climate change impacts damage critical infrastructure such as international ports, or disrupt trading relationships, commodity markets, and the flow of goods and services. Such connections are also apparent when international financial flows including remittances and investments are altered, when the movements of tourists and migrants shift, or when shared natural resources and ecosystems are depleted or deteriorated.

Left unchecked, these risks could have serious consequences: eroding gains made and further impeding progress towards almost all the Sustainable Development Goals – increasing food and water insecurity, threatening trade and energy supplies, imposing forced migration, human displacement and conflicts, risking jobs and livelihoods, heightening geopolitical instability, worsening inequality, and endangering wellbeing.

Africa’s new climate change strategy, the Climate Change and Resilient Development Strategy and Action

**Box 1.** Transboundary climate risk in Africa’s Climate Change and Resilient Development Strategy and Action Plan (2022–2032)

**Priority intervention area:** Strengthen coordination among the African Union and its structures, as well as key regional partners, in supporting Member States to achieve climate action.

**Suggested action:** Enhance coordination between the regional economic communities and Member States in addressing and managing transboundary and cascading climate risks.

**Box 2.** Transboundary climate risks to food security in Africa: rice and wheat imports

Several countries in Africa are highly dependent on imported commodities such as wheat and rice for their food security. The extent to which these commodities are vulnerable to transboundary climate risk depends on a range of factors. These include the risk that climate change presents to the production of crops; the degree that a country depends on imports for their consumption needs; the diversity of import and production sources; and levels of per-capita consumption, among others. Initial research suggests that countries in both West Africa and Southern Africa face high levels of transboundary climate risk for food imports, with Guinea, Ghana and Nigeria standing out for wheat, and South Africa, Benin and Togo for rice.

Plan (2022–2032), recognizes these risks. However, the national risk and vulnerability assessments upon which governments base their adaptation plans often fail to account for transboundary and cascading climate risks. In addition, adaptation plans that are defined and developed at the local or national scale, and in relative isolation from one another, also risk creating new adverse cascading effects – redistributing vulnerabilities and risks rather than reducing them. We therefore need a redefinition of adaptation and approaches that are not only transformational in their scope and scale but also in the degree of international cooperation they invoke and demand.

Research into how climate risks might cross borders within the African continent, or cascade into or out of the continent to affect other countries and regions, is only just beginning to emerge. A case in point is the African chapter in the IPCC’s most recent adaptation report, which confines mention of transboundary risks mainly to the water sector.

**Examples of transboundary climate risks: East Africa**

When an extreme heatwave scorched India and Pakistan last year, Kenyan households felt the impact. Climate change had made this heatwave 30 times more likely.<sup>3</sup> The heat decreased India’s production of wheat, and the government banned wheat exports to protect domestic consumption. While Indian wheat makes up less than 1% of Kenya’s wheat imports, 84% of wheat consumed in Kenya comes from other countries, with Russia accounting for 35% and Ukraine for 9%.<sup>4</sup> An intensification of climate risks in these countries leading to decreased wheat productivity could trigger devastating food insecurity in Kenya.

### Box 3. Kenya's exposure to transboundary climate risks through trade

Kenya depends on imports of essential crops, including wheat, maize, and rice for food security. Models show that maize production is expected to decrease in all exporting countries between 2035–2064 and 2070–2099 (given a low-end climate change scenario in which global temperature rise this century is kept to below 2 degrees Celsius). Annual crop production is expected to decrease in all countries exporting essential crops to Kenya, given low to medium global warming.<sup>5</sup>

	Wheat	Maize	Rice
Import dependence	84%	8.6%	93%
Consumption per capita	19 kg	60 kg	4 kg

Both countries' wheat exports largely ground to a halt as a result of Russia's invasion of Ukraine until a deal was brokered in the summer of 2022 to enable wheat exports from Russia and Ukraine to reach global markets.<sup>6</sup> But prior to that, in May 2022, Kenyans had to pay more than 100 Kenyan shillings for a kilogram of wheat for the first time in four years (a price increase of 20%).<sup>7</sup> External climate risks and conflicts affecting exporting countries on other continents had compounded and cascaded to Kenya.

