



ADAPTATION FUND

## Transboundary Approaches to Climate Adaptation: Lessons Learned from the Adaptation Fund's Regional Projects and Programmes

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# List of Acronyms

<b>ACREI</b>	.....	Agricultural Climate Resilience Enhancement Initiative
<b>AF</b>	.....	Adaptation Fund
<b>CAF</b>	.....	Development Bank of Latin America
<b>CANE</b>	.....	Afro-Ecuadorian Confederation of Northern Esmeraldas
<b>COP</b>	.....	Conference of the Parties
<b>COVID-19</b>	.....	Corona virus disease (COVID-2019)
<b>EAC</b>	.....	East African Community
<b>FAO</b>	.....	Food and Agriculture Organization of the United Nations
<b>FRM</b>	.....	Flood Risk Management
<b>GEF</b>	.....	Global Environment Facility
<b>GWP</b>	.....	Global Water Partnership
<b>IDDRSI</b>	.....	IGAD Drought Disaster Resilience and Sustainability Initiative
<b>IGAD</b>	.....	Intergovernmental Authority on Development
<b>IW</b>	.....	International Waters
<b>LDCF</b>	.....	Least Developed Countries Fund
<b>LVBC</b>	.....	Lake Victoria Basin Commission
<b>MIE</b>	.....	Multilateral Implementing Entity
<b>MTS</b>	.....	Adaptation Fund Medium-Term Strategy 2018-2022
<b>NGO</b>	.....	Non-Government Organisation
<b>OPG</b>	.....	Operational Policies and Guidelines
<b>RIE</b>	.....	Regional Implementing Entity
<b>SCCF</b>	.....	Special Climate Change Fund
<b>TDA</b>	.....	Transboundary Diagnostic Analysis
<b>UNDP</b>	.....	United Nations Development Programme
<b>UNEP</b>	.....	United Nations Environment Programme
<b>VBA</b>	.....	Volta Basin Authority
<b>WMO</b>	.....	World Meteorological Organization

# Disclaimer

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# Executive Summary

- In recent years, practitioners, policy-makers and researchers have focused increasing attention on transboundary, multi-country, approaches to addressing climate change vulnerability and impacts. Emerging perspectives suggest that there is a need for adaptation action at all levels, including subnational, national, and transboundary scales involving adaptation interventions spanning across territory in multiple nations.
- Transboundary approaches to climate adaptation are increasingly being pursued in relation to climate risks that span across borders, such as cascading climate impacts on shared water resources, on disaster risk, and on supply chains for agricultural production and food distribution.
- A transboundary approach that involves multiple governing authorities has the potential to manage climate risk effectively where the shared dimension of that risk is well understood. If such an approach is effectively planned, it can prevent action that may otherwise negatively redistribute vulnerability or displace or magnify risk from one place to another.
- A transboundary approach may also offer opportunities to deliver adaptation action that has advantages in terms of coordination, cost effectiveness, and opportunities for cross-border learning and innovation.
- The present study offers an overview of transboundary adaptation actions and interventions supported by the Adaptation Fund since 2015. Its overarching objective is to accelerate learning about approaches that lead to successful transboundary adaptation strategies. It is produced within the Learning and Sharing pillar of the Fund's Medium-Term Strategy for 2018-2022, which focuses on enhancing the Fund's processes and activities, as well as those of others. Its findings will be of interest to Adaptation Fund stakeholders, current and prospective multilateral and regional implementing entities, executing entities, non-government organisations, and practitioners interested in transboundary approaches to addressing the challenges posed by climate vulnerability and impacts.
- The study was undertaken based on a first phase involving a desk study of policy and project-related documents, including monitoring and evaluation reports, annual project performance reports and mid-term evaluations. A second phase focused on garnering more specific information through inter-

views, on the motivations for pursuing transboundary approaches, strategies deployed, and lessons learned.

- Since becoming operational in 2009, the Adaptation Fund has remained one of few international actors to fund adaptation at the transboundary scale. Between 2017 and 2021, it approved more than US\$ 205 million in grant funding for 18 transboundary projects and programmes spanning 34 countries. These projects and programmes have principally focused on adaptation in the areas of disaster risk reduction, food security and transboundary water management across national borders.
- This study shows that a number of enabling conditions contribute to the successful delivery of transboundary adaptation in practice. First, it suggests that the added value of implementing an adaptation intervention through a transboundary approach, rather than on a country-by-country basis, appears to be most evident in cases where the climatic challenge itself is transboundary. By contrast, in contexts where climatic challenges are distinct in countries across a region, it may make less sense to pursue a transboundary approach.
- Second, contexts with common languages across borders may lend themselves particularly well to transboundary initiatives. Implementing entities should, however, take steps to ensure that dominant languages do not prevent the equitable participation of minority groups, such as indigenous communities or immigrant communities, who may need translation to fully participate.
- Third, implementing entities must develop a comprehensive understanding of the regional institutional landscape, including any past experiences at transboundary cooperation in the region. This involves understanding the strengths of national-level agencies as well as their needs for capacity enhancement. It also involves understanding the mandate, experience, and competencies of any regional or basin-level authorities, such as those charged with river-basin management or regional economic development. Crucially, implementing entities must understand the nuanced political and policy realities around past efforts at cooperation, to develop shared understandings on the adaptation issues to be confronted and to find consensus on potential solutions and approaches for implementing those solutions.
- Fourth, project teams must—early on—understand the robustness and availability of climatic, scientific and socio-economic information. A well-planned transboundary initiative will be based on up-to-date data and information usually gathered from a combination of national-level agencies, regional institutions and international organisations.

Across the projects examined, the availability of high quality and up to date information proved to be an essential condition to effect project delivery.

- Implementing entities and their partners are proving, in the right contexts, that transboundary adaptation interventions can deliver strong results on cost effectiveness. In some contexts, where expertise can be deployed over a larger area than on country-by-country projects, a transboundary approach can achieve cost savings through economies of scale. Potentially costly maladaptation outcomes, where climate risk is displaced from one territory to another, can also be avoided, through coordinated action. While a transboundary approach to adaptation does not guarantee economies of scale, they do offer opportunities for significant cost savings.
- The cases examined show that transboundary adaptation initiatives are opening up new opportunities for learning during implementation, from the local to transboundary scale. Transboundary initiatives can offer new opportunities for learning and knowledge transfer, specifically about what works, where, and why, across local, national and supranational scales.
- As well as opportunities, implementing entities have also been confronted

by a number of challenges in implementing transboundary adaptation in practice. These challenges relate to: the need for coordination to account for differences in language and cultural norms, political and institutional characteristics across the project area; difficulties in coordinating project meetings with a large number of busy officials; infrastructural variabilities in terms of broadband and transport across project territories; and external shocks including the COVID-19 pandemic which posed particular challenges for the management and oversight of projects across international borders. Implementing entities and their project partners have drawn on innovative thinking and adaptive management in their efforts to overcome these challenges.

- In the years to come, the global adaptation community would benefit from continuing to study and learn from evolving experiences in transboundary adaptation as interventions mature. Efforts to grow and improve the evidence base will prove valuable to donors, project and programme proponents, governments and civil society stakeholders interested in ensuring that transboundary adaptation initiatives overcome the challenges that they encounter in practice. In the years to come, coordination among international climate funds and multilateral donors that fund and implement climate adapta-

tion interventions is likely to become more complex. Governments, international organisations and climate funds should remain attentive to this potential increase in complexity as well as the opportunities that

well-coordinated new funding offers for greater impact in delivering adaptation benefits to communities and stakeholders at all scales to the maximum extent possible.



