African Water Facility
Facilité africaine de l'eau
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AFRICAN WATER FACILITY

AWF SUPPORT FOR THE CREATION OF THE VOLTA BASIN AUTHORITY

A CASE STUDY

September 2010

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CASE STUDY REPORT

ON THE

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List of Acronyms

2iE	International Institute for water and Environmental Engineering
AfDB	African Development Bank
AMCOW	African Ministers' Council on Water
AWF	Africa Water Facility
AWV	Africa Water Vision
CPWF	Challenge Program for Water and Food
ECOWAS	Economic Community Of West African States
EU	European Union
EUWI	European Union Water Initiative
GEF	Global Environmental Facility
GLOWA	Global Change in the Hydrological Cycle
GWP	Global Water Partnership
HYCOS	Hydrological Cycle Observing System
IUCN	International Union for Conservation of Nature
IUCN/PAGEV	International Union for Conservation of Nature/ Volta Water Governance project
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
MoU	Memorandum of Understanding
NBA	Niger Basin Authority
OMVS	Senegal River Development Organisation
PAGEV	Project for Improving Water Governance in the Volta Basin
UNEP	United Nations Environment Programme
VBA	Volta Basin Authority
VBRP	Volta River Basin Project
VBTC	Volta Basin Technical Committee
VRA	Volta River Authority
WSSD	World Summit on Sustainable development

1 Introduction

1.1 Background Context

The African Water Facility (AWF) was established as a response to the regional and international consensus to address the need for increased investments for the development and management of water resources in Africa. The AWF is an initiative led by the African Ministers' Council on Water (AMCOW), to support the achievement of the objectives of the African Water Vision (AWV) and the Millennium Development Goals on water and sanitation. At the request of AMCOW, the Facility is hosted by the African Development Bank (AfDB). The AWF became effective in 2005 and started its core operational activities in January 2006 after receiving and processing requests for funding based on five year operational programme spanning to 2009.

In accordance with the AWF's operational strategy, the AWF resources are applied primarily to projects and programmes focused on the following four aspects/pillars as follows:

(i) Strengthening water governance;
(ii) Investments to meet water needs;
(iii) Strengthening the financial base;
(iv) Improving water knowledge;

The AWF selected the first batch of projects to be supported in 2006, and among those in the Water governance pillar was the project to **"Support the creation of the Volta Basin Authority"**. This report presents a summary of the complex transboundary water governance processes prior, during and immediately after the implementation of that project. The report further examines the local and regional impacts of the principal outcome of the project i.e. the adoption of the VBA convention and statutes.

1.2 Purpose and objective of the study

This report documents the transboundary water governance conditions and environment that existed prior to the implementation of the AWF project to support the creation of the VBA. It attempts to distil the inherent internal and external drivers behind the evolution of the treaties and conventions for the Volta basin. The report further examines whether these drivers have been fully or partially satisfied at both the local and regional level, and in so doing the report assesses the project impacts at national and regional levels.

The ultimate aim of the report is to share the lessons learned from the implementation of the project with practitioners of IWRM particularly those who are interested in supporting the process of creating a transboundary river or lake basin authority.

1.3 Methodology and sources

The report is based on a review of relevant literature from the AWF and related documentation from the VBA, including project documents which are country based and

those produced by other partners; interviews with key government officials and development cooperation partners who were involved with the project; and to some extent previous knowledge and field experience of the investigation team. The exhaustive list of informants contacted and documents consulted are included in the attached annexes.

1.4 Organisation of the report

The report is organised into 8 chapters as follows:

- Chapter 1 contains background context of the report, study objectives, methodology and basic information on the Volta basin.
- Chapter 2 presents the summary of the evolution of transboundary water governance within the Volta basin from the colonial era to the period prior to the implementation of the project.
- Chapter 3 focuses on the on the actual AWF intervention. The objectives, activities and deliverables of the project are described. The chapter also discusses the contribution of other actors, alongside the AWF in supporting the creation of the VBA.
- Chapter 4 examines the drivers, both external and internal, of the processes that led to the creation of the VBA and discusses the national and regional impacts of the project outcomes.
- Chapter 5 discusses the challenges and sustainability of the VBA, in the context of the AWF support project outcomes. It also presents a quick comparison between the Volta basin Creation process and other major RBOs in Africa.
- Chapter 6 presents the lessons learned, conclusions and recommendations.

1.5 The Volta basin

1.5.1 Physical Features

The Volta Basin is located in West Africa an area of 394,123 km² of the sub-humid and semi-arid savannah zone (Lemoalle and de Condappa, 2009). The basin encompasses the majority of Ghana (70% of land area) and Burkina Faso (62%) and lesser proportions of Togo, Benin, Mali and Cote d'Ivoire, respectively (Table 1.1 and Figure 1.1). It is in general a low relief basin, with elevations ranging from sea level to 920 m, a mean elevation of 257 m and correspondingly low channel grades.

The lower Volta is fed by three major tributaries. To the west, the Black Volta (147,000 km^2) drains western Burkina Faso and small areas within Mali and Cote d'Ivoire; the White Volta (106,000 km^2) drains much of northern and central Ghana and Burkina Faso, and to the east, the Oti (72,000 km²) drains the north western regions of Benin and Togo. The three tributaries join in Ghana to form Volta Lake, impounded behind the Akosombo Dam. This dam and reservoir, inaugurated in January 1966, stores approximately 150 billion cubic meters and has an installed hydropower generation capacity of 912 MW. With a surface area of 8,500 km², Lake Volta is among the world's largest artificial lakes.

