
**SITWA PROJECT:
STRENGTHENING THE INSTITUTIONS FOR TRANSBOUNDARY WATER MANAGEMENT IN AFRICA**

**CONSULTANCY SERVICES TO ASSESS THE NEEDS AND PREPARE AN ACTION PLAN FOR SITWA/ANBO SUPPORT
SERVICES IN INFRASTRUCTURE DEVELOPMENT IN THE AFRICAN RIVER BASIN ORGANIZATIONS**



ANBO CLIMATE CHANGE ACTION PLAN





TABLE DES MATIÈRES

ACRONYMES.....	4
LIST OF TABLE.....	5
ACKNOWLEDGEMENTS.....	6
EXECUTIVE	6
1. BACKGROUND AND OBJECTIVES OF THE CONSULTANCY.....	11
1.1 ANBO background and objectives	11
1.2 Objectives and phasing of the SITWA Project.....	12
1.3 Objectives of this consultancy	12
2. KEY FINDINGS OF THE CONSULTANCY	13
2.1 Climate change, water and development in Africa.....	13
2.1.1 Current status and future trends	13
2.1.2 Water security and climate resilient development.....	14
2.2 African River Basin Organizations: A situation analysis	15
2.2.1 Description of African River and Lake Basins	15
2.2.2 Review of the current initiatives of climate change adaptation in basins	17
2.2.3 Gaps and Needs	17
2.3 An analysis of actors engagement in river basin management, climate change and development in Africa	20
2.3.1 International donor agencies.....	20
2.3.2 African organizations and programmes engaged in water and development	21
2.3.3 WATERNET / CapNet / Nile IWRM-Net	24
3. PRIORITY AREAS IDENTIFIED WHICH CAN BE ADDRESSED BY ANBO SUPPORT SERVICES	25
3.1 Introduction.....	25
3.2 Presentation of identified priority areas of ANBO services	25
3.3 Presentation of specific ANBO support services	28
4. ACTION PLAN: DETAILED LIST OF ACTIVITIES AND BUDGET ...	34
5. RECOMMENDATIONS.....	40
6. CONCLUSIONS.....	41
ANNEX A: Detailed result based work plan, summary budget and time frame 2015-2019	42
ANNEX B: List of documents consulted	44
ANNEX C: List of people consulted.....	45
ANNEX D: Further developed ANBO role and activities of prioritized services.....	46

ACRONYMES

AAP	Africa Adaptation Programme
AfDB	African Development Bank
AMCOW	African Ministers' Council on Water
ANBO	African Network of Basin Organizations
AU	African Union
AYICC	Africa Youth Initiative on Climate Change
CEPGL	Communauté Economique des Pays des Grand Lacs (Economic Community of the Great Lakes Countries)
DFID	Department of International Development
EAC	East Africa Community
EC	European Commission
EDPRS	Economic Development and Poverty Reduction Strategy
GEF	Global Environment Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoR	Government of Rwanda
GWP	Global Water Partnership
IPPC	Intergovernmental panel on climate change
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
JVE	Jeunes Volontaires pour l'Environnement (Youth Volunteers for the Environment)
LVBC	Lake Victoria Basin Commission
LVEMP	Lake Victoria Environmental Management Project
NAPAs	National Adaptation Programmes of Action to climate change
NBI	Nile Basin Initiative
NELSAP	Nile Equatorial Lakes Subsidiary Action Programme
NGOs	Non Governmental Organisations
OMVS	Organisation pour la Mise en Valeur du Fleuve Sénégal
ORASECOM	Orange-Senqu River Commission
PACJA	Pan-African Climate Justice Alliance
PMT	Project Management Team
PSC	Project Steering Committee
RBOs	River Basin Organizations
RCD	Réseau Climat & Développement (Climate & Development Network)
RECs	Regional Economic Communities
SITWA	Strengthening Institutions for Transboundary Water management in Africa
TUNZAFRICA	African National Youth Platform

UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Organization
USAID	United States Agency for International Development
WACDEP	
WRM	Water Resources Management
WWF	World Wildlife Fund

LIST OF TABLE

Table 1: A priority choice of ANBO climate change adaptation services.....	9
Table 2: Description of main African River/Lake Basins	16
Table 3: Types of water and climate change implemented activities	17
Table 4: Identified CC gaps and needs in African River/Lake basins.....	18
Table 5: ANBO support services.....	29
Table 6: Action plan and cost estimates per activity.....	34

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We would also like to recognize the support we have received from the people representing L/RBOs and RECs across Africa, and staff at ANBO, GWPO and AMCOW, who have contributed to this study by sharing information. Furthermore, we extend our particular appreciation to the participants who attended the SITWA consultation workshops in Kigali in July 2014 and in Kampala in September 2014 who engaged in constructive discussions, and the many individuals who have answered our call to share information via electronic consultations.

EXECUTIVE

ANBO is a network organization that aims to promote the management of water resources in rivers, lakes and aquifers in Africa. As a sub-committee of AMCOW (African Ministers' Council on Water) it also has a unique position in terms of water and development in Africa. By connecting the politically important AMCOW with the continent's many RBOs, it can mobilize political support for critical development activities. The opportunities are great, although the difficulties are also great.

The objective of this consultancy is to contribute to the preparation of a long term ANBO programme focusing on the current situation and needs of RBOs in terms of climate change adaptation. Key outputs are a set of identified priority actions – services – and a 5 year detailed program and budget. Other consultancies focus on Integrated Water Resources Management (IWRM) and infrastructure investments.

The background information required to develop such services was collected during a workshop in Kigali, with approx. 25 representatives of African RBOs present, by extensive communication with RBO staff via email and Skype, and reading and analyzing various documents and reports.

The services presented all mirror specific gaps and needs that have been highlighted by the RBOs. Some services have been developed out of an overall analysis of stated gaps and needs and they are all connected to original RBO statements. It is also important to note that climate variability is a fundamental issue of water resources management and as such a critical component of IWRM. The services presented in this report could also be phrased "IWRM Services".

Climate change in Africa is no longer something that will simply arrive in years to come. It is already here! The effects on environment and society are not one; they are many, being complex and difficult to predict. In some areas climate change may actually improve the conditions for people, although in many parts of sub-Saharan Africa most studies indicate that climate change will bring difficulties and exacerbate poverty conditions by affecting natural resources and development sectors such as agriculture and energy. Ultimately, the final effect on people depends on complex inter-linkages between climate change, exposure, and vulnerability. Poor people, relying on farming in arid areas, are potentially more vulnerable to climate change than the urban middle-class.

While IWRM is the "tool" or "approach" to respond to climate change in the water sector, water security is the ultimate goal. It is usually defined as the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, the environment and economies. A critical component of water security is climate resilient development. The term implies that adaptation to climate change should not be seen

as a separate process, but as a continuous and integrated one that addresses both present and future climate risks.

In practice this implies that there should always be a climate dimension in planning and development. Not only in just how to design a new bridge crossing a river, but also in e.g. planning new urban settlements, developing academic curriculum, and analysing how jobs and growth will be generated. In other words, water security should move from the environmental agenda into the one of national development, growth and security. “Water” should probably be hosted by the Ministry of Finance rather than in line ministries such as Ministry of Water Resources or Agriculture. It is of paramount importance that all investments are so-called ‘No/low regret investments’, i.e. such that have a high chance of success despite a full range of uncertainties in climate change and other future drivers. They should deliver sound returns whatever climate we face in the future.

Based on the findings of this study, it has been shown that a large number of climate change adaptation projects/initiatives already exist on the ground. Most of these projects or initiatives are aimed at improving water resources management and reducing the vulnerability of the population who are affected by the impact of climate change but the need to do more is still apparent. ANBO clearly has a role to play in supporting Africa’s RBOs with relevant, well designed, and services on demand.

In our work we have tried to keep within our terms of reference, i.e. to develop ANBO services focusing on climate change adaptation specifically. In some cases, however, we might cover more general IWRM services, which we regret, but it is merely in addition to the IWRM service package.

In performing climate change adaptation services ANBO will act primarily as a facilitator, coordinator, initiator and quality promoter. We do not foresee ANBO providing professional technical assistance. That said, all the listed services still require very competent staff in areas such as development, negotiations, water resources management, and project management.

The priority service areas (components) focusing on climate change adaptation are 6 in number. Briefly they are as follows:

- › **Component 1:** Facilitate political support for transboundary water cooperation. This service corresponds to a strong demand from many RBOs to have more political support for transboundary cooperation. It connects to ANBO’s unique position in-between AMCOW and the RBOs, a position that provides many opportunities to explore.
- › **Component 2:** Capacitate RBOs, their national partners, and senior decision makers in water security and climate resilient development. There is a big demand from many RBOs on this and it is reflected in our report by many different forms of capacity building and many different thematic focuses.
- › **Component 3:** Technical assistance. This service area is not about ANBO providing technical assistance, but about ANBO facilitating technical assistance. Facilitation in this case implies assisting e.g. in developing ToR and contracts, identifying good consultants/partners, engaging in monitoring, and identifying funding opportunities. Some large specific services are located under this heading, as requested by many RBOs.
- › **Component 4:** Facilitate funding for climate resilient development. This is an excellent service that ANBO can provide RBOs with – and it is also in great demand. Several different forms could be envisaged, e.g. providing general capacity building in developing bankable project proposals, providing technical assistance to do this in specific cases, and arranging and offering the funding from our own means.
- › **Component 5:** Establish a roster of experienced climate consultants/experts. A common problem in many initiatives is to identify good, experienced professionals from within a given country or region. Too often a failure to do so results in engaging an international expert from far away. A quality-controlled and continuously updated internet-based list of such people is in great demand.

This also opens up for collaboration with e.g. CapNet and WaterNet.

- › **Component 6:** Promote excellence in climate adaptation and transboundary work. This is a forward-looking service area. The aim is to promote good quality work by all RBOs. It aims at mainstreaming RBO work, rewarding excellence, and assistance in problem solving.

Under each of the above service areas, a number of specific services have been developed. They are many and contain some that are more important at this stage of ANBOs development as well as some that are less important.

The 5-year Action Plan of concrete actions (services) is presented in Chapter 4. It presents all services and the total (fees + expenses) cost for each service. An Excel sheet is available where the basis and assumptions made for each cost are presented. The Action Plan contains altogether 6 priority service areas (components), 37 specific services, and approximately 160 activities. Each activity is budgeted (although many have a generic focus). It is not yet known however how these services will be arranged and the capacity of both ANBO and RBOs to have them organized and running, and thus their costs should be seen as indicative only. Furthermore, all proposed services are budgeted for implementation in either 1 basin, 3 basins or across Africa. The linked budgets reflect these different levels of activity.

Below is additional information for each component.

- › **Component 1:** Facilitate political support for transboundary water cooperation. 7 specific services with a total estimated cost of €1 094 000.
- › **Component 2:** Capacitate RBOs, their national partners, and senior decision makers. 15 specific services with a total estimated cost of €7 087 000 (1 basin to all basins).
- › **Component 3:** Technical assistance. 4 specific services with a total estimated cost of €1 770 300 € (for 1 basin only).
- › **Component 4:** Facilitate funding for climate resilient development. 3 specific services with a total estimated cost of €316 300.
- › **Component 5:** Establish a roster of experienced climate consultants/experts. 3 specific services with a total estimated cost of €105 000.
- › **Component 6:** Promote excellence in climate adaptation and transboundary work. 4 specific services with a total estimated cost of €1 494 000.

In total the estimated cost amounts to €11 866 600. This given the assumptions discussed above about the number of RBOs/basin being addressed.

It is important to note how the cost for capacity building and technical assistance for setting up functioning (i) data collection, (ii) hydrological modelling and (iii) early warning systems were made. These are very complex and expensive systems to train staff to manage, arrange hardware for, and maintain. What is included in the budget is the training and hardware for 1 basin (RBO), although for all 3 topics.

In Annex A the specific services are prioritized. Some are indicated to start earlier (2015-2016) while others are proposed to start later in the programme period (2017-2019), even so what will be the determining priority in the end is still unknown to the consultancy team.

Services that were frequently requested by RBOs included the following: (i); political support for transboundary cooperation and acting on climate change adaptation; (ii) creating synergies between national and regional initiatives; (iii) increased policy formulation and decision-making for integration of water issues in sectorial planning; (iv) data collection; (v) assistance in securing funding; and (vi) capacity building and institutional development. Services linked to these demands have been listed as priority actions.

Table 1 is derived from choosing the services indicated to start early (2015-2016), it is an indication of what an ANBO start package of climate change adaptation services could look like. The total budget in this case would be approx. €1 714 100.