Similar stories could emerge for other cereals and for other East African countries. A recent study suggests that the East African Community (EAC) faces particularly high levels of transboundary climate risk to its trade in cereals and pharmaceuticals. EAC countries are highly dependent on imports from only a handful of suppliers, particularly other climate-vulnerable countries such as India (for pharmaceuticals) and Pakistan (for cereals).<sup>8</sup>

The same study of climate change trade risks in the EAC shows that pharmaceuticals have complex supply chains involving multiple countries.<sup>9</sup> Kenya, Uganda, and Rwanda all face high levels of transboundary climate risks to their pharmaceutical imports, including vaccines, antibiotics, and other prescription medicines. A large majority of pharmaceutical imports to EAC countries stem from India which, in turn, faces high risks to its pharmaceutical processing and infrastructure because of climate change.

The Covid-19 pandemic highlighted problems that Africa faces because of its dependence on imports for 99% of its vaccines. However, pharmaceutical imports typically do not feature as key risks in national adaptation plans (NAPs) despite the increased incidences of water-borne and vector-borne diseases evident in the region. Substituting high risk-profile imports like pharmaceuticals for domestically produced alternatives is unrealistic for many EAC countries, mainly due to limited manufac-

turing capacities. However, the African Union and Africa Centres for Disease Control and Prevention (Africa CDC) are beginning to prepare for future external supply shocks to vaccine manufacturing by aiming to develop, produce and supply more than 60% of the total vaccine doses required on the continent by 2040 through African manufacturing.<sup>10</sup> This could be considered a form of adaptation to transboundary climate risks because it increases adaptive capacity in the East Africa region. John Nkengasong, former Director of the Africa CDC, noted in an interview that "you cannot guarantee the health security of your people by importing 99% of your vaccines."

In 2020, the EAC<sup>11</sup> identified 11 common priority adaptation areas across multiple sectors. Water resources and agriculture were identified as universal priorities for EAC member countries.<sup>12</sup> A scenario-based framework for assessing transboundary climate impacts, co-produced with local stakeholders in Kenya, echoed these priority areas, with a focus on risks stemming from climate-induced migration, regional conflicts, reduced tourism via changes in wildlife migration patterns, and reduced financial flows including foreign direct investment (FDI) and development finance (or overseas development assistance, ODA).<sup>13</sup>

These priority adaptation areas indicate a clear understanding of the varied risk profiles per sector and identify shared risks across the region. Yet, East African countries appear not to have addressed the question of how to adapt to transboundary and cascading climate risks. Neither Ethiopia nor Kenya mentions transboundary, cross-border, or cascading climate risks in their National Adaptation Plans (NAPs) submitted to the Secretariat of the UN Framework Convention on Climate Change (UNFCCC). Other East African countries have not yet submitted their NAPs, although shared risks have been identified via the EAC's Climate Finance and Mobilization and Access strategy, which summarizes the target needs of each member country.<sup>14</sup>

A recognition of shared risk does not translate to a cohesive regional policymaking apparatus that is responsive to transboundary climate risk unless the affected countries jointly develop a framework to respond to the common risk. The European Center for Development Policy Management (ECDPM) has highlighted how trade policies in the region could help to offset risks to the agricultural sector.<sup>15</sup> Tools employed by the EAC, like the Common Market Protocol (CMP) and the Common External Tariff (CET), aim to lower internal trade barriers intra-regionally to allow free-flowing goods and services.

There is a foundation to build on existing legislation and tools to empower EAC member countries to reduce their risk exposure and protect domestic markets. However, although in theory, these regional policies offer a means to manage shared adaptation needs and trade risks, ECDPM points out that in practice there is a lack of institutional mechanisms to enforce these ambitious aims.<sup>16</sup>

**“There are clear connections and synergies between Eastern African countries on which to build stronger and more transformative collaboration on transboundary climate risk.”**

The Common Market for Eastern and Southern Africa (COMESA) recently called for the creation of a Climate Change Coordinating Unit (CCCU), which would assess cross-border adaptation and mitigation measures.

