



# Transboundary Natural Resources Management in a Changing Climate – The Case of Shared Watersheds in Africa

## CoP-18 Side Event Concept Note

Date: December 5

Time: 9h00 – 10h30

Venue: Renaissance Hotel

### I. Context

Over the recent decade Africa has transformed itself. With average annual growth rates of around five per cent, new opportunities and prospects for African livelihoods are opening up. The challenge is now to ensure that economic growth will benefit all segments of African societies and that the growth will remain robust in light of population growth and global change. Consequently, the African Development Bank has made inclusive green growth its long-term strategic focus. Inclusive green growth is about ensuring quality of growth. It is about supporting Africa in realizing its development ambitions, while promoting resource use efficiency, sustainability and resilience.

Within this context, the African Development Bank will host a series of side events that will address key African climate change issues during CoP18. Discussants at the side events represent the various spheres affected including policy, research, practice (governments, civil society, NGOs), finance (donors, MDBs) and advocacy. Respective groups bring experience and expertise to the forum and respond to the challenge areas identified while also making pertinent recommendations for policy and institutional reform towards enhanced climate change adaptation and mitigation in Africa.

### II. Background

Africa has about 80 transboundary water basins<sup>1</sup> that serve multiple functions. The transboundary water basins cover approximately 64% of the continent's land area, which contain 93% of the water resources and are inhabited by 77% of the population (Africa Water Atlas, 2010). The water basins also contain forests that host most of the terrestrial biodiversity.

The importance of preserving shared natural resources cannot be over-stated. Water resources are a necessity for life, industry, energy, agriculture as well as the aquatic life that provides sources of proteins and livelihoods for the riparian communities. Most of the arable land in Africa is also situated around river basins and as such the agricultural productivity and food security is directly linked to securing the water resources for future use. Forests can serve as carbon sinks and also as channels for ecosystem based adaptation. While having a direct impact on the livelihoods of

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<sup>1</sup> Source: Water and Sustainable Development in Africa: An African Position Paper. Africa Water Task Force. August 2002.

forest- dependent communities, forests also protect and stabilize watersheds and soils in addition to maintaining land productivity and reversing land degradation.

Climate change is already impacting Africa's water resources through recurring droughts and floods. The increasing drying of some regions contributes to the arid land area that currently covers 60% of total land in Africa. Droughts are Africa's principle natural disasters with over 30% of the population exposed to this phenomenon. The intermittent floods that affect low lying areas have severe impacts on the livelihoods of the communities.

Climate change modeling predicts that approximately 20-30% of the plant and animal species assessed thus far are likely to be at an increased risk of extinction if average global temperature increase exceeds 1.5-2.5°C (Forests for People, 2011). The disturbances, expected as a result of increased climate variability and change, are likely to exceed the normal ranges of variation thus exacerbating tree mortality, destruction of undergrowth and soil degradation. Other impacts such as the frequency and intensity of disease outbreaks, wildfires and risks associated with extreme events will also be exacerbated. The decreased ecosystem services in terms of water cycle regulation, soil protection and biodiversity conservation will imply increased social and environmental vulnerability particularly given the natural resources dependency and poverty levels in Africa. These impacts will be accentuated in the transboundary forests, which cover approximately 21% of the African landscape

The increasing water demands in the transboundary rivers and lakes due to increasing populations, settlement patterns and partly fueled by the recent so-called 'land grab' also poses risks for loss of biodiversity and diminished ecosystem services. Transboundary forest parks are witnessing increasing deforestation and biodiversity losses. The destruction of mangroves is threatening the sustainable livelihoods of millions of riverine communities. The recent droughts experienced in the Horn of Africa and the Sahel also attest to the threat on livelihoods presented by climatic events and the reduced ability to cope with consecutive dry years as a result of reduced recovery time between the events.

The existing challenges to the management of transboundary natural resources will undoubtedly be exacerbated by climate change. The variability in river flows, erratic precipitation levels, increasing temperatures and sea level rise will impact the sustainable use of these resources. Africa has a low adaptive capacity to climate change as a result of relatively high poverty rates, a high dependence on natural resources for economic stability and a deteriorating natural asset base. Given the low adaptive capacity of Africa, the new and additional risks as a result of increased climate variability and change are severe challenges for poverty eradication and overall economic growth.

Significant resources are required to meet some of the challenges presented by a changing climate and pilot innovative approaches to joint and shared management of the vital water and forest resources. Such support will reduce the risks to the

ecosystems and also the populations that are directly and indirectly dependent on these resources. Proactive management will have to be framed within a regional context, bringing the state actors together to address common issues and also strengthening the regional institutions such as the existing River Basin and Forest Conservation Organizations. The frameworks could provide regional strategies for building climate resilience that can also promote resource benefit sharing.

Several African countries are developing Climate Change strategies that build on the National Adaptation Plans of Action (NAPAs), which often include priority actions in the water and forest resources as two of the vulnerable sectors. The actions identified in the NAPAs and also in the National Appropriate Mitigation Actions (NAMAs) that are being developed can inform Regional Strategic Programs for Climate Resilience. The regional approach not only promotes benefit sharing but also contributes to regional integration with more countries having access to climate investment resources.

### **III. Challenges and Opportunities**

#### *Challenges*

While Africa is relatively well endowed with natural resources, these remain untapped or/and poorly managed with very little value addition before export. Despite growing demands on fresh water, overall water withdrawal stands at about 4% in Sub-Saharan Africa. Two thirds of the African countries have developed less than 20% of their agriculture production and less than 5% of the cultivated area is under irrigation in most countries (Africa Water Atlas, 2010).

