

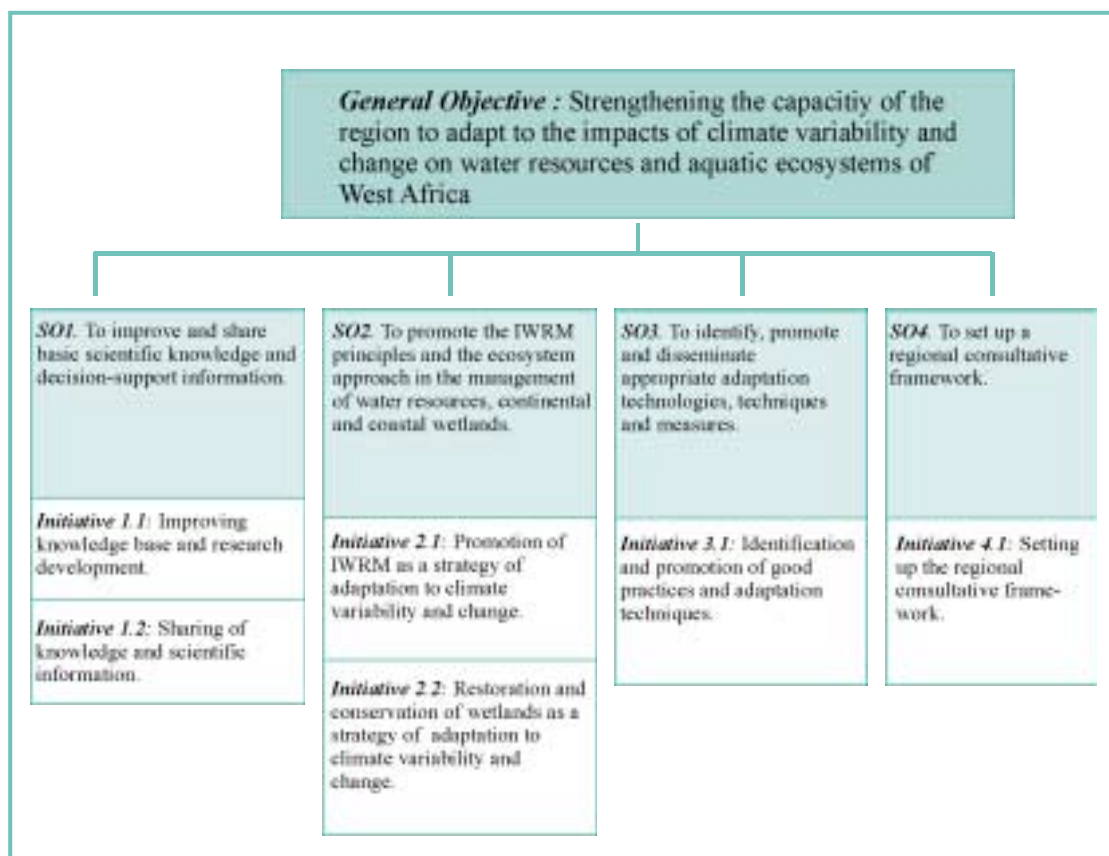
# Annex

## Action plan for implementing the adaptation strategy

The institutions that initiated the dialogue process (CILSS, GWP-WAWP and IUCN-BRAO) are responsible for setting in place and animating the regional network on water and climate change, and for mobilizing the necessary financial resources for the implementation for identified projects. For each of these projects appropriate institutional partners will be identified.

The regional adaptation strategy will be implemented through specific initiatives. These initiatives only take into account the actions that are considered to be of priority among those identified in the regional strategy.