There are clear connections and synergies between Eastern African countries on which to build stronger and more transformative collaboration on transboundary climate risk. The following areas warrant further exploration:

- further research into scenario-driven policies that account for transboundary climate risks, building on preliminary pilot projects, for example, under the NDC Delivery Lab commissioned by AGNES and CIAT in the Karamoja-Turkana/Pokot-Eastern Equatoria Region of the Greater Horn of Africa,
- recognition and integration of transboundary climate risks, and proposals for their effective “ownership” and management, in the NAPs for each member country,
- inclusive and equitable inter-regional cooperation to manage transboundary and cascading climate risks, and
- embedding adaptation to transboundary climate risks into financing options by multilateral and private donors.

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## **Examples of transboundary climate risks: West Africa**

West Africa is one of the most vulnerable regions to the direct impacts of climate change, but it is highly exposed to transboundary and cascading climate risks as well. For example, Mauritania, Guinea, and Togo have been ranked among the top 15 countries worldwide for exposure to cross-border risks.<sup>17</sup>

West African countries are exposed to two different types of transboundary risk. First, risks from within the region. Second, cascading risks that result from West Africa’s increasing interconnections with countries far away, via trade, supply chains, and markets that transmit risks.

Currently, however, West Africa is one of the regions with the thinnest evidence on how and why countries and communities might be exposed to cross-border climate risk. There have been very few assessments or case studies conducted on this topic, despite the early signals

that managing transboundary and cascading climate risks should be a major objective of national and other adaptation strategies. Understanding the dynamics of transboundary and cascading climate risks at scale is key to formulating strategies for preparedness and management of these risks and in policy development for climate resilience-building in the region.

## **Regional risks**

Borders between states in West Africa ignore the reality of river basins and pastoralist cultures that will be impacted by climate change. As such, transboundary water management, pasture resource management, and regional governance of highly climate-sensitive systems such as the Sahel constitute important theatres of adaptation.

West Africa is highly dependent on transboundary water resources, with 11 major transboundary river basins. For example, the Niger River Basin extends across 10 countries from its source in south-eastern Guinea. On average, except for island nations, countries in the region are reliant on sources of water outside their borders for more than 40% of their water supply. More than 90% of the water supply in Mauritania and Niger and 50% in Mali and Chad comes from outside the country’s border (USAID, 2013b).

The Economic Community of West African States (ECOWAS) established a Regional Water Observatory, which has helped to increase knowledge about cross-border climate change impacts and supported the mainstreaming of adaptation into Integrated Water Resource Management plans for transboundary river basins in the region. Equivalent ECOWAS observatories on marine and biodiversity issues can play similar roles in building the capacity to adapt to transboundary climate risks to coasts and other ecosystems.

Meanwhile, the Sahel region, which cuts through West Africa and links it with East Africa, is one of the hotspots of transboundary climate risks on the continent. Here, the overlapping, cascading impacts of climate change on livelihoods, agriculture and pastoralism, in particular, are spilling over to interact with pre-existing challenges in human and community security as well as natural resource management and undermining efforts to achieve and maintain peace.<sup>18</sup>

There are also several other categories of transboundary risks that pose challenges to adaptation in West Africa. Due to the increasing integration of economies in the region, a large share of foreign investment by West African states is made elsewhere in the region, exposing investors (which include sovereign funds as well as private and individual investors) to climate impacts on assets and markets in highly vulnerable neighbouring countries. Globally, three of the top 10 countries ranked for climate exposure to their bilateral foreign direct investment are in West Africa.<sup>19</sup> Nigeria, a regional economic powerhouse, may find that its economy suffers if its regional trading



partners are adversely impacted by climate change, leading to slowing demand and weakening regional trade.

Several West African economies are highly dependent on remittance flows and an increasing proportion of remittances are coming from other African countries,<sup>20</sup> meaning that the stability of these economic lifelines depends on the success of adaptation in other African countries. Otherwise, extreme weather events will leave migrant workers without employment, as is often the case in the period following major storms, droughts and floods. Côte d'Ivoire and Ghana are key sources of remittances for many West African households, so effective adaptation to extreme weather in cities like Abidjan and Accra will benefit remittance-dependent households throughout the region.