The low development of infrastructure for improved water access and, sanitation management, hydropower, irrigation, water storage and flood mitigation continue to be a major challenge in most African countries. The changes in precipitation patterns and resulting water distribution will compound the challenges in infrastructure development.

In the current urbanization of African countries pollution has grown considerably, impairing water quality, aquatic life, and the health of watersheds. The expansion of settlements and agriculture production are some of the main causes of deforestation and forest degradation. Inadequate and unreliable energy supplies also significantly contribute to the deforestation as populations depend on wood energy. The deforestation and forest degradation erodes the ecosystem services provided by the forests and contributes to the emission of greenhouse gases. It also reduces the carbon sinking capacity. The planning of settlements needs to be improved and development of agriculture be done in a greener manner.

Existing River Basin and Forest Management Organizations have developed management strategies but often lack resources for their effective operationalization and the full integration of Climate Change adaptation and mitigation measures. Medium to long term funds for climate change adaptation and mitigation that are predictable and sustainable for the management of transboundary resources are limited and not readily available to all the actors.

## *Opportunities*

The need to share water resources among riparian states is often a catalyst for cooperative water management. Africa already has over 90 international water agreements to cooperatively manage shared resources. These agreements present opportunities to learn from successes of cooperation. The capacities of the River Basin Organizations can be enhanced to integrate climate change adaptation and mitigation measures. Countries with well-developed water resources management mechanisms are resilient to climate variability and are able to better manage projected adverse impacts of climate change.

Cooperation in the management and development of trans-boundary water resources is a building block of regional integration. Regional and cross-sector adaptation approaches to cope with the negative impacts of climate change have the potential to strengthen the cooperation to improve the efficiency of water resources management. This cooperative approach can lead to further collaboration and possible joint action, beyond water, thereby contributing to regional peace, stability and integration.

The green growth development pathway provides opportunities for the agriculture sector development through investments in affordable irrigation technologies, adopting climate smart agriculture practices and also the breeding and dissemination of drought tolerant crop varieties.

The inherent variability in inter annual rainfall in Africa has resulted in populations living in arid and the semi-arid landscapes developing traditional adaptation mechanisms that can be enforced and adjusted to new circumstances. The sharing of experiences among communities particularly those living around transboundary resources can be encouraged.

Shared water basins in Africa hold tremendous potential for water resource development that can contribute to climate change resilience. Multipurpose water storage infrastructure combining hydropower generation, irrigation, flood control, and water supply could contribute in maximizing regional benefit.

The success of the cooperation lies on the quality of hydro-meteorological information. African countries need to recognize hydro-meteorological information (e.g. river flow, rainfall data) as public goods to be shared at all levels, managed and used for sound water resources management in the region.

Improved forest management also provides opportunities of climate change adaptation and mitigation by reducing erosion and run-off and also enhancing the retention of water and providing shade. The vegetative cover provided minimizes the disruption on slopes and also increases the protection of riparian areas thus protecting the water quality. Forests can be used to redeem degraded lands while also increasing the capacity of carbon sequestration.

## **IV. Event Objectives and Outputs**

### *Objectives*

The objective of this session is to take stock of the existing challenges and issues being faced in transboundary natural resources management within the context of climate change. The session will provide a platform to share information and lessons learnt in transboundary resources management, how it could contribute to mitigation, and also exchange ideas on proactive management of the resources that will promote regional integration and cooperation among countries.

### *Outputs*

The key outputs of the session will be concrete ideas on proactive transboundary natural resources management. These ideas can inform the development and design of future interventions in transboundary natural resources management.

## **V. Key Questions**

The following questions will be addressed by the high level panel:

1. What climate change impacts on transboundary natural resources are we witnessing now? What are the projected impacts in the future?
2. What are the consequences of inaction today? How can we urge Africa to proactively address the adverse and unavoidable effects of climate change?
3. What are some of the successful (and unsuccessful) experiences in transboundary natural resources management from Africa and beyond, in the face of climate change?
4. How can the sharing of benefits be ensured for all the actors and the local communities living adjacent to the transboundary resources?
5. How can financing be secured for the proactive management of the shared resources? What role can the private sector play?
6. What is the role of land use planning in transboundary resources management considering the capacity of the regulatory authorities?
7. What are the most pressing institutional support actions that your organization needs, if any??

## VI. Participants Roles and Responsibilities

Panelist's Name	Organization/Position	Email	Phone Number/ Address
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<b>Moderator:</b> Professor Albert WRIGHT	Water Advisor; The father of the Kumasi KVIP	Email: <a href="mailto:amwright2@msn.com">amwright2@msn.com</a>	

## VII. Proposed Program

5 min. **Introduction/ Welcome note**  
Presenters Mr Abdirahman BEILEH/Mr Serign JALLOW;; Director OSAN/ OWAS (AfDB)

30 min. **Presentation (6 panelists- 5mins each)**  
Title of Presentation:  
Presenters: Mr Bai Mass TAAL (AMCOW); Mr. Richard Eba'a ATYI (CIFOR); Dr Ania GROBICKI (GWP); Dr Ravi PRABU (ICRAF); Mr Maher SALMAN (FAO); Dr Jean-Marie Kileshye ONEMA (WaterNet)

30 min. **Panel Discussion**  
Moderator: Professor Albert WRIGHT  
  
Panelist: Mr Bai Mass TAAL (AMCOW); Mr. Richard Eba'a ATYI (CIFOR); Dr Ania GROBICKI (GWP); Dr Ravi PRABU (ICRAF); Mr Maher SALMAN (FAO); Dr Jean-Marie Kileshye ONEMA (WaterNet) Mr. Mohamed Salem Ould MERZOUG (OMVS); Mr. Justino VIERA (OMVG); Engineer Teferra Beyene Asfaw (NBI)

25 min. **Exchange with audience**