

LEAST DEVELOPED COUNTRIES EXPERT GROUP

Regional approaches to adaptation planning and implementation



United Nations
Framework Convention on
Climate Change



Timor Leste
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Regional approaches to adaptation planning and implementation

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Bhutan
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Deadvlei, Sossusvlei, Namibia
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PREFACE

Since 2001, the Least Developed Countries Expert Group (LEG) has been providing more than 20 years of adaptation support to the least developed countries (LDCs) in addressing the adverse impacts of climate change. This paper is part of the activities of the LEG to provide technical guidance and advice on regional approaches to adaptation planning.

The high relevance of this publication is confirmed by the fact that the consequences of climate change are not limited to specific administrative boundaries but go beyond national borders. As multiple climate hazards continue to intersect in complex ways, the vulnerability of LDCs will be heightened by the double exposure to direct and indirect climate impacts. Cross-border climate impacts thereby put a heavier burden on LDCs, exacerbating pre-existing challenges and creating new obstacles for adaptation planning and implementation.

Under these circumstances, promoting regional coordination in the design and implementation of adaptation projects and policies is a key step in addressing the above-mentioned challenges. Joint adaptation initiatives provide the opportunity to lower the costs of implementation while improving countries access to international climate finance. Regional adaptation planning also promotes the exchange of essential climate data, which can improve forecast and prediction which allows for a more concrete adaptation actions. Cross-border connectivity can thus be leveraged to enhance the effectiveness of adaptation planning.

The scope of this publication is to encourage national adaptation decision-makers and practitioners and relevant development agencies to adopt a transboundary view of climate risk when formulating and implementing NAPs and to facilitate cooperation with other countries to address climate transnational problems. This paper discusses challenges, lessons learned and good practices in regional approaches to adaptation planning and implementation. By consolidating experiences and existing practices, this document will assist LDCs and the broader adaptation community in advancing the overall process of climate adaptation action through regional cooperation.

We invite you to visit the LEG webpages for further information at <http://unfccc.int/leg>



KENEL DELUSCA
LEG CHAIR 2021

INTRODUCTION

Among its responsibilities, the Least Developed Countries Expert Group (LEG) is mandated to provide technical guidance and advise on regional approaches to adaptation planning (LEG, 2012). This paper provides technical guidance for the consideration of regional approaches to adaptation planning and implementation, at the regional level and/or in the process to formulate and implement National Adaptation Plans (NAPs). It builds on two previous technical papers of the LEG on Regional synergy in addressing adaptation through the national adaptation programmes of action and the process to formulate and implement national adaptation plans in the least developed countries developed in 2015 and the Regional synergy in the context of national adaptation plans developed in 2005.

The paper focuses on transboundary climate change related risks that need to be considered both at the national and regional level; the data needed to facilitate active tracking of transboundary climate change related risks to facilitate evidence-based action; opportunities that exist for regional collaboration in identifying, analyzing and managing transboundary climate risks; and policy options that facilitate transboundary cooperation. The paper also underlines existing programmes and projects that are taking a regional approach as well as strategies for implementing regional approaches to adaptation planning and explores pathways to scale them up and integrate such programmes, projects, and strategies into national efforts.

With specific reference to the process to formulate and implement NAPs, the paper discusses the following:

- > Rationale and entry points for regional collaboration and coherence in the formulation and implementation of NAPs;
- > Challenges, lessons learned and good practices in regional approaches to adaptation planning and implementation;
- > Practical ways to enhance the consideration of regional approaches to adaptation in the national development plans;
- > Lessons on the design and implementation of regional adaptation programmes with countries, financial mechanism entities and other providers of support.

The paper facilitates dialogue on transboundary climate risk management within the broader adaptation community and how to effectively design solutions including accessing sustainable finance for implementation. Thus, information presented in this paper would guide the intergovernmental process in further deliberations on adaptation guidance and support, country adaptation actors including those responsible for National Adaptation Plans, regional entities and delivery partners on how to effectively support countries in adaptation planning.



Nyungwe park, Rwanda
Photo by Faustin Tuyambaze on Unsplash

OVERVIEW OF REGIONAL APPROACHES IN ADAPTATION PLANNING

FRAMING REGIONAL APPROACHES TO ADAPTATION PLANNING

Adaptation has mostly been seen through a local lens confined to national and subnational scales. Such national-to-local framing of adaptation fails to capture the full breadth of climate risks and its impacts. In fact, it leaves out the many interconnections among countries regarding water and land ecosystems; the prevalence of shared risk and opportunities; and the cross-border externalities of climate action. It also enforces location-specific action meanwhile climate change and the systems upon which it impacts – water, ecosystems, infrastructure, humans, etc. – are not confined within specific political boundaries (LEG, 2015).



Regional approaches to adaptation planning offer the adaptation community the opportunity to consider climate risk and its impacts as multiscale and borderless, cascading through different levels of government, in relatively simple or highly complex ways (Benzie & Persson, 2019). They further cast climate change adaptation under a new lens, where adaptation is seen more as both transnational and local endeavour, rather than a purely local one, which tends to dominate current ways of doing adaptation (Hedlund et al., 2018; Davis et al., 2016). Regional approaches to adaptation in this paper are explained as intergovernmental or transnational initiatives designed to respond to transboundary climate risk and unintended consequences of climate action emanating from different countries in a more coordinated and cost-effective manner to achieve collective good. When regional initiatives are well designed, they could enhance the pooling of scarce resources and expertise for effective and efficient response to climate risk, facilitate the exchange of information imperative to adaptation, minimize unilateral decisions, and maximize shared benefits from a transboundary perspective (UNECE, 2015). Compared to the individual, or territory-

specific interventions, regional approaches to climate risk management can provide concrete pathways and partnerships for more effective and efficient assessment, planning and response to climate risks. Also, the synergy between two or more entities produces a combined effect greater than an isolated effort. These reasons including those elaborated in chapter II provide a valid basis for the consideration of regional approaches to adaptation planning and implementation, at the regional level and/or in the process to formulate and implement NAPs.

Regional approaches to adaptation planning would apply to any transboundary climate-sensitive systems including, inter alia, water resources (such as river basins), shared terrestrial ecosystems and conservation areas (such as protected areas, national parks), marine ecosystems (such as fish stocks, shared coastal areas, estuaries, coral reefs), pests and diseases, and the movement of people (such as the movement of pastoralists across borders in search of pastures), hydro-energy resources (development of cross country hydro energy infrastructure), and trade and data (such as data on water usage, disease epidemics) (LEG, 2015).

Regional adaptation programmes and projects could either be a collection of individual country activity jointly developed, funded and implemented separately on the territory of each participating state, but the results contribute to basin-wide objectives or being implemented as a whole that permeates different political boundaries (UNECE, 2015). They include a continuum of different modes or models ranging from the collaborative exchange and learning (to diffuse best practices and enhance adoption) to information sharing (facilitate timely and cost-effective collection of data, analysis and transfer), coordination (to enhance harmonization of activities), and joint implementation of decisions (to promote joint planning, management and investments, enforcement of laws, awareness raising, facility operation, vulnerability assessment, infrastructural development, etc.) (World Bank, 2018; UNECE, 2015). Relevant examples include the Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI), The Asia Pacific Adaptation Network (APAN), The Lower Mekong Basin Climate Change Adaptation Initiative (CCAI); African Risk Capacity (ARC), Regional power pools such as the Nile Equatorial Lakes Countries Electric Grids Interconnection Project, etc. Other relevant examples are used throughout the paper.

Designing regional adaptation programmes and projects will involve a diversity of partners, such as the concerned individual countries through appropriate agencies; key actors and stakeholders from local communities, including vulnerable groups, across the different countries; entities providing support to the countries (national, regional and international); and the financing entities (operating entities of the financial mechanism; Development Banks, Insurance Brokers). There is high variability in capacity, expertise, risk exposure, vulnerability, resource endowment and regulatory institutions across these stakeholders. These differences must not be side stepped in the conceptualisation and implementation of a regional adaptation initiative in order not to disadvantage some parties or group of stakeholders due to their unique circumstances. The LEG technical guidelines on NAPs and the toolkit for a gender-responsive process to formulate and implement NAPs are good sources of information on how to engage different stakeholders and vulnerable groups in the conceptualisation of regional adaptation initiative.

RATIONALE FOR REGIONAL APPROACHES TO ADAPTATION PLANNING

1. ENHANCING COORDINATION OF ACTIONS

Countries located within similar ecological or geographical area mostly share common natural and socioeconomic systems exposing them to similar climate risks. These include shared water resources (such as river basins), shared terrestrial ecosystems and conservation areas (such as protected areas, national parks), marine ecosystems (such as fish stocks, shared coastal areas, estuaries, coral reefs), pests and diseases, and the movement of people (such as the movement of pastoralists across borders in search of pastures), and economic activities (such as trade in climate-sensitive goods and service) (LEG, 2015). Countries are addressing the challenges related to the use of these shared resources and risk in a coordinated manner using existing regional initiatives or through the creation of special programmes. Box 1 below shows examples of regional agencies established to facilitate the coordination of multi-country initiatives meant to address transboundary issues including climate risk. The coordination of regional adaptation planning through these agencies promotes common understanding of climate risk and provides opportunities to identify joint and more effective adaptation solutions that would otherwise be unattainable if countries were to undertake isolated activities.

Coordination of responses to transboundary climate risk among nations could lead to economies of scale, facilitate resources mobilisation (data, technical capacity, funding, tools, and strategies), minimize the cost of interventions, and facilitate peer learning and utilisation of best available science (Persson & Dzebo, 2019; Benzie & Persson, 2019).

BOX 1:**EXAMPLE OF A REGIONAL PROJECT DESIGNED TO COORDINATE ADAPTATION RESPONSES**

There are a number of regional initiatives meant to coordinate adaptation effort across different countries that share common resources at risk of climate impacts. These initiatives were developed with the sole purpose of coordinating and harmonising national level activities that could contribute to basin-wide objective or regional level objective. Table 1 outlines these initiatives. Few of these initiatives that are highlighted enhance the coordination of adaptation measures among participating countries.



TABLE 1:

INITIATIVES THAT ENHANCED COORDINATION OF ADAPTATION MEASURES AMONG PARTICIPATING COUNTRIES

Name of Initiative	Region	Examples of coordination efforts or projects
the Agro-meteorology, Hydrology, Meteorology Regional Center (AGRHYMET)	West Africa	Providing joint training of cadres of the Sahel, agro-meteorological and hydrological monitoring at a regional level, regional data banks, strengthening cooperation interstate through the exchange of technology and methodology.
West African Science Service Center on Climate Change (WASCAL)	West Africa	Strengthening the research infrastructure and capacity in West Africa related to climate change and by pooling the expertise of ten West African countries and Germany (e.g. Competence Centre and Core Research Programme).
the South Pacific Regional Environment Programme (SPREP)	South Pacific Islands	Promoting cooperation in the Pacific region and aiding in the areas of climate change resilience, Island and ocean ecosystem, effective waste management and pollution control, and environmental governance.
Asia-Pacific Fishery Commission (APFC)	Asia-Pacific	Improving understanding, awareness, and cooperation concerning fisheries issues in the Asia-Pacific region by assisting member countries in developing and managing their fishing and culture operations, processing, and marketing.
the Network of Aquaculture Centres in Asia-Pacific (NACAP)	Asia-Pacific	Providing the scientific community in the context of fisheries and rural development a common platform to share practical experiences in understanding the vulnerabilities associated with climate risk (e.g. ocean acidification) and how to develop optimal adaptation solutions.
International Centre for Integrated Mountain Development (ICIMOD)	Hindu Kush Himalaya	Through regional programmes and initiatives, they aim to share knowledge and enhance the adaptive capacities of the HKH to socioeconomic and environmental changes, including climate change.
Nile Basin Initiative (NBI)	North-Eastern Africa	Providing a forum for consultation and coordination among the Basin States for the sustainable management and development of the shared Nile Basin water and related resources.