Table 1.1 Volta Basin Area and Population composition

	Area km²	% of Basin Area	% of Country Area	% Of Country Population
Burkina Faso	168,004	42.6%	62.40%	47.60%
Ghana	167,298	42.4%	70.10%	35.80%
Togo	26,001	6.6%	45.00%	8.55%
Bénin	15,069	3.8%	12.10%	2.56%
Mali	4,801	1.2%	1.00%	3.35%
Côte d'Ivoire	12,950	3.3%	3.10%	2.13%
Total	394,123	100.0%		100%

(Source: Lemoalle J., de Condappa D., 2009)

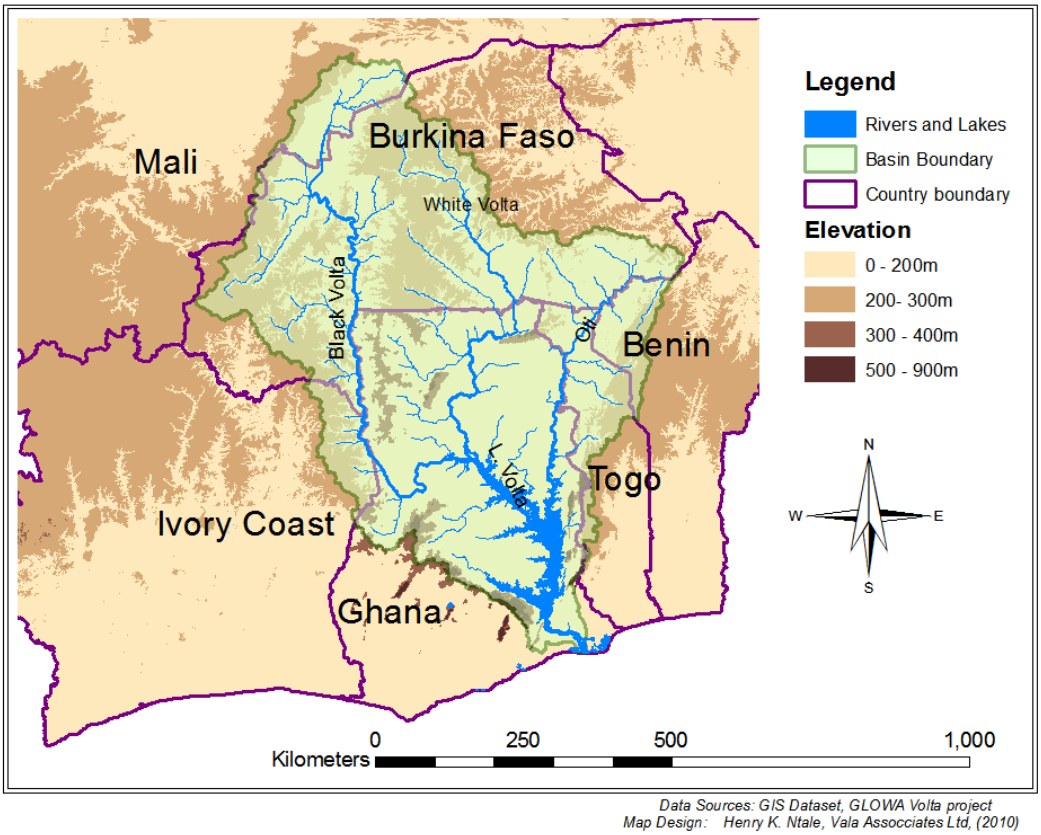

Figure 1.1 The Volta Basin

The volumes of the main reservoirs in the basin include the following:

(a) The Sourou works, Burkina Faso, 0.3 bcm (billion cubic meters);
(b) The Ziga dam, Burkina Faso, 0.2 bcm;
(c) The Kompienga dam, Burkina, 2.05 bcm;
(d) The Bagré dam, Burkina Faso, 1.7 bcm ;
(e) The Akosombo dam, Ghana, 150 bcm;
(f) The Kpong dam, Ghana, 0.19 bcm.

The Climate is influenced by the movement of the Inter-Tropical Convergence Zone (ITCZ). The average rainfall lies around 1000 mm/yr with a strong north-south gradient and regional and temporal variability. Unpredictable and unreliable precipitation makes rainfed agriculture a risky undertaking throughout much of the basin. Mean annual temperatures are around 30°C and humidity varies between 90% in coastal areas to below 20% in the North during the harmattan and the dry season (Andah and Gichuki, 2003).

1.6 Socio-economic features

By African standards, the basin is densely settled, with Ghana, at 90 inhabitants per km^2, possessing roughly three times the mean population density of Sub-Saharan Africa (SSA). Per capita income in Volta Basin countries tends to be lower than the SSA average, although Ghana, at $447, appears somewhat more prosperous when income is evaluated in Purchasing Power Parity (PPP) terms ($1,940). Much of Ghana's affluence is located in urbanized regions to the south, however, outside Volta basin boundaries (Rodgers et al 2006).

Basin inhabitants are overwhelmingly rural. Agriculture is the most important economic factor, followed by the tertiary sector and mining (particularly in Ghana). Today 70 – 90% of the population in the Volta Basin depends on subsistence farming; however agricultural productivity is low in comparison to other regions in the world (WDI 2004). In order to increase agricultural productivity, investments in irrigation are required, particularly in the drier regions of Northern Ghana and Burkina Faso. Small scale irrigation schemes, established by small and medium sized farmers, are also developing rapidly. With respect to the demand for water resources, these attempts to expand agricultural productivity paradoxically position the agricultural sector increasingly as a competitor to the power generation sector, arguably no less critical to overall economic developments.

The Volta basin is faced with increasing environmental issues, such as loss of biodiversity, reduction of resources, groundwater resources depletion, flooding and river pollution. These problems are water related and transboundary in nature. Despite this, there had been little coordinated effort for from the colonial period until the 1990s, to manage the Volta waters in a holistic transboundary manner.

2 Evolution of transboundary water governance in the Volta Basin

2.1 Why the delay?

The evolution of a holistic formal transboundary water governance mechanism for the Volta Basin took longer than for other African river basins of similar size and strategic importance such as the Senegal or Niger Rivers (see Table 2.1 below)

Table 2.1 Establishment dates of major West African shared water basins

River Basin	Basin Agency	Member States	Establishment Date
Niger	NBA (Niger Basin Authority)	9 States: Benin, Burkina Faso, Cameroon, Guinea, Côte d'Ivoire, Mali, Niger, Côte d'Ivoire, Mali, Niger, Nigeria, Chad, Nigeria, Chad	1963
Lake Chad	LCBC (Lake Chad Basin Commission)	5 States: Cameroon, Niger, Nigeria, CAR, Chad	1964
The Gambia	OMVG (Gambia River Basin Development Organisation)	4 States: The Gambia, Guinea, Guinea Bissau, Senegal	1967
Senegal	OMVS (Senegal River Development Organisation)	4 States: Guinea, Mali, Mauritania, Senegal	1972
Volta	VBA (Volta Basin Authority)	6 States: Burkina Faso, Benin, Cote d'Ivoire, Ghana, Mali, Togo	2006

The timeline of the Volta Basin transboundary water governance process is shown in Figure 2.1 below. The relative delay in the creation of the Volta basin organisation could be attributed to a number of factors namely: -

(i) The Geographical composition of the Volta basin is such that two of the 6 basin countries (Burkina Faso and Ghana) account for more than 83% of the total basin area and population respectively. These two nations have always had good relations since their creation having no history of hostilities or armed conflict between the two. As such, the threat of potential sabotage or selfish unsustainable use of the Volta water resources by the two countries did not feature highly in the foreign relations agenda of the two nations.