**Fig. 7 Structure of the strategy: strategic objectives and initiatives**



## Strategic Objective 1

### Justification

Although there is still a lot to be done, significant efforts have already been made in the region with regard to climate data collection and analysis. West African climate research institutions include the AGRHYMET Regional Centre of CILSS, the African Centre of Meteorological Applications for Development (ACMAD) or research projects and

networks such as HYCOS-AOC (Hydrological Cycle Observing Systems for West and Central Africa), AIACC (the West African Components of the Assessment of Impacts and Adaptation to Climate Change Programme), the West and Central African Component of the Flow Regimes from International Experimental and Network Data Project (FRIEND-AOC) and AMMA (Multi-disciplinary Analysis of the African Monsoon Programme). Accordingly, it is essential to encourage research initiatives, help them to further meet the concerns of decision makers and water users and contribute appropriately to disseminating their results. Objective 1 of the adaptation strategy is to strengthen regional collaboration in the field of research (Project 1) and disseminate scientific knowledge on climate variability and change and their impacts on water resources and ecosystems (Project 2).

## **Project 1. Improvement of basic knowledge and research development**

### **Objectives**

**General objective:** Improve knowledge base and promote scientific research

**Specific objectives:**

- To identify data and information needs;
- To promote scientific research in support of decision making;
- To promote research on indigenous knowledge;
- To promote research on CVC (Climate Variability and Change).

### **Description**

**Activities**

- Needs identification:
  - inventory, assessment of what exists, (survey data collection forms);
  - setting up of agricultural, hydrological, meteorological, demographic “metadata” etc.
- Promoting scientific research in support of decision making:
  - provision of information needs to scientists;
  - assistance in fund raising for research.
- Promoting research on indigenous knowledge:
  - national consultancies
  - to develop case studies on local adaptation practices.
- Promoting research on the impacts of CVC:
  - support for research activities (Incentive Fund for research on identified issues) is set up.

**Expected outcomes:**

- the needs for data and information are correctly identified at national and regional levels;
- scientific information necessary to decision making is available;

- indigenous knowledge is capitalized on and optimized;
- impacts of climate variability and change are assessed;
- suitable adaptation measures are proposed.

**Target countries:**

Benin, Burkina Faso, Cape Verde, Chad, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo

**Duration:** Five years

**Estimated budget:** USD600,000

## **Project 2. Sharing of knowledge and scientific information**

### **Objectives**

**General objective:** To put knowledge and scientific information at the disposal of all the stakeholders.

### **Specific objectives:**

- to develop regional collaboration between scientists on the one hand, and scientists and stakeholders of water on the other hand;
- to build the capacity of scientists;
- to organize advocacy activities at the levels of States, decision makers, development partners, regional organizations, and local communities;
- to support the activities of Basin Organizations in West Africa, those of WANBO in particular.

### **Description**

#### **Activities:**

- support to network research;
- organization of fora and development of extension tools;
- using opportunities offered by regional integration organizations in order to present research results on CVC;
- creation of an electronic newsletter;
- harmonization of research protocols;
- running of joint activities between scientists at regional level;
- common training activities (summer schools, postgraduate programme etc.);
- strengthening and extension of experts' networks;
- strengthening of research projects such as FRIEND-AOC, AMMA, AOC-HYCOS, etc;
- strengthening of basin organizations through the organization of common workshops.

#### **Expected outcomes:**

- scientific information is properly disseminated among decision makers;

- the various water stakeholders are sensitized;
- a real awareness of the populations is attained as regards CVC and its impacts;
- research protocols are harmonized and an electronic newsletter is created for the scientists;
- the WANBO is operational;
- adequate research capacity is established in the sub-region.

**Target Countries:**

Benin, Burkina Faso, Cape Verde, Chad, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo

**Duration:** Five years

**Estimated budget:** USD200,000

## **Strategic objective 2**

### **Project 1. Promotion of IWRM as a strategy of adaptation to climate variability and change**

#### **Justification**

West African countries are strongly interdependent on water because the bulk of surface water is located on shared basins. Considering that these transboundary basins consist of a unique ecosystem shared among several political areas, it is necessary to implement the principles of Integrated Water Resources Management (IWRM) and the Ecosystem Approach. The IWRM principles are as follows: (a) the recognition that water is a limited, vulnerable and essential resource for life, development and the environment; (b) the need for a participatory approach in its management; (c) the recognition of the importance of women's role in water management; (d) the need to recognise that water is an economic good.