# 1. Introduction

The global adaptation community has expressed increasing concern with climate risks that spill over national borders.<sup>1</sup> Research agendas, for instance, are examining in more depth the economic, political and social impacts of climate change on cross-border supply-chains, markets and natural resource flows.<sup>2</sup> As understandings of the impacts of these cascading risks improve, studies have drawn attention to the need for transboundary perspectives and multi-country cooperation initiatives to confront climate vulnerability through adaptation measures that also transcend national borders.<sup>3,4</sup> Despite these advances, however, research on transboundary climate risks remains nascent with significant gaps in the development of suitable governance and policy responses.<sup>5</sup>

In parallel with the research community, international climate funds and other actors have taken action to promote transboundary approaches to addressing cascading climate risks. In 2015, for instance, the Adaptation Fund opened pilot funding window for multi-country (regional) adaptation projects and programmes, paving the way for a dedicated funding window. In 2018, the Green Climate Fund, similarly, began to fund multi-country adaptation projects and programmes to address climate vulnerabil-

ities and risks spanning several countries. Other climate funds established for specific purposes, including the Least Developed Countries Fund (LDCF) and Special Climate Change Fund (SCCF) have also supported transboundary adaptation projects.<sup>6</sup> Therefore, it is evident that a growing number of funds, networks, programmes and projects are now focusing on transboundary approaches to adaptation.

Transboundary approaches to socio-ecological challenges are not new. Indeed, climate funds, governments and others are drawing on a wealth of experiences of multi-country cooperation on other socio-ecological challenges, including: transboundary river or basin management; international migration; trade and food security. The Global Environment Facility (GEF), in particular, has extensive experience in funding multi-country collaboration initiatives on water and oceans, having assisted more than 150 countries to work together to manage their transboundary water resources.<sup>7</sup> Countries participating in GEF International Waters (IW) projects have negotiated and agreed on numerous regional cooperation frameworks, treaties, or protocols, ranging from cooperation on shared freshwater resources to agreements on marine resources. With

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1. Carter, T.R., Benzie, M., Campiglio, E., Carlsen, H., Fronzek, S., Hildén, M., Reyer, C.P. and West, C., 2021. A conceptual framework for cross-border impacts of climate change. *Global Environmental Change*, 69, p.102307.

2. IPCC, 2022. Climate Change 2022: Impacts, Adaptation and Vulnerability. <https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/>

3. Tilleard, S. and Ford, J., 2016. Adaptation readiness and adaptive capacity of transboundary river basins. *Climatic Change*, 137(3), pp.575-591.

4. Birkmann, J., Feldmeyer, D., McMillan, J.M., Solecki, W., Totin, E., Roberts, D., Trisos, C., Jamshed, A., Boyd, E. and Wrathall, D., 2021. Regional clusters of vulnerability show the need for transboundary cooperation. *Environmental Research Letters*, 16(9), p.094052.

5. IDDRI, 2021. Transboundary climate risks and adaptation: the example of coastal migration. <https://www.iddri.org/en/publications-and-events/blog-post/transboundary-climate-risks-and-adaptation-example-coastal>

6. [https://www.thegef.org/projects-operations/database?f%5B0%5D=countries%3A131&f%5B1%5D=funding\\_source%3A479&total=691](https://www.thegef.org/projects-operations/database?f%5B0%5D=countries%3A131&f%5B1%5D=funding_source%3A479&total=691)

7. Global Environment Facility, 2022. International Waters. Available online at: <https://www.thegef.org/what-we-do/topics/international-waters>

increasing pressures from climate variability and change on water resources, these initiatives are some of the most relevant to look to for effective multi-country approaches to managing socio-ecological challenges.

Since its creation, the Adaptation Fund has integrated provisions for transboundary approaches to adaptation through its Operational Policies and Guidelines (OPG).<sup>8</sup> In 2015, the Adaptation Fund Board approved a pilot program for regional projects and programs, through which accredited implementing entities could apply for funding to address transboundary climate risk in projects and programmes spanning multiple countries. At that time, the Board set aside US\$ 30 million for proposals under three themes: food security; disaster risk reduction and early warning systems; and transboundary water management. Subsequently, based on evidence that the demand from multilateral and regional implementing entities exceeded available funds, the Board made that funding window a standard feature of the Fund, now known as the Funding Window for Regional Projects.<sup>9</sup> From the 2018 fiscal year onwards, the Board approved a subsequent US\$ 30 million for the regional funding window.

The pilot programme and the consecutive funding window for regional projects and programmes provided some early insights on the nature of transbound-

ary approaches to adaptation that were seeking funding from the Adaptation Fund. A 2018 Adaptation Fund study identified a strong demand for transboundary initiatives, with 48 countries submitting 22 project or programme proposals across all available thematic areas.<sup>10</sup> Adaptation in the theme of “Disaster risk reduction and early warning systems” was dominant among the proposals received, which the report attributed to the transboundary nature of the climate risk and solutions proposed under that theme. Adaptation relating to transboundary water management was also popular with many initiatives seeking to establish early warning systems in shared river basins or coastal ecosystems.

Now, with a growing portfolio of multi-country initiatives—the Fund has approved in excess of US\$ 205 million in grant funding for 18 transboundary projects and programmes spanning 34 countries—there is a valuable opportunity to learn from the Fund’s experiences.<sup>11</sup> A number of questions arise on the state of knowledge on transboundary approaches to adaptation: What are the perceived benefits of tackling climate vulnerabilities at a transboundary scale? Does that perception play out in practice? What is the added value in transboundary adaptation as opposed to country-by-country approaches? What does the transboundary approach mean for the cost-effectiveness of these projects? What lessons can we learn

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8. Adaptation Fund, 2021. Operational policies and guidelines for Parties to access resources from the Adaptation Fund [https://www.adaptation-fund.org/wp-content/uploads/2017/08/OPG-amended-in-October-2021\\_adopted-clean.pdf](https://www.adaptation-fund.org/wp-content/uploads/2017/08/OPG-amended-in-October-2021_adopted-clean.pdf)

9. Adaptation Fund, 2015. Issues related to regional projects/programmes. Available online at: [https://www.adaptation-fund.org/wp-content/uploads/2015/04/AFB.B.25.6.Rev.\\_2\\_Issues-related-to-regional-projects.pdf](https://www.adaptation-fund.org/wp-content/uploads/2015/04/AFB.B.25.6.Rev._2_Issues-related-to-regional-projects.pdf)

10. Adaptation Fund, 2018. Report on the progress and experiences of the regional projects and programmes. Available online at: [https://www.adaptation-fund.org/wp-content/uploads/2018/09/AFB.PPRC\\_.23.3\\_Report-on-the-progress-and-experiences-of-the-regional-projects-and-programmes\\_final.pdf](https://www.adaptation-fund.org/wp-content/uploads/2018/09/AFB.PPRC_.23.3_Report-on-the-progress-and-experiences-of-the-regional-projects-and-programmes_final.pdf)

11. Adaptation Fund, 2022. Project Information. Available online at: <https://www.adaptation-fund.org/projects-programmes/project-information/>

from experiences in designing, coordinating, and managing such initiatives? These are some of the questions that motivate the present study.