Generally, these initiatives have improved peer learning and facilitated the sharing of good practices, facilitated programmes piloting, enhanced resource pooling, reduced the unit cost of adaptation action among participating communities (Benzie & Persson, 2019; Traore et al., 2014). The importance of coordinating adaptation effort among countries has also been highlighted in a recent assessment of transboundary projects in Africa and Asia by the World Bank (2017). The bank found that the effective coordination of countries efforts in the implementation of the Lesotho Highlands Water Project led to a significant reduction in the cost of implementation. Furthermore, the bank indicated that the regional early warning system in Lake Chad will enable countries to comprehensively coordinate and map water-related risks and response to hazards in a timely manner.

2. PROMOTING THE SHARING OF DATA AND FACILITATING JOINT ASSESSMENTS

The relevance of continuous, systematic monitoring and data sharing for transboundary climate risk management remains uncontested (Cosens & Williams, 2012). Access to accurate and timely information is crucial for responding to both avoidable and unavoidable climate impacts. It is evident that climate risks that are transboundary are particularly hard to manage without having access to sufficient and accurate data across specific basins or climatic zones. For example, the lack of data on water usage, changes in hydrological trends and climate within a given basin will make it extremely difficult if not impossible to design the most appropriate adaptation actions. **Regional adaptation planning allows countries to share information and tools. Transboundary sharing of information through jointly designed early warning systems can greatly improve prediction, avert large losses and identify alternative means to replace losses that were not avoided.** This is particularly so in the case of index-based weather or ‘parametric’ insurance programs, which rely on accurate triggers such as precipitation, wind threshold, etc., to trigger insurance pay-outs. The African Risk capacity (ARC), the Caribbean Catastrophe Risk Insurance Facility (CCRIF) and Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) operate at the regional level and rely on the efficient sharing of data related to their area of focus in order to efficiently support countries. For example, the PCRAFI aims to provide the Pacific Island Countries with timely and accurate disaster and climate risk information and relevant tools for enhanced risk management decision making. These risk pooling mechanisms ensure government risk and are designed to limit the financial impact of extreme climate events by quickly providing short term liquidity when a policy is triggered.



Hurricane
Photo by NASA on Unsplash

Regional adaptation programmes promote the exchange of regionally valuable knowledge, data and information on borderless risk allowing national level actions to be informed by common data sets. Such programmes harmonize basin-wide actions and further reduce the duplication of efforts. Again, the exchange of knowledge lessens uncertainty in the use of shared resources, improves the quality of vulnerability assessment results, and increases awareness and engagement of all stakeholders between countries. For example, the Zambezi River Basin Management Project has led to enhanced coordination and sharing of real time data for decision making (see box 2 below).

BOX 2:**MANAGING UNCERTAINTY THROUGH TRANSPARENT DATA AND INFORMATION SHARING – THE CASE OF ZAMBEZI RIVER BASIN PROJECT**

The Zambezi River Basin Management Project was designed to strengthen Zambezi Water Course Commission's role in promoting cooperative management and development within the Zambezi River Basin through **improved information sharing**, institutional strengthening, and decision support and strategic planning. The baseline reason for including data sharing as key component of the project was the lack of clarity of roles and potential conflict in the use of water for critical sectors including agriculture, energy and industrial growth (World Bank, 2015).



Figure II.1: Map of the Zambezi River Basin (World Bank, 2015)

The project has led to the establishment of a legal framework for transboundary water management and development among participating countries, which provides options for harmonization. Additionally, the initial system design of sharing real-time information has been completed (with a knowledge portal, time series, spatial database and platform), and the integration of a decision support system is in the process. Rules and procedures for data and

information sharing have been adopted to provide a common platform for interaction, negotiation, and conflict resolution. The percentage of contribution by the member states to the cost of minimum functionality, has also been completed reducing uncertainty related to the water (World Bank, 2015). These developments are expected to reduce uncertainty and enhance coordination among participating countries, with initial results already evident.

3. FACILITATING JOINT DEVELOPMENT AND IMPLEMENTATION OF TRANSBOUNDARY ADAPTATION PROJECTS

Regional approaches to adaptation planning facilitate joint development and implementation of transboundary adaptation projects for shared resources (e.g. food systems, fisheries, transboundary conservation, ecosystem corridors, water resources, regional power pools, etc.) (Arieli, 2012). **Joint planning and implementation have a potential to improve project efficiency, enhance collective progress, attract sufficient funding, and engender common narrative and framing, thereby creating a path towards economies of scale.**

Both finance and technical support are gradually being made available to countries intending to implement joint initiatives with the view that climate risks do not end at political boundaries, hence the need for cooperation. Indeed, scientific literature argues that a regional approach to adaptation planning could be the next iteration of the historical development of adaptation in climate governance (Persson & Dzebo, 2019).

The dozens of transboundary initiatives that have been financed by the GEF, including through the LDCF and the SCCF, underscore the increasing traction of transboundary projects to international development finance institutions. Similarly, there are about ten standalone and cross-cutting multi-country initiative currently being financed by the Green Climate Fund (GCF) with some meant to address transboundary climate risk. The table 1 below provides a selected list of joint adaptation activities, geographical scope, objectives, and funding sources. These projects are implemented covering different geographical boundaries.

TABLE 1:

SELECTED EXAMPLES OF TRANSBOUNDARY PROJECTS

Project	Region and Participating countries	Objective	Funding source
Mekong River Commission – Joint Project on Flood and Drought Management programmes ^a	Asia-Pacific: Cambodia, Laos, Myanmar, Thailand and Viet Nam	Drought monitoring, forecasting and early warning system (on-going); regional strategy for flood management and mitigation; flood monitoring and forecasting system	MRC, JICA, NASA, SEVIR-Mekong MRC, GIZ, the Netherlands
Lake Victoria Environmental Management Project II ^b	Africa: Burundi, Kenya, Rwanda, Tanzania, and Uganda	Improve the collaborative management of the transboundary natural resources of the Lake Victoria Basin	Domestic funding from participating states, GEF
Enhancing Climate Change Resilience in the Benguela Current Fisheries System ^c	Africa: Angola, Namibia and South Africa	The programme is designed to improve resilience to climate change impacts by improving institutional structures and capacities of the three countries in order to manage the ecosystem as a whole.	Domestic funding from participating states; GEF; Benguela Current Commission (BCC); FAO
PCRAFI - Pacific Catastrophe Risk Assessment and Financing ^d	Pacific: Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua, New Guinea, Solomon Islands, Tonga, Tuvalu, Samoa, Timor-Leste, Vanuatu.	It provides disaster risk modelling and assessment tools including financial solutions for risk transfer to member countries.	Domestic funding from participating states, World Bank, Asian Development Bank Japan, European Union
Blue Action Fund (BAF): GCF Ecosystem Based Adaptation Programme in the Western Indian Ocean ^e	Africa: United Republic of Tanzania; Madagascar; South Africa; Mozambique	Increased resilience of vulnerable coastal populations to climate change	Domestic funding from participating states; GCF; Germany (BMZ via KfW); NGOs
Support to Rural Livelihoods and Climate Change Adaptation in the Himalaya (Himalica) ^f	South Asia: Bangladesh, Bhutan, Myanmar, Nepal and Pakistan.	To support poor and vulnerable mountain communities in the Hindu Kush Himalaya (HKH) to mitigate and adapt to climate change	European Union

^a <https://icem.com.au/portfolio-items/project-description-mekong-river-commission-joint-project-on-flood-and-drought-management>.

^b <https://projects.worldbank.org/en/projects-operations/project-detail/P100406?lang=en&tab=details>.

^c <https://www.thegef.org/project/enhancing-climate-change-resilience-benguela-current-fisheries-system>.

^d <http://pcrafi.spc.int>.

^e <https://www.greenclimate.fund/project/fp122>.

^f <https://www.mmiid.org/projects-research/himalica-rural-livelihoods-and-climate-change-adaptation/>

4. FACILITATING POOLING OF FINANCIAL AND TECHNICAL RESOURCES

According to Chan and Amling (2019) and UNEP (2016), regional planning for adaptation allows project developers to mobilise limited resources that would have otherwise been difficult to mobilise, which in turn stimulates confidence among actors and further creates the sense of shared responsibility and solidarity. Regional approaches also help to broaden the knowledge base, enlarge the range of adaptation options, spread financial responsibility and risk across different countries when designing interventions meant for complex issues such as climate change. Regional approaches to adaptation planning offer such opportunities by, inter alia, pooling together all relevant expertise beyond a single political boundary. Participating states are further able to attract several development partners given the perceived lower financial risk threshold. Box 3 below provides an example on pooling financial and technical resources in the Mekong River Basin.



Mekong River Delta, Vietnam
Photo by Tomáš Malik on Unsplash

The World Bank (2017) noted that individual countries might not have the financial resources and technical capacity to respond to cross-border risk or develop the critical infrastructure needed to adapt to climate impacts. It underscores the relevance of using regional approaches to adaptation planning to pool together the needed resources. Regional cooperation in adaptation attracts resources and expertise from diverse state actors, multilateral agencies, and donors.

BOX 3:**POOLING FINANCIAL AND TECHNICAL RESOURCES FOR TRANSBOUNDARY ADAPTATION PLANNING— THE CASE OF THE MEKONG RIVER COMMISSION**

Transboundary commissions and authorities have in recent years promoted the development and implementation of strategic cross-border initiatives to reduce the impact of climate change on shared resources (Benzie et al., 2018). The Mekong River Commission (MRC) is one of such institutions that are at the forefront of promoting regional approaches to adaptation planning. The following diagram provides a brief overview and key points relating to the MRC.

In 2009 MRC developed one of the pioneer basin-wide climate change adaptation initiative and action plan.

Both instruments provided a shared vision and coordinated agenda for a resilient future with accompanying strategies for implementation (Benzie et al., 2018).

Since then MRC has promoted transboundary climate change programmes:

including, inter alia, drought and flood forecasting and management, agriculture planning, basin planning, climate change, environmental health monitoring, fisheries monitoring, river transport management, and sustainable hydro power.

Apart from the coordination of regional level activities and development of technical guidance on adaptation planning,

MRC facilitates access to financial resources from member states, international development finance institutions and donor agencies.

It has been able to pool financial resources from donor agencies (EU, Finland, Sweden, Germany, etc.) and member states to develop adaptation strategies and local action plans for the Mekong River Basin,

which helped implement transboundary climate risk assessment and produced a triennial report on progress in adaptation in the Mekong River Basin, enhanced climate communication, build capacity of experts and improve monitoring, evaluation and reporting of climate interventions.

Specific examples of funds that have been mobilised by the commission for and on behalf of member states include:

8 million USD from the GEF in 2012 to improve Mekong resources management.

The funding was meant to improve dialogue, cooperation and understanding on integrated water resources management principles among the Lower Mekong Countries—Cambodia, Lao PDR, Thailand and Viet Nam.

6 million USD in 2013 from the European Union to tackle climate change in the Mekong.

The funding was meant to boost its efforts in responding to the region's climate change challenges. The funding was meant for transboundary Climate Change Adaptation Initiative (CCAI). It helped the MRC programme to assess the effects of climate change and integrate adaptation planning at the regional, national, and community levels.

3.9 million USD in 2020 from Japan to tackle Mekong flood and drought issues, 2020.