Table 1: A priority choice of ANBO climate change adaptation services

#	Area	Results	Time frame					Lead institution	Total 5 year budget
			15	16	17	18	19		
1.1.4	Volonté politique	Political leadership in 3 basins sensitized on climate adaptation						Partner-RBO	123000
2.1.1	Renf. des Capacités	3 basin RBO staff & partners trained in data collection systems						Partner-RBO	1178000
3.1	Assistance technique	1 basin equipped with data collection system						ANBO	553400
4.1	Financement	A system to provide information on funding opportunities is arranged and available.						ANBO	66000
4.3	Financement	10 RBO & 30 staff trained in bankable proposal writing.						ANBO	115200
4.4	Financement	ANBO has the capacity to support RBOs in TA in bankable project writing.						RAOB	45600

Key messages and recommendations are based on findings made during the assignment, but a bit of “general IWRM experience” was also used. They can most likely be combined with those made in the IWRM assignment.

Key messages and recommendations (in no order of priority).

1. Water security, including climate resilient development, must move out of the “environmental realm” and into the big politics of the Ministry of Finance and the President’s office (and similar levels). There is a need to redefine water; from being the outcome of other processes and into being a driver of how society develops.
2. RBOs must build their own capacity to analyse climate change and its effects on their basin in terms of runoff, the risk of floods/droughts, sharing of water and benefits, water quality and much more.
3. Climate change is an integral part of long-term, sound water management, i.e. IWRM. It cannot be treated as something separate from the rest.
4. Basins are all different, but the RBOs are expected to deliver similar services. To arrange a system of benchmarking RBOs would give impetus for comparing, learning from each other, and improvement.
5. ANBO’s close association with AMCOW is an asset for Africa’s RBOs. It should be utilized to the extent possible in order to bring about political support for transboundary cooperation, mainstreaming institutions and policies, and the recognition of the role of water in society.

6. There is a need to mainstream transboundary and national institutions and their strategies, policies and programmes. They are sometimes disconnected despite working with similar issues.
7. There is funding available to support well-designed climate adaptation programmes. However, the capacity to research and write strong, bankable applications is sometimes missing. Gaining skills to do so is a frequently requested by many RBOs.
8. There is much knowledge and experience among several of the more mature RBOs. This should be utilized in supporting the less experienced and newer RBOs.

1. BACKGROUND AND OBJECTIVES OF THE CONSULTANCY

1.1 ANBO background and objectives

The African continent has the highest number of transboundary river basins that collectively cover 64% of Africa's surface area and contain slightly more than 93% of its surface water resources. This is why, following the adoption of the Africa Water Vision 2025, the African Union called in 2000 for a "Federation of African River and Lake Basin Organizations" to be created, which would develop and adopt a common approach to the management of transboundary waters. In response to this call, the African Ministers' Council on Water (AMCOW) established in 2006 the "Tekateka Committee" which recommended the adoption of the already existing (since 2002) African Network of Basin Organizations (ANBO) to provide this common platform.

In 2007, ANBO's statutes were revised and ANBO was designated as a sub-committee of AMCOW in matters relating to TWRM.

According to article 2 of the 2007 ANBO Statutes, the Network aims to promote, as an essential tool for sustainable development, the Management of Integrated Water Resources in the basins of rivers, lakes and aquifers. For this purpose the African Network of Basin Organizations strives:

- To develop cooperation between bodies responsible for integrated management of water resources, and promote their exchange of experiences and expertise;
- To actively participate in the formulation of policies and their implementation, providing the experience of the practice, and perform diagnostics, assays for harmonizing policies, strategies and practices at the national level, as in the basins and sub-basins;
- To promote and strengthen existing organizations and encourage the creation of new basin organizations;
- To facilitate the development of appropriate tools for institutional and financial management, knowledge and monitoring of water resources, organizational databases of joint preparation of master plans and action programs in the medium and long term;
- To strengthen the network documentation centers and existing information within member organizations to produce, exchange, synthesize and disseminate knowledge and expertise in IWRM, in collaboration with regional partners and international support and to create systems and information documents on water in organizations that do not have this;
- To develop information and training of officials and agency staff basin and governments water sector and encourage the education of populations on these issues, conduct studies and prepare teaching material;
- To promote the principles of IWRM in basins international cooperation programs;
- To assess the actions taken by the member organizations and to disseminate the results;
- To organize joint activities of regional interest among its members and to support their actions, facilitating, including research funding and;
- To provide support to the Committee of African Ministers of Water (AMCOW), meet its specific demands on river basin management and implement its direction in the field.

It is against this background that the European Commission (EC) decided to fund a three year project aimed at strengthening regional cooperation for the sustainable management of transboundary water resources in Africa, through the programmatic and institutional strengthening of ANBO, and improvement of water governance for transboundary water resources management in Africa under the platform of ANBO.

The SITWA project (Strengthening the Institutions for Transboundary Water Management in Africa) is implemented by the Global Water Partnership Organization (GWPO) in partnership with the ANBO Technical Secretariat, currently hosted by the Organization for the Development of the Senegal River (Organization pour la Mise en Valeur du Fleuve Sénégal - OMVS).

A joint GWPO/ANBO Project Steering Committee (PSC) has been established and a Project Management Team (PMT) has been put in place at the ANBO Technical Secretariat in Dakar, Senegal.

1.2 Objectives and phasing of the SITWA Project

The overall objective of SITWA is to strengthen regional cooperation at the political, economic and stakeholder level for sustainable management of transboundary water resources in Africa contributing to peace and security, stability and poverty alleviation, relying on African knowledge.

The specific objectives of SITWA are:

- Transform ANBO into a sustainable and influential organization, as a pillar under the African Union (AU) and AMCOW framework that supports the development of lake and river basin organizations as catalysts for policy and institutional development, knowledge and information management and capacity development on transboundary water management and development
- Provide technical assistance to the RBOs (through the RECs and their respective member states) to develop IWRM Strategies and Plans (including addressing vulnerability to floods and droughts, priority issues for short and long term development, water quantity analyses and water quality objectives, etc.) in the river basins where they are not yet developed, and to implement plans where they exist.

The project is being implemented in two phases: an inception phase and an implementation phase. The Inception Phase took 12 months, between October 2012 and October 2013. The main result of the Inception Phase was the Inception Report with individual thematic reports. An implementation phase is following up for three -year duration (January 2014-December 2016).

1.3 Objectives of this consultancy

The objective of this consultancy is to contribute to the preparation of a long term ANBO programme focusing on the current situation and needs of RBOs regarding the climate change and development agendas in the RBOs.

The purpose is to identify priority actions (services) and present a 5 year detailed program and budget, within ANBO's mandate and SITWA's objectives.

An attempt has also been made to briefly review some of the main donor agencies' plans and intentions to support climate, water and development in Africa. This could indicate the type of services which could gain outside financial support.

2. KEY FINDINGS OF THE CONSULTANCY

2.1 Climate change, water and development in Africa

2.1.1 Current status and future trends

Climate change, water and development are inter-related topics of discussion as far as the African continent is concerned. It was revealed that climate change is exacerbating the poverty conditions of African countries by affecting natural resources and development sectors such as agriculture and energy among others (IPCC, 2014). It was shown that recurrent droughts in Sub-Saharan Africa as impacts of climate variability, have led to a decrease in agricultural productivity which leads to a negative effect on national GDPs. Also, floods occurring in various regions (coastal as well as inland) destroy infrastructure and transportation, hence loss of goods and services, contamination of water supplies and the increased risk of health problems, all of them leading to the drop in GDP. For instance, in Kenya, the 1997-98 floods and 1999-2000 droughts caused a drop of 11% and 16% of GDP respectively. Similarly, economy-wide models on hydrological variability show that the GDP growth rates in Ethiopia can drop up to 38% as consequence of this variability (AMCOW, 2011).

In addition to the current situation, the projections show that climate change will continue to affect water resources, agriculture and other development sectors. The Intergovernmental Panel on Climate Change (IPCC), in its recent fifth report (2014) has provided the details on climate change threats to the above sectors. Following are the examples of projected trends concerning water resources, crops and livestock of Africa:

- For North Africa, it is estimated that in 2050 climate change will account for 22% of future water shortages in the region;
- Areas of Africa, receiving between 200 to 500 mm per year, including the Sahel, the Horn of Africa, and southern Africa, are likely to experience a decline in groundwater recharge due to prolonged droughts and variability in rainfall;
- Estimated yield losses at mid-century, range from 18% for southern Africa to 22% aggregated across SSA, with yield losses for South Africa and Zimbabwe in excess of 30%;
- Simulations that combine all regions south of the Sahara suggest consistently the negative impacts of climate change on major cereal crops in Africa, ranging from 2% for sorghum to 35% for wheat by 2050;
- In West Africa, temperature increases above 2° C (relative to a 1961-1990 baseline) are estimated to counteract positive effects on millet and sorghum yields of increased precipitation scenarios;
- Loss of livestock under prolonged drought conditions is a critical risk given the extensive rangeland in Africa that is prone to drought. Regions that are projected to become drier with climate change, such as Northern and Southern Africa, are of particular concern. It is projected that the adequate provision of water for livestock production could become more difficult under climate change. This is expected to have increase water supply cost for livestock; and
- Livestock production will be indirectly affected by water scarcity through its impact on crop production and subsequently the availability of crop residues for livestock feeding. E.g. it is estimated that maize stover availability per head of cattle will decrease in several East African countries by 2050.

In 2010, AMCOW developed a strategic framework for water security and climate resilient development for Africa. In this strategy, AMCOW has called on African countries to increase climate resilience through investment in better management and infrastructure to reduce such negative impacts on GDP. Different gaps were identified to be the barriers to this pathway and need to be addressed. These include:

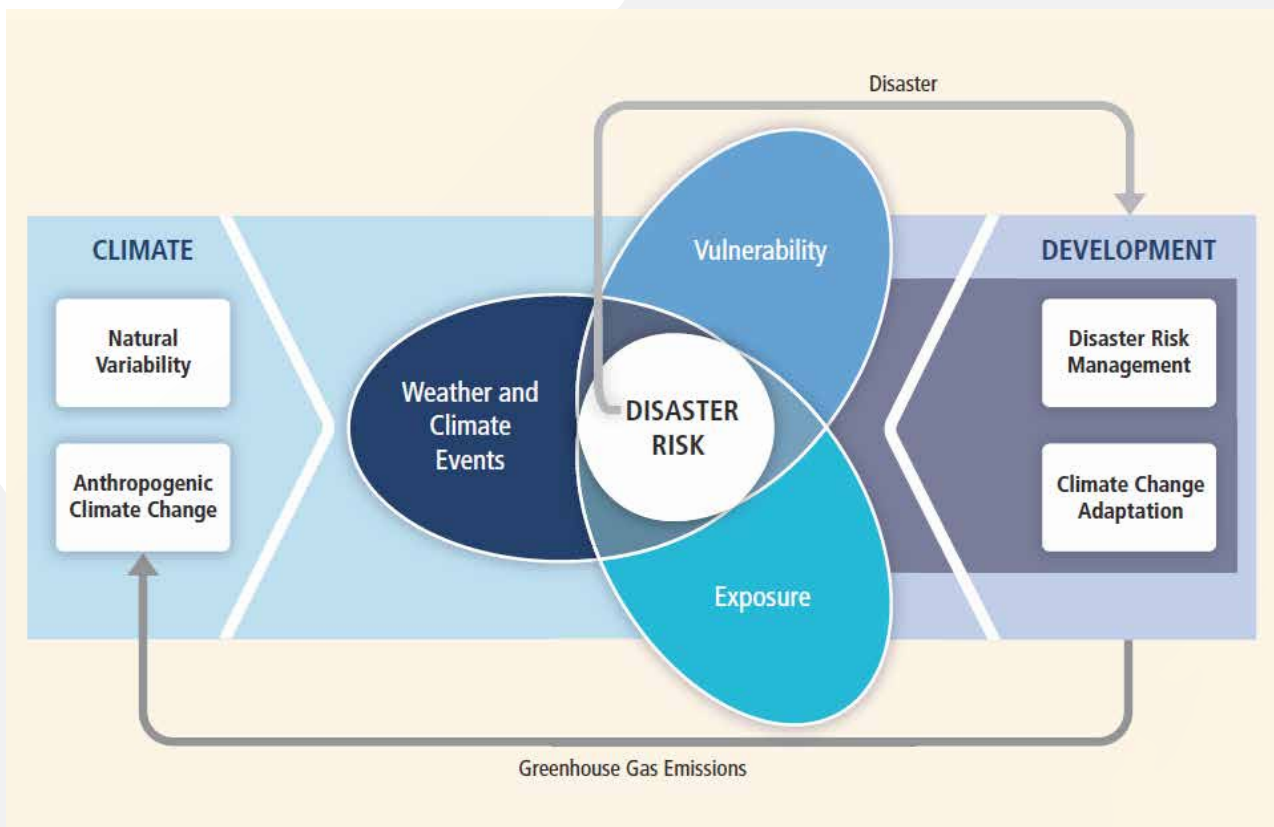
- Low adaptive capacity of African countries to deal with the effects of variability;
- Low levels of resilience and reliance on climate sensitive sectors like agriculture;
- Unreliable water supply which is a significant disincentive to investments in industry and services;
- Inadequate investment in water security which leads to inadequate management of climate risks and hydrological variability;
- Insufficient investment in assets and infrastructure but also investment in institutional policies, plans and systems to improve integrated management of water resources;
- Low hydropower potential development which is currently about 10%; and
- Gender gap in the management of water resources as well as in adaptation programmes.
- Due to this current status and future trends described in the above sections, it is very important for Africa River Basin Organizations, to build climate resilience in order to adapt and reduce future impacts of climate change across the regions. Following are the identified needs under WCDEP programme:
 - Investment in water security and sanitation to increase economic growth and human welfare;
 - Promotion of an integrated approach across sectors to increase resource use efficiency;
 - Strengthening the existing institutional frameworks for the implementation of IWRM;
 - Greening water sector as large majority of African livelihoods are dependent on natural resources such as water; and
 - Bridging the gender gap and let women play a key role in water resources management and development activities.