## Teleconnections to the rest of the world

Climate change impacts in North America, Europe, and Asia will also require adaptation in and by West African countries. That is the result of the region's increasing dependence on imports and international trade for food security and economic growth.

For example, Nigeria, Ghana and Guinea depend more or less entirely on imports to meet their growing demand for bread, pasta, noodles, and semolina – all of which are made using wheat. Nigeria has become one of the world's biggest wheat importers, spending US\$1.4 billion in 2019 alone.

Farming wheat in these countries is not a viable strategy in a changing climate. But the wheat producers that these countries rely on – mainly the US, Russia and Canada – are projected to experience significant decreases in wheat harvests as the climate changes – yields in the US may drop by more than 60%, according to some projections. This puts food security in import-dependent countries in West Africa at risk, as the war in Ukraine has recently demonstrated.

The picture is similar for West African rice importers. Benin, Cameroon, Togo and Senegal all depend for over half of their imports on rice producers in Thailand, whose yields may drop 35% by the end of the century because of climate change. Urbanization in West Africa is leading to an increased dependence on rice imports as people eat relatively less traditional domestic staples like sorghum, millet and cassava. As other rice consumers across the world increasingly compete for a more volatile supply of rice on global markets, future price shocks can be expected. The adaptation challenge for countries like Benin, Cameroon, Togo and Senegal is to balance production in their own countries (which will face severe climate impacts directly) with the more indirect but cascading risks to global commodity markets, as climate shocks, geopolitical disruptions and population trends exert more and more stress.<sup>21</sup>

Other vital sectors in West Africa may also be hit by supply chain disruption if other regions of the world fail to

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## Setting intentions

The regional adaptation strategy, led by ECOWAS, sets out a highly relevant vision for West African resilience, with calls for “solidarity” and “coordination”, while promising to speak with one voice on the international stage. This approach could serve the people of the region well, because greater coordination, international cooperation and co-governance of markets, systems and global adaptation processes are needed to build systemic resilience to transboundary and cascading climate risks. However, the recent ECOWAS Strategy does not yet highlight cross-border risks as a target for adaptation.<sup>22</sup> This means that awareness-raising, dialogue and regional cooperation are needed to seize the opportunities for building regional resilience to climate risk in West Africa.

Recommendations for building resilience in West Africa to transboundary climate risks include:

- regional dialogues to co-develop a pillar under the ECOWAS regional adaptation strategy that focuses on transboundary climate risk,
- rejuvenated commitment to work regionally on adaptation across shared marine ecosystems and within transboundary river basins,
- innovative applications of multilateral adaptation finance to support strategic grain storage and in region and other measures to build regional resilience to international food price shocks, and
- leadership by West African states on the international stage to raise transboundary risks in international forums such as the UNFCCC and to reshape adaptation narratives around the shared global benefits of more ambitious adaptation.

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Niger River between Konna and Tombouctou (Timbuktu)  
Credit: Maremagnum / Getty Images





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## Examples of transboundary climate risks: Southern Africa

There are many pathways that can lead to transboundary climate risk in Southern Africa. Below, we provide a snapshot of just three of these pathways – trade, remittances, and river basins – that are affecting the region now and have the potential to do so in the future.

### Trade

The projected increase in temperature and rainfall variability leading to drought and flood events will escalate the risk of food insecurity, pest and disease incidences, and consequently increased market prices and disruption of agricultural commodity trade flows in the region.