The implementation of IWRM requires a dialogue between the various water users, water being regarded as the resource around which development activities are organized. In case of scarcity of the resource, as will probably be the case because of climate change, the coherent implementation of IWRM, contrary to sectoral utilization, allows, for example, to plan the use of water in such a way as to avoid conflicts between users and reduce the vulnerability of the most fragile populations.

There are significant initiatives of IWRM promotion in West Africa. Among these, one can note: (a) the SISCOA-IWRM process through which a regional IWRM action plan was prepared; (b) GWP/WAWP initiatives for the promotion of IWRM and dissemination of the IWRM kit; (c) the European water initiative which plans to support the States in the development of their national IWRM policies.

#### **Objective**

To promote and implement IWRM as an adaptation strategy to variability and climate change.

## **Description**

### **Activities:**

- to contribute to the strengthening of the basin organizations where they exist and to create them where they do not yet exist;
- to back the component on transboundary waters of the Sub-regional Action Plan on Desertification Control (programme spearheaded by CILSS);
- to undertake studies on the efficiency of IWRM as a strategy to adapt to climate variability and change;
- to help States in the formulation and implementation of national policies on water, which take into account the IWRM principles and ecosystem approach. In this context:
  - to back the SISCOA-IWRM process and help in implementing the regional IWRM Plan of Action;
  - to back pilot initiatives aimed at implementing IWRM (at subcatchment, catchment area and country levels);
  - to help in exchanging experience;
  - to help in capacity building;
  - to ensure coherence in the support provided to efforts undertaken as part of IWRM (European initiative etc.);
- to promote the integrated management of coastal areas by relying on the Regional Coastal and Marine Programme (RCMP);
- to encourage States to ratify and implement the 1997 United Nations Convention on the use of shared watercourses for purposes other than navigation.

### **Approach:**

Most of these initiatives are taken into account, in one way or the other, within the framework of the processes run by SISCOA-IWRM or GWP/WAWP. As part of this document, what is needed is to implement the identified activities in close collaboration with the institutions above. The project will contribute to mobilizing resources and improving knowledge on the efficiency of IWRM as an adaptation strategy.

**Target countries:** West Africa (16 countries) and Chad

**Duration:** Five years

**Budget:** USD250,000

## **Project 2. Restoration and conservation of wetlands as a strategy of adaptation to climate variability and change**

### **Justification**

Coastal and inland aquatic ecosystems play host to a significant portion of the biodiversity of the world in general and West Africa in particular. This function strongly depends on the variation of water level and quality in time and space. It is therefore essential to promote measures aimed at reducing the impacts of climate variability and change on these ecosystems to enable them to continue to play their role of reservoirs and refuge of biodiversity.

There are other reasons for ensuring good wetland management. Their essential functions include water storage, groundwater recharge, abating the magnitude of floods, stabilizing surface conditions and erosion control, water purification and carbon sequestration. As the climate changes, these various functions become increasingly important. Consequently, the rehabilitation and sustainable management of wetlands constitute important measures to adapt to climate variability and change.

The West African context is relatively favourable to increased efforts to protect wetlands. As a matter of fact, with the exception of Cape Verde, all the States of the region have adhered to the Ramsar Convention.<sup>1</sup> In pursuance of this Convention (Art. 3), contracting parties shall create favourable conditions for the conservation of wetlands included in the Ramsar list. Moreover, contracting parties shall undertake to promote the sustainable utilization of any wetland located on their territories, be they included in the Ramsar list or not. Today, West Africa has 46 Ramsar sites with a total surface area of 10,073,059ha. What is needed is to help the States of the region to fulfil their commitments as contracting parties to the Ramsar Convention: i.e. good management of current Ramsar sites, identification and classification of new sites, etc.

Restoration and conservation activities and the preservation of the areas under consideration in this project are part of the implementation of the ecosystem approach. The ecosystem approach is defined as a strategy for the integrated management of lands, water and living resources in order to promote sustainable and equitable conservation and use. This approach aims at: (a) maintaining the functions and services of ecosystems; (b) equitably sharing the products and benefits generated; (c) promoting adaptation management strategies; (d) decentralized management; and (e) encouraging intersectoral and decentralized cooperation.