2.1.2 Water security and climate resilient development

While water security is the goal for water-related development, Integrated Water Resources Management (IWRM) and its international component Transboundary Water Management (TWM) are the “tools” or “approaches” leading towards this goal. Water security is usually defined as the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, the environment and economies.

Building climate resilience into development activities is critical to achieve long-term sustainability. Climate resilient development in Africa will benefit from both standard development activities and specific adaptation activities. To-date, the adaptation agenda has been largely driven outside of existing development planning processes. In order to avoid duplication and parallel processes, mainstreaming adaptation within existing national development planning processes and systems is desirable, and should include the integration of associated climate finance where available.

A particular issue linked to climate change is disaster risk management, how to handle floods and droughts. The figure below shows how both changes in vulnerability and exposure and changes in weather and extreme climate events can contribute and combine to create disaster risk, hence the need for both disaster risk management and climate change adaptation within development processes.



The challenge today is to include the climate factor in all planning and development activities. It has to be part of how e.g. a national budget is formulated, how a new bridge is designed and how urban water and sanitation services are developed. It should – and will in time – perforce into all avenues of life. And as such, the economics of adaptation will become increasingly important. These should be so-called ‘No regrets’ or ‘low regrets’ investments, i.e. such that have a high chance of success despite a full range of uncertainties in climate change and other future drivers. They should deliver sound returns whatever climate we will face in the future. Climate change is no more an environmental issue. It belongs in the Ministry of Finance.

2.2 African River Basin Organizations: A situation analysis

2.2.1 Description of African River and Lake Basins

The African continent contains many rivers and lakes. Most of these waters are shared by many countries, in which they form basins. Rivers and lakes offer a great opportunity for development cooperation among different riparian countries. The following Table 2 presents a short description of 18 rivers basins for which the consultants have conducted a situation analysis:

Table 2: Description of main African River/Lake Basins

Name of the basin	Area covered	Riparian countries	Name of Basin Authority
Congo River Basin	3,699,100 km ²	Democratic Republic of Congo, Central African Republic, Angola, Republic of Congo, Zambia, Tanzania, Cameroon, Burundi, Rwanda, Gabon and Malawi	The International Commission for the Congo-Oubangui Sangha Basin, (CICOS)
Orange-Senqu River basin	1,000,000 km ²	Botswana, Lesotho, Namibia, and South Africa	The Orange-Senqu River Commission (ORASECOM)
Incomaputo Basin	77,400km ²	Mozambique, South Africa and Swaziland	Tripartite Permanent Technical Committee (TPTC)
Juba-Shibelli basin	803,500 km ²	Ethiopia, Kenya, and Somalia	None
Komati River Basin	44,800km ²	Mozambique, South Africa, and Swaziland	The Komati Basin Water Authority (KOBWA)
Kunene Basin	110,000km ²	Angola and Namibia.	Permanent Joint Technical Commission (PJTC)
Lake Chad Basin	2,388,700km ²	Chad, Niger, Central African Republic, Nigeria, Algeria, Sudan, Cameroon, Chad, and Libya	Lake Chad Basin Commission (LCBC)
Lake Victoria Basin	181,000km ²	Burundi, Kenya, Rwanda, Tanzania, and Uganda	Lake Victoria Basin Commission (LVBC)
Limpopo River Basin	414,800km ²	Botswana, Mozambique, South Africa, and Zimbabwe	Limpopo Watercourse Commission (LIMCOM)
Niger Basin	2,113,200 km ²	Nigeria, Mali, Niger, Algeria, Guinea, Cameroon, Burkina Faso, Benin, Chad and Sierra Leone	Niger Basin Authority (NBA)
Nile Basin	3,038,100km ²	Sudan, South Sudan, Ethiopia, Egypt, Uganda, Tanzania, Kenya, Democratic Republic of Congo, Rwanda, Burundi and Eritrea	Nile Basin Initiative (NBI)
Okavango River Basin	725,000 km ²	Angola, Botswana, Namibia and Zimbabwe.	Okavango River Basin Water Commission (OKACOM)
Ruvuma River Basin	151,600km ²	Mozambique, Malawi and Tanzania	Joint Water Commission (Established between Tanzania and Mozambique)
Volta Basin	414,000km ²	Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali and Togo	Volta Basin Authority (VBA)
Senegal River Basin	300,000km ²	Guinea, Mali, Mauritania and Senegal	Organization for the Development of Senegal River (OMVS)
Zambezi River Basin	1,570,000 km ²	Angola, Botswana, Democratic Republic of Congo, Malawi, Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe	Zambezi Watercourse Commission (ZAMCOM)
Gambia River Basin	69,800km ²	Gambia, Guinea and Senegal	Gambia River Basin Development Organization (OMVG)
Mano River Basin		Guinea, Liberia, Sierra Leone and Côte d'Ivoire	MANO River Union (MRU)
Mono River Basin	20,000 km ²	Togo, Benin	Mono River Basin Authority (MBA).

2.2.2 Review of the current initiatives of climate change adaptation in basins

Based on the findings from this study, it was shown that there are a large number of climate change adaptation projects/initiatives that are already on ground. Most of these projects or initiatives aims to improve water resources management as well as reduce vulnerability of the population who are being affected by impacts of climate change.

The types of projects or initiatives consist of research/studies activities, policy and strategy development as well as on ground climate change adaptation activities. These can be summarized in Table 3 as follows.

Table 3: Types of water and climate change implemented activities

Types of projects/ program	Objective	Area of intervention
Research/studies	To improve knowledge, information on climate, water resources and climate change in the basins	Climate modeling, climate change vulnerability assessments, hydro-logical data generation, etc.
Policy and strategy development	To reduce vulnerability to climate change (reducing floods, droughts, improve food and energy security, sustainable use of natural re-sources)	Development of Climate change policies and strategies; Development of climate resilient policies and strategies for water, energy, agriculture and natural resources management
Capacity building and institutional development	Enhancing capacities for human and institutional development for better planning and management of transboundary resources and adaptation to climate change	Training and workshops on different aspects of water resources planning and management, climate change, climate resilience, smart agriculture, project development, etc.
On ground adaptation activities	To improve livelihoods, water, energy and food security and natural resources management	Hydropower plant development, implementation of irrigation, agroforestry, fishing, forest and land use management projects, etc

2.2.3 Gaps and Needs

Lots of efforts are being undertaken by different basin organizations in order to improve the management of the river/lake basins as well as fighting against climate change in the basins. However, it was observed that there is still a lot to be done in this area; the following Table 4 gives the detailed information on gaps and needs related to climate change that were identified during this study.

Table 4: Identified CC gaps and needs in African River/Lake basins

Gaps	Needs
<p>1. Lack of strong cooperation</p> <p>Failure to reach a common agreement between riparian countries, implementation of stand-alone national and sub-basin projects/programs leading to ineffective responses to the climate change impacts in different basins</p>	<p>Promote joint planning, coordination and basin wide cooperation</p> <p>Considering the transitional and interconnected nature of the basins natural resources, a number of climate change adaptation measures would be more effective when undertaken in coordination with other riparians, as opposed to each country acting independently. Possible measures at transboundary level include:</p> <ul style="list-style-type: none"> • Coordinated reservoir operation, • Strengthening inter-basin agricultural trade, • Development of interconnecting power grids and flood control infrastructure, and • Developing joint mechanisms for fund mobilization
<p>2. Lack of coordination between existing regional and national climate change response measures</p> <p>There are various initiatives on climate change at both regional and national level, which are often poorly connected and with little informational flow between them.</p>	<p>Creating synergies between national and regional initiatives</p> <p>There is a need to build platforms and cooperation as well as coordination mechanisms to make sure that those synergies in the programs and initiatives are adequately used and activities are coordinated to maximize the related outcomes and benefits.</p>
<p>3. Lack of sound basin data and poor access to scientific knowledge and innovations and information on climate change:</p> <ul style="list-style-type: none"> • Lack of climate change risks and vulnerability maps • Early warning information • Inadequate information technology to adapt or mitigate climate change-uncertainties about the speed, the extent of climate change and the impacts on different sub-regions and sectors in the basin, etc. <p>This is critical to planning and decision-making processes as well as providing policy guidance for the national and transboundary responses to Climate change.</p>	<p>Increasing knowledge and information for basin</p> <ul style="list-style-type: none"> • There is a need for the region to improve its knowledge and analytical base on climate change risks, vulnerability and impacts in order to develop basin's programs and projects. • Need for training and capacity building for professionals and decision-makers on planning, coordination and information technology; • Build capacity for institutions • Need for conducting scientific research on climate change impacts in the basin • Establishment of Regional Observatory Networks • Establishment of hydro-meteorological stations on rivers and establish a database system for information storage • Establishment of an early warning systems in riparian countries • Develop climate change communication strategy

<p>4. Gaps in integrated-policy and decision-making</p> <p>Despite the multi-uses of water resources by various sectors and the related increased demand, there are still gaps in policy and regulations governing the water uses in riparian countries.</p>	<p>Increased policy formulation and decision-making for integration of water issues in sectoral planning</p> <p>Given the already intensive utilization of water resources for existing development plans, e.g. for agricultural intensification and hydropower production, which in some parts of the basin are already exceeding the available water resources, there is a need for basins' m2wide coordination and planning. Particularly, at the nexus of water, agriculture and energy, the emerging demands need to be integrated with climate adaptation and mitigation planning in order to avoid mal-adaptation.</p> <p>Limitations on water availability in all sectors require a shift towards increased resource use efficiency, demand management and more sustainable consumption patterns. Better integrated policy- and decision-making that account for external costs across sectors will have to complement conventional approaches aimed at only improving sectoral resource productivity. More precisely, there is a need to:</p> <ul style="list-style-type: none"> • Raise awareness among different users and policy-makers • To put in place appropriate policies and regulations for water resources utilization for the sake of water security
<p>5. Limited institutional arrangements and capacities as well as frag-mented institutional setups</p> <p>Recent needs assessments in the framework of the process have shown that institutional weaknesses and a lack of technical capacity at national levels are reasons for ineffective climate-related policy formulation and implementation, a high frequency of overlapping and conflicting roles and responsibilities between institutions. This also results in weak capacities in policy coordination and measures at re-gional and transboundary level. Also inadequate political commitment leads to weak institutional setup, as the institutional set-up is not based on a strong pillar.</p>	<p>Institutional development, capacity building, awareness raising</p> <ul style="list-style-type: none"> • It is very important to set up adequate institutions (or to strengthen the existing ones), in order to build technical capacity for national institutions in charge of planning, coordination and management of natural resources as well as sectoral plans. • There is also a need to raise awareness among decision-makers to increase their political commitment.
<p>6. Limited infrastructure development</p> <p>Many countries in the basins show a low level of developed infrastruc-ture. There is low water-storage capacity, few water-control sys-tems, and the transport, energy, information, and communication systems are not so advanced. These conditions combined with the natural and socio-economic factors mentioned above constrain the adaptive capacity of most of these countries.</p>	<p>Increasing infrastructure for water security and climate resilience</p> <p>There is a need to increase water-storage infrastructure. Water storage is the basis for assuring water productivity in the face of climate change. Both large and small infrastructure projects need to be part of a balanced water-investment programme that provides reliable water supplies for human health, agricultural production, and economic activities, and that protects natural water and environmental assets. Development of large multipurpose storage facilities (often combined with hydropower generation) is necessary for mitigating the economic effects of hydro-climatic variability, for ensuring reliable water supply, and for optimally using available water. Furthermore, it is vital to improve flood control infrastructure and meteorological stations to improve early warning systems. This will reduce climate change related disasters</p>

<p>7. Limited capacities to tap opportunities to access finance for climate compatible development in the basin</p>	<p>Enhancing capacities to access finance</p> <p>There is a clear need for additional financing to build capacity and mainstream climate change considerations into development planning, and to climate-proof existing and future investments in the basin. To access international and national climate funds and increase additional private contributions, however, capacities to tap into these opportunities need to be enhanced and investment conditions in target countries need to be improved.</p>
<p>8. Inadequate investments</p> <p>It was observed that many countries in the basins suffer from low investment to promote sustainable resources management and diversified livelihood strategies which are crucial in order to reduce the vulnerability to climate change</p>	<p>Increase partnership and networking</p> <ul style="list-style-type: none"> • Increase both public and private partnership and networking to support and strengthen the implementation of program activities • Strengthening Civil Society organizations • Promote climate resilient investments through the establishment of incentives, national and regional funds as well as improved policies and regulations

Services that were frequently requested by the RBOs included the following: (i) political support for transboundary cooperation and moving towards climate change adaptation; (ii) creating synergies between national and regional initiatives; (iii) increased policy formulation and decision-making for integration of water issues in sectorial planning; (iv) Data collection; (v) Assistance to secure funding; and (vi) Capacity building and institutional development. These services have been listed as priority actions (see the work plan).