(ii) Even without the VBA, there were always alternative communication channels between the two main basin countries, Burkina Faso and Ghana, to hold discussions and reach agreement on issues related to the Volta basin. The alternative methods of consultation were used to arrive at the 1996 treaty and 2004 Ghana-Burkina Joint Declaration. Since the two main countries could discuss and agree with each other, there was no real rush to set up a basin wide institutional framework. It is worthwhile to note that Article 5 of the adopted VBA

convention specifies that "…*parties may enter into agreements on any portion of the Volta basin…*".as long "*such agreements shall be consistent with the provisions of the Convention*'. This means that the basin states still have the prerogative to enter into bilateral or multilateral discussions concerning the Volta basin if they so wish.

(iii) The main upstream country (Burkina Faso) is relatively drier than the downstream country (Ghana). This is the reverse compared to River Nile where the downstream country (Egypt) is far drier than the upstream countries (Rwanda, Uganda, etc). The latter situation is more precarious and in all cases necessitated treaties aimed at safeguarding the water interests of the downstream drier states.

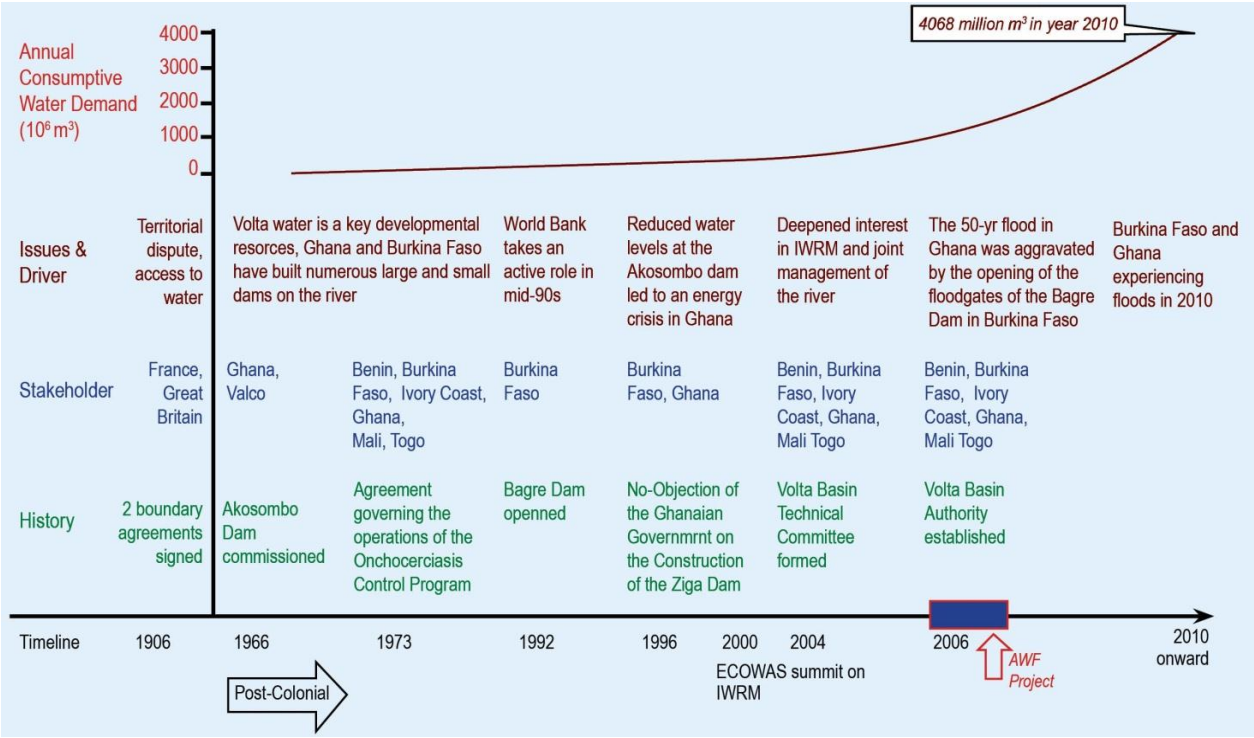

Figure 2.1 Timeline of Transboundary Water management of the Volta Basin

Adapted and modified from Yongxuan and Margolies, 2009

2.2 Colonial period

The configuration of the Volta Basin States was not based on the hydrological boundaries of the River Volta nor the social cultural divisions that prevailed. Rather, the boundaries were based on the political and economic interests of the colonising powers. Largely unconcerned with existing ethnic and hydrologic boundaries, the Volta River Basin was divided among the British colony of the Gold Coast (later renamed Ghana), several regions of French West Africa, and temporarily German Togoland. It should therefore be recognised that the Volta Basin became transboundary by virtue of the border drawn by the British, French, and Germans. There were only two treaties signed between the colonial powers concerning the Volta. The first treaty was the "*Exchange of Notes between France and Great Britain relative to the Boundary between the Gold Coast and French*

Soudan" signed 1906 This treaty effectively stated that traditional "native" practices relating to water withdrawal and use should be allowed to continue despite the imposition of a new border. The second treaty, also signed in 1906 was the *Agreement between France and Great Britain relative to the frontier between French and British possessions from the Gulf of Guinea to the Niger (Southern Nigeria and Dahomey)*. This latter one was broader and it included the Gambia, Lake Chad Niger and Senegal in addition to the Volta (The African Transboundary Water Law, 2010).