The funding is to help the Mekong River Commission in advancing its flood and drought monitoring and forecasting functions. The funding will help transform the MRC's Regional Flood and Drought Management Center (RFDMC) in Phnom Penh into a center of excellence in providing faster and more accurate flood and drought forecasting and early warning system.

2.2 million USD in 2019 from Germany to support cross-border water cooperation and joint environmental monitoring.

The funding aims to help the Mekong River Commission to increase cross-border water dialogue and cooperation and support efforts in monitoring transboundary environmental impacts from Mekong mainstream dams.

3.3 million USD in 2009 from Denmark to support the Mekong River Commission Fisheries Programme.

The funding helped the Mekong River Commission to undertake vulnerability assessment of fisheries within and improve fisheries management.

5. PROMOTING THE EXCHANGE OF EXPERIENCES, GOOD PRACTICES AND LESSONS LEARNED

Adaptation interventions are more successful when they build upon past interventions and use best available tools, science, data and techniques (Portman & Teff-Seker, 2017). One of the effective ways to exchange useful information on experiences, good practices and lessons learned is joint adaptation planning. It creates the forum for peer learning and diffusion of best practices. **Through joint adaptation planning, countries are able to undertake a comparative risk assessment and peer review of adaptation solutions providing the opportunity to adopt best practices.** The LEG (2015) in their technical paper on *regional synergy in addressing adaptation through the national adaptation programmes of action and the process to formulate and implement national adaptation plans in the least developed countries* noted that regional approaches to adaptation planning broaden the knowledge base on impacts, vulnerability and adaptation by engaging regional pool of experts and tapping into experiences, best practices and lessons learned from other countries in the same or other regions. Also, the institutionalization of the exchange of knowledge and experiences between different countries through joint initiatives is a good way to build capacity and promote a common narrative.

BOX 4:

SHARING BEST PRACTICES AND LESSONS LEARNED THROUGH REGIONAL CENTRES AND NETWORKS

In the last two decades, many regional centres and networks have been established to lead transboundary climate change planning. Among others, these regional bodies facilitate the incorporation of transboundary thinking into national adaptation planning and relevant basin institutions; undertake those activities that promote synergies between regional and national institutions through standardized protocols; facilitate access to bilateral and multilateral climate funding; enhance capacity building among participating states; lead regional scientific studies and provide apolitical advice to participating government on several specific issues, plus any other matter deemed important. Considering their long-time experience in supporting countries in their regions, they are well-positioned to effectively promote the exchange of experience, good practices and lessons learned among member countries (LEG, 2015). For example, **ICIMOD, SPREP, AGRHYMET and ACPC organize regional workshop to raise awareness on climate risk and for participants to learn more from other participants' experiences with similar economic and social backgrounds.** They also create the platform for member countries to develop common tools, technical guidelines and share experiences and lessons learned to enhance the capacity to plan for and respond to climate risks.



EXAMPLES OF ACTIVITIES IMPLEMENTED THROUGH REGIONAL APPROACHES

Addressing transboundary climate risk requires integrated efforts – building capacities of national institutions, investing in better and more accessible information resources, nourishing natural resources, retrofitting and building new infrastructure, avoiding maladaptive consequences, strengthening monitoring and planning tools, facilitating science-policy dialogues, and promoting good practices across all levels of government. This section provides examples of common activities implemented through regional approaches to adaptation planning: development of river basin authorities and initiatives; transboundary conservation; regional risk pooling schemes; provision of infrastructure; monitoring and planning tools; science-policy dialogue; information sharing, joint implementation of decisions, and collaborative exchange of experience, sharing of good practices and lessons learned.

1. RIVER BASIN AUTHORITIES AND INITIATIVES

Many river basins are shared by two or more countries. However, the situation, needs, and usage of water often differ due to different characteristics of the countries connected to the basin. To enable effective coordination among them, countries develop joint basin authorities and initiatives to coordinate use of water, data sharing, conduct of studies and provision of technical advice to participating countries. Table 2 below provides examples of transboundary river basin authorities and initiatives established to coordinate and provide technical advisory services on transboundary issues including regional adaptation planning.

TABLE 2:

EXAMPLES OF RIVER BASIN AUTHORITIES AND INITIATIVES

River basin authorities and initiatives	Objective / area of focus	Countries involved
Lake Victoria River Basin Commission Climate Change Adaptation Strategy and Action Plan ^a	To provide a comprehensive roadmap for addressing and adapting to climate change impacts in the region, with a focus on five key sectors: agriculture and food security; water; terrestrial ecosystems; health; and energy and infrastructure	Tanzania, Kenya, Uganda, Rwanda, and Burundi
Mekong River Commission Secretariat -Climate Change and Adaptation Initiative ^b	To understand and reduce the impacts of climate change on the people and ecosystems of the Lower Mekong Basin	Cambodia, the Lao People's Democratic Republic, Thailand and Vietnam
Nile River Basin Initiative ^c	To develop the river in a cooperative manner, share substantial socioeconomic benefits, and promote regional peace and security” and to “provide an institutional mechanism for basin wide framework cooperation	Ethiopia, Sudan, Egypt, Rwanda, Tanzania, Uganda, Burundi, the Democratic Republic of the Congo, Eritrea, and Kenya.
South Asia Water Initiative ^d	To increase regional cooperation in managing major Himalayan river systems to deliver sustainable, fair, and inclusive development and climate resilience	Afghanistan, Bangladesh, India, Iran, Nepal, Pakistan and Sri Lanka
Volta Lake Basin Initiative ^e	To support the integrated socio-economic development of the six riparian countries (integrated water resources management)	Ghana, Burkina Faso, Togo, Mali, Benin and Cote d'Ivoire

a <https://www.climatelinks.org/resources/lake-victoria-basin-climate-change-adaptation%20strategy-and-action-plan-2018-2023>.

b <https://www.mrcmekong.org/our-work/topics/climate-change>.

c <https://nilebasin.org/information-hub/climate-services>.

d <https://www.southasiawaterinitiative.org>.

e <https://iwlearn.net/resolveuid/047cfa3-5579-40e7-8bab-b93d61e28bbf>.



Nile River, Khartoum, Sudan
Photo by Ahmed Baiker on Unsplash

2. TRANSBOUNDARY CONSERVATION

Unique and rare biodiversity including other natural resources are at risk of both climate change and human activities. Managing these risks has led to joint project planning among countries sharing common biodiversity hotspots. Mostly, climate induced transboundary conservation programmes and projects aim to reduce vulnerability to climate impacts, build adaptive capacity, and enhance the diffusion of good practices across borders. Few of such programmes include: the Coral Triangle Initiative (CTI); Snow Leopard and Ecosystem Conservation; the Global Tiger Recovery Programme; Advancing Conservation in the Eastern Caribbean Project; Congo Basin Strategic Program; Testing a Prototype Caribbean Regional Fund for Wastewater Management (CRew) project; Catalysing Implementation of Strategic Action Programme (SAP) for the Sustainable Management of shared Living Marine Resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems; and the Heart of Borneo.

BOX 5:

THE CENTRAL ASIAN BIODIVERSITY TRANSBOUNDARY PROJECT



Figure II.II: Map of countries that are part of the Central Asia Transboundary Biodiversity Project (Global Transboundary Protected Areas Network, 2011).

Studies have shown that climate change is a leading cause of habitat loss and change, as well as reduction in biodiversity. It has been reported that half of Tajikistan’s and two-thirds of Kyrgyzstan’s existing habitat is at risk from climate change, which could lead to either outright loss or abrupt change in habitat type. The Central Asian Biodiversity Transboundary Project was established in response to these threats. Among others, the

project specifically aims to reduce human related pressure on the protected areas and enhance the levels of biodiversity conservation and sustainable use; strengthen local and national capacity through education and training; raise biodiversity public awareness and participation in biodiversity conservation in the region and create commitment to planning, wildlife management, monitoring and enforcement; and establish transnational coordination and cooperation mechanisms for biodiversity conservation activities (GEF, 2007).

The following are important issues that were considered to ensure the success of the project:

- 5 The benefits of the project were identified and demonstrated through awareness campaigns.
- 4 Received political endorsement and commitment from all member states;
- 3 Institutional and legal assessment was conducted to avoid mismatches among countries;
- 2 Preparations included participatory workshops for stakeholders (local communities, scientists, NGOs, government and protected area managers);
- 1 The project activities were fully consistent with national policies;

3. REGIONAL RISK POOLING SCHEMES

Regional risk pooling schemes are currently being utilized in different regions across developing countries to limit the financial impact of extreme climate events by quickly providing short term liquidity when a policy is triggered. **Regional risk pooling, such as parametric insurance programmes require coordinated efforts at regional level to facilitate the diversification of risk and enhance access to accurate and timely information (e.g. on wind, temperature, precipitation thresholds) to trigger post disaster pay-outs.** This eliminates delays in disaster response associated with the lack of predictable source of funding, objectively informs reallocation of fiscal priorities, and facilitates quick pay-outs, which in turn prevents communities from engaging in unintended maladaptive practices such as selling of assets. Prominent risk pooling schemes currently being implemented at the regional level include the Caribbean Catastrophe Risk Insurance Facility (CCRIF), the African Risk capacity (ARC), and the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI); and R4 Rural Resilience Initiative.

BOX 6:

THE PACIFIC CATASTROPHE RISK ASSESSMENT AND FINANCING INITIATIVE (PCRAFI)

PCRAFI is a joint initiative of the Pacific Island countries, international reinsurance companies, donor agencies, and multilateral development finance institutions. The initiative is part of the broader agenda on disaster risk management and climate change adaptation in the Pacific region focusing on: (i) strengthening early warning and preparedness; (ii) creating a framework for stronger and prioritized investments in resilience and retrofitting of key public assets to meet international standards; and (iii) improving countries' post-disaster response capacity through strengthened financial resilience to disaster events. It also provides the 15 member countries with a detailed probabilistic hazard models, such as storm surge, tsunami, tropical cyclones, and rain earthquake with ground-shaking. Currently, the initiative has made two pay-outs for an aggregate amount of US\$3.2 million within 10 days of the disasters. Tonga received a pay-out of US\$1.3 million following Tropical Cyclone Ian in January 2014. Vanuatu received a pay-out of US\$1.9 million following Tropical Cyclone Pam in March 2015. The pay-outs helped dispatch medical personnel to impacted areas and to transported emergency goods across the sea.



4. FACILITATING THE EXPANSION OF INFRASTRUCTURE

To effectively manage transboundary climate risk, countries may need to coordinate the development of connected infrastructure, such as transport corridors, information communication technology, agrometeorological and hydrometeorological infrastructure, dams and water storage and power transmission lines.

BOX 7:

REGIONAL POWER POOLS IN SUB-SAHARAN AFRICA – EAPP, WAPP AND SAPP

Background

In recent years, most Sub-Saharan African (SSA) states have had to deal with acute power outages as a result of years of drying up water reservoirs due to increased frequency and intensity of droughts and high temperatures among other factors (ICA, 2016). The domination of hydropower in the energy mix in SSA exposes the region to climate risk. Reported gaps between installed energy generation capacity and the actual operating capacity in most African countries that depend largely on hydropower have in most cases been attributed to climate variability. Recent energy crisis in Ghana, South Africa, and Zambia are again emblematic of this. For instance, in some cases, power substations are shutdown during drought periods (Kambanda, 2017).