## **Objective**

To reduce the vulnerability of West Africa to climate variability and change through the restoration and conservation of wetlands.

## **Description**

### **Activities:**

- conduct inventories of wetlands on river basins and identify those whose restoration and conservation can help reduce vulnerability to climate variability and change significantly;
- help in classifying wetlands as Ramsar sites, preparing and implementing their management plans;
- in collaboration with river basin organizations and international institutions concerned (IUCN, Wetlands International, World Wide Fund for Nature), to initiate pilot experiments for sustainable restoration and conservation of wetlands;
- promote research on environmental flows in order to help better understand water requirements of aquatic ecosystems for maintaining their essential functions;
- promote additional research activities on the interaction between wetlands and climate variability and change: impacts of climate variability and change on

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<sup>1</sup> The Ramsar Convention on Wetlands of International Importance of 1971.

wetlands; importance of wetlands as a means to adapt and mitigate climate variability and change;

- encourage NBA, Mali, institutions concerned and development partners to launch a major initiative aimed at restoring and conserving the Niger River Inland Delta, which is the largest West African wetland;
- encourage LCBC, institutions concerned and development partners to increase efforts aimed at restoring and conserving Lake Chad, which is the largest wetland in West and central Africa.

### **Approach**

Within the framework of the Niger basin, the project will be implemented in collaboration with the already active institutions in the basin (e.g. WWF with the initiative of the Niger basin) and in connection with the framework agreement between NBA on the one hand and IUCN, WWF and WI on the other hand. The implementation of the project also requires collaboration with other specialized agencies such as IRD and the AGRHYMET Regional Centre. As far as the component of the lower delta of the Gambia River is concerned, activities will be carried out in close cooperation with the OMVG.

### **Areas of intervention:**

Pilot activities in the Niger basin and the lower delta of the Gambia River.

**Duration:** Five years

**Budget:** USD2,000,000 (1.5 million for the Niger basin component; 0.5 million for the lower delta of the Gambia River)

## **Strategic objective 3**

### **Project. Identification and promotion of good practices and adaptation techniques**

#### **Justification**

As previously mentioned, one of the important problems to be solved relates to the poor level of exchange of adaptation experience, including good practices. The current fragmented nature of adaptation efforts undertaken by the various States of the region reduces, among others, the opportunity for achieving economies of scale. Indeed the conception and implementation of appropriate responses to climate change is a huge scientific and technical challenge that the poor West African countries cannot take up individually. They will do better to pool their expertise and resources for greater efficiency. Finally, the great interdependence of countries in the field of water resources calls for a regional approach in the preparation and implementation of adaptation measures. However, it is worthy of note that even an effective adaptation technique can have social and environmental consequences, which should be minimized.

#### **Objective**

To promote the implementation, on a large scale, of good adaptation practices in order to reduce the vulnerability of the area to climate variability and change.

**Description:**

**Components and activities:**

The project includes five components:

**Component 1.** Inventory of the indigenous adaptation strategies

- Carrying out an inventory and analysis of local adaptation experiences to climate variability and change.
- Eight (8) case studies will be undertaken and will cover the major eco-geographical zones in the area.

**Component 2.** Research activities on adaptation strategies

- Supporting research on early warning systems related to drought (e.g. CILSS' experience in the Sahel to be strengthened and extended to the whole region) and floods;
- Supporting research efforts on adaptation measures also capable of playing the role of mitigative measures of greenhouse gas emissions (e.g. reforestation used as carbon sink).

The implementation of these activities will be done in close collaboration with AGRHYMET Regional Centre (early warning related to agro-pastoral monitoring), NBA-Hydroniger (early warning system on flood propagation and flooding) and AIACC-Gambia (study on the costs and effectiveness of adaptation measures).

**Component 3.** Promotion and dissemination of adaptation techniques and practices

- Optimize the use, and disseminate at regional level, the best local strategies and techniques to adapt to climate variability and change (e.g. soil erosion control techniques, cereal varieties tolerant to drought or soil and water salinity, rain water harvesting techniques);
- Help States and regional integration organizations (WAEMU, ECOWAS) to promote the exchange of strategies and techniques to adapt to climate variability and change (e.g. easing of tariff and non-tariff barriers to trade);
- Seek the support of development partners for an effective policy of North-South and South-South transfer of adaptation technologies and measures.