2.3 Post independence era up to 1996.

Following independence of Ghana and Burkina Faso, the Volta riparian states generally pursued their own water-related agendas with little concern for impacts outside their states. Between 1957 and 1996, there were only two international agreements concerning the Volta's waters and neither of them effectively integrated the water management and development plans of riparian countries. These two were:

(a) In 1962, an agreement was signed by Togo and Benin to purchase electricity (to be generated at Akosombo dam) from Ghana (Lautze et al., 2006).
(b) In 1973, an international agreement was signed by all six riparians to control the spread of Onchocerciasis in the basin (United Nations, 1984).

Interestingly, although the Akosombo dam, located in Ghana and built in 1966, relied (and continues to rely) on large influxes of water from upstream countries to generate power, no agreement was concluded between Ghana and the other Volta riparian states to ensure that such water would arrive.

Absent was any international agreement containing a coordinated approach to water management among the different riparian states. Not only was there a lack of integrated water management among any of the six basin states, however, there was often a lack of coordination among various institutions within the individual riparian states

2.4 From 1996 onwards: Processes that led to the creation of the VBA

2.4.1 Contributions from International organisations

In the mid-1990's, the World Bank took an active role in the water affairs of Ghana and Burkina Faso and invoked its transboundary waters policy whereby a country proposing to execute any project which will regulate, abstract or otherwise change river flows must notify co-riparian states of its intentions so that each state may consider whether it wishes to lodge an objection (Lautze et al., 2005).

This policy led to the Volta's first post-colonial agreement concerning water as a limited and consumable resource. In 1996, Burkina sought World Bank support to construct a dam at Ziga, which would alter the flow of water into Ghana. To satisfy the Bank, a Ghanaian delegation visited Burkina and signed a "*no-objection*" document agreeing to the dam's construction. This event produced discussion about more coordination and collaboration between Ghana and Burkina in the management of the Volta's waters. A Volta Basin

Water Management Initiative was then launched with the help of national and international donors to serve as a medium for communication and dialogue on transboundary water issues; the initiative was short-lived (Lautze et al., 2005).

Interest in transboundary management of the Volta did not intensify again until reduced water levels at the Akosombo dam led to an energy crisis in Ghana in 1998. Exacerbated by conditions of drought in parts of the basin, downstream Ghana accused upstream Burkina of withdrawal increases and obstruction of Volta river flow (van Edig et al., 2001). Although it has been shown that Burkinabe withdrawal had little to do with reduced flow in Ghana, the need for some degree of cooperation and information exchange became evident. International organizations responded en masse to this presumed need in the years which followed.

The GLOWA Volta project was one of the first to contribute to transboundary water cooperation, aiming to develop a scientifically sound Decision Support System (DSS) for the assessment, sustainable use, and development of the Volta basin's water resources (Van Edig et al., 2001). In 2002, Green Cross International identified the Volta basin as potentially conflictive, so the organization engaged civil society representatives across the basin to develop commonly accepted principles and cooperative governance policies for management of the shared water resources. In 2001 and 2002, the Global Environmental Facility (GEF) funded projects, which identified major environmental problems in the basin and presented ways to address these areas of environmental concern. Several others, such as UNEP and the IUCN, also developed and implemented programmes to promote sustainable and equitable governance of the Volta basin (Lautze et al., 2005).

The Accra Conference on Water and Sustainable Development in Africa held April 2002, taking place in the most downstream Volta basin again highlighted the importance of sound IWRM principles in transboundary water governance. Later that year, the Johannesburg World Summit on Sustainable development (WSSD) 2002 summit was held, and among other landmarks, it further thrust the IWRM high on the global agenda. During the WSSD summit the EU Water Initiative that was launched amid lots of fanfare and publicity, and under this initiative the Volta and Niger basins were selected as the West African co-beneficiaries to be supported under the transboundary water resources management programme.

All these major events contributed to building the political crescendo that was necessary for the success of the creation of the VBA.

2.4.2 West African Regional processes

The drought episodes of the late 1990s, coupled with the renewed interest of Integrated Water Resources Management (IWRM) principles in the 1990s plus the awareness brought about by the GLOWA, Green Cross, GEF, UNEP and IUCN Volta projects spurred national interest in the Volta riparian states to develop a holistic institutional mechanism to manage the Volta Waters.

In March 1998, a West African Conference on Integrated Water Resources Management was held and its landmark outcome, known as "Ouagadougou Declaration", urged member countries sharing a river basin to "create or consolidate their basin organization".

Two year later, the ECOWAS Summit of Heads of States and Government at its 24th Session held in Bamako in December 2000 adopted the Regional Action Plan for the Integrated Water Resources Management in West Africa which among others, (a) sought for harmonisation of policies, legislation on water resources, and exchange of experiences; and (b) called for the reactivation of fora for consultation between riparian countries on coordinated management of shared or trans-border water basins. The summit also created the ECOWAS water resources coordination unit which was to follow up the implementation of summit declaration. The December 2000 ECOWAS summit declaration on IWRM provided the highest sub-regional political justification to the Volta Riparian states to forge towards a holistic water governance institutional framework for the Volta basin.

As a follow up, Ghana and Burkina Faso began consultative meetings with the aim of creating a path for the establishment of a transboundary water management institution. In April of 2004, the Ministers in charge of water resources of Ghana and Burkina Faso signed the *Ghana-Burkina Joint Declaration*, which acknowledged common water and environmental issues and stated a desire to collaborate on management of shared water resources through a Volta Basin Technical Committee (VBTC), involving all riparian countries. This work was followed by a meeting in Ouagadougou in July 2004 that was attended by representatives from all the Volta basin countries. All the six riparian countries developed and accepted a statute of the VBTC, acknowledged the need for a transboundary management institution and a timeline for its creation. The process begun with the ministerial endorsement and signing of an agreement to form the Volta Basin Technical Committee (VBTC) in November of 2004 (WRC 2004). On 6 December 2005, in Ouagadougou, the Ministers in charge of water from Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali and Togo signed a "Memorandum of Understanding to Establish a Volta Basin Authority (VBA)."