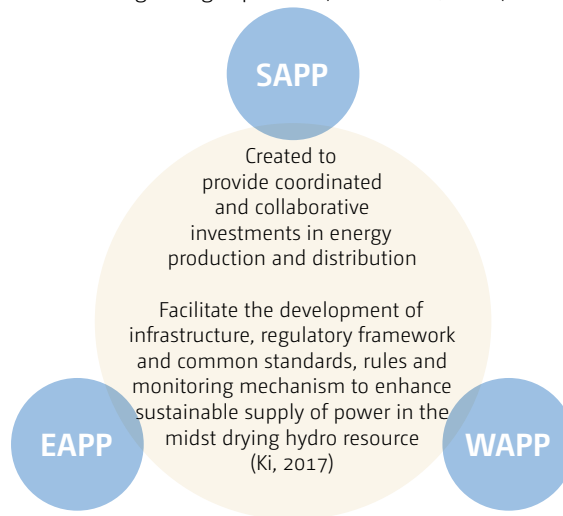


Figure II.III: Objectives of the Western Africa Power Pool-WAPP, the Southern African Power Pool-SAPP, and the East Africa Power Pool-EAPP

To build a robust energy sector and ensure reliable supply and access to energy across the continent, bilateral, trilateral, and regional power pooling approaches have been embraced (Western Africa Power Pool-WAPP, the Southern African Power Pool-SAPP and the East Africa Power Pool-EAPP) to complement national level efforts as highlighted in figure II.III above. **Regional power pooling involves creating a regional network and market to develop infrastructure and regulatory system and trade in energy resources among countries.** It facilitates the transfer of excess capacity in one country or region with demand in another (Medinilla et al., 2019). The EAPP, WAPP, and SAPP have common objectives. They were created to provide coordinated and collaborative investments in energy production and distribution. Since creation, they have facilitated the development of infrastructure, regulatory framework and common standards, rules and monitoring mechanism to enhance sustainable supply of power in the midst drying hydro resource (Ki, 2017). Participation in regional power pooling mitigates the impact of drier climate on hydro-based power generation.



5. TRANSBOUNDARY RISK ASSESSMENT

Transboundary risk assessment has become an entry point to drive a shared vision and promote common understanding on the use of shared resources. Transboundary risk assessment provides opportunity to collaborating countries to develop common metrics to measure risk, identify common pool of risks, map out key stakeholders, identify best options to resolve cross border issues, develop cost and benefit sharing system, and identify institutional challenges and propose relevant recommendation for implementation. In the absence of risk assessment, adaptation planning at the regional level will least be guided by relevant science and methodologies. Table 3 below provides examples of transboundary risk assessments.

TABLE 3:

EXAMPLES OF TRANSBOUNDARY RISK ASSESSMENTS

Assessment	Description	Countries covered
Flood Risk Assessment for the Ganges Basin in South Asia ^a	To enhance the knowledge base for better understanding the socio-economic impacts of flooding in the basin and subsequently help the stake holders/decision makers for better planning	India, Nepal, China, and Bangladesh
Joint and Integrated Water Resources Management of the lullemeden–Taoudeni–Tanezrouft Aquifer Systems and the Niger River ^b	Activities included a study of themes such as hydrogeology, land cover, aquifer recharge, piezometry, vulnerability to climate change, water-table pollution of the lullemeden–Taoudeni–Tanezrouft Aquifer Systems and the Niger River	Algeria, Benin, Burkina, Cameroon, Chad, Guinea, Côte d’Ivoire, Mali, Mauritania, Niger and Nigeria
The Indus Basin of Pakistan: The Impacts of Climate Risks on Water and Agriculture ^c	Assessment of the impacts of climate risks and various development alternatives on water and agriculture in the Indus Basin of Pakistan. The assessment included inter-relationships among the climate, water, and agriculture sectors of the country	Pakistan, India, China and Afghanistan
Flood Risk Assessment and Forecasting for the Ganges–Brahmaputra–Meghna River Basins ^d	To assess and map flood risk across the Ganges River basin and to design and evaluate flood forecasting tools for the greater Ganges–Brahmaputra–Meghna basin	Bangladesh, Bhutan, China, India, and Nepal

^a <http://ral.ucar.edu/~hopson/Karen/HazardReport-FloodRiskAssessmentoftheGangaBasin.pdf>

^b <http://www.oss-online.org/en/gicresait>

^c <https://openknowledge.worldbank.org/handle/10986/13834>

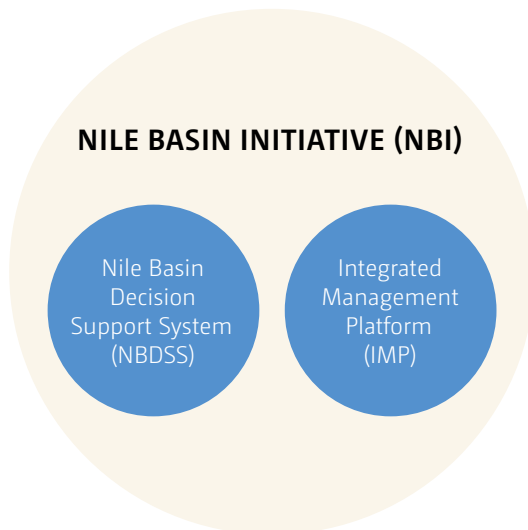
^d <https://openknowledge.worldbank.org/handle/10986/28574>

6. STRENGTHENING MONITORING AND PLANNING TOOLS

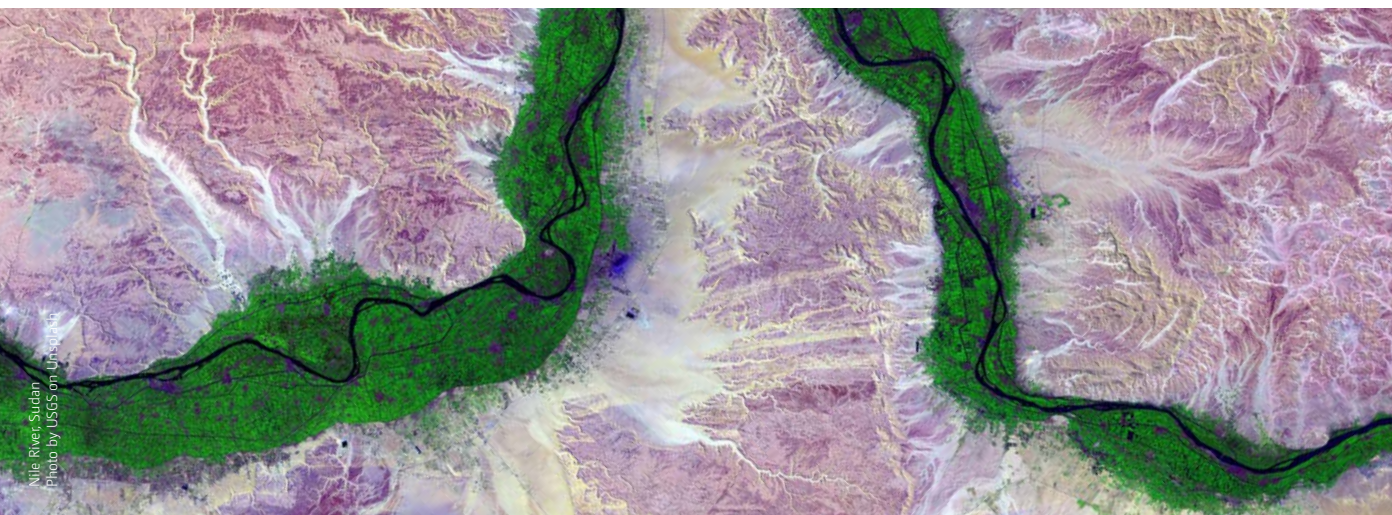
Multiple sources of information are used to assess vulnerability and risk at the basin or regional level. To facilitate easy collection of accurate and verifiable information, countries jointly develop a common monitoring tools and regime. Such tools also facilitate preparation of relevant policy actions at transboundary levels and adoption of uniform reporting systems. Box 8 below presents a harmonized and comparable assessment tool being used to support decision making in the Nile basin.

BOX 8:

THE NILE BASIN DECISION SUPPORT SYSTEM AND THE INTEGRATED KNOWLEDGE PLATFORM



Within the larger scope of the Nile Basin Initiative (NBI) are the Nile Basin Decision Support System (NBDSS) and the Integrated Management Platform (IMP). The NBDSS aims to, among other things, develop analytic and monitoring tool for managing risk at the basin level (e.g. Evapotranspiration, enhancing basins monitoring infrastructure). The NBDSS is a “user community portal” that is designed to meet the requirements of complex water resources planning. It provides diverse toolsets for data processing, modelling, scenario management, optimization, cost-benefit analysis and multi-criteria decision making. It also offers tools for integrating environmental, social and economic objectives, thus facilitating multi-sector water resources planning at the river basin level. Combined with other tools including the Integrated Knowledge Platform it collects geospatial data, hydrometeorological data as well as socio-economic data to improve knowledge base within the whole NBI.





7. SUPPORTING SCIENCE-POLICY DIALOGUE

Some regional cooperation programmes focus on promoting science-policy interaction, with emphasis on improving transboundary risk management. There is high recognition that science is crucial in the decision-making processes. It enhances multi-country learning processes and facilitates co-production and legitimization of decisions. The Asia-Pacific Network for Global Change Research (APN) programmes on science-policy dialogue is a clear example of how countries collaborate to promote the interface between policy makers and scientist to ensure a balance in regional responses to climate change risk.

BOX 9:

MULTI COUNTRY SCIENCE POLICY DIALOGUE FACILITATED BY THE ASIA-PACIFIC NETWORK FOR GLOBAL CHANGE RESEARCH (APN)

What is APN?

The Asia-Pacific Network for Global Change Research is a network of 22 countries promoting multi-country research, capacity development and science-policy dialogue on climate change adaptation and mitigation at the transboundary level.

History

Since 2012, it has been undertaking activities meant to ensure closer collaboration between scientists and policymakers to design policy-relevant knowledge products enhancing regional responses to climate risk.

The first science-policy dialogue was held in July 2012, bringing together hundreds of stakeholders across the region to enhance their awareness and mutual understanding on the most pressing global change issues.

Area of work

Since then, APN has held series of science-policy dialogues in member countries, including Bhutan. These dialogues cover diverse climate change issues, such as land-use change and its impacts on biodiversity and ecosystem services, extreme events and land degradation in dry lands, sustainable land use practice for adaptation, policy formulation and implementation in land-use change, social-ecological systems and land-use change – linkages with SDGs and adaptation as well as grassland degradation and adaptive management strategies of livestock production.

Result

Through the APN, countries are able to adopt a transdisciplinary approach to address cross-border climate risk by pooling diverse stakeholders to dialogue and co-create common solutions.

8. INFORMATION SHARING

Although there is a long history of data collection and analysis on shared resources and risk (e.g. hydrological data, endangered species, local cultivars and landraces), sharing of such useful information has been limited. With recent technological breakthrough and the increasing awareness of sharing data on the usage, many countries are beginning to work collaboratively to share observed changes and risks. Transboundary data and information sharing create the opportunity for collecting and sharing data/information in a seamless and economically plausible means. For example, regional insurance pools will need some regional climate data to trigger a pay-out while downstream flood management will need information on upstream activities.

BOX 10:

SHARING OF RAINFALL DATA BETWEEN GHANA AND BURKINA FASO

The White Volta between Burkina Faso and Ghana and upstream activities on the Bagre Dam in Burkina Faso have often led to flooding in northern Ghana. A series of regional interventions including the formation of the Volta Basin Technical Committee (VBTC) through ECOWAS and the UNEP/GEF Volta River Basin Project for “Addressing Transboundary Concerns in the Volta River Basin and its Downstream Coastal Area” have facilitated the sharing of information within the Volta Basin. Though Ghana continues to experience flooding whenever the Bagre Dam is opened, they are able to undertake pre-emptive measure to reduce the impact on local communities.

