

## The Volta River Basin <sup>6</sup>

The Volta basin is one of the poorest regions in Africa. It is shared by six West African states, but over 80% of the surface area is located in Burkina Faso and Ghana. With few other natural resources available, rainfed and some irrigated agriculture is the principal basis of development for the people of the basin. Population growth rates are at almost 3%, placing increased pressure on land and water resources. Improved agricultural development upstream, in Burkina Faso, depends on the development of surface water resources; such water development programmes could have an impact on the availability of water downstream, in particular at the site of the Akosombo dam on which Ghana relies for almost all its energy supply. Low water levels in the dam in 1998 caused a major energy crisis in Ghana, which many blamed on Burkina Faso's water development but may have been caused purely by unreliable and poorly understood rainfall variability. A persistent decrease in rainfall in recent years has greatly exacerbated water shortages and competition in the basin.

Insufficient communication between the two countries currently prevents adequate cooperation in either understanding or managing this shared resource, which could hinder the chances of peacefully resolving any future conflicts. As Ghana prepares to commence another dam project at Bui, and land-locked Burkina Faso clearly looks to the Volta rivers as a source of development potential, no time should be lost in encouraging dialogue and coordination between the two neighbours, and the other four basin states. Otherwise, Ghana's heavy reliance on the river for energy, and Burkina Faso's need for more water for irrigation could create an impasse and curb development both up and down stream. This fact has recently received the attention of the international community, which is now embarking on a major inter-governmental programme to promote regional cooperation. The Green Cross Water for Peace project is uniquely placed to ensure the full and active involvement of civil society representatives across the basin in the development of basin principles, agreements and management policies. This is the principal objective of this project.

### Basin States and % territory of total basin:

Burkina Faso (42.07%)

Ghana (40.21%)

Togo (6.25%)

Mali (4.57%)

Benin (3.62%)

Ivory Coast (3.24%)

**Basin Area:** 414,000 km<sup>2</sup>

### Basin population:

an estimated 14 million inhabitants.

### Major Infrastructure:

Akosombo Dam (Ghana) and Lake Volta (the world's largest man-made body of water created by the Akosombo Dam), the Komoedji Dam (Burkina Faso), the Bui Dam (Ghana, planned).



<sup>6</sup> This project proposal was prepared by Green Cross Burkina Faso. GCBF are active members of the West African Technical Advisory Committee of the Global Water Partnership, and were the only NGO participants at a regional meeting held by GEF and UNEP in Accra in June 2001 to launch their new basin cooperation initiative. GCBF is also the West Africa representative of the Gender and Water Alliance, and gender mainstreaming will be a component of this project. GCBF will be the managers of the Volta River basin sub-project, and will collaborate with partners in all basin states.

## Background

The hydrographical basin of the Volta River covers a surface area of about 414,000 km<sup>2</sup>, and encompasses six West African countries: Benin, Burkina Faso, Côte d'Ivoire, Mali, Ghana and Togo. Total basin population is currently estimated at 14 millions inhabitants, but the region is under high demographical pressure, with a growth rate estimated at 2.9% per year. The extremely low incomes of much of the population result in overexploitation of the natural resources of the basin seriously affecting the sustainable development of the region.

Of all the natural resources of the basin, water resources constitute the main stake around which the development of the diverse sectors of the economy of the countries should be built; unfortunately this also means that water is the element around which there are potential conflicts between different states and stakeholders.

The basin rainfall varies from North to South between 400 mm in the North of Burkina Faso to 1800 mm in the coastal zone. The annual average evapotranspiration varies from 2500 mm in the North of the basin to 1800 mm in the coastal zone. The main waterways are: the Mouhoun (Black Volta), the Nakambé (White Volta), the Nazinon (Red Volta), the Sourou, the Sissili, The Oti, and the Pendjari.

The most significant water consuming towns of the basin are Bobo-Dioulasso and Ouagadougou in Burkina Faso, Bolgatanga, Tamalé and Kumassi in Ghana, Natitingou in Benin and Sokodé in Togo. Their safe water supply is generally secured from a combination of surface and underground water resources.