Trade in Southern Africa is dominated by exports of raw materials, including fossil fuels and mined assets (such as copper from Zambia, crude oil from Angola, gold from Zimbabwe and diamonds from Botswana) and unrefined agricultural products (such as raw tobacco from Malawi or scents and sugar from Eswatini). The region in turn imports a range of high-end products such as pharmaceuticals and machinery, as well as information technology, electronics, chemicals and textiles. Food constitutes between 9 and 25% of the total value of imports across Southern Africa, making food security highly reliant on crops grown elsewhere, such as corn, wheat and rice.<sup>23</sup>

This makes the region highly vulnerable to transboundary and cascading climate risks via trade in at least two respects. First, the direct impacts of climate change could disrupt its ability to export. Southern Africa's rich resources are mostly shipped out through the region's largest harbour in Durban, South Africa.<sup>24</sup> Disruptions to port operations caused by climate change could not only affect South Africa, but also export revenues in the entire region. In turn, these disruptions could have cascading effects around the world – including on green transitions. Decarbonization has further amplified (in some cases reinvigorated) the demand for precious and base metals and minerals, as input components in products such as EV batteries and microchips.

Second, the direct impacts of climate change, beyond those affecting transport and production systems, could disrupt the region's ability to import. News reports from Southern Africa over the past three years paint a bleak picture of overlapping and interacting disruptive events, ultimately affecting the supply and affordability of goods and services, with knock-on impacts on the lives and livelihoods of people in the region. More frequent storms, heatwaves, droughts, inflation, conflict, and of course Covid-19, are some examples. The invasion of Ukraine affected around one-third of global wheat exports (as well as a range of other agricultural products, such as barley, and processed goods, such as cooking oil<sup>25</sup>). The interaction of reduced exports with droughts and poor harvests globally has further driven market speculation

### Box 4. Transboundary climate risks to Botswana's imports of corn<sup>26</sup>

Almost 20% of Botswana's imports are agricultural and food commodities, with corn as the single most imported agricultural commodity in 2020. In Botswana, corn is mainly used as feed for the cattle industry, which constitutes around 80% of agricultural GDP and 65% of agricultural exports. But growing corn in Botswana, with its semi-arid landscape and unreliable water supply, is no easy feat and more than 80% of corn consumed in Botswana is imported from other countries in the region, including South Africa, Zimbabwe, Zambia and Malawi, and the more distant China and US. Furthermore, climate change projections put the corn yields of Botswana's trading partners at risk, with yields in South Africa predicted to decline by 10% by the end of the century, in China by 15% and in the US by as much as 46%. In a warming world, this could translate into transboundary climate risks not only for Botswana's cattle farmers but also for its export revenues more broadly.

and increased food prices around the world, including in Southern Africa. Reduced yields, caused by either extreme weather or slow-onset climate impacts, could drive similar instabilities.

An obvious response to such risks might be to increase regional and domestic production. However, the direct effects of climate change in Southern Africa, combined with urbanization, industrialization and geopolitical trends, challenge such a narrow approach to resilience-building. To manage future interacting and cascading climate risks, it will be crucial to develop and diversify production and infrastructure as well as exports and imports, particularly intra-regionally.<sup>27</sup>

### Remittances

Cash transfers and remittances from migrating family members play a major role in supporting many communities in Southern Africa, providing cash income to supplement subsistence farming. In this respect, Lesotho stands out in the region, with 23% of its GDP stemming from remittances in 2021.<sup>28</sup> Migrant workers are, however, particularly vulnerable to sudden changes in job markets because they often lack employment rights and job stability, and evidence suggests remittances are becoming less reliable because of increases in informal and temporary employment.

Climate change aggravates this situation when changes in weather and more frequent extreme weather events disrupt supply chains and affect work opportunities, sometimes abruptly so. This can create double exposure for the families of migrants to both the direct impacts of climate change and the transboundary risk of losing access to remittances.<sup>29</sup>



## Shared river basins

Southern Africa has many shared rivers, with up to eight countries sharing the same river basins across the region. The three main transboundary river basins are the Okavango, Zambezi and Limpopo. The Okavango River Basin is shared between Angola, Namibia and Botswana, with all three countries planning extensive developments in the region that are likely to put further pressure on water withdrawal and impact the basin's water flow. The Zambezi River Basin is shared between eight southern African nations and supports the basic needs of around 30 million people, including energy needs from hydropower. The Limpopo River Basin is shared between South Africa, Botswana, Zimbabwe and Mozambique. Water is already scarce in this highly developed and populated catchment, containing South Africa's industrial heartland, urban settlements, coal-fired power generators and crucial mining regions. Water demand and withdrawal are high and expected to increase, as is pollutant loading.