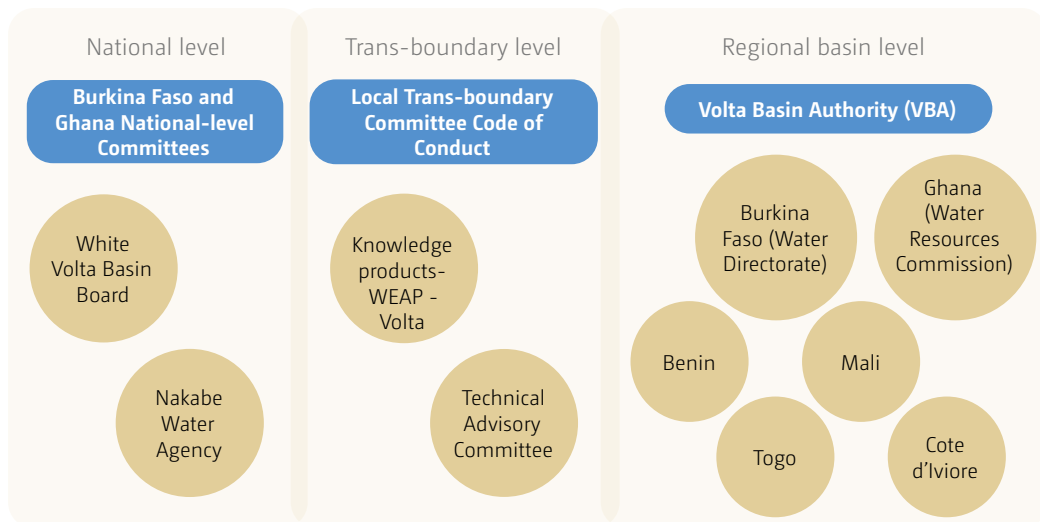


Figure II.V: The Volta Basin’s multi-scale governance framework, enabling the sharing of rainfall data between Ghana and Burkina Faso (Welling et al., 2012)

9. COLLABORATIVE EXCHANGE OF EXPERIENCES, GOOD PRACTICES AND LESSONS LEARNED

The diffusion, deployment, and transfer of innovations and good practices in managing climate risk happen through coordinated efforts among different stakeholders and countries. Since countries share several important characteristics such as severity, time scale, impacted sector, etc., peer learning on adaptation planning could enhance the diffusion and adoption of these innovations. As a result, some regional approaches to adaptation planning are designed solely or complementarily to promote good practices and information sharing. Joint development of climate scenarios, studies (vulnerability assessment), and capacity development provides the medium for promoting and sharing information in more efficient and better ways.

BOX 11:**ASIA PROTECTED AREAS PARTNERSHIP**

The Asia Protected Areas Partnership has been established as a platform for promoting regional collaboration, good practices, and innovative solutions for Asia's protected areas. Within the region, it has been convening governments and relevant stakeholders to discuss protected areas management issues and share relevant experiences and knowledge. It has also been supporting members in enhancing their capacity on diverse subjects such as collaborative management, human-wildlife conflict, as well as tourism and visitor management (IUCN, 2019). A joint platform has been created for 14 Asian countries to share knowledge, good practices, and ideas to foster cross-border biodiversity conservation across the region (IUCN, 2019).

Scholars have posited that shared understanding of common problems and solutions is essential for dealing with wicked problems (climate risk), which is shrouded in uncertainty (Armitage et al., 2015; Keller, 2012). Contentious cross-boundary resources such as river basins and biodiversity corridors are best managed through regional exchange of experience and best practices. It helps to avert resource-stress conflict among participating countries. For example, the diversions and construction of dams by one country may reduce water resources available to another which could be regarded as a *casus belli*.



Volta, Ghana
Photo by Yeei Winkler on Unsplash

10. JOINT IMPLEMENTATION OF DECISIONS

Regional bodies make decisions that require the joint efforts of countries to implement such decisions. Examples of joint implementation of decisions are joint law enforcement patrols, awareness raising, operation of a facility, construction of facilities, etc. Climate governance literature is replete with numerous examples covering large spectrum of key systems such as agriculture and food security, water resources and water security, infrastructure, power, ecosystem, unique biodiversity, health and disease surveillance, infrastructure and coastal zones. One example of joint implementation of decision is the Transboundary Animal Diseases (TAD) control in the Sahel, which is a response to a decision of the Economic Community of West African States (ECOWAS). The TAD control initiative, as highlighted in box 12, is meant to prevent, minimize, and address climate induced animal disease. The initiative provides both curative and pre-emptive responses to TAD.

BOX 12:

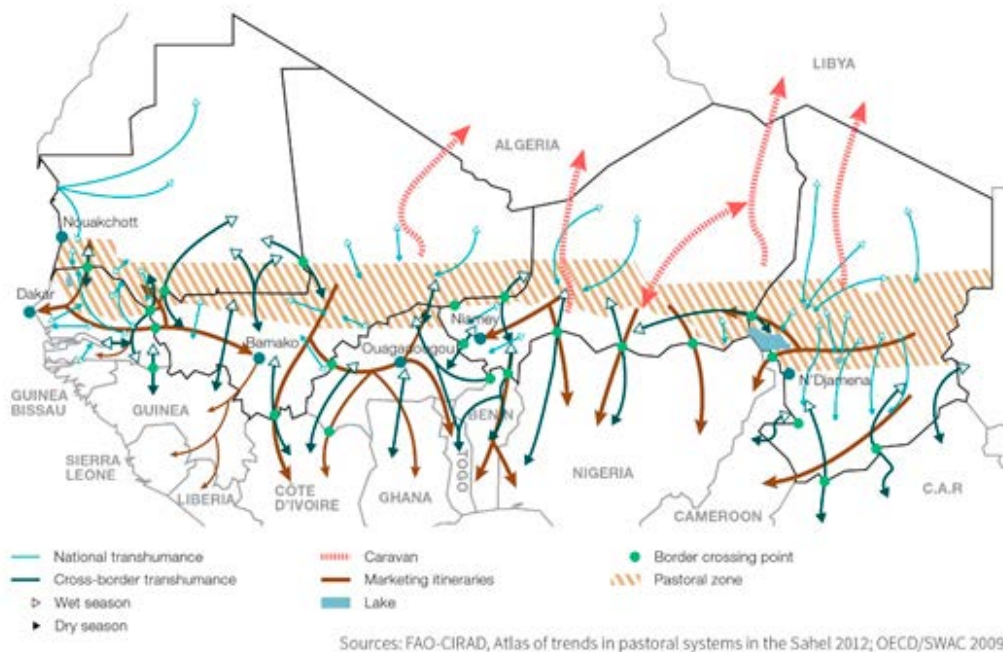
REGIONAL SURVEILLANCE AND CONTROL INITIATIVE IN RESPONSE TO TRANSBOUNDARY ANIMAL DISEASES (TAD) IN THE SAHEL

Background

Livestock mobility in the Sahel is complex and involves temporal (few days to months) and spatial scales (intra and inter country mobility in search for grazelands, market or festivities) (Apolloni et al., 2019). Though it has a long tradition, the nature of transhumance in the Sahel has changed dramatically due to severe drought that has severely impacted grazelands in the region. Using over 40 years of recorded data, studies have shown that the outbreak and spread of animal pathogens to new areas (areas without history of animal diseases) in the Sahelian region is a by-product of climate-induced drought in the region, cross-border transhuman and trade activities (Kardjadj et al., 2019; Thompson et al., 2004).

The borderless nature of the animal disease is further highlighted by the FAO (2016) as thus: *“livestock owners and society are affected by both the impacts of animal diseases and the measures taken to control them elsewhere”*. The impacts of transboundary animal pathogens includes, inter alia, low animal production; loss of income; poor access to nutritious food; accentuated poverty; maladaptive practices; risks of social conflict among transhumant herds, herders and farmers; and disruption of supply chains leading joblessness among traders, abattoir workers and retailers (Turner & Schlecht, 2019; FAO 2016).

TRANSHUMANCE AND NOMADISM



Extract: OECD (2014), An Atlas of the Sahara-Sahel: Geography, Economics and Security, OECD Publishing, Paris.

© 2014, Sahel and West Africa Club Secretariat (SWAC/OECD)

Figure II.VI: Transhumance and nomadism patterns and routes across the Sahara-Sahel

BOX 12: CONTINUED**What was the response?**

The complexity of cross-border transhumance in the Sahel makes national effort to control TAD insufficient (FAO, 2016). **In response, the Economic Community of West African States (ECOWAS) established four animal health networks (the Laboratory Network; Network of Directors of Veterinary Services; Network of Animal Production and the Epidemio-surveillance Network) to facilitate the surveillance and control of TAD, as outlined in the figure II.VII below.** These networks complement existing ECOWAS protocols and bilateral agreement among countries to manage transhuman and associated disease risk. They meet at least once a year to discuss, exchange their experiences and seek solutions to challenges of the livestock sector in West Africa. These collaborative efforts at the regional level have enhanced timely disease reporting and information exchange including early warning; tracking of animal movement; awareness creation on animal health issues; disease forecasting, spread and impact (Toukara, et al., 2019; Bajardi et al., 2011).

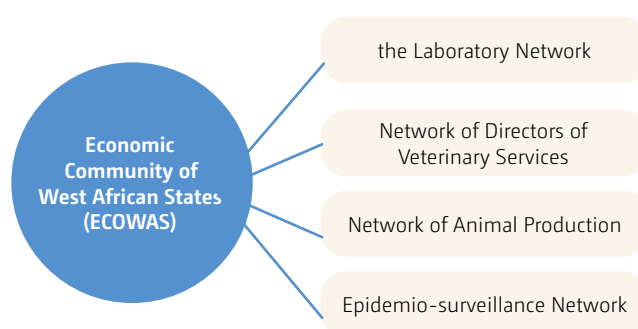


Table 4 provides a summary of the examples of activities implemented through regional approaches that were mentioned in this section.

TABLE 4:

SUMMARY OF EXAMPLES OF ACTIVITIES IMPLEMENTED THROUGH REGIONAL APPROACHES

	Objective	Examples
1. River Basin Authorities and Initiatives	Joint basin authorities and initiatives coordinate use of water, data sharing, conduct of studies and provision of technical advice to participating countries.	Lake Victoria River Basin Commission Climate Change Adaptation Strategy and Action Plan, Mekong River Commission Secretariat -Climate Change and Adaptation Initiative, Nile River Basin Initiative, South Asia Water Initiative, Volta Lake Basin Initiative.
2. Transboundary conservation	Climate induced transboundary conservation programmes aim to reduce vulnerability to climate impacts, build adaptive capacity, and enhance the diffusion of good practices across borders.	Coral Triangle Initiative (CTI); Snow Leopard and Ecosystem Conservation; the Global Tiger Recovery Programme; Advancing Conservation in the Eastern Caribbean Project; Congo Basin Strategic Program; Testing a Prototype Caribbean Regional Fund for Wastewater Management (CReW)" project; Catalysing Implementation of Strategic Action Programme (SAP) for the Sustainable Management of shared Living Marine Resources in the Caribbean and North Brazil Shelf Large Marine Ecosystems; and the Heart of Borneo.
3. Regional risk pooling schemes	Regional risk pooling schemes are utilized to limit the financial impact of extreme climate events by quickly providing short term liquidity when a policy is triggered, which necessitates coordinated efforts at regional level to facilitate the diversification of risk and enhance access to accurate and timely information.	Caribbean Catastrophe Risk Insurance Facility (CCRIF), the African Risk capacity (ARC), the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI); and R4 Rural Resilience Initiative.
4. Facilitating the expansion of infrastructure	Coordinating the development of connected infrastructure such as transport corridors, information communication technology, agrometeorological and hydrometeorological infrastructure, dams and water storage and power transmission lines is needed to manage transboundary climate risk.	(Western Africa Power Pool-WAPP, the Southern African Power Pool-SAPP and the East Africa Power Pool-EAPP.