3 The AWF intervention

On 22nd December 2005, a formal request from the Volta basin riparian states, through Burkina Faso (since it chaired the VBTC), was submitted to the AWF for consideration. The total request was for Euro 165,000 to support the further elaboration of the draft convention and statutes and also facilitate national and regional consultations within the basin.

The AWF request was approved it in March 2006 and by April 2006, the grant agreement was signed between the AWF and Burkina Faso. Burkina Faso had been entrusted by the Ministers in charge of water resources of the other Volta basin riparian countries to receive the grant through the "*Convention de Mandat*" signed by all the respective ministers in charge of water resources of the riparian countries. This was because the VBTC did not have the necessary legal status to receive and manage financial resources directly. The "*Convention de Mandat*" also delegated the powers as Executing Agency to the VBTC. Under this arrangement, the VBTC President was mandated to mobilize and manage the AWF grant on a day to day basis.

3.1.1 The AWF Project Objectives

The key objective of the AWF support to the creation of the VBA was to:

(a) Facilitate the development of a Convention between the six riparian countries for the creation of VBA to be signed at the Council of Ministers Conference.
(b) Assist in the formulation of an Action Plan or "Road Map" as a basis for the ratification of the Convention, following the creation of the VBA

Information available seems to suggest that the formulation of the objectives of the AWF projects was executed with rapid precise efficiency, in part because the VBTC had already established the consultation road map leading to the adoption of the convention.

3.1.2 The AWF Project Activities

The scope of activities included the step-wise and consultative development of the Convention and related texts, as well as an Action Plan that would serve as a road map for the necessary post-project follow-up actions. The AWF funded activities included a number of sensitisation workshops with officials and stakeholders from the riparian states of the Volta Basin culminating in the finalisation and endorsement of the Convention by the Council of Ministers. Table 3.1 summarises the project activities.

Table 3.1 Activities of the AWF Project to Support the Creation of the VBA

Category of Activity	Description
Text Studies and preparation	The relevant texts of the draft convention and statutes were analysed by a team of experts, taking into consideration experiences from elsewhere, and a draft roadmap for VBA proposed
National Workshops	Six (6) National Workshops were organised bringing together the main stakeholders to discuss the draft Convention for its validation and recommended amendments.
Regional workshops and working sessions	(i) Two (2) Regional Experts working sessions were held to prepare a synthesis of the amendments and recommendations of the six national workshops, eventually producing an updated version of the Convention in French and English, and preparations for the Regional Workshop. (ii) Two (2) regional Workshops were held to consider, review and validate the draft Convention. (iii) The second Council of ministers from the Volta basin was held to approve the convention text and adopt the road map.

3.1.3 The AWF Project Deliverables

There were two main deliverables from the AWF project, namely

(i) An agreed Convention and its related texts on the creation of VBA, signed by the Council of Ministers from the six riparian countries

(ii) An agreed Action Plan ("Road Map") for the follow-up process for the ratification of the Convention and the creation and empowerment of VBA was adopted.

The AWF project delivered 100% of the planned outputs within the allocated budget. The extra positive outcome that had not been envisaged by the project was that by the end of the project, the VBA itself was created, its Interim Director General, his deputy as well as the Interim President of the Council of Ministers were all appointed.

3.2 Other Actors

As noted before, there were a number of other partners that supported the process leading to the creation of the VBA particularly the following;

(i) The ECOWAS Water Resources Coordination Unit whose mandate was derived from the December 2000 ECOWAS Heads of State summit on IWRM. The ECOWAS Unit had the primary responsibility of supporting the VBA creation process as part of their role to implement the December 2000 summit declaration.

(ii) France which at the time headed the IWRM - trans-boundary component of the European Union Water Initiative. France provided both technical and financial support to the process. In particular, France supported the development of the Initial draft convention which was tabled for discussion at national levels.
(iii) IUCN which was very supportive of the process through PAGEV - I (Project for Improving Water governance in the Volta Basin);

Although the European Union had agreed earlier to facilitate the process of creating the VBA, the project took long to materialise, and the actual implementation of this assistance started two years after VBA had been created. There was value however, in the EU engaging the Volta basin actors early, for it would seem that the AWF Support Project preparatory work basically extracted a small core of priority and urgent consultative activities from the larger EU support proposal.

3.3 Challenges encountered before and during the VBA creation process;

At the time the VBTC was created (2004), there was a strong political commitment and support for the creation of the Volta Basin Authority. There was a need however to mobilise resources to facilitate comprehensive stakeholder consultations in the basin to consider the technical details of the content and form the statutes and convention would take. There is no record of a dissenting voice or opinion which was against the creation of the Volta Basin Authority. The arguments at the time were all about how the Authority would be structured and sustained.

The VBTC gave itself a very ambitious plan to see to it that all the national and regional stakeholder consultations are completed within 12 months so as to table the draft text before the ministerial council for consideration. There were logistical and technical challenges in arranging representative national stakeholder forums to debate the draft texts appropriately. The countries were at different levels of IWRM appreciation. For example Togo had only recently embraced IWRM principles (2002) when these national consultations were thrust on them. In the end, a uniform ToR was sent out to each of the six countries, detailing how the national stakeholder forums would be constructed. It is doubtful if all the six basin countries have the same social – political stratification to recommend a uniform composition of the national stakeholder forum.

In hindsight, it is possible that the drafting of the VBA convention and statutes and the ensuing stakeholder consultations were perhaps compressed in too short a period to allow for careful digestion of issues by the relevant stakeholders. The statutes and convention were debated at national and regional level in less than three months, a period which by normal standards would appear too short to allow for proper harmonisation with national legal frameworks. The results of the compressed hurried stakeholder consultations manifested themselves when it came for the states to ratify the convention. Most of the states took more than two years to deposit the ratified convention (See table 3.2), which probably wouldn't have been the case if the initial stakeholder consultations leading to the creation of VBA had been held at a more relaxed phase.

Table 3.2 Ratification of the VBA convention that was signed in January 2007

Country	Date of Ratification
Togo	02 February 2009
Mali	02 April 2009
Ghana	26 June 2009
Burkina Faso	15 July 2009
Benin	04 January 2010
Cote d'Ivoire	Not Yet

In general, one can say that there were no significant challenges in the process leading up to the creation of the VBA. The issue of mobilising resources required for to facilitate the stakeholder consultations and elaborating the draft statutes was summarily resolved by a consortium of development cooperation partners, including the support provided by the African Water Facility to aid the stakeholder consultations.