**Component 4.** Support and mobilization of research funding

- Helping basin organizations and States to invest and further support research on adaptation techniques and measures;
- Undertaking sensitization and advocacy activities with development partners for increased support to efforts aimed at developing and implementing adaptation measures at river basin or regional level.



**Component 5.** Conduct and effectively implement impact studies

The implementation of this component will consist of ensuring the rigorous application of results from studies on environmental and social impacts in the planning of structural adaptation techniques and measures (e.g. dams, inter-basin transfers, etc.).

The following stages are envisaged:(a) study consisting of taking stock of the conduct of impact studies and the implementation of their recommendations; (b) capacity building in impact studies; (c) assistance to a better knowledge of international standards; (d) monitoring and implementation of impact studies.

**Duration:** Five years

**Budget:** USD1,700,000 allocated as follows.

**Component 1:** USD250,000

**Component 2:** USD800,000

**Component 3:** USD300,000

**Component 4:** USD100,000

**Component 5:** USD250,000

## **Strategic objective 4**

### **Project. Setting up the regional consultative framework**

#### **Justification**

The objective of setting up the regional consultative framework actually consists in furthering and formalizing the regional dialogue on water and climate change. It is interesting to note the recent creation of the Sahelian IPCC, which will contribute to the improvement of scientific output on climate in the Sahel. It would be desirable that such an initiative be widened, in order to cover the whole West African region. Within the framework of this objective, the adaptation strategy would meet the need for the creation of an efficient communication channel between research institutions on the one hand and political decision makers, water users, civil society and development partners on the other hand.

#### **Objectives**

**General objective:** Creation of an operational regional consultative framework on CVC.

#### **Specific objectives:**

- Setting up the regional network;
- Running the regional network;
- Resource mobilization.

## **Description**

### **Activities:**

- to propose a list of members of the network;
- to prepare draft constitutions of the network;
- to hold an inaugural meeting;
- to adopt the network's work programme;
- to set up a work plan to support the countries in the development of their national communications;
- to organize reflexion workshops on specific topics;
- to organize targeted meetings with WAEMU Parliamentarians, ECOWAS and NEPAD officials;
- to prepare concept papers;
- to undertake advocacy and lobbying activities aimed at funding West African efforts to adapt to CVC.

### **Expected outcomes:**

- the statutes of the network are written under the responsibility of the three pioneer institutions (CILSS, GWP/WAWP, UICN-BRAO);
- the network is well structured: the committees are set up and the statutes adopted;
- a synergy is created with other existing networks;
- COP preparatory meetings are organized;
- the countries are assisted in the development of their national communication;
- lobbying is carried out at the level of the Sahelian IPCC project in order to extend the results of the project to the countries of the sub-region;
- a targeted periodic regional summit is organized in collaboration with the regional institutions at the highest level;
- research results on adaptation measures are capitalized on;
- a support fund is set up for adaptation efforts.