	Objective	Examples
5. Transboundary risk assessment	Transboundary risk assessment provides opportunity for collaborating countries to develop common metrics to measure risk, identify common pool of risks, map out key stakeholders, identify best options to resolve cross border issues, develop cost and benefit sharing system, and identify institutional challenges and propose relevant recommendation for implementation.	Flood Risk Assessment for the Ganges Basin in South Asia; Joint and Integrated Water Resources Management of the Iullemeden–Taoudeni-Tanezrouft Aquifer Systems and the Niger River; The Indus Basin of Pakistan: The Impacts of Climate Risks on Water and Agriculture; Flood Risk Assessment and Forecasting for the Ganges-Brahmaputra-Meghna River Basins.
6. Strengthening monitoring and planning tools	To facilitate easy collection of accurate and verifiable information, countries jointly develop common monitoring tools. Such tools facilitate preparation of relevant policy actions at transboundary levels and adoption of uniform reporting systems	the Nile Basin Decision Support System (NBDSS) and the Integrated Management Platform (IMP).
7. Supporting science-policy dialogue	Some countries focus on promoting science-policy interaction, which aims to enhance multi-country learning processes and facilitates co-production and legitimization of decisions.	the Asia-Pacific Network for Global Change Research (APN)
8. Information sharing	Transboundary data and information sharing create the opportunity for collecting and sharing data/information in a seamless and economically plausible means.	Volta Basin Technical Committee (VBTC) and sharing of rainfall data between Ghana and Burkina Faso.
9. Collaborative exchange of experience, good practices and lessons learned	Contentious cross-boundary resources, such as river basins and biodiversity corridors are best managed through regional exchange of experience and best practices. It helps to avert resource-stress conflict among participating countries.	Asia Protected Areas Partnership
10. Joint implementation of decisions	Regional bodies make decisions that require the joint efforts of countries to implement such decisions, covering large spectrum of key systems such as agriculture and food security, water resources and water security, infrastructure, power, ecosystem, unique biodiversity, health and disease surveillance, infrastructure and coastal zones	the Laboratory Network; Network of Directors of Veterinary Services; Network of Animal Production and the Epidemio-surveillance Network/

SUCCESS FACTORS OF REGIONAL APPROACHES TO ADAPTATION PLANNING

Though regional approaches to adaptation have been embraced within the UNFCCC process, and have been endorsed by multilateral development finance institutions, with evidence of regional adaptation projects and programmes being implemented, the degree of success depends on several factors. These factors cover issues of governance (existence of rules and binding frameworks; joint management system with clear details on cost and benefit sharing), technical issues (responsibility and modalities for review; effective cooperation among technical teams, relevant actors and stakeholders for the collection, synergies and linkages with national and sectoral plans and strategies), financial issues (availability and access to predictable and sustainable sources of funding; cost and benefit sharing) and issues related to data and information management system (transparent analysis and sharing of data and information among participating states and interested actors). These have been discussed below. These are only anchors and do not present a guarantee for success.

1. ROBUST GOVERNANCE AND INSTITUTIONAL ARRANGEMENTS

Firstly, management of transboundary climate risk requires the adoption of predictive and enforceable rules and binding framework intending to institutionalise common norms (clear mandate for participating States), responsibilities (rules on cost and benefit sharing), channels of communication, and mechanics for monitoring of progress. Beyond enhancing coordination between governance systems in charge of transboundary climate risk management, a binding framework promotes project level accountability and transparency. Mostly, regional programmes involve delegated responsibility hence the temptation to free-ride remains high and can be overcome through binding framework that does not only explain burden-benefit sharing but also has an inbuilt sanction mechanism. UNECE (2015) posits that conflicts are less likely when well-established framework exists.

Secondly, the establishment of a joint management system and in particular, a fully functional independent secretariat with full-time staff (Pattberg & Widerberg, 2016), promotes the effectiveness of actions and ensures delivery of results. For example, the Cubango-Okavango River Basin Water Audit Project was undertaken by the Permanent Okavango River Basin Commission's full-time team of experts with representation from member countries. The team, through the collaboration of relevant stakeholders, has assessed water levels in the basin at various scales; analysed the demand and supply trends; patterns of water-related entitlements

of social groups; and functionality of water-related institutions. The team provided the necessary technical support for decision makers with a comprehensive set of policy options to increase capacity to cope with the growing pressures on water resources in the basin (FAO, 2014).

2. EFFECTIVE COOPERATION AMONG TECHNICAL TEAMS, ACTORS AND STAKEHOLDERS, AND SYNERGY WITH NATIONAL AND SECTORAL PLANS

Firstly, effective cooperation among technical teams, relevant actors and stakeholders is fundamental to regional cooperation to undertake transboundary intervention (Portman & Teff-Seker, 2017; UNECE, 2015). For example, Portman & Teff-Seker (2017) found that the involvement of technical experts and institutions in the implementation of transboundary projects in the Gulf of Aqaba influenced their successful implementation. Similarly, the work of the joint technical team in the "Joint Incomati Basin Study" was viewed by participating countries as a successful experience that paved the way for the Incomati River Basin programme (Slinger, 2010). The study team, a group of interdisciplinary scientists, conducted and produced a scoping report serving as an input for all relevant negotiations that paved the way for successful implementation (Official Ministry of Water, Mozambique quoted in UNESCO, 2008). Furthermore, the work of the technical teams provided the requisite information needed to develop modalities for water sharing, identified essential tools (e.g. Water Resources Yield Model and Water

Resources Planning Mode) that could facilitate joint monitoring of activities (UNESCO, 2008). Thus, the scientific community provides independent technical backstopping to improve the design and decision making of transboundary initiatives.

Beyond the scientific community, the proper engagement of other key stakeholders, such as the civil society, indigenous peoples, local communities and private actors in every stage of decision making has proven to be most essential. There are instances where the inclusion of non-governmental organisations (NGOs) has enhanced local stakeholders' participation in projects design and implementation. This is because NGOs are increasingly recognized as actors with deep local knowledge that is useful to facilitate the design and implementation of joint action even in the most difficult context (Nagoda & Nightingale, 2017). Effective

engagement of the public can also increase transparency, embed social learning, and ultimately increase social acceptance of the intervention (UNESCO, 2013). There is always the need to ensure effective engagement of key stakeholders and superfluous engagement that could be counterproductive to the extent possible.

Secondly, regional adaptation approaches that identify synergies and linkages to national and sectoral priorities are more likely to attract the interest and support of national governments and thereby leading to success. The World Bank (2007) assessment of transboundary cooperation on environmental issues in the Mesoamerican Barrier Reef System project observed the tendency for governments to focus on national priorities as opposed to regional interventions that have less or no connections to broader development priorities.



3. AVAILABILITY OF SUFFICIENT AND PREDICTABLE SOURCES OF FUNDING

Climate change adaptation is considered a public good, which is appealing to public finance. International public finance could take a leading role by addressing key market failures to facilitate the flow of finance for adaptation. International public finance de-risks adaptation investment to address market failures that characterizes early-stage development of transboundary adaptation programmes. Availability of finance for transboundary programmes could deepen regional cooperation and scale up transboundary response to climate risk (UNECE, 2015; Martens, 2007). The financial mechanism under the UNFCCC could catalyse finance for such transboundary needs, which will in turn create the condition for private investment. To access sufficient finance for transboundary adaptation interventions, projects proponents should demonstrate clear climate rationale (anticipated climate impacts, including at basin level and supported by scientific findings that are directly addressed by the project), compelling reasons for a transboundary approach, rather than national action, alignment with national and global development imperatives, as well as demonstrable alignment with financing institution and delivery partners priority activities.

4. WELL-FUNCTIONING MONITORING, REPORTING AND LEARNING SYSTEM

Transboundary initiatives often involve large financial commitments attracting different interests. It is therefore useful to have well functional monitoring, evaluation and learning (MEL) systems. Effective MEL systems are also relevant for adaptation activities given that climate change adaptation decision making often occurs in an uncertain space. Effective MEL systems will help identify new trends, tools, methodologies and good practices that can be accommodated to achieve stated objectives. They help to build on what is working, revise what is not working and retire objectives that have been achieved or adjust accordingly. Pattberg, & Widerberg (2016) conducted an evidence-based assessment of transnational projects which recommended that MEL should urgently be considered when designing or re-designing existing transnational multi-stakeholder arrangements. Their findings have been collaborated by Portman and Teff-Seker (2017) in their assessment of Red Sea Marine Peace Park including other transboundary conversation projects in the Gulf. They noted that effective monitoring of progress helps keep transboundary activities sustainable over time as emerging problems are identified and solved. Like the previous studies, Benzie and Persson (2019) emphasized the need to establish a collective risk monitoring system in the management of transboundary projects. Clearly, the relevance of MEL is backed with empirical experiences and therefore must be considered in the design of transboundary adaptation initiative.



Table 5 provides a summary of the success factors of regional approaches to adaptation planning mentioned in this section.

TABLE 5:

SUMMARY TABLE OF SUCCESS FACTORS OF REGIONAL APPROACHES TO ADAPTATION PLANNING

Success factor	Key points	Example
Robust governance and institutional arrangements	Management of transboundary climate risk requires the adoption of predictive and enforceable rules and binding framework intending to institutionalise common norms, thereby promoting project level accountability and transparency, ensuring the effectiveness of actions and delivery of results.	The Cubango-Okavango River Basin Water Audit Project was undertaken by the Permanent Okavango River Basin Commission's team of experts with representation from member countries.
Effective cooperation among technical teams, actors and stakeholders, and synergy with national and sectoral plans	Effective cooperation among technical teams and proper engagement of other key stakeholders such as the civil society, indigenous peoples, local communities and private actors in every stage of decision making has proven to be most essential as it can enhance local stakeholders' participation in projects design and implementation.	Involvement of technical experts and institutions in the implementation of transboundary projects in the Gulf of Aqaba influenced their successful implementation.
Availability of sufficient and predictable sources of funding	Availability of finance for transboundary programmes could deepen regional cooperation and scale up transboundary response to climate risk.	The UNFCCC could catalyze finance for such transboundary needs, which will in turn create the condition for private investment.
Well-functioning monitoring, reporting and learning system	Effective MEL systems will help identify new trends, tools, methodologies, and good practices that can be accommodated to achieve stated objectives. They help to build on what is working, revise what is not working, and retire objectives that have been achieved or adjust accordingly.	Portman and Teff-Seker (2017) in their assessment of Red Sea Marine Peace Park including other transboundary conversation projects in the Gulf.