2.3 An analysis of actors engagement in river basin management, climate change and development in Africa

2.3.1 International donor agencies

Various international donor agencies have been approached in this assignment (e.g. Sida, Danida, GIZ, and DFID) with the purpose of gaining information about their plans for further support to the water, climate, basins, and development sector in Africa, and, in particular, if they foresee a support for ANBO's new set of services.

Much information was collected, but it did not tell us very much about the key questions raised. That said, both Sida and GIZ shared a positive view about ANBO and acknowledged "ANBO's important role in transboundary water resources management in Africa" and welcomed opportunities to collaborate. GIZ stated that the present lack of collaboration could be – at least partly – "because we are not sure about ANBO's strategy and its planned activities, that is, if there was some clear list of activities that ANBO is pursuing in the basins that we are working in, we would certainly be interested in collaborating". Still, GIZ has indirectly supported ANBO in many ways, e.g. via AMCOW, specific RBOs, events during the Africa Water Week, and in many international forums.

Sida supports ANBO's concept and mandate and believes that ANBO can play an important role in the exchange of experience between different basins and that from a policy perspective ANBO is just about right – the trouble is that all such funds are currently allocated. This will be the case until 2015. Furthermore, Sida could be interested in supporting data collection and hydrological modelling in African basins. This could become a Sida supported ANBO programme. Danida has a long tradition of supporting institutional development within the water sector in Africa, and has done so in a number of projects associated with ANBO, but nothing directly linked to ANBO.

2.3.2 African organizations and programmes engaged in water and development

The African organizations and programmes involved in climate change, water and development can be grouped into five categories. These are: partners, Regional Economic Commissions (RECs), Civil Society Organizations, River Basin Organizations and Ministerial Organizations.

(i) Partner organizations

AfDB: The African Development Bank (AfDB) is involved in the activities which help to reduce poverty, improve living conditions for Africans and mobilize resources for the continent's economic and social development. Many AfDB funded projects include a climate change adaptation component. AMCOW collaborates with the bank through its Water and Sanitation Department (OWAS).

AFUR: The African Forum for Utility Regulators (AFUR) focuses mainly on issues related to the regulation of energy, telecommunications, transport, and water & sanitation industries, with a particular emphasis on issues that are common across sectors. AFUR works to support the development of effective utility regulation in Africa through facilitating, the harmonization of regulatory policies, exchange of information and lessons of experience amongst regulators and capacity building in support of the socio-economic development of the continent.

NEPAD: The New Partnership for Africa's Development (NEPAD) water programme works in partnership with AMCOW to address the many challenges in managing water resources in the continent. Among these are the threats posed by drought, floods and climate change. The program has a Short Term Action Plan (STAP) which is part of the African Water Vision framework which maps strategies through to 2025. This program mainly focuses on:

- The development of national integrated water resources management policies and strategies;
- Addressing climate change including the effects of droughts and floods;
- Meeting the basic water needs of the continent's population;
- Enhancing irrigation and rain-fed agriculture to improve production and food security;
- Management of trans-boundary water resources to become a basis for national and regional cooperation and development; and
- Establishment of NEPAD Water Centers of Excellence.

WSA: Water and Sanitation for Africa (WSA), formerly known as 'CREPA' is a Pan African Intergovernmental not-for-profit organization currently operating in 22 West and Central African countries. Its mandate is to support member states in developing and implementing their respective national agendas for sanitation, hygiene and water supply.

(ii) Regional Economic Commissions (RECs)

There are six important RECs involved in water and development programs in the African Basin with different mandates but all are complementary;

COMESA: COMESA is the Common Market for Eastern and Southern Africa was formed in December 1994 to replace the former Preferential Trade Area (PTA) which had been in existence since 1981. COMESA is currently involved in climate change protection in member States. The COMESA initiative has several specific objectives: to consolidate a shared vision for Africa on climate change and a common and informed voice for the continent in the Post Kyoto Climate Change negotiations and beyond; to foster regional and national cooperation to address climate change and its impacts; to promote integration of climate change considerations into regional, national policies, sectoral planning and development and budgeting among others.

ECCAS: The Economic Community of Central Africa States (ECCAS) aims to achieve collective autonomy, raise the standard of living of its populations and maintain economic stability through harmonious cooperation. ECCAS is involved in the program of Assessment of the availability of water resources and strengthening of a water resources information system in the Congo Basin.

ECOWAS: The Economic Community of West African States (ECOWAS) is a regional group of fifteen countries, founded in 1975. Its mission is to promote economic integration in «all fields of economic activity, particularly in industry, transport, telecommunications, energy, agriculture, natural resources, commerce, monetary and financial questions, social and cultural matters. Currently ECOWAS supports the projects which enhance the management of water resources, and ecosystems and early warning systems in different basins such as the Volta Basin, Niger River Basin and Senegal River Basins.

IGAD: The Intergovernmental Authority on Development (IGAD) is a ten-country trade bloc in Eastern Africa (Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan and Uganda). It includes governments from the Horn of Africa, Nile Valley and Africa Great Lakes. The activities that IGAD programs and projects focus on include (i) environmental Education and training; (ii) capacity building in integrated water resources management in the IGAD region; (iii) building capacity for community-based natural resources management in the IGAD sub-region; and (iv) promotion of sustainable crop production in the drylands of the IGAD sub-region

SADC: The Southern African Development Community (SADC) started as frontline States whose objective was the political liberation of Southern Africa. SADC develops programs and implements important activities in support of the implementation of the UNCCD within its Southern African States. The following are examples of activities that SADC is involved in:

- Capacity-building;
- Strengthening of early warning systems;
- Cooperation for the sustainable development of shared natural resources and ecosystems;
- Information gathering, processing and exchange;
- Development of the transfer of appropriate technology at the community level;
- Development of alternative sources of energy; and
- Socio-economic development.

UMA: Arab Maghreb Union (UMA) is a trade agreement aiming for an economic and future political unity among the Arab countries of the Maghreb in North Africa (Algeria, Libya, Mauritania, Morocco and Tunisia). Countries in the UMA region are involved in activities aimed at combating land degradation, droughts and desertification.

(iii) Lake/River Basin Organizations (R/LBOs)

River and Lake Basin Organizations (R/LBOs) are important bodies which have the mandate to foster the good management of water resources in different basins. A list of the main Basin Organizations is provided above.

(iv) Civil Organizations

ANEW: The Africa Civil Society Network for Water (ANEW) is a regional network body of African civil society organizations activities involved in the field of sustainable water management, water supply and sanitation. The main focus of ANEW is to facilitate and support the participation of African civil society organizations in water policy formulation and implementation of development plans in the African water sector.

AfWA: The African Water Association (AfWA) is a professional association of establishments, enterprises and utilities operating in the areas of drinking water, sanitation and the environment in Africa. Its main objective is to develop professional capacity of members in order to achieve its vision of drinking water coverage across the continent.

(vii) Ministerial Organizations

AMCEN: The African Ministerial Conference on the Environment (AMCEN) is a permanent forum where African ministers of the environment discuss mainly matters of relevance to the environment of the continent and African cooperation.

AMCOST: The African Ministerial Council on Science and Technology is a high-level platform for developing policies and setting priorities on science, technology and innovation for African development. AMCOST provides political and policy leadership for the implementation of Africa's Science and Technology Consolidated Plan of Action (CPA). AMCOW and AMCOST collaborate on Building an African Network of Centers of Excellence in Water Sciences and Technology working with NEPAD and the AU Commission.

FEMA: The Forum of Energy Ministers in Africa (FEMA) was established in 2005 to provide political leadership, policy direction and advocacy to increase access, better utilization and management of energy resources for the sustainable social and economic development of Africa. Areas of AMCOW's collaboration with the Forum of Energy Ministers in Africa (FEMA) include: advocacy for hydropower infrastructure development, policy matters and resource mobilization.

AMCOW: The African Ministers' Council on Water was formed in 2002 in Abuja, Nigeria, primarily to promote cooperation, security, social and economic development and poverty eradication among member states through the effective management of the continent's water resources and provision of water supply services.

(viii) Networking Organizations

PACJA: The Pan African Climate Justice Alliance is a continental coalition of civil society organizations in the African continent, brought together by a common goal of promoting and advocating for climate-friendly and equity-based development. Currently it draws its membership from Non-governmental organizations, Foundations, Trusts, Community-based organizations, national coalitions and regional networks. PACJA collaborates and encourages strategic alliances with international partners, national governments, regional governmental bodies as well as individuals sharing its aspirations, to ensure that the African voice is amplified in international climate change dialogue processes.

CEPGL: The Economic Community of the Great Lakes Countries (ECGLC) (in French CEPGL - Communauté Économique des Pays des Grand Lacs) is a sub-regional organization with multiple vocation created by the signing of the Agreement of Gisenyi in Rwanda on September 20, 1976, aimed at insuring the safety of member states (Burundi, Democratic Republic of the Congo, and Rwanda), and promoting regional economic cooperation and integration.

AYICC: The African Youth Initiative on Climate Change is an umbrella initiative of all youth organizations in Africa working on climate change. It was launched during the International Conference of Youth prior to the UNFCCC, COP 12 in 2006. Currently it has a membership of over 200 youth organizations from all over Africa. It comprises and continues to welcome of all youth organizations who consent with the shared AYICC vision of 'An African continent with an empowered and united youth movement, proactively involved in the decision making process and the adoption of sustainable options towards a better climate and social equity'.

JVE: The Youth Volunteers for the Environment, YVE (in French: Jeunes Volontaires pour l'Environnement) is active in the transboundary Mono River Basin in Togo and Benin. With support from both countries they work to ensure the Mono Basin is managed in an integrated way with the active involvement of

local communities. They are part of the negotiations around the set up of a Mono Basin Authority and critically follow the planning process of a new large-scale hydropower dam, the Adjaralla dam. It was founded in the early 2000s as a result of an initiative of a small group of young students living in a village of Tsiko in a mountainous region of southern Togo. Today YVE is a strong network represented in more than 22 countries around the world and it is now the largest youth environmental movement in Africa.

RCD: The Climate and Development Network is a network of francophone NGOs which represents over 70 francophone NGOs based in Europe and Africa, and is working on the integration of climate issues and development. The Network is mobilizing support on these issues, through projects on the ground and advocacy - national and international.

2.3.3 WATERNET / CapNet / Nile IWRM-Net

All three networks are mainly involved in institutional capacity building, training, information sharing and research on the matters related to the water resources management within African River Basins.

WaterNet is a regional network of university departments and research and training institutes specializing in water. The network aims to build regional institutional and human capacity in Integrated Water Resources Management (IWRM) through training, education, research and outreach by harnessing the complementary strengths of member institutions in the region and elsewhere. WaterNet member institutions are based in Southern and East Africa.

Cap-Net is an international network for capacity development in Integrated Water Resources Management that was initiated by UNDP in 2003. The overall goal of Cap-Net is to achieve sustainable management and development of water resources and improved access to basic water supply and sanitation services which benefit the poor and contribute to the improvement of livelihoods, environmental sustainability and reduce climate change vulnerability.

Nile-IWRM Net is a regional network established in September 2004 (in Khartoum, Sudan) as a non-profit network for enhancing capacity building in integrated water resource management (IWRM) in the Nile Basin countries. The mission of the Nile IWRM Net is to enable capacity development for IWRM in the Nile Basin countries by promoting and encouraging information sharing, technical assistance, and development and implementation of demand driven capacity building activities at the different levels (policy, planning, practitioners, education, and grassroots) for the sustainable management of water resources in the Nile Basin.

3. PRIORITY AREAS IDENTIFIED WHICH CAN BE ADDRESSED BY ANBO SUPPORT SERVICES

3.1 Introduction

In this section are support services linked to climate change and which are possible for ANBO to deliver (given its present mandate). They are arranged under six main areas (see below). Following this are all the specific services described. The areas and their linked services are not put in any particular priority order at this stage. This is merely the long list of services that ANBO could provide within its mandate and linked to climate change and river basin management.