The potential area of irrigable lands of the whole basin is as follows:

Country	Irrigable Potential (in hectares)
Bénin	30 000
Burkina Faso	142 000
Côte d'Ivoire	25 000
Ghana	1 200 000
Mali	Not determined
Togo	90 000
<b>TOTAL</b>	<b>1 487 000</b>

The most important infrastructure for the mobilisation of the surface water resources and hydropower production are:

- The Sourou work, Burkina Faso (300x106 m<sup>3</sup>);
- The Ziga dam, Burkina Faso (200x106 m<sup>3</sup>);
- The Kompienga dam, Burkina Faso (2 050x106 m<sup>3</sup>);
- The Bagré dam, Burkina Faso (1 700x106 m<sup>3</sup>);
- The Akosombo dam, Ghana (150 000x106 m<sup>3</sup>);
- The Kpong dam, Ghana (to be determined).

The Akosombo dam is by far the largest in the basin, the construction of which created Lake Volta, an enormous man-made lake which has completely changed the natural flow of the river and caused a host of environmental and social problems, many of which are still unresolved. Ghana is now planning to build another large and very controversial dam at Bui. Upstream Burkina Faso is economically and industrially less developed than Ghana, but recently has built and proposed to build more dams, particularly for irrigation purposes. This is a potential source of acute conflict as Ghana rejects any plans that will reduce the volume of water reaching the Akosombo – on which they depend for almost all the energy needs of the country. It is crucial that all future projects are negotiated in a transparent and equitable manner between the basin states prior to construction, and that the riparians agree to the principles and determining factors which will provide the basis for future water resources development. As the population grows and the precipitation levels drop, pressure on water will intensify and such agreements will be essential to preventing conflicts.

## Main Problems

Following the successive dry period of the last decades, and under the effect of the increasing demographical pressure, quite a number of ecological balances are threatened. The impact of the combination of climate factors and the increase of the population on the exploitation of the basin waters is remarkable in:

- The diminution of the water resource following pejorative climate change and the increase of demand;
- The damage of the water resources quality by the increased use of more and more chemical products (pesticides, chemical fertilisers, etc.);
- The drying-up of wet zones;
- The silting up and sandbanking of water courses due to the acceleration of different types of erosion;
- The disappearance of some vegetable and animal species in some zones and the appearance of non-indigenous species around water projects and waterways;
- Deforestation bringing about damage to soil and a loss of biodiversity;

The main problems related to water resources within the basin and to which special attention should be paid in view of their direct and indirect impacts on the countries are:

1. The quantitative reduction in water resources owing to the rain shortages occurring over the last three decades, that also have repercussions on the optimum filling of the reservoirs in the basin and that jeopardise the objectives originally assigned to these works (electricity production, drinking water supply, irrigation, etc.);

2. The change of the hydrological regime of the basin waterways after the construction of big infrastructure projects, that can be sources of floods, water logging and water-borne diseases;
3. The proliferation of aquatic plants at the site of large hydro-projects that affect all waterways of the basin;
4. The pollution of water by household waste, mainly resulting from the accelerated and uncontrolled development of the cities of the basin;
5. The non-existence of appropriate legal and institutional agreements and mechanisms for the management of shared water resources or water related conflict prevention/resolution.
6. The lack of involvement of civil society in the vital decision-making process related to water.

### ***Characterisation of Potential Conflicts***

If the observed climate trends continue, the socio-economic characteristics of the basin (high population growth, strong pressure on natural resources and poverty) could turn the above identified problems into serious conflicts between the countries that share the basin water resources.

The decreasing availability of freshwater in the basin is already a major issue between Burkina Faso and Ghana, who together occupy more than 80% of the basin, and, to a lesser degree, between Burkina Faso and Togo.

Following the record low rainfall in the basin in 1997, the absence of the appropriate framework for coordination and cooperation between the States led directly to conflicting relations between up and downstream countries, fostering mutual suspicion and inaccurate reports of the activities of different riparians.

The current analysis of the basin situation shows that the above identified potential conflicts are subject to a large consensus by the basin countries and the main solution resides in the capacity of the countries to set up the appropriate mechanisms and frameworks to acquire greater knowledge of the nature problems and the necessary tools for a mutually advantageous and joint management of water resources.

It is therefore planned to work towards the establishment up of a coordination and cooperation framework between the basin countries so as to guarantee the sustainable management of water resources for the benefit of the basin populations. The focus of the Green Cross project will be to facilitate the participation and awareness of civil society in all basin states in this process.