Masai Mara National Reserve, Kenya
Photo by Vishva Patel on Unsplash

RECOMMENDATIONS FOR REGIONAL APPROACHES TO ADAPTATION

CREATING AN ENABLING ENVIRONMENT FOR REGIONAL APPROACHES

Transboundary climate risk is complex and requires the involvement of multiple actors operating at different political and legal environment, different capacity, with diverse needs and different economic status. Given the circumstance, it is advisable for countries to create an enabling environment to facilitate the design, implementation and continuous monitoring and evaluation of progress in addressing transboundary risk. The following are important ways to create an effective enabling environment for regional approaches to adaptation planning:

- > Create an explicit mandate for addressing transboundary climate risk at the regional level. Thus, creating a regional adaptation framework and plans of action. This could be a bilateral or multi-country frameworks addressing specific system or a generic framework that comprehensively map out multiple systems sensitive to climate change;
- > Leverage on existing cooperative frameworks on transboundary issues (e.g. water, energy, trade, migration) to introduce specific elements on addressing transboundary climate risks;
- > Identify and promote opportunities and channels for regional risk management between government and non-government entities;
- > Create and/or expand the mandate of regional technical institutions and research agencies to cover regional adaptation research needs and priorities;
- > Promote joint exercises, such as common field exercises, stakeholder workshops, high-level political meetings during the design and implementation of regional adaptation activities.
- > Create a common system to share and compare data, undertake risk assessment and ensure transparent use of common pool resources (transparency and open access to information on shared problems, resources, etc.);
- > Ensure effective cooperation among technical teams, actors and stakeholders, and synergies with national and sectoral plans;
- > Institute annual high-level political events to attract relevant actors to dialogue on regional climate issues and development activities likely to increase vulnerability in other areas. Such events would create awareness on shared risk and resources, attract political clout, showcase best practices and lessons learned from other countries.

ENABLING AND PROMOTING COOPERATION IN RESEARCH AND SYSTEMATIC OBSERVATIONS AT THE REGIONAL LEVEL

Investment in research and systematic observation (RSO) and modeling enhance the ability to detect, attribute and understand climate change impacts. It in turn reduces the implicit uncertainties in adaptation planning at the regional level. The following are recommendations to promote cooperation in RSO at the regional level:

- Strengthen existing and establish more observational networks to enhance an accurate and long-term consistent collection of data for decision making;
- Improve methods to quantify uncertainties of regional climate projections and scenarios, including development and exploration of long-term ensemble simulations using complex models;
- Strengthen both regional and national capacity to collect and analyse socioeconomic data that provide useable information for risk management;
- Ensure that the data collected are of the highest quality possible, suitable for both research and forecasting and that these data are exchanged and archived on a timely and effective basis among all interested scientists and end users;
- Strengthen coordinated adaptation research;
- Reinforce communication, both internationally and to all stakeholders in general.



RISK ASSESSMENT AT THE REGIONAL LEVEL

Adaptation planning at the transboundary level requires a careful analysis of interconnected and interdependent systems at risk and risk transmission pathways (biophysical, trade, finance and people movement) through which transnational climate impacts manifest. Prioritising specific actions, addressing gaps and needs, building institutional capacity, and creating explicit mandate at the regional level would benefit from joint risk and vulnerability analysis. Risk and vulnerability assessment conducted jointly promotes common understanding and enhance cooperation among riparian states as well.

At the regional level, the following considerations are useful ways to promote climate risk analysis for regional adaptation planning:

- Take stock of existing vulnerability assessments and build upon existing knowledge;
- Conduct joint vulnerability assessments to identify interdependent systems at risk and key risk transmission pathways;

- > Map relevant adaptation options and related actions mapped against each vulnerable system and transmission pathways;
- > Jointly conduct regional risk assessment to improve quality, enhance consistency, and optimize resources;
- > Develop commonly agreed guidelines and protocols for risk assessment, resource usage, and data sharing among states;
- > Ensure all relevant actors including national agencies, relevant civil society, and private sector actors and experts are fully involved in risk mapping;
- > Establish regional level technical teams comprising of relevant experts, where relevant, to facilitate the continuous monitoring and analysis of risk;
- > Leverage existing regional centres and networks to provide regional climate and socio-economic data and information;
- > Develop regional indicators to assess progress in human adaptation to climate change at the regional level.

DEVELOPING REGIONAL RISK MANAGEMENT PLANS

The following considerations should be made when developing regional risk management plans:

- > Ensure the plan is comprehensive, covering all current and cross border climate risk;
- > Ensure synergies and linkages between transboundary adaptation actions and national/sectoral goals across different levels of government;
- > Ensure synergies and linkages with key regional and global development frameworks;
- > Map exiting relevant regional institutions and assign functions, means (resources), and authority based on their scope of activities;
- > Take stock of existing interventions and build upon them to avoid duplication of efforts;
- > Maintain a well-functioning monitoring, reporting and learning system between countries;
- > Demonstrate the benefits of transboundary cooperation in adaptation;
- > Identify the full range of financial resources that could be accessed and ensure there is sustainable, sufficient, and predictable sources of finance for transboundary initiative;
- > Ensure accurate assessment and sharing of costs and benefits between countries involved;
- > Institute a non-adversarial process for addressing misunderstanding and emerging issues.

IMPLEMENTATION OF REGIONAL RISK MANAGEMENT PLANS

Implementation of regional adaptation plans should begin with the stocktaking of current and potential climate hazards and assessment of the marginal social value of adapting (action) using the PCR framework. Thus, regional adaptation plans should be framed around societal values of financial and non-financial loss tolerability in the context of transboundary risk (Nassef, 2020). By applying the PCR framework, countries can assess the marginal value of taking a pre-emptive (P), contingent (C), and loss acceptance (L) measures without a predetermined hierarchy across them.

- Identify a list of priority activities and medium for implementation (unilateral, bilateral or multilateral). Thus, the list should be clustered into three: 1) those risk that could be integrated into the NAP and domestic policies for implementation; 2) those that would require bilateral cooperation for implementation, and 3) those that are meant for multi-country cooperation;
- Develop projects based on the priority activities considering the means of implementation, different capacity level of participating countries, stakeholders needs and interests, and the general characteristics of participation countries (either homogenous or heterogeneous comes with its own historical, political and cultural opportunities and constraints);
- Identify tentative sources of finance for each of the priority activities from the outset and approaches to mobilise such finance for implementation. Further details on accessing finance has been elaborated in the next subsection;
- Include indicators for reporting, monitoring and review in the implementation plan (details of which has been discussed in subsequent subsection “Monitoring and evaluation of regional adaptation programmes”).



Bimbila, Ghana
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ACCESSING FINANCE

Access to finance is an important determining factor for developing multi-country response to climate change risk. Funding requirements and sources depend on the scope, mandate, objectives, and ambition of the project in question. The following considerations have been proposed to enhance access to predictable, sufficient, and sustainable sources of finance for regional approach to adaptation planning:

- Draw global attention to the importance of investing and enhancing financial sustainability for transnational adaptation initiatives;
- Establish special purpose vehicles, such as basin wide trust funds or endowments to aid predictable access to finance for undertaking regional adaptation interventions;

- Facilitate knowledge sharing and peer learning on funding options to enhance access to available sources of finance for transnational adaptation initiatives;
- The financial mechanism under the UNFCCC should have a dedicated vehicle for regional programmes and projects to enhance access to finance for financing regional projects including baseline studies, development of plans and setting up of regional institutions;
- Promote the development of joint investment plans and financing strategies for shared resources at risk of climate impacts;
- Look into the inter-riparian financing model as a new way to boost domestic investment in adaptation to climate change. Diverse approaches could be explored including private-public partnerships and debts for nature swaps.

MONITORING AND EVALUATION OF REGIONAL ADAPTATION PROGRAMMES

Adaptation actions and policy measures occur in a context of uncertainty, especially when interventions are intended to predict and respond to future changes. To minimise potential surprises implicit in adaptation planning, effort should be made at monitoring the implementation of regional adaptation plans, including progress made and emerging risk. The outcomes of the review would inform regular updates of the regional adaptation plan and lessons learned from implementing programmes, policies and projects would be integrated into subsequent interventions. The following considerations should be made to facilitate effective monitoring and evaluation of regional adaptation planning:

- Develop tools for monitoring and evaluation of regional adaptation programmes;
- Create a systematic learning process that works in parallel with the implementation of interventions;
- Establish systems for the exchange of experiences, good practices, and lessons learned;
- Leverage regional centres and networks to facilitate the sharing of experiences, good practices, and lessons learned;
- Develop a system for joint filed studies and data collection.

ITERATIVE REVIEW

Climate change science is evolving and new tools and methodologies for responding to risk continue to emerge. To ensure that the best available science informs decision making it is important to periodically update regional plans and strategies. The information acquired through monitoring and evaluation of both transboundary risk and progress made addressing regional risk could feed into the periodic update. Thus, combining improved climate data, socio-economic information, and lessons learned during the implementation of regional adaptation programmes could be done to review regional plans. Iterative review helps climate actors develop solutions based on shifting baseline. The following considerations could promote the iterative review of regional approaches to adaptation:

- Establish clear roadmap for regional approaches to adaptation planning, including specific dates on revising a plan;
- Develop a regional statutory climate change risk assessment within a specified time;
- Produce and publish regional adaptation plan based on the regional risk assessment.

INTEGRATING REGIONAL APPROACHES TO NATIONAL ADAPTATION PLANS

Beyond undertaking action at the regional level, countries can also take steps to integrate some aspects of transboundary risk management into their NAPs. The NAP provides the overarching national framework for coordinating adaptation action. As a result, it provides another means for countries to identify cross-border risk, design common interventions, and take full ownership of such interventions.

To integrate transboundary risk into NAPs, countries should ensure the following:

- Ensure the NAP mandate explicitly identifies transboundary risk and how adaptation could be initiated through regional effort;
- Identify issues that would best benefit from being handled at the regional level as opposed to national level, based on specific contexts;
- Identify, strengthen and/or establish regional coordination and governance mechanisms;
- Put in place appropriate policy and regulatory frameworks to enable regional approaches to adaptation planning;
- Participate in joint risk assessment and studies;
- Have a system to share information on transboundary risk;
- Promote synergies and linkages between transboundary initiatives and national/sectoral/global development frameworks.



RECOMMENDATIONS FOR ENTITIES AND DELIVERY PARTNERS PROVIDING SUPPORT TO COUNTRIES

- > Promote awareness of transboundary risk through existing regional platforms and fora, such as the Regional Fora for Sustainable Development and Regional Fora of Ministers of Environment;
- > Consider creating new programmes (special purpose vehicle) meant to promote transboundary climate action without crowding out support for local adaptation and consider ways to integrate other transboundary consideration in existing programmes and processes including the NAPs;
- > Ensure both regional and national level programmes identify and include transboundary concerns at the early stages of developing a programme, policy or project;
- > Clearly communicate what issues could best be addressed through regional policies, projects and programmes;
- > Explore ways to integrate national policies, projects and programmes into broader regional strategies and programmes and vice versa;
- > Facilitate the update and harmonization of regional and national policy frameworks to provide concrete mandates for implementing regional approaches to adaptation planning;
- > Facilitate the coordination of transboundary actors;
- > Provide technical and financial support including data and monitoring systems;
- > Harness existing in-country capacity and skill development at the regional level;
- > Supports the implementation of concrete measures for transboundary risk management;
- > Scale-up ongoing initiatives to cover new and emerging climate risk that transcend borders;
- > Utilize existing regional mechanisms and development banks (e.g. UN regional mechanisms, AfDB, ADB, etc) to foster and promote relevant collaboration within and between countries with shared ecosystems and common challenges to address transboundary climate risk.



Lac Abbé, Djibouti
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OPPORTUNITIES FOR INTEGRATING REGIONAL APPROACHES IN NATIONAL ADAPTATION PLANS

The process to formulate and implement NAPs has the potential to be used as a component of, or a complementary means to drive regional approaches to adaptation planning. It is the main instrument for addressing climate change adaptation under the UNFCCC. Through it, countries are able to identify medium- and long-term adaptation needs and develop and implement strategies and programmes to address those needs. It carries two objectives: (i) to reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience; and (ii) to facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.

The process to formulate and implement NAPs is framed around four elements: element A: laying the groundwork and addressing gaps; element B: preparatory elements; element C: implementation strategies; and element D: reporting, monitoring and review. The paragraphs below provides examples of entry points on how to integrate regional approaches to adaptation planning in the process to formulate and implement NAPs along these four elements.