In the following section are the services developed into an action plan, including the specific activities that have to be undertaken in order to implement a given service. A budget is provided for each activity. In the linked Annex A is a result-based work plan and time frame presented. There are three levels of priority services. Some services and linked activities are presented as starting in 2015 and 2016. These have the highest priority. The services and activities starting in 2017 have less priority. The services and activities will continue until the intended results have been achieved. A second round may then start with services aimed at other RBOs.

Only a few activities in the work plan are intended to support all RBOs across Africa. In most cases are e.g. 1 or 3 basins the target. This implies that additional RBOs can be targeted if ANBO is provided with the financial support and capacity to facilitate more programmes.

It should be noted that it is extremely difficult to develop a work plan without knowing the demand for the given services. The “needs” we have noted do not necessarily translate into demands when an opportunity is available. ANBO may offer a service, which a RBO may need, but it is still unable to accept it because of its own funding situation, internal capacity to engage, or other and conflicting processes it may be involved in.

Various assumptions are included in the list of activities and budgets. Even if the demand for e.g. capacity building in hydrological modelling is great, the work plan will not extend this to all RBOs in Africa. Such assumptions are explained where relevant.

Finally, as mentioned at the beginning of this report, climate change is a sub-section of IWRM. Many IWRM services that ANBO can support will also include the climate aspect. And vice versa, many issues stated as “climate” in this report can equally well be described as an IWRM service.

3.2 Presentation of identified priority areas of ANBO services

Below are six priority areas of support services linked to climate change that ANBO can offer RBOs outlined. They are all linked to climate change, water security, and climate resilient development. In Section 3.3 are the specific services where each one is presented.

Many – if not all – could also be termed “IWRM” as well and as such defined under the IWRM consultancy assignment. This is also true for the linked specific services (Section 3.3). Still, they do highlight the particular services that ANBO can offer RBOs across Africa in the area of climate adaptation and climate resilient development.

1. Facilitate political support for transboundary water cooperation.

Since 2007, ANBO is a sub-committee of AMCOW on matters relating to IWRM. This status provides ANBO with a strong politically supported agenda to promote climate resilient development in Africa (among many other issues linked to water security). It is an agenda that should be developed and utilized as much as possible. ANBO can also work together with AMCEN (Ministers of Environment) in order to pursue the same agenda. Much has been achieved over many years in river basins across Africa, but there is still much to do before the continent is water secure – in particular when considering the climate factor and its potential effects. There is a distinct demand from many RBOs for enhanced transboundary cooperation.

2. Capacitate RBOs, their national partners, and senior decision makers in water security and climate resilient development.

To initiate, promote, and facilitate capacity building for RBOs, their counterparts working at national levels, and senior decision makers is a major service that ANBO can provide. Capacity building can either be of a general nature, albeit linked to climate resilient development, or focus on specific topics, as requested by many RBOs. To provide capacity building is a service that fits well into ANBO's mandate. Capacity building can take many forms as well as focus on many issues linked to climate resilient development. There are great opportunities to achieve an economy of scale in terms of providing capacity building across Africa. There is a need to carefully coordinate capacity building in climate resilient development with that of capacity building in IWRM in general. The two topics are closely linked.

3. Technical assistance

ANBO will not in the foreseeable future have its own capacity to carry out technical assistance. But it can facilitate such assistance and preferably achieve an economy of scale, i.e. to provide similar support services to more than one RBO and thus reduce the cost per basin and increase the quality of work. To “facilitate” such assistance implies (i) identifying and defining a need for assistance; (ii) in close cooperation with selected RBOs develop Terms of Reference for studies and work; (iii) assisting in arranging financial support and engage consultants; and (iv) following-up and monitoring activities and results.

As mentioned several times, such technical assistance is closely linked to general IWRM support, and requires close coordination of different activities. Technical assistance is often closely linked to capacity building. To manage e.g. a data collection system requires both hardware investments and capacity to make to put it into use.

4. Facilitate funding for climate resilient development

This is potentially one of the main services that ANBO can support RBOs with as linked to climate change. As mentioned before, international funding is available for climate adaptation projects in Africa, but some RBOs (and other institutions linked to this issue as well) are unable to fully access such support because of the limited capacity to draw up strong, bankable project proposals. The main impediment to infrastructure development – which is closely linked to climate change adaptation – is often stated as being the lack of bankable project proposals. ANBO can facilitate funding in three ways.

5. Establish a roster of experienced climate consultants/experts.

The use of Africa-based expertise in water security and climate resilient development is a critical component in the development of transboundary river basins. The expertise exists, there is plenty of capacity available, but they are difficult to find when a particular need develops. ANBO can address this concern by setting up a roster of experienced climate consultants/experts.

6. Promote excellence in climate adaptation and trans boundary work

In an increasingly globalized world, the issues of competition and comparison are important. Benchmarking is the process of comparing one's business processes and performance metrics to industry bests or best practices from other companies or institutions. There is a water utility network in Africa that includes benchmarking as a way to improve their customer services. There is also experience in benchmarking RBOs in Asia by IWMI. Furthermore, either based on benchmarking scores or developed independently, top scoring RBOs should be identified and rewarded for good work. Linked to this service area are also quality controls of key documents/ services and a desk help function.

From an analysis of ANBO's mandate as a sub-committee of AMCOW, it is apparent that the type of activities that ANBO carry out are best described as initiating, coordinating, promoting and facilitating. Not to "implement", it would imply a very different role and require technical capacities that are not available today. In addition, ANBO's strengths are its close relationship with AMCOW, to act at the pan-African level, and to be an interface between funding agencies and RBOs and their needs for support and development.

The particular roles that ANBO can take in order to address outlined services are as follows.

- › **Facilitate an engagement of AMCOW** to motivate national governments to give greater priority to transboundary water management and regional/national climate change adaptation;
- › **Promote and arrange capacity building** in various topics. Arrange implies defining focus, possibly pro-actively, to support tendering and contracting, secure funding and assess and monitor;
- › **Facilitate technical services**, i.e. respond to specific RBO demands, assist in the tendering and contracting process, facilitate funding, and follow up on delivery (monitoring, assessment).
- › **Promote quality of work**, i.e. provide pan-African services like quality control/desk help function, roster of climate change/water security experts, a RBO benchmarking system, and access into the global climate negotiation fora.

We envisage that ANBO will not act as an implementation organization. For example, a training programme will be owned and implemented by e.g. a large RBO, a national institute, or a local consultancy firm – with the support of a competent organization. However, some few services will be owned and implemented by ANBO itself. These are long-term, pan-African services, and provided proactively to anyone in demand. Such services are found under No. 4 above. The role that ANBO can have in the development and implementation of action plan services is further developed in Annex D.

From the review of RBO gaps and needs it is apparent that some needs emerge more frequently than others. These are:

- › Political support to better act across borders and develop appropriate strategies, policies and work-plans;
- › Data collection and its processing;
- › Capacity building in many areas;
- › Financial support.

It will be important for ANBO to identify and develop "low-hanging fruits" first in terms of service delivery. ANBO is a new organization and needs to show its ability to deliver useful services. Engaging in the political process of transboundary cooperation through AMCOW and assisting in securing funding (either directly or via capacity building of RBOs) are two services that are possibly "high-hanging fruits".

The partners we foresee ANBO engaging with in its endeavours are as follows:

- › AMCOW. This linkage is extremely important and ANBO should develop and use it to the extent possible.

- › RBOs across Africa. These are both beneficiaries of ANBO services and partners in the delivery of services. Many of the larger and more mature RBOs have gained much expertise and experience over the years; a resource to be utilized by sharing it.
- › RECs. Water security and climate resilient development should move out of the “environment corner” and into the “big politics corner” of Ministry of Finance. RECs – together with national actors in this arena –we should engage in this process.
- › Regional capacity building, network and expertise organizations. These, like GWP, Water-Net/Cap-Net, and IWMI can provide experienced teachers and networks of people and organizations.
- › National/international consultancy firms. Some potential services are large and require big, experienced firms be involved. They also represent cutting edge knowledge, much experience and can provide a global perspective.
- › International donors and development banks. Most of ANBO’s future services are likely to be funded by this type of partners. Some key ones are Sida, Danida, GIZ, EU, and DFID. Some have already provided support to ANBO and are now open for a discussion on additional support.

The six above described service areas are all important. But the question is, what should ANBO focus on as priority? This is needed in order to gain momentum and start building trust and respect as a service provider. Priority services could be such that (i) RBOs demand, are (ii) relatively easy for ANBO to develop and deliver; and (iii) can find financial support by a donor.

From communication with major donors, the following issues could be important for donors as to why they should provide financial support to ANBO:

- › ANBO has a strong work plan with a set of well-chosen, strategic activities outlined;
- › ANBO has a unique, strategic position in-between politically heavy AMCOW and the RBOs at ground level;
- › ANBO generates cost-effective results by engaging many RBOs in the same e.g. capacity building programme. Also, by working through ANBO it is possible to reach many different RBOs without having to make individual contracts for each one;
- › ANBO has the potential to move water security from the margin to the centre of development and growth;

3.3 Presentation of specific ANBO support services

Table 5 below highlights priority areas of support developed into specific, detailed services. It is important to note that the basis for all (except 1 – see below) outlined services are a RBO stated need or demand. We consultants have not “invented” any services; we have merely developed an idea or need shared. The exception is the development of a benchmarking system. It has not been highlighted as a need by any RBO, but we believe it would be a good service, bringing together RBOs and working towards uniform standards and deliveries. In addition, many collected gaps and needs are better placed within an overall IWRM approach, rather than being linked to climate change specifically. They have thus, not been included in the list below. Finally, we have attempted to prevent the list becoming a “wish list” of everything. On the contrary, we have tried to keep it focused, highlight priority issues that are clearly in demand, and keep in mind the fact that ANBO is still a relatively new organization that cannot do “everything”.

It should be noted that the list of services do not include the capacity to downscale GSM models into regional/local climate models and for individual RBOs to make their own climate scenarios. This is a large and complex issue and can only take place in one or possibly two places in Africa, which in turn will serve all those in need of such information. A process has started to establish such capacity in Ethiopia, within a UNECA initiative, and once it is up and running it can serve all of Africa until the system is further extended.

Table 5: ANBO support services

Domaines d'intervention	ANBO priority support actions
<p>1: Facilitate political support for trans-boundary water cooperation.</p>	<p>1.1. Support high level policy and decision makers and key actors to engage in dialogues on climate change adaptation and basin cooperation. The responsibility to promote effective cooperation belongs to each RBO/LBO, but ANBO can add its strong political linkages to AMCOW in order to bring regions, countries, and institutions together and develop shared policies, action plans, and much more.</p> <p>1.1.1. Redefine the challenge. Work together with media, communication and water specialists to redefine the climate challenge from an environmental concern to an issue of national growth and development, and to promote and disseminate this view to the public, political leaders and professionals.</p> <p>1.1.2. Establish alliances between RBO, RECS, major export industries, leading universities and other influential organizations and engage in both internal discussions as well as with governments on the importance of water security for growth, employment and development.</p> <p>1.1.3. Build political leverage. Work together with AMCOW and make use of its political leverage to encourage countries to more actively engage in water security and climate adaptation – and work together in their shared basins.</p> <p>1.1.4. Advocate and sensitize political leadership on climate change adaptation. There is a need to make political leaders more climate change aware. Climate change will, along with many other challenges produce “winners” and “losers” among countries, water sectors, and individuals, and political leaders have to be able to respond to such potential conflicts. ANBO can have many roles in such a process. This service is closely linked to service 2.3 below.</p>
	<p>1.2. Harmonize regional and national climate change adaptation policies and strategies. For effective climate change adaptation, it is imperative that water management at transboundary and national levels are mainstreamed. The implication is that institutions working at the different levels and performing similar tasks should cooperate in order to harmonize relevant policies, plans and programs</p>
	<p>1.3. Support the identification and establishment of climate change ambassadors. With well-known, respected and media-attractive personalities promoted as climate change ambassadors, more attention can be given to the climate change issue.</p>
	<p>1.4. Bring RBO's climate concerns to the international fora. Individual RBOs rarely have a voice or presence during international climate change fora. They have to be represented by a dedicated pan-African institution like ANBO. ANBO can work through AMCOW and AU and/or through its own mandate.</p>
	<p>1.5. Support policy formulation and decision making at the nexus of water, agriculture and energy and climate change adaptation. This is a new emphasis in river basin management, i.e. to highlight the linkages between water and energy management. It is in essence IWRM but with critical linkages to climate change. It requires assessing future water flows and the opportunities to share hydropower rather than sharing water. It is an area that requires more research, knowledge and integrated planning.</p>