Climate change will further alter the flow regimes of these essential assets, and affect the industries, mines, farms, settlements, cities, and hydropower stations tied to them, generating significant potential for both transboundary and cascading climate risks.<sup>30</sup> Transboundary effects are inherent in shared river systems, because activities upstream, such as increased irrigation to mitigate drought, will decrease the availability and quality of water downstream. Rapid urbanization, agricultural production, and the development of industrial and mining sites will continue to increase competition for water resources and energy. Such developments constrain and complicate access to and management of water, with

### Box 5. The Zambezi River basin

The Zambezi River basin, shared between Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe, is a vast resource for economic development. At the same time, differences in climate and atmospheric circulation systems in different parts of the basin give rise to considerable variability of rainfall and river flow. There are plans to develop hydropower and irrigated agriculture in the upper and central parts of the basin. Large scale irrigation development would significantly affect the development of hydropower, particularly if drought increases. Even if rainfall were to increase over the course of the century, not enough water would be added to the system to meet demand. Extreme, high rainfall is likely to produce flooding at specific locations throughout the basin, and to become particularly dangerous in the lower river basin. The impacts of climate change in certain parts of the basin can therefore give rise to transboundary risks for others, as can some actions to adapt to climate impacts.<sup>31</sup>

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knock-on impacts on the region's food and energy security, as well as trade. Assessments indicate that hydropower production is the most exposed component of the southern African energy sector to transboundary climate risk, especially because of expected decreases in rainfall and increases in extreme weather events, such as droughts and floods.<sup>32</sup>

Assessments point to poor and insufficient infrastructure and lack of institutional capacity as the main barriers to increased resilience for shared river basins in the region. Improved management of shared water resources and infrastructure development are key to social and economic development throughout the region. Leadership, engagement, and flexibility will be key to manage these risks, alongside financial support.<sup>33</sup>

## Regional adaption strategies and trade agreements

The climate strategy of the Common Market for Eastern and Southern Africa (COMESA) accounts for some transboundary impacts within the region but omits transboundary and cascading impacts from other regions (COMESA 2020).

Shared water resources are by far the most well-understood and managed transboundary climate risks in the region. Setting up agreements in transboundary water basins that consider climate change and future socioeconomic development, and developing joint or compatible frameworks for adaptation, are measures that can increase water and energy resilience.

While the climate adaptation policy of the Southern African Development Community (SADC) does focus on water, their assessment of climate change adaptation makes the general observation that “Intersectoral, regional and transboundary integration are crucial to successful adaptation. Critical natural resources, such as water and food systems are often strategically located along, or traverse, political boundaries”<sup>33</sup>. The newly signed African Free Trade Agreement could serve as a vehicle to enable intra-Africa trade and regional resilience to the impacts of climate change, both within and beyond its borders. At the Africa Adaptation Summit 2022, Okonjo-Iweala, Director-General of the WTO, stressed the importance to the region of integrating trade into climate strategies.









Aerial view of buildings in Durban Harbor, South Africa  
Credit: michaeljung / Getty Images



**“Enhanced cooperation and collaboration in the drafting and implementation of NAPs are needed at a global scale, and this process needs to further include non-traditional actors, such as policymakers from finance, trade and foreign ministries.”**

Recommendations for building resilience to transboundary climate risks in Southern Africa include:

- in-depth analysis of vulnerabilities and dependencies, both outside and within the region,
- diversifying exports and transport hubs, and reducing barriers to regional trade,
- demonstrating leadership, engagement and flexibility in managing shared river basins,
- strengthening cooperation regionally and globally to manage cascading climate risks,
- financial support for developing and improving infrastructure, and
- inclusive scenario planning that incorporates expert judgment, scientific analysis, and local communities.