Throughout this study, the term “transboundary adaptation” is used as an umbrella term in reference to the range of transboundary approaches being taken in the pursuit of adaptation to climate risks that transcend national borders. Broadly, a transboundary approach to adaptation has a number of characteristics: it involves a regional or multilateral entity in a coordination role; it requires cooperation between governments of neighbouring countries; and it is usually pursued where there is an identifiable climate risk that crosses borders,

such as climate impacts on a shared river basin, cascading impacts from extreme weather events, or on supply chains relating to agricultural production and food distribution. The terminology used by the Adaptation Fund Board—in reference to its “regional” projects and programmes that span multiple countries—is compatible with this broad understanding of transboundary adaptation. The Funding Window for Regional Projects therefore provides an appropriate basis to study the reality of transboundary approaches to adaptation, to understand the reasons governments pursue such approaches, and to improve the knowledge base on the challenges and opportunities that such approaches pose in practice.



Man stands in his first round of maize crop which failed due to drought in Machakos District, Kenya.  
*Photo by FAO*

## 2. Objective

The present study offers an overview of transboundary adaptation actions and interventions supported by the Adaptation Fund since 2015. Its overarching objective is to accelerate learning about approaches that lead to successful transboundary adaptation strategies. It includes the following sub-objectives:

- To provide an overview of the suite of measures that the Fund's accredited entities have deployed in pursuing transboundary adaptation;
- To document case studies that demonstrate approaches and methodologies that promote transboundary adaptation in practice;
- To highlight challenges and opportunities that implementing entities and their partners have encountered in delivering transboundary adaptation.

The study is produced within the Learning and Sharing pillar of the Fund's [Medium-Term Strategy](#) (MTS) for 2018-2022, which focuses on enhancing the Fund's processes and activities, as well as those of others. Its findings will be of interest to Adaptation Fund stakeholders, current and prospective multilateral and regional implementing entities, executing entities, non-government organisations, and practitioners interested in transboundary approaches to addressing the challenges posed by climate vulnerability and impacts.

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12. Adaptation Fund, 2017. <https://www.adaptation-fund.org/wp-content/uploads/2018/03/Medium-Term-Strategy-2018-2022-final-03.01-1.pdf>



Weather equipment that supports weather data collection and dissemination at Voi Meteorological Station in Taita Taveta, Kenya.  
*Photo by WMO*

# 3. The rise in interest in trans-boundary adaptation initiatives

In the years since the 2015 Paris Agreement – which established a global goal on adaptation – an increasing interest in adaptation across multiple scales has marked a departure from the framing of adaptation as a local problem. Previously, the emphasis in the majority of climate change impacts, vulnerability and adaptation research – as well as the vast majority of national adaptation plans and strategies – was on the local-to-national dimension, considering “direct” climate impacts within a country’s borders.<sup>13</sup>

It is now increasingly understood that, in many cases, climate risk is “borderless” in nature. Climate impacts in one country can create risks and opportunities – and therefore may require adaptation – in other countries, due to cross-border connectivity. Multiple scales of government are involved in adaptation planning and implementation across subnational, national or transnational levels.<sup>14</sup> Reflecting this reality, transnational networks of governments have emerged in recent years, with several focused specifically on adaptation. These networks have served to raise the ambition of adaptation interventions and stimulate peer to peer learning on adaptation planning and action across national borders.<sup>15</sup>

The emergence of new dedicated initiatives testifies to the growing interest in transboundary adaptation. The Adaptation Without Borders initiative, for instance, is a recently established global partnership led by a consortium of research institutes, that works to strengthen systemic resilience to effects of climate change that transcend borders.<sup>16</sup> The initiative also recognizes that adaptation actions can have consequences that cascade from country to country. Similarly, a recent study from the Institute for Sustainable Development and International Relations, has drawn attention to the cross-border implications of climate change on the cascading impacts of migration and the need for adaptation at multiple scales, including the transboundary dimension.<sup>17</sup>

The rise in interest and investments in transboundary adaptation in recent years provides an opportunity to reflect on what is known about these multi-country approaches: What has led national governments and implementing partners to pursue a regionally-coordinated approach as opposed to separate country-by-country approaches? As projects and programmes were formulated, what were the perceived benefits of tackling climate vulnerabilities in

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13. Institute for Sustainable Development and International Relations, 2018. Available online at:

<https://www.iddri.org/en/publications-and-events/report/meeting-global-challenge-adaptation-addressing-transboundary-climate>

14. Nalau, J., Preston, B.L. and Maloney, M.C., 2015. Is adaptation a local responsibility? *Environmental Science & Policy*, 48, pp.89-98.

15. Setzer, J., de Murieta, E.S., Galarraga, I., Rei, F. and Pinho, M.M.L., 2020. Transnationalization of climate adaptation by regional governments and the RegionsAdapt initiative. *Global Sustainability*, 3.

16. Adaptation Without Borders, 2021. Available online at: <https://adaptationwithoutborders.org/about-adaptation-without-borders>

17. Loiseleur et al. 2021. The transboundary implications of climate-related coastal migration: state of knowledge, factors of influence and policy pathways <https://www.iddri.org/sites/default/files/PDF/Publications/Catalogue%20iddri/Etude/202111-ST0921-Coastal%20Migration.pdf>

a coordinated multi-country way? Do those perceptions hold true in practice? What lessons can we learn from recent experiences in designing, coordinating, and managing such initiatives? These are the underlying questions that motivate this study.



## 4. Methodology

The study was undertaken in two phases. The first phase—focused on a desk study of policy and project-related documents—involved the following steps:

1. A review of scholarly and policy articles on transboundary adaptation;
2. A content analysis that examined project and programme documents in the Adaptation Fund portfolio, with a view to identifying a list of projects and programmes that involved significant regionally-focused adaptation;
3. Examination of a range of project monitoring and evaluation reports, including annual project performance reports, mid-term evaluations, and other relevant documentation for each project or programme, with a view to highlighting elements in the formulation, design, execution and management of transboundary adaptation measures.

A second phase—focused on garnering more specific information through interviews—involved the following steps:

4. Semi-structured interviews with representatives of regional and multilateral implementing entities, and executing entities, with a view to garnering information on strategies and lessons on regional adaptation.
5. Semi-structured interviews with members of the Adaptation Fund Board secretariat focusing on the Fund's experiences in reviewing, financing, monitoring and learning from regional adaptation initiatives it has funded.



Visiting communities in Taita Taveta County, Kenya to discuss the type of community interventions possible under the community grants mechanism.  
*Photo © S. Grey/ WMO*

## 5. Overview of transboundary adaptation in the AF portfolio

In 2008, the strategic policies and guidelines of the Adaptation Fund included provision for multi-country transboundary approaches, referred to in its policies and guidelines as “regional” approaches. In its early years of operation, the Fund sought to enhance access to climate finance by holding accreditation workshops in several continents and inviting accredited regional and multilateral implementing entities to submit requests for project and programme funding. Its project and programme funding, however, was first offered on a country-by-country basis and the majority of its funding to date is at the national level.