A. LAYING THE GROUNDWORK AND ADDRESSING GAPS

To ensure that countries are able to plan and integrate transboundary risk into the NAP, countries would first need to undertake relevant groundwork including the consideration of transboundary issues in national mandate and strategy; setting up institutional arrangements to facilitate the coordination of transboundary activities; considering transboundary issues in the collection of information on climate change impacts, vulnerability and adaptation; and assessing and addressing capacity gaps and needs. **Also, countries would need to take stock of institutions currently working on, or relevant to, transboundary adaptation and collaborate with such institutions to benefit from institutional knowledge and expertise.**

B. PREPARATORY ELEMENTS

What, when and how to respond to transboundary risk should be informed by a detailed analysis of climate risks. The preparatory phase of the process to formulate and implement NAPs entails analysing such information, identifying adaptation options at all levels, developing the plan (the NAP), and advancing activities on integrating climate change adaptation into development planning. **The preparatory phase of the NAP provides an entry point to include or independently analyse the characteristics of national economies exposing them to transboundary climate risks and the scale of such risk.** Such analysis would provide the basis for developing comprehensive risk management approach.

C. IMPLEMENTATION STRATEGIES

In formulating the NAP, efforts should be made at including priorities activities for addressing transboundary risk. **The inclusion of transboundary considerations in the priority activities of a NAP not only facilitates domestic policy support for transboundary actions but would enhance access to international climate finance including the financial mechanism under the UNFCCC.** Priority actions identified should be properly mapped with national development goals to demonstrate synergies and complementarities.

D. REPORTING, MONITORING AND REVIEW

The complexity of climate change and uncertainty related to future risk requires continuous monitoring, learning and reviewing of adaptation decisions. Under the process to formulate and implement NAPs countries are required to communicate, monitor and review their actions. **It creates the opportunity for countries to include progress made on transboundary issues in their reporting, monitoring and review processes.** This could include the collection of information on progress related to transboundary risk, sharing of knowledge and facilitating joint studies to enhance understanding of the gaps and needs at the regional level, communicating capacity-building needs and matching their needs to resources.

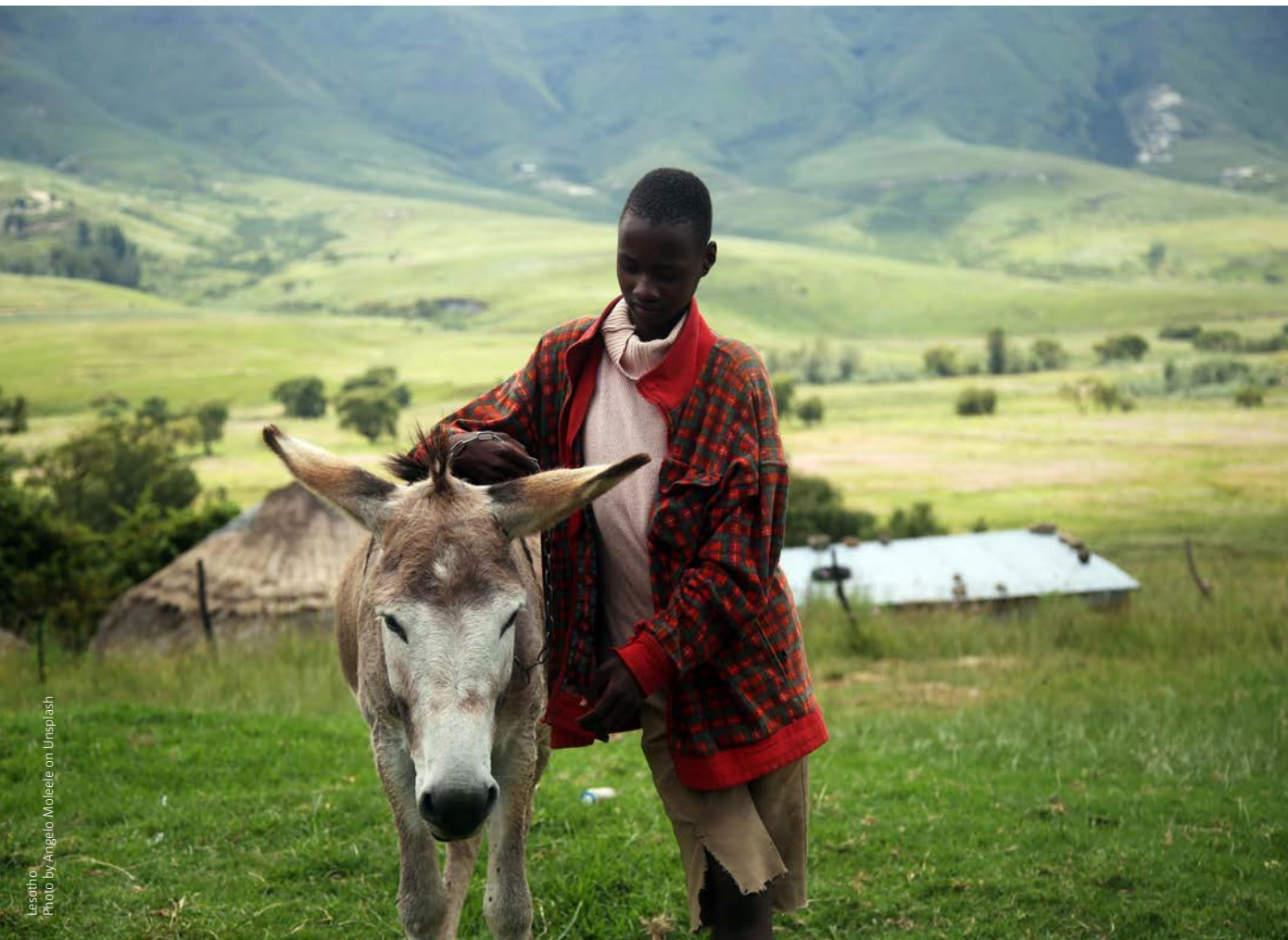


Table 6 provides a summary of the specific entry points for integrating regional approaches to adaptation planning into the process to formulate and implement NAPs.

TABLE 6:

OPPORTUNITIES TO INTEGRATE REGIONAL APPROACHES IN THE NAPs

Elements of the NAPs	Opportunities to integrate regional approaches in the NAPs
<i>Element A: Laying the groundwork and addressing gaps including Transboundary Climate Risks</i>	<p>Identify key transboundary issues relevant to adaptation planning (e.g. shared waters resources, migratory routes, food supply sources, labour migrations, international tourist);</p> <p>Identify the rational (relevance) of transboundary consideration in the process to formulate and implement NAPs;</p> <p>Identify and engage relevant stakeholders including ministries, departments and agencies; the private sectors; and non-governmental organizations that are involved in transboundary decision-making process, trade and business, international tourist activities, labour and migrants' activities, tele-connected sector and ecoregional interventions;</p> <p>Include transboundary climate change consideration in national mandate and strategy, including a mandate that permits the establishment of cross-border working groups, transboundary resource allocation, sharing of data and relevant information;</p> <p>Ensure existing legal frameworks are revised to the extent possible to include emerging transboundary climate risk to facilitate regional approaches to adaptation planning</p> <p>Transboundary consideration should be made in the setting up of relevant institutions and structures for the process to formulate and implement NAPs, including the setting up of national committees and transboundary working group</p> <p>Include transboundary issues in the stocktaking of available information on climate change impacts, vulnerability and adaptation and assessing gaps and needs of the enabling environment for the NAP process;</p> <p>Integrate transboundary consideration in identifying gaps and weakness that should be addressed to enhance the implementation of action.</p>
<i>Element B: Preparatory Elements including Transboundary Climate Risks</i>	<p>Extend assessment of climate change vulnerabilities to cover transboundary issues to the extent possible;</p> <p>Extend the review, appraisal, and development of priority adaptation options to include transboundary risk to the extent possible;</p> <p>Integrate climate change adaptation into transboundary treaties, plans, strategies, where relevant;</p> <p>Ensure a continuous compilation and communication of transboundary adaptation actions.</p>
<i>Element C: Implementation Strategy including Transboundary Climate Risks</i>	<p>Prioritize transboundary climate change adaptation in national planning and decision-making process;</p> <p>Include transboundary risk in a national adaptation implementation strategy;</p> <p>Enhancing the capacity of agencies involved in transboundary decision making, and trade and business; dealing with international tourist, labour and migrants; and dealing with tele-connected sector and ecoregional interventions;</p> <p>Ensure effective coordination and synergy at the regional level and with other multilateral agencies supporting transboundary initiatives;</p> <p>Include contingencies to deal with uncertainties related to transboundary climate risks.</p>
<i>Element D: Reporting, monitoring and review</i>	<p>Collect relevant information on progress made in addressing transboundary risk;</p> <p>Promote the sharing of information and relevant knowledge and facilitating joint studies to enhance understanding of the gaps and needs at the regional level, communicating capacity-building needs and match their needs to resources;</p> <p>Ensure continuous updating of the national adaptation plans to include emerging transboundary risk;</p> <p>Ensure continuous monitoring of transformation in cross-border trade, investments and remittance flows; behavior of international tourists, labour and migrants, new trade partnerships.</p>

CONCLUDING REMARKS

This paper aimed to provide technical guidance for the consideration of regional approaches to adaptation planning and implementation, at the regional level and/or in the process to formulate and implement National Adaptation Plans (NAPs). In order to do so, the paper was focused on four key elements. Firstly, the paper provided the rationale and entry points for regional collaboration and coherence in the formulation and implementation of NAPs. Challenges, lessons learned and good practices in regional approaches to adaptation planning and implementation were also discussed. Lessons on the design and implementation of regional adaptation programmes with countries, financial mechanism entities and other providers of support were also underlined. Lastly, the paper highlighted practical ways to enhance the consideration of regional approaches to adaptation in the national development plans.

The first section of the paper laid the groundwork by framing regional approaches to adaptation planning. Most importantly, regional approaches to adaptation in this paper were explained as inter-governmental or transnational initiatives designed to respond to transboundary climate risk and unintended consequences of climate action emanating from different countries in a more coordinated and cost-effective manner to achieve collective good. The paper thus considered climate risk and its adverse impacts as borderless and multiscale, and to that effect, adaptation responses should be devised through a transnational lens. By summarizing the rationale for regional approaches, the paper underscored the motifs for undertaking a regional approach to adaptation planning. Namely, regional approaches to adaptation planning contribute to enhancing coordination of actions, promoting the sharing of data and facilitating joint assessments, facilitating pooling of financial and technical resources, and promoting the exchange of experience, good practices and lessons learned.

The paper outlined examples of common activities implemented through regional approaches to adaptation planning in order to contextualize and sustain the rationales provided in the previous section. By grounding the argument for regional cooperation with such examples, success factors were inferred, which serve as a template for countries seeking to integrate regional approaches in their adaptation planning or national adaptation plans. Lastly, and given that the aim of the paper is to provide technical guidance for the consideration of regional approaches to adaptation planning and implementation, recommendations for regional approaches were outlined.

Both climate risks and unintended consequences of adaptation interventions transcend geographical boundaries. It is against this backdrop that many countries and relevant development entities have and should continue to facilitate the design and implementation of transboundary adaptation policies, projects and programmes albeit the lack of coherent guidelines. This paper contributed to previous attempts aimed at developing a technical guidance by consolidating existing practices and identifying entry points for the formulation and implementation of regional approaches to adaptation at the regional level and/or through the NAPs.



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For further information, contact:

United Nations Climate Change Secretariat
UN Campus
Platz der Vereinten Nationen 1
53113 Bonn
Germany
Telephone +49 228 815 10 00
Telefax +49 228 815 19 99

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