3.4 Main Lessons learnt from the AWF Intervention

1. *Clarity of what the basin actors wanted* helped the success of the AWF Support project a great deal. By the time AWF came on board, the basin state actors had already crafted a roadmap leading to the adoption of the convention.

2. *Political commitment was crucial for the success of the creation of the Volta Basin Authority*. Without this commitment, there would be no basin wide authority up to date. Some commentators have gone as far stating that what existed at the time was more of "*political euphoria*" for the support of the basin. That was a unique opportunity to seize and provide the catalytic intervention necessary to have properly debated convention texts available.

3. "*Hit the iron while it is still hot*" One could argue that the creation of the VBA rode on the heightened interest in developing sound IWRM practices in transboundary basins. The Regional Action Plan for Integrated Water Resources Management in West Africa adopted by the ECOWAS Summit of Heads of States and Government at its 24th Session held in Bamako in December 2000 provided a very powerful mandate for basin states to get together and discuss the formulation of basin wide Institutional water governance frameworks. The Accra Conference on Water and Sustainable Development in Africa held in April 2002, taking place in the most downstream Volta basin again highlighted the importance of transboundary IWRM basin management. The WSSD 2002 summit in Johannesburg further thrust the IWRM high on the agenda. All these major events contributed to building the political commitment that was so necessary for the success of the creation of the VBA.

4. *The Geographical configuration of the basin does matter*. The Geographical Configuration of the Volta is such that two of the countries occupy more than 84% of

the basin area wise and population wise. It was important that the two countries, one being upstream and the other ultimately downstream, come to a good understanding and this is what exactly happened when Ghana and Burkina Faso signed the *Ghana-Burkina Joint Declaration* 2004. After the two agreed, it was a matter of time for the rest of the basin states to come on board. It is our understanding that even the adoption of the VBA convention was made possible after some undocumented understanding of the sharing of roles in the VBA architecture between Burkina Faso and Ghana

5. *Basin wide programs even before the creation of the formal transboundary institution add value.* The IWRM basin programmes run by international institutions did a lot in creating the necessary awareness and proving the necessary science to dispel misunderstanding about the shared Volta Water resources – thus paving the way for easier negotiations that lead to the adoption of the VBA convention.

4 Relevance of the project vis-à-vis national, local priorities and regional priorities

Before discussing the relevance of the project outcomes at national, local and regional level, it is necessary to understand the drivers of the transboundary water governance process. After appreciating the drivers behind the process, we can then examine the extent to which the goals and interests that underpinned the formation of the basin authority have been addressed.

4.1 Drivers behind Transboundary water governance in the Volta Basin.

In the context of this report, "*drivers*" are defined as the goals and interests which lead to the formation of transboundary accords. Drivers should be distinguished from the actors who attempt to realise these goals and interests. These drivers can be conceptually divided into two categories: internal and external. Internal drivers defined here to be those goals or objectives contained in transboundary water agreements; e.g., extension of basic water supplies, hydropower development to facilitate economic growth, or dam construction for irrigation projects. External drivers are defined as those which are not explicitly contained in agreements but nevertheless wield substantial influence on the formation and orientation of treaties (Lautze et al., 2005).

In the case for Volta Basin, it could be argued that both internal and external drivers were behind the evolution of transboundary water management in the Volta. These drivers are listed in Table 4.1 below.

Table 4.1 Drivers behind the evolution of Water Governance in the Volta Basin

Internal drivers	External drivers
1. Joint Management	1. Global trends in Water Resources Management and Development
2. Water Infrastructure for Development	2. International concern with transboundary waters
3. Environmental Sustainability	

From 1998 onwards, there was a strong commitment by the Volta basin states to develop a joint management structure of the shared water resources, hence the first internal driver to achieve joint management of the basin waters. The second internal driver was the desire by the basin countries, to invest more in sustainable water infrastructure, particularly for dams for hydropower and irrigation agriculture. The third driver, was the wish for the basin countries to approach all this development in a holistic sustainable manner that protects conserves the basin ecosystem. Article 4, (principles) of the VBA convention is based on these internal drivers.

The external drivers which were not explicitly contained in the VBA convention texts but nevertheless did wield substantial influence on the creation of the VBA could be linked with the global recognition of the importance IWRM in the late 90s and World Bank's policy

The first major post–colonial international agreement concerning the River Volta directly was signed between Ghana and Burkina Faso (The 1996 "no objection note" for the Ziga dam). This agreement was directly motivated by the World Bank which was seeking to mitigate the potentially conflictive nature of transboundary water resources. This was clearly the global trend at the time. The IWRM and water Governance programs of the many International organisations within the basin, such as GLOWA, UNEP-GEF, Green Cross International, IUCN, helped to elevate the importance of the IWRM agenda by sensitizing the stakeholders involved about the need to effective management of the Volta transboundary waters.

It is this combination of both the above mentioned internal and external drivers that was behind the creation of the Volta Basin Authority.

4.2 Project Impacts at local, national and Regional level

From the perspective of the drivers behind its creation, the VBA has had the following impacts:

(i) In VBA, the basin states have now a legal institution that has the mandate to oversee the basin wide *joint management* of the Water Resources in the Volta basin. Although the VBA is still young, it has already received a number of notifications from various stakeholders for its consideration and follow up. (see Table 4.2). This indicates that VBA is providing the intended relevant service support to the basin stakeholders.

Table 4.2 Examples of recent actionable correspondences to the VBA

	Origin	Description	Date
1.	Volta River Authority, Ghana	Request for a study on the Excessive Siltation at Bridge sites on the Volta River System	24th September, 2009
2.	Ministry of Environment, Water and Forests, Ivory Coast.	Demand for Information concerning the construction of the Bui dam in Ghana	3rd March 2009
3.	The Heremakono Association, Burkina Faso	Notification of the Inauguration of the Water Museum for the Volta	25th November 2009
4.	Volta River Authority, Ghana	Development of the Joule Hydro Project; request for coordination and facilitation of discussion between Ghana and the other concerned basin countries.	29th January 2010
5.	Volta River Authority, Ghana	Memorandum of Understanding between VRA and VBA	February 2010
6.	Water Resources	Notification on the intended Construction of a New	1st June 2010

Commission, Ghana	Water Supply scheme to supply Kpandu and its environs with water from Ghana,

(ii) The creation of the VBA has improved the possibilities of the basin states to mobilise resources for *Water Infrastructure for Development* even from the development partners who are very conscious of basin Integrated water resources management and environmental conservation. An endorsement of a basin state proposal by the VBA elevates its quality and increases the chances of mobilising the required resources.