In 2015, the Adaptation Fund Board approved a pilot program for regional projects and programs, now referred to as the Funding Window for Regional Projects. It set aside US\$ 30 million for proposals under the themes of food security, disaster risk reduction and early warning systems, and transboundary water management. Subsequently, the Board decided to make the funding window a standard feature of the Fund, and approved another US\$ 30 million for the program in the 2018 fiscal year. In March 2017, the World Meteorological Organization (WMO) became the first entity funded under the regional funding window for a regional project across three countries in East Africa.

As of November 2021, the Fund has approved more than US\$ 205 million for 18 regional

projects and programmes spanning 34 countries. Disaster risk reduction comprised the largest share, by investment, totaling US\$ 98.3 million. Food security initiatives comprised the second largest share, totaling US\$ 58.8 million. Transboundary water management comprised US\$ 37.9 million while US \$10m had been allocated to innovation grants that aim to stimulate adaptation initiatives in multiple regions. Several other transboundary initiatives remained in the Fund’s pipeline, demonstrating a strong continuing demand. Eight regional implementing entities, as well as all multilateral implementing entities, are eligible to apply for grant funding for regional initiatives from the Fund.

Transboundary initiatives approved under the Fund have taken a number of approaches towards adaptation across territories in several countries. These approaches vary by sector, but share a focus of at least one project component dedicated to bringing together in dialogue project partners—whether vulnerable communities, government agencies, or universities—from different territories facing similar challenges. Some components of these projects have enabled knowledge sharing and learning designed to draw out shared commonalities in the local lived experiences of climate impacts in different contexts. In addition, they have enabled sharing of information on effective strategies to cope and adapt to these impacts. Other components

have enabled adaptation-related training over vast areas spanning across several countries. Others still have taken innovative approaches towards pooling technical,

organizational and financial resources in the hopes of achieving greater impact than the sum of their parts.

## 6. Learning from transboundary adaptation in practice

This section turns to a number of case studies of projects under implementation. For five projects, it seeks to highlight the adaptation challenge in each, the transboundary strategies deployed to overcome that challenge and preliminary lessons on the challenges and opportunities that a transboundary approach to adaptation offers in practice. The case studies were selected to cover

the major sectors taking a transboundary approach to climate change adaptation in the Fund's portfolio, i.e., in the sectors of disaster risk reduction, food security, and water resource management. Implementing entities from each of these projects were approached individually and agreed to participate in research for the study.

## 6.1 Transboundary adaptation focused on disaster risk reduction

6.1.1. Reducing climate vulnerability and flood risk in coastal urban and semi urban areas in cities in Latin America (Chile, Ecuador) – Latin American Development Bank (CAF) (US\$ 13,910,400)



Women from Taltal and Antofagasta were undergoing a training program aimed at strengthening their knowledge, capacities and skills in risk control and management.  
*Photo by CAF/UNDP/AF*

### The adaptation challenge

Communities in cities in Latin America are increasingly exposed to the negative effects of climate change and the impacts of weather-related disasters, posing challenges that must be overcome through adaptation measures. Residents of coastal cities such as Antofagasta and Taltal in Chile are increasingly vulnerable to mud flows arising from hydrometeorological hazards, while residents of Esmeraldas in Ecuador are vulnerable to climate-induced floods and droughts.

### Strategies for transboundary adaptation

In July 2019, the Adaptation Fund Board approved a US\$ 11,536,200 project designed to overcome the challenges facing the three coastal cities mentioned above, implemented by the Development Bank of Latin America (CAF) and executed by the Ministries of Environment in Chile and Ecuador. The project aims to reduce vulnerability to the most prevalent climate risks in those cities through a risk-based approach that focuses on regional collaboration, with benefits for the wider region of Latin America and the Caribbean.

Specific strategies to increase resilience across the territory include: integrating disaster risk reduction into urban planning, incorporating climate-related variables into infrastructure planning, strengthening early warning systems, strengthening the capacities of local government officers and communities, and connections between communities, local and national government. An online training course on risk-based adaptation for municipal and govern-

ment officers and technical staff developed through the project will be open to professionals from other coastal cities throughout Latin America and the Caribbean. Underlying the project's transboundary approach is a strategy to develop five communities of practice that generate and disseminate collective learning on adaptation across coastal cities in the region.

The governing authorities in Chile and Ecuador, together with CAF as implementing entity, chose to adopt a transboundary approach for adaptation for three reasons. First, such an approach made sense due to the **common climatic challenges** that the target geographies were facing. Just a few years prior to project formulation, cities across Latin America faced devastating floods due to hazards associated with the 2012-2013 La Niña phenomenon. This demonstrated the need for urgent urban adaptation actions. If common climatic challenges could be confronted together, it was logical that knowledge sharing across target geographies could lead to more impactful solutions.

A second reason for pursuing the transboundary approach was that it offered a **more immediate source of urgently needed adaptation funding than the funding alternatives**. The Adaptation Fund had raised awareness among governments and implementing entities that the regional funding window would make funds available beyond the country cap, then set at US \$10 million. This made the regional funding window particularly attractive compared to other options.

A third reason relates to **prior studies, programmes and analyses**. From 2014, CAF had initiated a programme on adaptation in cities that had encompassed prior work on vulnerability studies with cities across Ecuador and Chile, which had particularly strong demand for urban resilience. In addition, a programme funded by the European Union on urban vulnerability had produced studies that allowed CAF to develop well targeted interventions in cities with clear and urgent needs. Taken together, these factors compelled the project proponents to pursue the transboundary adaptation initiative that the Fund approved in 2019.

### Summary of results to date

- 1 virtual course developed on green infrastructure for coastal cities.
- 10 meteorological stations to monitor precipitation which affect the cities, linked to gender-sensitive early warning systems.
- 147 women and 212 men participated in awareness activities and events.

### Lessons from implementation

As of March 2022, the project, though having completed only one year, offers several insights on what it means to deliver transboundary adaptation in practice.

- First, in terms of concrete adaptation activities, dialogue between government authorities in Chile and Ecuador led to the procurement of hydrometeorological and climatic data services as opposed to original plans to invest in hardware that would have posed cost,

maintenance, and operational challenges due to technical capacity limitations. Information sharing between authorities from both nations allowed Chile to share lessons on community knowledge on storm early warning systems with their Ecuadorean counterparts. Similarly, the project's efforts to put women social leaders from Chilean communities in touch with male social leaders from Afroecuadorean communities, which is developing new understandings on how climate risk and adaptation strategies are communicated and understood through music and storytelling. From the perspective of the project team, these cross-territory dialogues that stem from the transboundary approach are proving to be particularly valuable in creating opportunities for participatory learning and bottom-up influence in which communities shape the form of project activities.

- Second, the project offers lessons on how project coordinators can deal with external shocks such as the COVID-19 pandemic and rapid institutional change. The pandemic caused delays and changes to most project plans to avoid the risk of contagion. Meanwhile, in Chile, the socio-political movement of 2019 saw citizens take to the streets to demand constitutional and political change and in Ecuador, personnel in several key government partners changed frequently. The project coordination teams dealt with these challenges by: organizing separate virtual as opposed to joint in person inception workshops; transition-



ing to virtual activities where possible; and requesting main and alternate focal points in each government agency to build in resilience and continuity in project staffing. These forced changes have posed challenges to building a culture of joined-up management across the territories involved and this is something that

CAF is keen to develop in the coming year. If successful in achieving a more joined-up management approach, project partners may stand a greater chance of success in their goal of generating and disseminating collective learning on adaptation across coastal cities in the region.