Domaines d'intervention	ANBO priority support actions
<p>2: Facilitate capacity building</p>	<p>2.1 General capacity building programme on data collection, modelling, information management and climate analysis. This programme should be linked to the need for improved scientific collection and management of data on regional climate change implications on rainfall, runoff and temperature, and their translations into basin services like food production, access to water, and environmental flows. In the preparations and implementation of this activity close cooperation must take place with national meteorological and hydrological institutes. A technical support service on hardware needs to collect data, information systems and management is provided further down.</p> <p>2.1.1 Develop, manage and maintain a data collection and information management system. The collection and management of climate relevant data is a prerequisite for modelling, making scenarios and national/regional planning. This training programme focuses on the know-how of doing that. It is linked to a technical service providing the necessary hardware for data collection and information management.</p> <p>2.1.2 Develop, manage and use hydrological models. This is the last piece in the scientific "jigsaw" by providing RBO staff and their national counterparts with the information that a dynamic hydrological model of their river generates. Such information is a prerequisite for climate resilient development. The development of a hydrological model should be closely linked to a RBO programme on IWRM.</p> <p>2.1.3 Early warning systems and climate risk and vulnerability mapping. This is a recurrent need from many RBOs; how to develop early warning systems and identify and map areas at risk of being flooded, exposed to severe water scarcity, infrastructure damage, agriculture losses and more. It consists of both technical hardware investments and capacity building. The potential benefits are huge by having a modern, fast and reactive system to collect data, analyse risks and share processed information to all those potentially being affected.</p> <p>2.1.4 Decision support systems (DSS) are closely linked to all three issues above. It provides the interface between water and its allocation and use in society.</p>
	<p>2.2 General capacity building programme on water security and climate resilient development. While the programme above would focus on developing the scientific basis for national development, this programme takes such information and links it up with national planning, investments, and long-term environmental concerns. The programme would focus on how to include the climate factor in basin development. There is a huge demand for more infrastructure investments in Africa, but these have to be profitable under all potential climatic scenarios; so-called no/low regret investments are required. There is a great demand for this type of training. A GWP-WACDEP training programme program exists on this topic. It can easily be re-arranged for a basin focus at a small cost.</p>
	<p>2.3 Facilitate high level decision-makers seminars on the knowledge status of climate change, transboundary water management and climate resilient development. This service is closely linked to Service 1.3 above. There is a need to get senior government staff together and discuss critical issues linked to water security, climate change and infrastructure development. The responsibility to arrange such meetings is with each RBO, but ANBO, with its close linkages to AMCOW and AU, can support such plans and enhance the process. Potential seminars can focus on:</p> <p>2.3.1 Building a common understanding of the implications of climate change at the regional scale.</p> <p>2.3.2 The need for institutional harmonization.</p> <p>2.3.3 How to handle emergency situations linked to drought and floods.</p> <p>2.3.4 The development of principles and policies on sharing of water and sharing of benefits.</p> <p>2.3.5 The importance of linking transboundary and national water management approaches.</p>

Domaines d'intervention	ANBO priority support actions
<p>2: Facilitate capacity building</p>	<p>2.4 Arrange high-level technical seminars on climate change adaptation. These type of seminars would focus on bringing the international research elite – from within and outside Africa – together for seminars in Africa on key issues linked to transboundary water management and climate change and relevant to participating RBOs. The seminars could for example be arranged during the annual Africa Water Week and during major water conferences taking place. Focuses could include:</p> <p>2.4.1 Developments in modelling climate variability.</p> <p>2.4.2 Food production under increased climate variability</p> <p>2.4.3 Flood and drought preparedness and early warning systems</p> <p>2.4.4 Linking water and energy development</p> <p>2.4.5 Urban water and sanitation services under climate adaptation</p>
	<p>2.5 Capacitate RBOs to develop key climate-linked documents and tasks. While some RBOs are experienced in developing e.g. a Basin Climate Policy on their own, using their own staff, or writing the Terms of Reference for a study on Drought Preparedness Project Plan, others are not. This service will provide focused training on the development of key documents and tasks. The focus of this service includes the following documents (and other topics can easily be identified):</p> <p>2.5.1 Bankable Project Proposals. The lack of packaged, bankable projects has been highlighted as one of the largest impediments to infrastructure development in Africa. As there is much funding available to address climate adaptation, training in the development of well researched, prepared and written proposals has the potential to have a big leverage effect.</p> <p>2.5.2 Basin Climate Policy and Strategy. These are key documents in a climate resilient development approach. There is much experience with many RBOs in Africa; this experience should be shared through this type of capacity building mechanism.</p> <p>2.5.3 Floods/Drought Preparedness Plan Project. Many RBOs and national governments are today preparing these types of documents. ANBO can facilitate the experience and knowledge of how to do that.</p> <p>2.5.4 Prepare research applications on selected topics (e.g. on water-energy linkages and their connections to climate change).</p>
	<p>2.6 Staff exchange and professional internships. The possibly very best approach to learning and gaining experience is by staff exchange and professional internships. Acting as hosts would be some of the older and more experienced RBOs.</p> <p>2.6.1 Staff exchange. The former constitutes a planned exchange of staff between two or more institutions, where staff will spend a considerable time in the host institution, working alongside professional counterparts and learn by doing. Staffs keep their home salaries.</p> <p>2.6.2 Internships. A professional internship is closer to training than the former. It usually engages younger people, such as university graduates, and provides them with an opportunity to boost their careers by spending e.g. 6 months with a potential employer institution. A training plan is typically developed and a mentor is provided. A scholarship covers basic needs.</p>

Domaines d'intervention	ANBO priority support actions
2: Facilitate capacity building	<p>2.7 Establish leadership in transboundary water management. This service would involve identifying particular needs among professionals today working in RBOs. Based on such needs tailor-made training programmes would be developed. Many alternatives are possible.</p> <p>2.7.1 Hydrology/Communication/Early warning systems. Upgrade the skills of professionals involved in these (and other) topics.</p> <p>2.7.2 Leadership in transboundary water management. Establish a group titled "Leadership Programme in Transboundary Water Management and Climate Change Adaptation in Africa". It would consist of carefully selected young African professionals with excellent academic and employment records in relevant fields. They would be given a 2 year mixed work and training programme, seeing and learning from different RBOs within and outside Africa, and having a personal mentor attached.</p> <p>2.7.3 Study tours. Bring key staff involved in climate adaptation on study tours to other RBOs. This is a particularly useful form when new RBOs are being established.</p>
	<p>2.8 Capacitate climate change negotiators for water security and climate change adaptation. Global climate change negotiations are today dominated by either rich or large countries. The many small countries in Africa have no avenues for participation or influence. To overcome this deficiency there is a need for ANBO-AMCOW to both facilitate the grouping of RBOs into teams and to provide training of climate negotiators.</p>
	<p>2.9 Identify and collect research issues that RBOs find important and to facilitate their implementation. RBOs are continuously in need of new knowledge on emerging issues. Much is available, but new research also has to take place. ANBO could assist in collecting research needs, identify gaps in ongoing research, and share this information to research centres across Africa.</p>
3: Facilitate technical assistance	<p>3.1 Establish a system for data collection and information management. This is a recurrent need mentioned by many RBOs and also a prerequisite for downscaling global climate models (see below), running a hydrological model (see below), establish early warning systems (see below), and ultimately perform climate resilient planning.</p>
	<p>3.2 Establish basin hydrological models. A model is required in order to translate the output of local/regional climate change models into data and information of fundamental importance to achieving water security. There is today much experience of establishing and running such models in Africa. NBI has established such a model and e.g. added economic sub-models on water allocation and use. This and similar experience on the Orange River could be shared and serve as basis for a harmonised approach to modelling major rivers in Africa.</p>
	<p>3.3 Establish early warning systems and produce climate risk and vulnerability maps. This component is closely linked to several of those above; data collection, modelling, and analysis and information management. The added activities include developing an early warning system.</p>
	<p>3.4 Establish Decision Support Systems (DSS). This is linked to above technical support services. It is relatively inexpensive in terms of hardware investments, but requires a lot of expertise to build and use the system.</p>
	<p>3.5 Support institutional development of RBOs. New RBOs in particular are in need of specialists to support the institutional development of RBOs. This should be a service provided under a general IWRM support, although the climate aspect may require particular attention. That could include streamlining transboundary and national climate adaptation policies and strategies, to support internal capacity building, and promote a dialogue within the basin on climate adaptation and development.</p>

Domaines d'intervention	ANBO priority support actions
<p>4: Facilitate funding for climate resilient development</p>	<p>4.1 Provide information about climate adaptation funding opportunities. The first and foremost information in terms of securing funding for climate change adaptation is to know how, when and where to apply. This would be an ANBO general service to all RBOs in Africa.</p> <p>4.2 Facilitate funding to support RBOs. In this case ANBO – based on a need assessment – apply for and secure financial support for broad programmes that are in demand by several RBOs and included in ANBO's work-plan. This could include e.g. the establishment of hydrological models, capacity building in water security and climate resilient development, and arranging high-level seminars for senior government staff.</p> <p>4.3 Capacitate RBOs to write bankable project proposals. This is the same service as Service 2.5.1</p> <p>4.4 Provide technical assistance to write bankable project proposals. Not all RBO needs as linked to climate change can be met by general ANBO services. When particular needs exists, probably linked to major projects like infrastructure investments, and the capacity to write a strong bankable project proposals is lacking, ANBO can provide technical assistance to develop the project proposal</p>
<p>5: Establish a roster of experienced climate consultants/experts.</p>	<p>5.1 Establish a roster of climate consultants/experts and partners. The roster should be available on the internet, subdivided into different thematic issues, carefully quality controlled, and contains CVs and contact information. This initiative should be closely implemented together with CapNet, Gender and Water Alliance (GWA) and GWP, as these three have engaged people that could be included in an ANBO roster. Several different sub-groups could be developed.</p> <p>5.1.1 Experienced RBO staff available to share their professional expertise to host RBOs</p> <p>5.1.2 Experts on particular topics like modelling and institutional development</p> <p>5.1.3 Experienced teachers/lecturers on climate resilient planning.</p>
<p>6: Promote excellence in climate adaptation and transboundary work</p>	<p>6.1 Promote excellence in professional work. This could turn into a formidable driver in the development of transboundary water management – very much including IWRM in general. The ANBO services have to be attractive, not only from a technical/scientific perspective, but also from the individual level. This will contribute towards that.</p> <p>6.1.1 Benchmark RBOs. Learning from other sectors, a system to benchmark RBOs and their work could be developed and used as a way to promote good work as linked to IWRM and climate adaptation. ANBO would establish the system and monitor the scoring.</p> <p>6.1.2 Promote community concerns in climate resilient development. There are many concerns and interests to address in a basin development plan. It is important that all such – including those of possibly poor and vulnerable communities living along the river – are respected and listened to.</p> <p>6.1.3 Individual/RBO awards and/or certificates. This could be an annual event during e.g. the Africa Water Week, to give recognition to and award each year's top performing RBO and individual. The award would consist of e.g. "Best Practice RBO in Africa 2018" and a travel scholarship to e.g. an annual conference or a study tour for its entire professional staff.</p> <p>6.1.4 Quality control of key documents/services. A quality control of documents and services such as draft ToR/contracts, strategies/action plans, and consultants' re-reports would provide expert reviews on formalities, adequacy, overall quality, missing points, and more.</p> <p>6.1.5 Help desk. A help desk on climate adaptation in river basins would provide RBOs with quick, easy to use information on e.g. upcoming events, people to contact, and funding sources. The desk would not be manned by technical specialists, rather by general information brokers in the particular field.</p>

4. ACTION PLAN: DETAILED LIST OF ACTIVITIES AND BUDGET

Table 6: Action plan and cost estimates per activity

#	Component / Support Service / Activities / Budget	Cost (Euros)	Assump-tions
1	FACILITATE POLITICAL SUPPORT FOR TRANSBOUNDARY CO-OPERATION	1,094,000	
1.1	Promote political will to act on climate change and strengthen basin cooperation.	587,500	
1.1.1	Redefine the challenge	117500	1 basin
a)	Establish interdisciplinary group, write ToR, contract.	14000	
b)	Redefine the challenge, develop arguments, cases, facts	45500	
c)	Develop dissemination material / print, share	37000	Available to all
d)	Present to national authorities, at meetings/conferences, through public media, universities	21000	
1.1.2	Establish alliances	208500	1 basin
a)	Initial assessment of actors, issues, opportunities, arrange consultant	59000	
b)	Identify key actors and their concerns, develop alliances, and ave-nues of influence	96500	
c)	Disseminate to senior government staff and media	53000	
1.1.3	Build political leverage Total	138500	1 basin
a)	Identify and review priority issues to promote	31500	
b)	Discuss with AMCOW/AMCEN on how to proceed, what to promote and available avenues for AMCOW/AMCEN to act upon	24500	
c)	Support AMCOW/AMCEN to act; arrange meetings, invite to con-ferences, draft statements, engage the media	82500	
1.1.4	Sensitize political leadership on climate adaptation	123000	
a)	Initial assessment of actors, issues, opportunities, arrange consultant	14000	1 basin
b)	Develop information to be shared and forms to use (seminar, study tour, lectures). Identify key actors (institutions, individuals) to approach.	17000	
c)	Implement dissemination campaign	92000	
1.2	Harmonize regional and national climate change adaptation policy	202000	
b)	Undertake study on issues raised; consult governments, staff, experts, institutions. Review policies, guiding documents	51000	
c)	Arrange meetings, discuss differences, need to con-verge	78500	
d)	Propose new roles, responsibilities, solutions	32000	
e)	Engage AMCOW/AMCEN to encourage governments to address the issues raised and find and agree on solutions	40500	
1.3	Support the identification and establishment of climate change ambassadors	107000	
b)	Review issues that need to be promoted and potential people suit-able to be «ambassadors»	36500	
c)	Appoint and train identified ambassadors	32500	
d)	Encourage ambassadors to get involved	34500	
e)	Assess the effect of ambassadors	3500	
1.4	Bring RBO's climate concerns to the international fora.	105500	
a)	Initial assessment of actors, issues, opportunities, arrange consultant	8500	Pan-Africa
b)	Prepare information management strategy.	9000	
c)	Review information to be shared, who is to be involved, and what fora to participate in.	33000	
d)	Participate in international fora.	55000	