(iii) The VBA now provides a strong platform for all basin stakeholders to pursue all matters concerning *environmental sustainability* through its institutional framework. An example is highlighted in Table 4.2, when Ivory Coast communicated its concerns to the VBA about the Environmental Impacts of the Bui Dam being constructed by Ghana.

(iv) The creation of the VBA further enhanced the technical capacities of the direct implementing agencies, in particular the DGRE in the Ministry responsible for water resources in Burkina Faso and the National Focal points of the VBA. The outlook and perception of these officials has been further refocused and deepened to better appreciate the nuances of transboundary water management. Burkina Faso intends to create 4 distinct national catchment authorities, Mouhoun, Nakambe, Koboe and Lupta (this one is part of the Niger system). DGRE officials expressed their desire to draw experiences from the larger VBA when designing the institutional framework of the national catchment authorities.

(v) It may be stated with confidence that all VBA's activities are geared at *poverty reduction* within the basin by creating the right conditions and environment for the sustainable utilisation of the basin water resources for agricultural production, energy, transportation and other uses. This should have direct positive impacts for the local communities in the basin.

(vi) The agents of the external drivers for the creation of the VBA authority were the International agencies that operated within the basin on IWRM focus issues. Since the creation of the VBA, there has been additional effort in coordinating the activities of these international actors evidenced by frameworks of collaboration and MoUs signed between the VBA and these institutions such as the UNEP/GEF project on the Volta and IUCN-PAGEV. Other international programs that VBA has entered into discussions with include the European Initiative on Water Governance (Togo and Côte d'Ivoire), GLOWA, CSIR WRI, IWMI, VBRP Legon, BFP Volta, CPWF, Regional Observatory, ECOWAS/WRCC, KPI/INBO. In June 2009, the Volta HYCOS Project was transferred from 2iE to the VBA and integrated within the Observatory. The above shows that VBA has taken on a very strong coordinating role within the basin with a significant impact on mode of delivery and architecture of IWRM projects in the region.

5 Sustainability of the VBA institution

The following sections present the study findings as regards the sustainability of the AWF Project support outputs - which is ultimately linked to the sustainability of the VBA itself.

5.1 Key challenges

5.1.1 Lack of sufficient financial contributions from member countries

The Volta basin countries agreed after protracted negotiations to share the costs of the VBA annual budget as shown in Table 5.1. However to date, only Mali and Burkina Faso have kept their end of the bargain. This is not sustainable; and it sends a not-so-positive signal to other partners who are desirous to support the institution. Nevertheless, all the countries that are in arrears have expressed their commitment to clear them as soon as the internal national budgetary process approves the fund transfers to VBA.

Table 5.1 State of Country contributions to the VBA annual budget

Country	Negotiated Percentage of the Annual Budget to be paid	Actual Country Contribution		
		2008	2009	2010
Burkina Faso	29	Paid	Paid	Paid
Ghana	29	Not Paid	Not Paid	Not Paid
Togo	14	Not Paid	Not Paid	Not Paid
Bénin	10	Not Paid	Not Paid	Not Paid
Mali	9	Paid	Paid	Paid
Côte d'Ivoire	9	Not Paid	Not Paid	Not Paid
Total	100			

The VBA still has the capacity to mobilise resources from international cooperation partners. Indeed it is doing so to keep its operations running. VBA will not survive unless its member basin states demonstrate their willingness and support by paying up their portions of the core VBA budget. This is a critical issue for the long term sustainability of the institution.

5.1.2 Secretariat Staffing

An immediate worrying challenge is the delay to appoint the necessary core staff to ran the affairs of the VBA. The delays are probably due to bureaucratic issues that have to be handled, but are also linked to lack of sufficient contributions from the member states to fund the operational budget of the VBA.

Presently there is a lot of goodwill and respect for the young VBA institution among the basin stakeholders and international cooperation Partners. These stakeholders, who are not privy to the VBA internal arrangements, expect no less than fast quality responses and prompt provision of policy advice, whenever they approach the VBA for guidance. The interim staff at the secretariat (2 officials out of an establishment of 25) is trying their best to cope, but this kind of situation is not tenable in the long run.

5.1.3 Incomplete setup of VBA structures

The institutional structure of the VBA includes two important organs, *the Experts Committee* and the *Forum of parties* which have not been constituted yet. VBA will establish them only after terminating the transitional measures [in terms of staffing] under which the VBA is currently running.

5.1.4 High turnover of political leadership

The political leadership of the water sector in some of the basin countries is very dynamic (see table 4.3 comparing the leadership changes in two countries). The young VBA institution still needs strong political support. Changes in political leadership of the sector are always accompanied by reorientation of the priorities. At times, this might happen at the expense of processes that require continuity consistency such as VBA Council of Ministers deliberations. The VBA Council of Ministers is a very crucial and important decision making body of the authority. Unfortunately the supporting bodies of committee of experts and the Forum of Parties have not been properly constituted.

Table 5.2 Recent Ghana and Burkina Faso political leadership changes in the water sector

Ghana Ministers of Water Resources Works and Housing since 2006	Burkina Faso Ministers of Agriculture, Water Infrastructure & Water Resources since 2006
Hon. Hackman Owusu Agyemang (2005) - 2007	Hon. Salif Diallo (2002) - 2008
Hon. Alhaji Saddique Boniface 2008 - 2009	Hon. Laurent Sedogo 2008 - todate
Hon. Albert Abongo 2009	
Hon. Alban Babgin 2009 – to date	

VBA and the national focal points will have to carefully consider how to mitigate the effects of the inevitable changes that occur from time to time at the political helm of the water resources sector.