## 6.2 Transboundary adaptation focused on food security and agriculture

### 6.2.1 The Agricultural Climate Resilience Enhancement Initiative (ACREI) (Ethiopia, Kenya, Uganda) – World Meteorological Organisation (US\$ 6,800,000)



Pastoralists bring their herds of livestock to water at Lake Hawassa in Shelfo village, Ethiopia.  
*Photo by FAO*

### The adaptation challenge

The Horn of Africa has for several decades faced natural disasters, notably prolonged dry spells and droughts. The frequency and severity of these natural disasters are increasing due to climate change, impacting on food producers' livelihoods and food production in the region. Adaptation interventions are urgently needed to strengthen the resilience of vulnerable smallholder farmers, agro-pastoralists and pastoralists in the region to climate variability and change.

### Strategies deployed

In March 2017, the Adaptation Fund Board approved a \$6,800,000 project designed to overcome the food insecurity challenges mentioned above. The project aims to overcome these challenges through community-based and participatory adaptation action plans, climate proofing of the existing subnational agricultural extension system and promoting evidence-based climate informed decisions at multiple scales of government. The target project sites are Golaoda and Mieso in East and West Haraghe (Ethiopia), Taita Taveta County (Kenya) and Sembabule and Isingiro Districts (Uganda).

The governing authorities in Ethiopia, Kenya and Uganda, together with the World Meteorological Organisation (WMO) as implementing entity adopted a transboundary approach for this adaptation project for three interlinked reasons. First, **WMO operates as a regional entity** with networks in each of the target countries in the Horn of Africa **with its technical and operational capabilities extending across the region**. The organisation's regional perspective allowed

it to view climatic issues at the regional as opposed to only national level. Second, the **overarching climatic challenge of drought that transcended national borders**, even as it is experienced differently across territories and social groups, led WMO and its partners to view a transboundary approach favorably as an **effective means to tackle the effects of dry spells and drought comprehensively**. Third, **all countries in the project are members of the Intergovernmental Authority on Development (IGAD)**, which operates the 2019-2024 Drought Disaster Resilience and Sustainability Initiative (IDDRSI) that is mandated to build the resilience of vulnerable communities to the effects of recurrent droughts. The prior existence of that overarching drought strategy provided a context in which governments were accustomed to collaborating on drought and well attuned to how climate change was impacting drought patterns and impacting vulnerable populations.

### Summary of results to date

- 1 issue paper published on the project's methodology.
- 1 regional agro-pastoral field school manual produced.
- 2 government and 1 non-government institutions in each country provided with seasonal and/or enterprise-specific climate information.
- 2 regional good practices developed on participatory scenario planning and stakeholder mapping.
- 3 capacity development plans produced
- 3 historical climate data analyses conducted.
- 3 policy dialogues on climate change adaptation conducted.

- 3 stakeholder mapping & capacity needs assessments conducted
- 3 media partnerships developed to disseminate adaptation information
- 5 livelihood zones provided with specific climate information
- 9 seasonal agro-climate advisories disseminated
- 30 communities trained and supported in climate change adaptation proposal development
- 62 agro-pastoral field school groups in place and applying climate change adaptation knowledge
- 137 staff trained in participatory community mobilization and planning processes

### Lessons from implementation

The project offers a number of lessons on implementing a transboundary adaptation intervention, in practice, in the food security sector.

- First, coordinating a multi-country project requires a coordination approach that accounts meaningfully for differences across countries. In Kenya, the Food and Agriculture Organization of the United Nations (FAO) as executing entity operates directly through its country offices, while in Ethiopia it relies more strongly on government agencies. In Uganda, it relies more strongly on non-government organisations (NGOs) and local farmer groups. Strategies to use media as a stakeholder to communicate at the local level on weather, climate and climate hazards have been highly successful in Kenya, while in the other

partner countries the same strategies have proved less suitable. The benefit of having implementing and executing partners with extensive experience in the region is that they understand how to deliver projects effectively through the most appropriate institutional arrangements in each target geography. The lesson for project teams designing the implementation arrangements of multi-country adaptation projects is to identify partner organisations with a strong awareness of the political, economic, social and cultural nuances in the territories they are operating in. Practically, they may do this through: consultation with national and subnational governments; institutional capacity assessments; and prior collaborations.

- A second lesson relates to cost effectiveness. Operating at a regional level, the project partners have found, has avoided duplication of efforts and improved the joint mobilization of resources. In one instance, it was possible to expand a planned training programme to government staff in several countries in the region, promoting cross-country learning while reducing costs through the pooling of resources. Training materials such as manuals for farmer field schools can be developed centrally with wide input from stakeholders, thereby increasing cost effectiveness compared to similar efforts on a country-by-country basis. In terms of procurement, the project team's ability to procure automatic weather stations on international markets has proven to be approximately twice as cost effective

than purchasing these in local markets in country. Furthermore, the pre-existing linkages between regional-level institutions with access to weather and climatic data, as opposed to national or subnational entities that may struggle to access and use that data, can bring the benefit of bringing that data to the local level in ways that significantly increase cost effectiveness. One dimension in which

coordination may be less cost effective than nationally-led projects is in transportation costs to oversee a larger territory. Taken together, these factors have contributed to the perception that, to date, this transboundary project has proven to be significantly more cost effective as compared to the alternative of tackling climate related food security challenges on a country-by-country basis.

## 6.3 Transboundary adaptation focused on shared water resources

6.3.1 Adapting to Climate Change in Lake Victoria Basin (Burundi, Kenya, Rwanda, Tanzania, Uganda) – UN Environment Programme (US\$ 5,000,000)



Gully rehabilitation in the Republic of Rwanda, as part of a five-country regional AF-funded project.  
*Photo by ACC-LVB Project Coordination Team*

### The adaptation challenge

Communities in the Lake Victoria Basin, extending across Kenya, Tanzania, Uganda, Burundi, and Rwanda, are increasingly vulnerable to variability in rainfall patterns and mean annual temperatures. These countries' governing authorities face a complex task in ensuring that transboundary water catchment management accounts for these effects. Communities and authorities across the basin must adapt if they are to become climate resilient to these changes.

### Strategies deployed

In July 2017, the Adaptation Fund Board approved a US\$ 5,000,000 project designed to overcome the water management challenges mentioned above. The project aims to overcome these challenges through: strengthening existing regional and national institutions to improve management of climate resilience; improving the delivery of weather and climate information to policymakers and communities; innovative community-based projects; and improving knowledge management to collect, maintain and disseminate knowledge at the interface between transboundary water management and climate change adaptation.

The governing authorities of Burundi, Kenya, Rwanda, Tanzania, Uganda, together with their implementing partners at the UN Environment Programme, decided to pursue a transboundary approach to this adaptation project for four main reasons. First, they understood clearly from a scientific perspective that **the climate risk facing the Lake Victoria Basin transcends**

**national borders and political boundaries.**

Several earlier projects in the area funded by international donors had undertaken baseline and diagnostic studies and shown the national governments that tackling climate risk on a country-by-country basis would not be effective. Those governments were convinced that concrete action was needed and the focus of the Adaptation Fund on concrete action matched their needs well. Second, the **authorities appreciated that with no adaptation action, existing tensions over diminishing water resources may lead to escalating conflict.** Third, strong regional institutions including the Lake Victoria Basin Commission existed, demonstrating the political will and mandate for countries to cooperate on transboundary development issues. Fourth, given the authorities' prior awareness of UN Environment Programme's expertise in ecosystem-based adaptation, they were assured that a promising approach existed to tackle the basin's climate risk in a coordinated and scientifically backed way.