#	Component / Support Service / Activities / Budget	Cost (Euros)	Assump-tions
1.5	Support policy formulation and decision making at the nexus of water, agriculture and energy and climate change adaptation.	92000	
a)	Initial assessment of actors, issues, opportunities, arrange consultant	11500	Pan-Africa / sub region
b)	Identify the issues in an African context. Identify what is known and not yet known, develop research programme.	27000	
c)	Identify groups to research		3500
d)	Facilitate funding for targeted research	8500	
e)	Disseminate results at seminars for senior government staff and planners	35000	
f)	Together with AMCOW/AMCEN decide on how to proceed.	6500	
2	CAPACITY BUILDING	7087000	
2.1	General capacity building programme on data collection, modelling, information management and climate analysis	3982500	
2.1.1	Develop, manage and maintain a data collection and inform. management systems	1178000	
a)	Initial assessment of actors, issues, opportunities, arrange consultant	45000	1 basin, 4 yrs.
b)	Review current situation, learning needs, need of hardware	91000	
c)	Develop capacity building programme	226000	
d)	Implement capacity building	750000	
e)	Monitor and evaluate	66000	
2.1.2	Develop, manage and use hydrological models	1019000	1 basin, 3 yrs.
a)	Initial assessment of actors, issues, opportunities, arrange consultant	45000	
b)	Review current situation, learning needs, need of hardware	91000	
c)	Develop capacity building programme	226000	
d)	Implement capacity building	591000	
e)	Monitor and evaluate	66000	
2.1.3	Early warning systems and climate risk and vulnerability mapping	999000	1 basin, 3 yrs.
a)	Initial assessment of actors, issues, opportunities, arrange consultant	45000	
b)	Review current situation, learning needs, need of hardware	91000	
c)	Develop capacity building programme	226000	
d)	Implement capacity building	571000	
e)	Monitor and evaluate	66000	
2.1.4	Develop and manage Decision Support Systems	786500	
a)	Initial assessment of learning needs and demand, define training focus	17000	3 basins
b)	Contract consultant & partners, develop and plan programme	178000	
c)	Implement over approx. 18 month period	547000	
d)	Assess, revise and upgrade material	44500	
2.2	General capacity building programme on water security and climate resilient development	941500	
a)	Initial assessment of learning needs and demand, define training focus	17000	3 basins
b)	Contract consultant & partners, develop and plan programme	213000	
c)	Implement over approx. 18 month period	667000	
d)	Assess, revise and upgrade material	44500	
2.3	Facilitate high level decision-makers seminars on the knowledge status of climate change, transboundary water management and climate resilient development	212000	
a)	Initial assessment and coordination with AMCOW	8500	3 basins
b)	Contract consultant & partners, develop and plan seminars	51000	
c)	Implement a series of seminars. Tentative first choice: The potential effects of climate change on growth and development and climate resilient planning	135000	
d)	Together with AMCOW/AMCEN assess seminars	17500	

#	Component / Support Service / Activities / Budget	Cost (Euros)	Assump-tions
2.4	Arrange high-level technical seminars on climate change adaptation	122400	
a)	Initial assessment of focuses and needs and coordination with AMCOW	3500	3 basins, 1 topic
b)	Contract consultant & partners, develop and plan seminars	36000	
c)	Implement a series of seminars. Tentative first choice: Develop-ments in modelling climate change	74000	
d)	Together with AMCOW/AMCEN assess seminars	8900	
2.5	Capacitate RBOs to develop key climate-linked documents and tasks	460800	
2.5.1	Bankable Project Proposals	115200	All basins
a)	Initial assessment of learning needs and demand	10000	
b)	Contract consultant, develop material, plan training	45000	
c)	Run regional courses, 2 sessions each. WACDEP mrtl. Available.	54000	
d)	Assess and upgrade material.	6200	
2.5.2	Basin Climate Policy and Strategy	115200	Demand driv-en
a)	Initial assessment of learning needs and demand	10000	
c)	Develop capacity building programme	45000	
d)	Implement capacity building	54000	
e)	Monitor and evaluate	6200	
2.5.3	Floods/Drought Preparedness Plan Project	115200	Demand driv-en
a)	Initial assessment of learning needs and demand	10000	
c)	Develop capacity building programme	45000	
d)	Implement capacity building	54000	
e)	Monitor and evaluate	6200	
2.5.4	Prepare research applications	115200	Demand driv-en
a)	Initial assessment of learning needs and demand	10000	
c)	Develop capacity building programme	45000	
d)	Implement capacity building	54000	
e)	Monitor and evaluate	6200	
2.6	Staff exchange and professional internships	202300	
2.6.1	Staff exchange	123900	3 basins
a)	Initial assessment on needs and demand, opportunities, willingness to host	7000	
b)	Prepare exchanges, positions, practicalities	24500	
c)	Exchanges take place	91000	
d)	Assess and evaluate	1400	
2.6.2	Internships.	78400	1 basin
a)	Initial assessment of needs and demand, opportunities, willingness to host	7000	
b)	Advertise, select individuals, prepare hosting and work.	21000	
c)	Internships take place	49000	pay travel, acc, 6 m
d)	Assess and evaluate	1400	
2.7	Establish leadership in transboundary water management	942700	
2.7.1	Hydrology/Communication/Early warning systems	71900	3 basins
a)	Initial assessment of need and demand	3500	
b)	Develop concept; focus, goals, actors, form	7000	
c)	Contract consultant, preparation	18000	
d)	Implement	40600	
e)	Assess and evaluate	2800	

#	Component / Support Service / Activities / Budget	Cost (Euros)	Assump-tions
2.7.2	Leadership in transboundary water management	681500	Pan-africa
a)	Initial assessment of need and demand	7000	
b)	Develop concept; focus, goals, actors, form	24500	
c)	Contract consultant, preparation	7000	
d)	Implement	629000	24 months' salary, 20 p
e)	Assess and evaluate	14000	
2.7.3	Study tours	189300	3 basins
a)	Initial assessment of need and demand	3500	
b)	Develop concept; focus, goals, actors, form	14000	
c)	Contract consultant, preparation	67000	
d)	Implement	102000	15 p * 2 tours
e)	Assess and evaluate	2800	
2.8	Capacitate climate change negotiators for water security and climate change adaptation	104400	
a)	Initial assessment of needs and approaches	3500	Pan-African
b)	Contract consultant & partners, develop and plan seminars	36000	
c)	Implement a series of training sessions	56000	
d)	Together with AMCOW/AMCEN assess seminars	8900	
2.9	Identify and collect research issues that RBOs find important and facilitate their implementation	118400	
a)	Initial assessment of needs and approaches	3500	Pan-African
b)	Collect, assess, and develop research issues	49000	
c)	Review partners engaged in research, coordinate applications	57000	
d)	Together with AMCOW/AMCEN assess research activities	8900	
3	TECHNICAL ASSISTANCE	1770300	
3.1	Establish a system for data collection and information management	553400	
a)	Initial assessment of need and demand, actors, con-sultants	10000	1 basin, 4 years
b)	Together with RBO define task, develop ToR, contract consultant	24000	
c)	Detailed technical review and reporting	133000	
d)	Implement	363000	
e)	Assess and evaluate	23400	
3.2	Establish basin hydrological models	393400	
a)	Initial assessment of need and demand, actors, con-sultants	7000	1 basin, 3 yrs.
b)	Together with RBO define task, develop ToR, contract consultant	21000	
c)	Detailed technical review and reporting	133000	
d)	Implement	209000	
e)	Assess and evaluate	23400	
3.3	Establish early warning systems and produce climate risk and vulnerability maps	393400	
a)	Initial assessment of need and demand, actors, con-sultants	7000	1 basin, 3 yrs.
b)	Together with RBO define task, develop ToR, contract consultant	21000	
c)	Detailed technical review and reporting	133000	
d)	Implement	209000	
e)	Assess and evaluate	23400	

#	Component / Support Service / Activities / Budget	Cost (Euros)	Assump-tions
3.4	Establish Decision Support Systems (DSS).	330400	
a)	Initial assessment of need and demand, actors, con-sultants	7000	1 basin, 3 yrs.
b)	Together with RBO define task, develop ToR, contract consultant	21000	
c)	Detailed technical review and reporting	133000	
d)	Implement	146000	
e)	Assess and evaluate	23400	
3.5	Support institutional development of RBOs	99700	
a)	Initial assessment of need and demand, actors, con-sultants	7000	3 basins, 3 yrs.
b)	Together with RBO define task, develop ToR, contract consultant	14000	
c)	Detailed technical review and reporting	38000	
d)	Implement	38000	
e)	Assess and evaluate	2700	
4	FACILITATE FUNDING FOR CLIMATE RESILIENT DEVELOPMENT	316300	
4.1	Provide information about climate adaptation funding opportunities	66000	
a)	Collect information, develop sharing platform/method	45000	Pan-African
b)	Distribute information upon demand	7000	
c)	Assess the outcome of activities	14000	
4.2	Facilitate funding for own programmes that support RBOs.	89500	
a)	Based on work plans and demand, assess needs for funding	9500	Pan-African
b)	Approach funding agencies and negotiate	33000	
c)	Secure funding for proposed programmes and plans	47000	
4.3	Capacitate RBOs to write bankable project proposals	115200	
a)	Initial assessment of learning needs and demand	10000	Pan-Africa
b)	Contract consultant, develop material, plan training	45000	
c)	Run regional courses, 2 sessions each. WACDEP mrtl. Available.	54000	
d)	Assess and upgrade material.	6200	
4.4	Provide technical assistance to write bankable project proposals	45600	
a)	Initial assessment of need and demand, actors, con-sultants	7000	3 basins
b)	Together with RBO define task, develop ToR, contract consultant	3500	
c)	Implement	31000	
d)	Assess and evaluate	4100	
5	ESTABLISH A ROSTER OF EXPERIENCED CLIMATE CON-SULTANTS AND EXPERTS	105000	
5.1	Establish roster of climate consultants/experts	105000	
5.1.1	Experienced RBO staff	49000	Pan-Africa
a)	Initial assessment of needs and demand.	7000	
b)	Develop internet based system, selection criteria	7000	
c)	Announce, promote, collect information	28000	per year
d)	Make available	7000	per year
5.1.2	Experts on particular topics such as modelling/inst development	28000	Pan-Africa
a)	Initial assessment of needs and demand.	7000	
b)	Develop internet based system, selection criteria	0	
c)	Announce, promote, collect information	14000	per year
d)	Make available	7000	per year
5.1.2	Experienced teachers/lecturers on climate change	28000	Pan-Africa
a)	Initial assessment of needs and demand.	7000	
b)	Develop internet based system, selection criteria	7000	
c)	Announce, promote, collect information	7000	per year
d)	Make available	7000	per year

#	Component / Support Service / Activities / Budget	Cost (Euros)	Assump-tions
6	PROMOTE EXCELLENCE IN CLIMATE ADAPTATION AND TRANSBOUNDARY WATER MANAGEMENT	1494000	
6.1	Promote excellence in professional work	1494000	
6.1.1	Benchmark RBOs	475400	3 basins
a)	Initial assessment of needs and demand, actors, experience	7000	
b)	Review experience of IWMI in Asia	17500	
c)	Contract consultant	3500	
d)	Review, write proposal, communicate with RBOs	114000	
e)	Implement in selected basins	61500	
f)	Assess and evaluate	8900	
g)	Pan-African implementation	235000	
h)	On-going monitoring and reporting	28000	per year
6.1.2	Promote community concerns in climate resilient development	561900	Pan-African
a)	Initial assessment of issues, need, and current RBO policy/practices	67000	
b)	Develop support services	17500	
c)	Implement	7000	
d)	Assess outcome, changes over timer	49000	
6.1.3	Identify and award excellence in climate change adaptation	333700	Pan-African
a)	Initial assessment of opportunities and constraints	7000	
b)	Define price, criteria	17500	
c)	Anounce, make public	7000	
d)	First selection, award ceremony, 1-2-3 price	56200	
6.1.4	Quality control of key documents/services	61500	Pan-Africa, 1 year
a)	Initial assessment of needs and service boundaries	7000	
b)	Identify and arrange with required competence (attached consult-ants)	7000	
c)	Establish contact system	3500	
d)	Run the system (per year)	44000	
6.1.5	Help desk	61500	Pan-Africa, 1 year
a)	Initial assessment of needs and service boundaries	7000	
b)	Identify and arrange with required competence (attached consult-ants)	7000	
c)	Establish contact system	5500	
d)	Run the system (per year)	42000	

5. RECOMMENDATIONS

The recommendations are based on findings made during the assignment, but also include a bit of “general IWRM experience”. They can most likely be combined with those made in the IWRM assignment.