### ***Priority Directions of Intervention for a Sustainable Resolution of the Basin Problems***

The priority directions of intervention aim at the prevention of potential conflicts that can result from the sharing of basin water resources among the States and to encourage the implementation of integrated water resources management of the basin. These directions are as follows:

1. The creation of a permanent information sharing mechanism for shared water resources for the assessment of availability, needs and risks (floods, drought, disease, etc.);
2. The development up of a strategy to fight against the proliferation of non-indigenous plants;
3. The development of a system to control household pollution in the major cities of the basin and some means to reduce its impact upon water resources;
4. The establishment up of a coordination and cooperation framework between the actors of the shared water resources.

Several initiatives are being developed in the sub-region with a view to finding appropriate solutions to the problems identified at the basin level.

The prevention of conflicts, the promotion of dialogue between the actors at the level of one or several countries are the principal objectives of Green Cross. The Water for Peace project in the Volta basin hopes to be the architect of new and enhanced channels of communication between and among civil society representatives and the governments of the riparian states as they negotiate the direction of cooperative water management in the basin. It is important that the people have a voice and a role in this process from the very beginning.

### ***General Objective***

The main objective of the project is the promotion of public involvement in the establishment of joint management of the Volta basin water resources.

### ***Specific Objectives***

- Give a better understanding of the basin water resources and trans-border problems.
- Establishment of a mechanism enabling the political decision-makers to take into account the aspirations, needs and concerns of civil society in the basin in the elaboration of the axes of cooperation.





## Activities

1. Elaboration and implementation of an information, sensitisation and communication programme on the basin's water resources based on the transborder problems and conflicts. This will target local people in rural and urban areas, particularly women, farmers and other groups highly dependent on access to reliable and safe water supplies. Information will be shared between groups in different countries, who will be made aware of the plights and achievements of their neighbours.
2. Coordination of a meeting gathering experts and representatives of civil society from across the basin who would eventually agree to a peoples' Basin Declaration.
3. Coordination of a meeting gathering political decision-makers and the representatives of the civil society of the Volta basin States to share the civil society declaration and views with the Governments and international organisations involved in the Volta Basin.
4. Preparation of a report and set of recommendations based on the above consultations and research, to be presented at the Third World Water Forum and proposed to governments in the region.

## Project Partners

Individuals who have already consented to participate this project include:

*M. Ousséni DIALLO*, Coordinnateur Régional du Projet Volta au compte de Green Cross International  
*Dr. Yaw OPOKU-ANKOMAH*, Regional Co-ordinator, Volta River Basin Project  
*Dr. Chris GORDON*, Volta Basin Research Project, Centre for African Wetlands  
*Athanase COMPAORE*, President, Secrétariat intérimaire du Comité de suivi de la Conférence ouest-africaine sur la gestion intégrée des ressources en eau, Comité Inter Etat de Lutte contre la Sécheresse dans le Sahel (CILSS)

In addition, there exist in the subregion a number of water resources management initiatives with which this project will coordinate in order to create a synergy of actions.

Of particular interest to this project are:

- The current study of Green Cross on the prevention of water related conflicts in the Volta basin;
- The West African Process on Integrated Water Resources Management that involves the 15 member States of the ECOWAS (CEDEAO) and Mauritania;
- The Subregional Action Plan (PASR) of the Inter-States Committee of the fight against desertification in the Sahel (CILSS);
- The project of integrated water and land resources management that involves the 6 countries sharing the basin;
- The Volta Basin Research Project in Ghana;
- The West African Technical Advisory Committee (WATAC) of the Global Water Partnership (GWP);
- The UNEP and World Bank/GEF inter-state integrated water resources management in the Volta initiative, within which Green Cross is already an active civil society representative.

## Follow-Up

After the submission of the final reports and recommendations, it is important that the project be subject to an extensive analysis so as to guarantee the continuation and functioning of the coordination framework between the States and stakeholders that will be proposed. To this effect, the sustainability of the mechanism of basin water resources management requires the establishment up of financial devices that can generate reliable resources for the management of the basin (ex royalties, user-polluter-pays) to take over after the end of the project. Partners and sources of support for the continuation of these activities will be sought throughout the duration of the project.