### Summary of results to date

- 2 regional meetings of the Climate Change Technical Working Group of the East African Community (EAC).
- 7 exhibitions have showcased regional and community-based approaches to climate change adaptation demonstrated through the project.
- 9 intervention sites agreed on based on vulnerability assessments.
- 13 news outlets in local press and media have covered climate adaptation through transboundary catchment management in Lake Victoria Basin.

- 32 experts from national meteorological agencies trained on downscaling regional climate information to national, subnational and local levels.
- 38 experts (31% female and 69% male) trained on delivery of climate information to local communities at selected project sites.
- 43 small-scale community-based projects that promote innovative approaches to climate change sites funded.
- 240 hectares of agricultural land rehabilitated through climate smart agriculture and agroforestry practices.
- 460 households in Burundi and Rwanda benefiting from climate smart water conservation practices.
- 1,644 households trained on climate change adaptation technologies.

### Lessons from implementation

The project offers a number of lessons on implementing a transboundary adaptation intervention in a large water catchment spanning several countries.

- First, the formulation of a transboundary project requires dedicated efforts to identify specific priorities and to seek consensus between authorities and other key stakeholders across partner countries. These efforts are particularly important in a context where multiple international partners have committed funding to address related issues. A key exercise in formulation, therefore, is a comprehensive stakeholder consultation process that identifies common and competing priorities by meaningfully engaging the diversity of actors. In this

project, the consultation process identified commonalities over the desire to urgently address a shared ecosystem problem, but tensions over the allocation of resources across territories. Some partners proposed a division of funds according to their territorial share of the basin and others proposed a division based on vulnerability indices. A key strategy to overcome these tensions was for the project team to identify champions that took the larger-scale, ecosystem perspective that formed the original rationale for pursuing a transboundary project, and enable those champions to lead a process to find consensus. Ultimately, the project partners agreed to allocate resources on an equal basis, mirroring their contributions in the East African Community (EAC) framework. This demonstrates how institutional precedent—in which parties have worked together previously—can serve as a helpful reference to seek consensus.

- Second, a key condition to getting the project off the ground after funding approval is a strong proposal document based on high quality regional-level baseline information. A key lesson to keep in mind is that high quality information may not exist at the supranational scale, or be easily accessed, by project teams in the formulation stage. In this project, UNEP and their partners drew on prior regional-level studies, analyses and strategies to assess the quality of information and understand what information gaps needed



to be filled. A comprehensive and well-planned approach to examining baseline information delivered significant benefits. For instance, this information had been used early on in project formulation to identify the fundamental drivers of the adaptation challenge that the project seeks to overcome. It also allowed project partners to set realistic, achievable targets as well as to monitor them effectively using reliable metrics and data. Knowledge of the information base early on is key to successful implementation.

- Third, on sustainability, the Lake Victoria Basin Commission is working closely with national ministries and with subnational level administrations in the selected project sites across the five partner states, to ensure that project investments are incorporated in the respective sector plans, programmes and budgets. The project is also emphasizing the transfer of knowledge and skills among local communities during the installation of various adaptation technologies, with the purpose of ensuring that

local communities are able to maintain the technologies beyond the project. These approaches demonstrate how, in multi-country interventions, the sustainability of adaptation actions can be integrated across all scales.

- Fourth, the cost effectiveness of this project was highly dependent on the contributions that partner countries could provide. UNEP operates a central coordination center for the project and works through country focal points in each partner country. The partner countries, in turn, provide in kind contributions of time and resource to support execution across the project territories. Gaining the support of national governments in this way has made project coordination and monitoring more cost effective than would have been the case if entirely new teams had to be established in each country. Working with executing entities early on to identify how they can contribute, even if not financially, has proved to be key to establishing a cost-effective approach to project coordination.

## 6.3.2 Integrated climate-resilient transboundary flood risk management in the Drin River basin in the Western Balkans (Albania, the Former Yugoslav Republic of Macedonia, Montenegro) – UN Development Programme (US\$ 9,927,750)

### The adaptation challenge

The Drin Basin, a transboundary river basin, extends across Albania, Kosovo, the Former Yugoslav Republic Macedonia, Montenegro and Greece. The 1.6 million inhabitants of the basin are experiencing more frequent and intense flooding. These worsening flood events are attributed to climate change, which particularly over the last decade has led to uneven distribution of precipitation and torrential rain. In the years to come, the area is expected to face increased frequency and intensity of floods and droughts, increased water scarcity, intensified erosion and sedimentation, increased intensity of snow melt, sea level rise, and damage to water quality and ecosystems. In this context, riparian countries must adapt by increasing the resilience of vulnerable communities to climate-induced flood risk.

### Strategies deployed

In 2019, the Adaptation Fund Board approved a US\$ 9,927,750 project designed to overcome the adaptation challenges posed by worsening floods across the basin. The project aims to overcome these challenges an integrated climate-resilient river basin management approach that improves existing capacity to manage flood risk at the regional, national and local levels. It also aims to enhance the resilience of vulnerable communities in the basin to climate-induced

floods through concrete community-based adaptation interventions.

UNDP, together with the authorities of Albania, the Former Yugoslav Republic Macedonia and Montenegro opted to pursue a transboundary approach to overcoming the adaptation challenge for two main reasons. First, despite the varied physical and cultural landscapes across the countries in the basin, there are also **commonalities in terms of climate risk and shared cultural and political history**. Second, **UNDP had prior experience with a GEF funded project on the Drin River Basin**. That earlier cooperation experience helped the countries develop a Transboundary Diagnostic Analysis (TDA) that formed the basis for flood risk-specific analyses in this project. It also enhanced coordination and cooperation at the basin level through the Drin Core Expert Working Group on Floods. These experiences led to a clear understanding that the climate-related challenges could not be solved on a country-by-country basis, and that partner countries would benefit from working together, on new challenges and using new methodologies.

### Summary of results to date

- Gender equality embedded in all recruitment, procurement and design.

- 25 new hydrometeorological stations under procurement.
- 1000 people directly protected by structural intervention improving hydraulic capacity of the Crni Drim River in North Macedonia.

### Lessons from implementation

The project offers a number of lessons on implementing a transboundary adaptation intervention in a water catchment spanning several countries.

- First, a lack of basin-level institutional frameworks to deal with flood risk challenges has posed challenges. Institutions that do exist, such as a memorandum of understanding between riparian nations signed ten years ago to consider transboundary issues in the basin, are temporary in nature and do not provide the certainty of well-developed long-term frameworks. The project frames this lack of institutional framework as a key opportunity for legal and institutional innovation: one of its key aims is to develop a basin-wide transboundary flood risk management (FRM) framework based on: improved climate risk knowledge and information;

improved transboundary cooperation arrangements and policy frameworks; and to support concrete flood management outcomes. Relatedly, the differential national-level institutional capacities—where some national institutions have experience in adopting and implementing the European Union Water Framework Directive and Flood Directive and others do not—must be considered in coordinating across the region.