Key messages and recommendations (in no order of priority).

1. Water security, including climate resilient development, must move out of the “environmental realm” and into the big politics of the Ministry of Finance and the President’s office (and similar levels). There is a need to redefine water; from being the outcome of other processes and into being a driver of how society develops.
2. RBOs must gain their own capacity to analyse climate change and its effects on their basin in terms of runoff, the risk of floods/droughts, sharing of water and benefits, water quality and much more.
3. Climate change is an integrated part of long-term, sound water management, i.e. IWRM. It cannot be treated as something separate from the rest.
4. Basins are all different, but the RBOs are expected to deliver similar services. To arrange a system of benchmarking RBOs would give impetus to compare, to learning from each other, and improvement.
5. ANBO’s close association with AMCOW is an asset for Africa’s RBOs. It should be utilized to the full extent in order to bring about political support for transboundary cooperation, mainstreaming institutions and policies, and recognising the role of water in society.
6. There is a need to harmonize transboundary and national institutions and their strategies, policies and programmes. They are sometimes disconnected despite working with similar issues.
7. There is funding available to support well-designed climate adaptation programmes. However, the capacity to research and write strong, bankable applications is sometimes missing. To gain the capacity to do so is a frequent request of many RBOs.
8. There is much knowledge and experience among several of the more mature RBOs. This should be utilized in supporting the less experienced and newer RBOs.

6. CONCLUSIONS

Climate change is an odd animal. It is difficult to define, get to know and understand. As such, adapting to it is difficult. For long periods there may not be a need for adaptation, the climate is as it usually is. But then something happens and there is an acute need for preparations, know-how and cooperation. In the political realm this is difficult to handle. How do we prepare for a change that we do not know what it will look like and when it will arrive?

Climate resilient development is development that includes the “climate” factor in all aspects of society and development. It is not a new way of planning, that is already set, hopefully along the principles of IWRM, but it integrates climate variability into e.g. urban expansion, a new airport, agriculture productivity, the national budget, school curriculum and much more. Such adaptation is expensive. There is a need to ensure that investments are sound and will give acceptable returns whatever climate futures we will face. This is called no/low regret investments. These are investments that are sound and profitable, under all conditions.

ANBO can do much to support Africa’s RBOs adapt to climate change. First of all, by applying the well-known principles of IWRM. These already include climate variability. But there is also a need to give the global concern about climate change additional attention. Being a sub-committee of AMCOW and working at the pan-African level, ANBO has the potential to make a big difference.

While on the one hand recognising both the capacity and on-going activities that many RBOs represent, we also need to recognise the need for improvements among other things. Not only is IWRM difficult to implement, climate resilient development is a new challenge. There is a need for much political support in this process, in promoting transboundary cooperation and mainstreaming national and basin-wide institutions, policies and programs. There is a need to invest in basin management infrastructure, i.e. an ability to download climate models, collect data, and undertake hydrological modelling. There is also a need to carry out a lot of capacity building – training programs, job-exchanges, internships, seminars, RBO-to-RBO experience exchanges and more. While these are all somewhat traditional, direct services, ANBO can also promote services that in-directly will benefit RBOs. These include setting up a RBO-benchmarking system, thus promoting uniformity and gradual improvements, to award each year’s best RBOs, and to offer a quality-controlled rosters of experts.

It would probably be wise for ANBO to initially focus on services that are in demand, relatively easy to implement, and with the potential to make positive spin-off effects. In other words, so-called “low hanging fruits”. Another potential that ANBO has, is to make use of its pan-African mandate and provide cost-effective services. ANBO should probably focus more on general services, which would be of interest to many RBOs across Africa, rather than on services developed for only a few RBOs and their particular interests. The pan-African mandate is an asset, to be developed and utilized.

ANNEX A: Detailed result based work plan, summary budget and time frame 2015-2019

#	Service area	Results	Time frame					Lead institution	Total 5 year budget
			2015	2016	2017	2018	2019		
1.1.1	Pol will	CC embedded into growth, finance and employment - not environment						ANBO	117500
1.1.2	Pol will	Powerful alliances exist and are active						Partner	208500
1.1.3	Pol will	ANBO-AMCOW engaged in dialogues with Governments						ANBO-AMCOW	138500
1.1.4	Pol will	Political leadership in 3 basins are made aware of climate adaptation.						ANBO-AMCOW	123000
1.2	Pol will	Harmonize institutional setup mapped, differences known, moving towards converge						ANBO-Partner	202000
1.3	Pol will	Support the identification and establishment of climate change am-bassadors						ANBO-Partner	107000
1.4	Pol will	Scientists /RBO staff participate in international fora						ANBO-Partner	105500
1.5	Pol will	Nexus policy formulation on-going						ANBO-Partner	92000
2.1.1	Cap build	1 basin RBO & partners trained in data collection, info mgmt.						Partner-RBO	1178000
2.1.2	Cap build	1 basin RBO & partners trained in basin hydrological modelling						Partner-RBO	1019000
2.1.3	Cap build	1 basin RBO & partners trained in early warning systems						Partner-RBO	999000
2.1.4	Cap build	Develop and manage Decision Support Systems						Partner-RBO	786500
2.2	Cap build	3 basin RBO staff & partners trained in climate resilient planning						Partner-RBO	941500
2.3	Cap build	3 basins, 10 countries senior Gov staff water security & CC Seminars. Knowledge based						Partner-RBO	212000
2.4	Cap build	Technical seminars; 3 high-level seminars arranged.						Partner-RBO	122400
2.5.1	Cap build	10 RBO & 30 staff trained in bankable proposal writing						RBO	115200
2.5.2	Cap build	3 basins & 15 staff trained in writing key documents						RBO	115200
2.5.3	Cap build	3 basins & 15 staff trained in preparing flood/droughts plan						RBO	115200
2.5.4	Cap build	3 basins & 15 staff trained in writing research applications						RBO	115200
2.6.1	Cap build	20 staff from 3 basins participate in staff exchanges						ANBO-RBO	123900
2.6.2	Cap build	10 internships arranged and conducted.						ANBO-RBO	78400
2.7.1	Cap build	3 basins & 15 staff trained in chosen topic						ANBO-RBO	71900
2.7.2	Cap build	A young leaders group established and trained						ANBO-RBO	681500
2.7.3	Cap build	3 study tours conducted						ANBO-RBO	189300

#	Service area	Results	Time frame	Lead institution	Total 5 year budget
2.8	Cap build	Capacitate climate change negotiators for water security and climate change adaptation		ANBO	104400
2.9	Cap build	Identify and collect research issues that RBOs find important and to facilitate there implementation		ANBO	118400
3.1	Tech ass	1 basin equipped with data collection system		Partner-RBO	553400
3.2	Tech ass	1 basin hydrological model established and running		Partner-RBO	393400
3.3	Tech ass	1 basin system early warning system established and running		Partner-RBO	393400
3.4	Tech ass	1 basin DSS system established and running		Partner-RBO	330400
3.5	Tech ass	3 new basins established with RBO		Partner-RBO	99700
4.1	Fac fun	A system to provide information on funding opportunities is arranged and available		ANBO	66000
4.2	Fac fun	ANBO is successful in securing funding		ANBO	89500
4.3	Fac fun	10 RBO & 30 staff trained in bankable proposal writing		ANBO	115200
4.4	Fac fun	ANBO has the capacity to support RBOs in TA in bankable project writing		ANBO	45600
5.1.1	Roster	Roster exists and experienced RBO staff available		ANBO	49000
5.1.2	Roster	Roster exists and consultants/experts available		ANBO	28000
5.1.2	Roster	Roster exists and teachers/lecturers available		ANBO	28000
6.1.1	Excellence	A benchmark system exists and is running		ANBO-Partner	475400
6.1.2	Excellence	Promote community concerns in climate resilient development		ANBO	561900
6.1.3	Excellence	An annual prize (1-2-3) is awarded each year best RBO/staff		ANBO	333700
6.1.4	Excellence	10 key documents reviewed over period		ANBO	61500
6.1.5	Excellence	Help desk arranged, min 10 request per month.		ANBO	61500

ANNEX B: List of documents consulted

1. AMCOW (2007). Source Book on Africa's River and Lake Basin Organizations
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15. VBA, 2011. Volta Basin Authority Strategic Plan. 2010-2014. Bénin- Burkina- Côte d'Ivoire- Ghana- Mali- Togo

ANNEX C: List of people consulted

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ANNEX D: Further developed ANBO role and activities of prioritized services

Service	Title		
1.1.4	Political leadership in 3 basins sensitized on climate adaptation		
ANBO Role & Activities	Partner I Role & Activities	Partner II Role & Activities	Partner III Role & Activities
ANBO: Activity owner	Designated RBO: Participating	Selected institution/ consultancy firm: im- plementing	AMCOW: Supporting
(1) Secure international funding	(1) Together with ANBO and im-plementor partner identify issues, approach and who to target	(1) Based on ToR and con- tract implement activities.	(1) Engage in dialogue with ANBO/RBO on needs, people, drivers for change
(2) Communicate with RBO/ AMCOW, identify issues, partners, approach	(2) participate in semi-nars/ activities		
(3) Write ToR, contract implementing partners	(3) Support assessment and moni-toring		
(4) Assess andf monitor			

Service	Title		
2.1.1	3 basin RBO staff & partners trained in data collection systems		
ANBO Role & Activities	Partner I Role & Activities	Partner II Role & Activities	Partner III Role & Activities
ANBO: Facilitator	RBO: Beneficiary of training	Selected institu-tion/ consultancy firm: Activi-ty owner & implementing	
(1) Identify and define a need for traning	(1) Communicate with ANBO on need for training	(1) Enter into agreement with funding agency	
(2) Faciliate international funding	(2) Select and provide staff for training	(2) Implement according to ToR	
(3) Assess and monitor		(3) Report to funding agency and ANBO	

Service	Title		
3.1	1 basin equipped with data collection system		
ANBO Role & Activities	Partner I Role & Activities	Partner II Role & Activities	Partner III Role & Activities
ANBO: Facilitator	RBO: Activity owner, beneficiary of service	Selected institution/ consultancy firm: implementing	
(1) Develop uniform ToR, contracting conditions and identifying implementing partners	(1) Communicate with ANBO on scope, need, context	(1) Enter into agreement with RBO	
(2) Faciliate international funding	(2) Contracting implementing partner	(2) Implement according to ToR	
(3) Assess and monitor		(3) Report to funding agency, RBO and ANBO	

Service	Title		
4.1	A system to provide information on funding opportunities is arranged and available.		
ANBO Role & Activities	Partner I Role & Activities	Partner II Role & Activities	Partner III Role & Activities
ANBO: Activity owner	Pan-Africa RBOs: Benefitting		AMCOW: Supporting
(1) Secure international funding	(1) communicate with ANBO on their needs		(1) Informed, coordinated with
(2) Select staff to engage in activity and build platform/exchange service	(2) Use available service		
(3) Collect information, make it available			
(4) Assess and monitor			

Service	Title		
4.3	10 RBO & 30 staff trained in bankable proposal writing		
ANBO Role & Activities	Partner I Role & Activities	Partner II Role & Activities	Partner III Role & Activities
ANBO: Facilitator	Selected RBOs: Benefitting	Selected institution/consultancy firm: Activity owner and implementing	
(1) Secure international funding	(1) communicate with ANBO on their needs	(1) Enter into contract with funding agency	
(2) Review need, approach, partners	(2) Select staff to participate in training	(2) implement according to ToR	
(3) Develop uniform ToR and coordinate with funding agency			
(4) Assess and monitor			

Service	Title		
4.4	ANBO has the capacity to support RBOs in TA in bankable project writing		
ANBO Role & Activities	Partner I Role & Activities	Partner II Role & Activities	Partner III Role & Activities
ANBO: Facilitator	Pan-Africa RBOs: Benefitting	Selected institution/consultancy firm: Activity owner and implementing	
(1) Secure international funding	(1) communicate with ANBO on their needs	(1) Enter into contract with funding agency	
(2) Review need, approach, partners	(2) When in demand, request service	(2) implement according to ToR	
(3) Develop uniform ToR and coordinate with funding agency			
(4) Assess and monitor			



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