### **Countries concerned:**

Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Chad, Togo

**Duration:** Five years

**Estimated budget:** USD450,000

**Table. Summary of action plan elements**

Strategic Objective	Project title	Specific objectives	Duration	Estimated budget (USD)	Potential key partners
<b>SO1:</b> Improving and sharing decision-support scientific knowledge and information base	Improving basic knowledge and promoting scientific research on CC impacts on water resources	(1) Identify data and information needs (2) Promote scientific research in support of decision-making; (3) Promote research on indigenous knowledge; (4) Promote research on Climate Variability and Change	5 years	600,000	CILSS-AGRHYMET; ACMAD; HYCOS-AOC; FRIEND-AOC; AIACC; AMMA; IUCN-BRAO; GWP-WAWP
	Sharing of knowledge and scientific information	(1) Develop regional collaboration between scientists on the one hand, and scientists and stakeholders of water on the other hand; (2) Build the capacity of scientists; (3) Organize advocacy activities at the levels of States, decision makers, development partners, regional organizations and local communities; (4) Provide institutional support to strengthen the West-African chapter of the African Network of Basin Organizations (ANBO)	5 years	200,000	CILSS-AGRHYMET; HYCOS-AOC; FRIEND-AOC; ANBO; IUCN-BRAO; GWP-WAWP
<b>SO2:</b> Promoting IWRM principles and ecosystem approach in the management of inland and coastal wetlands and water resources	Promoting IWRM as a strategy for adaptation to climate change and variability	(1) Strengthening the capacity of water professional and users in IWRM (GWP Tool box) (2) Institutional support to ECOWAS/SISCOA-GIRE (3) Encouraging the ratification of the UN Convention on transboundary waters through policy dialogues (4) Improving understanding of the effectiveness of IWRM as adaptation strategy	5 years	250,000	GWP-WAWP, ECOWAS/SISCOA-GIRE; IUCN-BRAO; GWP-WAWP

Strategic Objective	Project title	Specific objectives	Duration	Estimated budget (USD)	Potential key partners
	Restoration and conservation of wetlands as measure of adaptation to climate variability and change	(1) Improve understanding of role of wetlands as measure of adaptation to CC/CV (2) Restoration and conservation of selected wetlands in the Niger River Basin (3) Restoration and conservation of selected coastal wetlands in the lower Gambia River (4) Improving understanding of wetlands water needs through EFR studies	5 years	2,000,000 (1,5m for Niger River initiative; 0,5M for Lower Gambia Initiative)	UICN-BRAO, NBA, OMVG, GWP-WAWP, CILSS
<b>SO3:</b> Identifying, promoting and disseminating appropriate adaptation technologies, techniques and measures	Identifying and promoting effective adaptation practices and techniques	(1) Improving understanding of and sharing knowledge on indigenous adaptation strategies (Component 1) (2) Promoting research activities on adaptation strategies (Early warning systems; and clean adaptation measures with no or low GHG emissions) (Component 2) (3) Promoting and disseminating adaptation techniques and practices (Component 3) (4) Supporting and mobilizing funding for research on adaptation responses (Component 4) (5) Improving capacity for effective implementation of impact studies for adaptation measures (Component 5)	5 years	1,700,000 Comp. 1: 250,000 Comp. 2: 800,000 Comp. 3 : 300,000 Comp. 4: 100,000 Comp. 5: 250,000	CILSS-AGRHYMET; UICN-BRAO, ANBO (NBA, OMVS, LCBC, OMVG); ECOWAS, WAEMU, GWP-WAWP
<b>SO4:</b> Setting in place a framework for consultation at the regional level	Setting up a regional consultative framework on water and climate change	(1) Establish regional network on water and climate (2) Improve coordination of West Africa input to COP meeting (CC, Ramsar and Biodiversity) (3) Improve coordination and experience sharing as part of NAPA efforts	5 years	450,000	UICN-BRAO, GWP-WAWP, CILSS, ANBO, OMVS, ABN, LCBC, OMVG, WAEMU, ECOWAS
Total strategy	Six projects		5 years	5,200,000	



## **IUCN – The World Conservation Union**

Founded in 1948, The World Conservation Union brings together States, government agencies and a diverse range of non-governmental organizations in a unique world partnership: over 1000 members in all, spread across some 140 countries.

As a union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. A central secretariat coordinates the IUCN Programme and serves the Union membership, representing their views on the world stage and providing them with the strategies, services, scientific knowledge and technical support they need to achieve their goals. Through its six Commissions, IUCN draws together over 10,000 expert volunteers in project teams and action groups, focusing in particular on species and biodiversity conservation and the management of habitats and natural resources. The Union has helped many countries to prepare National Conservation Strategies, and demonstrates the application of its knowledge through the field projects it supervises. Operations are increasingly decentralized and are carried forward by an expanding network of regional and country offices, located principally in developing countries.

The World Conservation Union builds on the strengths of its members, networks and partners to enhance their capacity and to support global alliances to safeguard natural resources at local, regional and global levels.

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