- Secondly, UNDP has found the transboundary approach to be superior in terms of cost effectiveness. Specifically, in the use of subject expertise, including through hired consultants, information can be deployed over a larger, supranational, area to gain cost efficiencies. In addition, by virtue of a cooperative approach that considers knock on effects of interventions in one place, on another place, costly maladaptation outcomes are avoided. By considering impacts of interventions across the whole project area, the transboundary approach ensures that the risk of negative and costly outcomes is mitigated and that benefits are shared widely across the basin.

6.3.3 Integrating Flood and Drought Management and Early Warning for Climate Change Adaptation in the Volta Basin (Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Togo) – World Meteorological Organisation (US\$ 7,920,000)



community consultations  
Photo by UNPD/Nikola Zdraveski

### **The adaptation challenge**

Over the past two decades, almost two million people have been affected by floods in the Volta basin which spans from semi-arid to sub-humid areas across six countries in West Africa. Across the basin, some 68% of the population is dependent on agriculture. Due to climate change, poor farmers across the basin are particularly vulnerable to increasingly erratic rainfall and reduced availability of water supplies which are impacting food production and income generation. With worsening floods and water scarcity predicted to continue, riparian territories across the Volta Basin must adapt to prepare societies and economies.

### **Strategies deployed**

In 2018, the Adaptation Fund Board approved a US\$ 7,920,000 project designed to overcome the challenges posed by the effects of climate change on water supplies that are affecting communities across the Volta Basin. The governing authorities across the six riparian countries opted to pursue a transboundary approach to overcoming the adaptation challenge for three reasons.

First, since around 2013, several international organizations had worked closely with authorities in West Africa to improve knowledge on flood management. During that time, the national chapters of the Global Water Partnership (GWP) generated direct feedback from local experts. In parallel, the WMO received an increase in requests across the riparian countries for improved flood management information and capabilities. With its supranational-scale overview, the WMO was well positioned to

identify that these requests were mirrored across riparian countries and that the issue was a basin-wide issue.

Second, the WMO had excellent prior relations with basin-level institutions, specifically with the Volta Basin Authority (VBA). As a technical organization with regional offices but not teams in every country, it made sense to the WMO team once they had identified the basin-level demand, to work with institutions such as the VBA and national-level authorities they had strong relations with. The WMO's experience in the region and working relationships with other institutions positioned them well to design implementation arrangements.

Third, because of scientific and technical knowledge, the WMO was particularly aware of border issues on water management, such as where one country's efforts to manage excessive water flows through dams could cause negative impacts downstream. The WMO identified an opportunity, through a transboundary approach, to raise awareness on the negative impacts of country-by-country approaches to flood management that did not share information and account for potential negative impacts in other locations. Instead, the WMO used scientific and technical information to demonstrate that, collectively, the riparian nations could develop an integrated flood management solution for the basin.

### **Lessons from implementation**

As of March 2022, the project is yet to deliver most of its concrete results. Nonetheless, it offers early lessons on implementing a trans-

boundary adaptation intervention in a water catchment spanning several countries.

- First, having a large number of countries involved—in this case six countries—can pose challenges around information sharing. National authorities may be reluctant to share, for instance, their own information on weather and climate. Having adequate and quality information is, of course, crucial to making informed decisions around adaptation strategies. WMO overcame this challenge by organizing national-level workshops, with differentiated approaches in each country on gathering and generating information and developing trust between countries and demonstrating that the information can be used for a win-win outcome. This tailored and bottom-up approach proved effective in stimulating information sharing that

generated information for informed decisions.

- Second, in terms of coordination, the WMO's subregional offices in the region to be an important link between national level project teams and WMO's secretariat in Geneva. As in other contexts with multiple international funders, coordination between interventions is key to ensuring complementarity. At the national level, a key measure for successful coordination was to adopt execution arrangements that combined the strengths of the Volta Basin Authority, national meteorological services, and the focal point of the Global Water Partnership. The mandate and competences of these organisations were key to developing strong national-level working relationships for effective coordination across local, national and transboundary scales.

# 7. Synthesis of findings

The cases reviewed above demonstrate some of the important features relating to how transboundary adaptation projects and programmes operate in practice in interventions supported by the Adaptation Fund. Across the cases, a number of common factors have led territories to come together and opt to pursue solutions to adaptation challenges through a transboundary approach. Crucially, the cases demonstrate that several enabling conditions are important to create the best opportunities for success in pursuing such a project. In terms of project implementation in practice,

implementing entities and their executing partners have demonstrated that valuable opportunities exist to deliver concrete, cost-effective adaptation measures for vulnerable communities informed by cross-territory and cross-cultural knowledge exchange and learning. Finally, the study reveals some areas for further consideration by organisations engaged in the development, funding, or implementation of transboundary climate action.

The study's findings are summarised below in four categories.

## 7.1 The enabling conditions for transboundary action on adaptation

Across the cases examined, a number of conditions enabled project teams to seize opportunities and overcome challenges associated with the transboundary nature of the intervention. Four conditions proved particularly important:

- **First, the added value of implementing an adaptation project or programme through a transboundary approach, rather than on a country-by-country basis, appears to be most evident in cases where the adaptation challenge itself is transboundary.** This may be the case where countries in the region face similar climate risks, or where interventions to manage climate impacts in one country have implications in a neigh-

bouring country. By contrast, where the climatic challenges in different countries in a transboundary programme are distinct, it can be more challenging to foster a culture of regional coordination and shared learning. In contexts where climatic challenges are distinct in countries across a region, it may make less sense to pursue a transboundary approach.

- **Second, regional contexts with common languages across borders may lend themselves particularly well to multi-country transboundary initiatives.** Where neighbouring nations share a common language, communities may be more readily enabled to share expe-

riences and knowledge of climate impacts and adaptation solutions. Similarly, implementing entities working in territories with a common language across all project sites and in their headquarters, may benefit from the ease of communication throughout implementation. Implementing entities should, however, take steps to ensure that dominant languages do not prevent the equitable participation of minority groups who speak a different mother tongue, such as indigenous communities or immigrant communities, and who may need translation to fully participate.

- **Third, it is essential that implementing entities develop a comprehensive understanding of the institutional landscape across the region.** This involves understanding the strengths of national-level agencies as well as their needs for capacity enhancement. It also involves understanding the mandate, experience, and competencies of any regional or basin-level authorities, such as those charged with river-basin management or regional economic development. The existence of regional organisations and regional development initiatives in itself does not guarantee a better chance of success in coordinated action on climate adaptation. However, it does provide a basis for project teams to obtain existing demographic and climatic information, undertake institutional capacity assessments, and begin to conceptualise appropriate implementation arrangements. **Crucially, implementing entities must understand the nuanced political and policy realities around**

**past efforts at cooperation.** Without a comprehensive understanding of the institutional landscape, project teams may encounter challenges in securing political agreement on solutions. Even in contexts where there exists significant prior regional cooperation, such as in the East African Community (EAC), project teams may face the risk of disagreements on the allocation of resources between countries. Ensuring that an understanding of the institutional landscape is in place can position the project team well to develop shared understandings on the adaptation issues to be confronted and to find consensus on potential solutions and approaches for implementing those solutions.