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## Conclusions and next steps

The African Union Climate Change and Resilient Development Strategy and Action Plan (2022–2032) aims to “*Enhance coordination between the regional economic communities and Member States in addressing and managing transboundary and cascading climate risks*”. In placing this action in the strategy, African leaders have taken a decisive step towards creating an enabling policy environment for the management of transboundary climate risks. Attention to these risks now needs to filter down to policymakers at regional, national and sub-national levels of governance and across diverse policy domains, from trade and finance to security and foreign policy. Such efforts need to be supported by enhanced evidence of the specific transboundary climate risks Africa is exposed and vulnerable to, and innovative approaches to resilience-building and adaptation to such risks. Finance, capacity-building and technology transfer – dedicated to transboundary climate risk management – are critical enablers of such activities and need to be mobilized at scale. In leading these efforts, African stakeholders can also engender a wider step change in how climate risk and adaptation are perceived at the global level.

The international climate negotiations are currently framed as if climate risk and adaptation stop at each national border. However, in the same article of the Paris Agreement that established the Global Goal on Adaptation, Parties recognized adaptation as “a global challenge faced by all with local, subnational, national, regional and international dimensions” (Article 7.2). We interpret this to mean not only that adaptation is a priority for every single country in the world, but also as a recognition that no country can build resilience by adapting on its own.

NAPs, NDCs and Adaptation Communications have a crucial role to play in spurring collaboration on the management of cascading and transboundary climate risks. While in general there is still low coverage of international and cascading climate risks in NAPs, an increasing number are beginning to recognize such risks even if they often stop short of assigning ownership to manage them. Such planning and reporting documents under the UNFCCC and its Paris Agreement could play a crucial role in both identifying and assessing the risks that a country is likely to be exposed to from abroad, and in identifying areas where its direct exposure to climate risk could create vulnerabilities for others.

Enhanced cooperation and collaboration in the drafting and implementation of NAPs are needed at a global scale, and this process needs to further include non-traditional actors, such as policymakers from finance, trade and foreign ministries. While countries share risks, they may also share the benefits of adaptation. Identifying and articulating ways in which a country’s adaptation efforts can (by mitigating or managing a transboundary risk) support regional and global resilience could also strengthen the business case for adaptation and increased climate finance. The specific value that regional adaptation plans (RAPs) could contribute to this process deserves further exploration.

At a global level, there are (at least) two linked opportunities under the UNFCCC to build resilience to transboundary and cascading climate risks. The first of these is the Global Goal on Adaptation (GGA) – specifically, the framework initiated under the two-year Glasgow-Sharm el-Sheik work programme – and the second is the Global Stocktake.

There are opportunities for the GGA and its framework to articulate why adaptation is a global challenge requiring a global response. For too long, adaptation has lagged behind mitigation, both in garnering a truly global, multi-lateral effort and in harnessing attention within the context of climate diplomacy. The GGA framework, in articulating the imperative to build global resilience to complex, cascading and cross-border climate risk, could build the case for greater ambition and action on adaptation and tip the scales to a more even balance. It could further clarify that, in light of transboundary risk, global

resilience to climate change entails more than the sum of national adaptation efforts. Measuring progress towards the GGA, via the Global Stocktake, should capture our efforts towards this end.

Given that all countries are exposed to transboundary climate risk and no country can insulate itself or hope to build resilience by acting alone, an explicit recognition of transboundary and cascading climate risk could also motivate new coalitions of Parties (and Observers) to overcome current divides. The African Group of Negotiators could play a seminal role by highlighting the following points in negotiations on the GGA framework:

1. The need for the GGA framework to strengthen transformational adaptation to transboundary and cascading climate risks through any targets or indicators that are agreed.
2. The opportunity the framework presents to catalyse enhanced international cooperation on adaptation.
3. The proposal for a dialogue on transboundary and cascading climate risk to inform national adaptation planning efforts.
4. The imperative of addressing transboundary and cascading climate risks to face the global challenge of adaptation.

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**Adaptation Without Borders** is a global partnership working to strengthen systemic resilience to the cross-border impacts of climate change. We identify and assess transboundary climate risks, appraise the options to better manage those risks and support policymakers, planners and the private sector to develop climate-resilient and inclusive solutions. We catalyse new alliances and forms of cooperation on adaptation that pave the way towards a more sustainable and resilient world.

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