- **Fourth, project teams must—early on—understand the robustness and availability of climatic, scientific and socioeconomic information.** A well-planned transboundary initiative will be based on up-to-date data and information usually gathered from a combination of national-level agencies, regional institutions and international organisations. Where project teams work to gather this data early, they can formulate a strong proposal document with effective measures in place to monitor progress and ensure that project activities have the best chance to deliver impact. Moreover, such efforts can also overcome challenges associated with the sharing of information, for instance by developing trust with national-level agencies that are reluctant to divulge valuable information, or by working with



universities or technical organisations to fill knowledge gaps. Across the projects examined, the availability of high quality

and up to date information proved to be an essential condition to effect project delivery.

## 7.2 Increased cost effectiveness and enhanced coordination

Implementing entities and their project partners have, on the whole, found transboundary adaptation projects to deliver strong results on cost effectiveness.

- In adaptation in transboundary water management, such as in flood management in the Victoria and Volta basins, they report that a fragmented, **country-by-country approach to adaptation could lead to duplication of efforts or even negative—and costly—outcomes elsewhere. A joined up, transboundary approach, can make more sense in such cases, from a geographical, climatic, and cost effectiveness standpoint.**
- In transboundary adaptation projects more generally, **implementing and executing entities have devised coordination arrangements that are unique to the physical and human geographies they are working in.** In practically all of the project cases examined in this report, a centralized form of coordination at the regional, i.e., supranational scale, has proved to be key in delivering cost effective management, including collective procurement with higher purchase power. These coordination teams work through national organizations in a way that is tailored to each country's legal,

regulatory and technical circumstances. Where those national organizations have made in kind contributions, such as the UNEP-implemented project in the Lake Victoria Basin highlights, cost efficiencies in coordination can be achieved. Implementing entities should, however, be up front with national partners to agree expectations for any in kind contributions so as to maintain transparency and trust.

- In some contexts, such as the case study on the project in the Drin River Basin reviewed, **a transboundary approach to adaptation can achieve cost savings through economies of scale.** In that context, a single investment in an expert consultancy yielded benefits over a larger project area than it would have on a country-by-country basis. Potentially costly maladaptation outcomes were also avoided, through coordinated action. Similarly, in the case study on the project in Chile and Ecuador, cost savings were achieved through the development of training courses that could readily be used by adaptation throughout the larger region. The degree to which economies of scale may be achieved is likely influenced by factors including: common language; geopolitical relations; the extent to which climate risks are under-

stood as “borderless”; prior knowledge and studies on transboundary climate risk; the presence of regional economic or scientific organisations; and the implementation modalities adopted. While a

transboundary approach to adaptation does not guarantee economies of scale, they do offer opportunities for significant cost savings.

## 7.3 Cooperation through learning and knowledge sharing across scales

The project cases reveal the importance of learning and knowledge sharing to innovation and adaptive management. New opportunities are opened up for learning during implementation from the local to transboundary scale.

- **Accounting for differences across large project areas is an important dimension of transboundary adaptation projects.** These differences cut across cultural, historical, linguistic, legal and political lines. Across the projects examined, what has proven key for coordination is to acknowledge differences and to tailor, as appropriate, to the institutions and realities of each country. It is well accepted internationally that adaptation is a local phenomenon and what works in one place may not work in another. Relatedly, transboundary projects offer many opportunities for learning and knowledge transfer, specifically about what works, where, and why, across local, national and supranational scales.

- **External shocks such as the COVID-19 pandemic in all regions—and the social and political unrest in Chile and Ecuador—have provided learning opportunities in adaptive management across all the transboundary projects examined.** The cross-border nature of transboundary projects has meant that, in many cases, project activities and visits have been prevented due to controls on movement. Project teams, authorities, and communities, have had to adapt to these restrictions through, e.g., holding virtual workshops, emphasizing online knowledge sharing across regions, and delaying some project activities. These experiences demonstrate the susceptibility of transboundary projects to external risks as well as the importance of including comprehensive risk assessment and adaptive management in implementation arrangements from the outset.

## 7.4 Issues for further consideration in transboundary adaptation

The cases reviewed highlight two additional issues that governments, international organisations and climate funds should consider as the number and volume of transboundary adaptation interventions increase in the years to come.

- **First, coordination among international climate funds and multilateral donors** that fund and implement climate adaptation interventions is likely to become more complex. As evidenced in the case studies on transboundary adaptation in the Drin and Volta river basins, a large number of actors have contributed to environment and development interventions in those contexts over recent decades. **If attention to transboundary climate risks continues to rise in the years to come, and is followed by increased funding for transboundary interventions, it will be essential that multiple donors coordinate to ensure coherence among adaptation actions.** Already, Adaptation Fund projects and programmes are screened for potential duplication before funding approval and implementing entities are encouraged to seek lessons, and ensure coherence, with other initiatives. **If several transboundary initiatives overlap in one region and**
- take place concurrently, the complexity of coordinating different efforts will increase. Governments, international organisations and climate funds should be attentive to this potential increase in complexity as well as the opportunities that well-coordinated new funding offers for greater impact.**
- **Second, the long-term sustainability of outcomes from transboundary initiatives is not yet well studied and merits further attention.** Transboundary interventions may not benefit from the financial and institutional stability that country-by-country adaptation interventions can provide, such as in cases where government ministries absorb responsibilities for finance and maintenance of infrastructure following project / programme completion. **Transboundary interventions in contexts without strong regional development organisations or other regional institutions may be particularly susceptible to issues in sustaining outcomes.** Governments, international organisations and climate funds should further study the long-term sustainability of the outcomes from transboundary interventions and devise strategies for long term funding.



Training program for women executed by AdaptaClima in Antofagasta, Chile  
Photo by CAF/UNDP/AF

## 8. Conclusions

This study was motivated by a rise in interest, among practitioners, policymakers and researchers, in transboundary approaches to delivering action to address climate change vulnerability and impacts. It also sought to accelerate learning about approaches that lead to successful transboundary adaptation strategies, drawing on the growing portfolio of transboundary interventions that the Adaptation Fund Board has approved funding for in recent years. The study drew on a literature review, project documentation, and in-depth interviews with implementing entities delivering transboundary adaptation in practice. It assessed what is known about why governments and implementing partners pursue a transboundary approach in the first instance and what lessons we can draw from studying the implementation of transboundary adaptation in practice.

The study's findings note the value of the transboundary approach as a complement to adaptation interventions at other scales. It is clear that climate impacts and vulnerability are experienced locally, and that locally-led and locally-driven solutions are often among the most effective. It is also clear, however, that the transboundary approach

adds value in tackling climate impacts that transcend national borders, especially in relation to water basin management. If the right enabling conditions are in place, including a comprehensive understanding of the institutional landscape, and the availability of high-quality climate and socioeconomic information, governing authorities and their implementing partners can seize on opportunities to coordinate action effectively and benefit from cost effective project coordination arrangements.

In the years to come, the adaptation community, whether at the global, national or local level, would benefit from continuing to study and learn from evolving experiences in transboundary adaptation as projects mature. Efforts to grow and improve the evidence base will prove valuable to donors, project proponents, governments and civil society stakeholders interested in ensuring that transboundary adaptation initiatives overcome the challenges that they inevitably encounter in implementation practice. If these lessons are learned, project partners seeking to address transboundary climate risks will maximise the benefits delivered to vulnerable communities and stakeholders at all scales.

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