It will be noted that all the above challenges are inter connected; Political commitment is essential to see to it that the governments make the required financial contribution, which will in turn make it possible to fill the full staff structure. This in turn will make it possible for the authority to implement all the planned programs and follow up closely all the decisions of the Council of Ministers, as well as be able to mobilise additional resources for programs within the basin

5.2 Comparison of the VBA creation process with other RBOs

The comparison of VBA creation process with other RBOs could be approached from the context of drivers behind the processes. In this regard, VBA is compared with OMVS (Senegal), NBA (Niger) and NBI (Nile). The VBA took six years to create, with most of the intensive discussions and negotiations taking place in the two years before it was inaugurated in 2006. The internal drivers behind the creation of the VBA a desire by the basin states to achieve Joint Management, Water Infrastructure for Development and Environmental Sustainability in the basin. How does this compare with the other major basins in Africa?

5.2.1 The Senegal Basin

Guinea, Mali, Mauritania, and Senegal created The Senegal River Development Organisation (OMVS) was created in 1972. All the four riparian countries were ruled by the same colonial power, which in fact did not treat these territories as distinct until just prior to independence; hence there was a tradition of cooperation. Colonial French initiatives for water development often took a basin-wide approach—laying the groundwork for such initiatives in the post-colonial era. The fact that a significant portion of the Senegal river actually constitutes a border necessitates some level of cooperation if structures such as dams are to be built. The limited financial and technical capacities of riparian states at the time of independence made countries inclined to cooperate with each other in order to amass as much local financial and technical capital as possible as well as to maximize their chances of attracting foreign investment (Lautze et al., 2005).

Immediately after independence, international donors were called upon to support basin development both financially and technically. Following the creation of the "Inter State Committee" in 1963 with the collaboration and financial support of UNEP and the FAO, riparian countries approached the UN to obtain support for basin research and planning development projects in order to implement an integrated development program of the basin's water resources. This collaboration was codified in 1968 with the creation of the "Senegal River Riparian Countries Organization", though it is unclear how much was tangibly accomplished. Confronted with ambitious objectives and political disagreement between Guinean government and other riparian countries, the organization collapsed after four years (Lautze et al. 2005).

However the severe drought from 1968 to 1973 reinforced the need to jointly manage the basin resources and led to the creation of the OMVS. It would seem therefore that OMVS's creation and goals reflect a combination of factors: common colonial history, shared internal drivers such as water development to increase electricity production and expand irrigation and to some extent the willingness for the donors to facilitate the process. That might explain why it was created early in the 70s.

5.2.2 The Niger Basin

The Niger River Commission (NRC) was established between Upper Volta, Dahomey, Cameroon, Chad, Guinea, Ivory Coast, Mali, Niger and Nigeria by agreement in 1964. NRC suffered from a lack of human, technical and financial means in both its executive secretariat and member countries' national administrations. Although it mobilized the financial support of UN agencies to conduct various studies, few made tangible impacts (IUCN, 2004). Disappointed by the NRC's inadequate results and encouraged by donors to adopt a new approach, member states decided to replace the Commission with a new water management body possessing a broader mandate. In 1980, the Niger Basin Authority (NBA) was conceived during a meeting in Faranah, Guinea. Endowed with a stronger executive secretariat based in Niamey, more funding from its member states, and a mandate for the entire basin rather than merely the Niger River itself, the NBA was formed to promote regional cooperation and implement integrated basin development in various sectors.

VBA should learn from the NBA that if problems of human, technical and financial resources are not adequately addressed in time, they can cripple the organisation, to the extent that costly rebranding and re-launching is necessary to revive it.

5.2.3 The Nile Basin

The Nile does not have a formal convention adopted by all the 10 basin countries. There are 15 agreements which have been signed by some Nile riparian countries covering portions of the basin. The treaty drivers reflect a common phenomenon in upstream-downstream river basin relations in which upstream water abundance leads to downstream establishment of a historic use of a river's waters. Then as water abundance turns to water scarcity upstream, downstream riparians seek to codify and enhance their position vis-à-vis upstream counterparts.

Egypt epitomizes the downstream country seeking to preserve and advance its claim to prior use. This claim has stalled the protracted 2-decade long negotiations to formulate a legal cooperative framework for the basin. With no near solution to this difficult problem in sight, the riparians countries assisted by major donor agencies decided to create a transitional institution, the "Nile Basin Initiative (NBI)" in 1999 to carry on the work, in the interim, of developing the river in a cooperative manner, share substantial socioeconomic benefits, and promote regional peace and security.

A decade down the road, the Cooperative framework has not been adopted by all the riparian countries. In fact it is at a stalemate; 5 countries have signed it (as of August 2010 Uganda, Tanzania, Ethiopia, Kenya and Rwanda) with Burundi and D R Congo expected to sign it soon. On the other hand, Sudan and Egypt remain bitterly opposed to adopting the framework in its current form. Meanwhile many water infrastructure investment projects have been implemented under the "transitional" NBI framework which some well-established RBOs could only dream of.

The Nile introduces a whole new paradigm, that under certain complex conditions, a basin wide legal frame work is not an absolute pre condition for sustainable utilisation and development of water resources in the basin.

Fortunately, the Volta River basin did not have the classic phenomenon of the downstream country (Ghana) seeking to preserve and advance its claim to prior use. Had it been the case, it would have greatly complicated the processes as it has done elsewhere.

6 Conclusion

The AWF Support greatly accelerated the process of the creation of the VBA. We have shown the evolution of the processes that lead to the adoption of the Convention and the drivers behind them. It is our submission that without the AWF support, the VBA would have still been created, but may be five or six year later than when it did. The timely AWF support, at a time when IWRM was high on the regional agenda and political commitment to the idea was at its peak, probably saved the basin another six years of uncoordinated Volta basin water resources use, as well as lengthy costly consultations.

We have further shown that for the case of Volta River Basin, clarity of the interest of the basin actors, political commitment, ability to take advantage of the timing of the heightened interest on the Global IWRM topic, ability of the basin actors to negotiate and accommodate the implications of the geographic configuration of the basin and the softening of the ground by the multiplicity of basin wide programmes by international organisation all contributed to the success of the creation of the VBA.

The young VBA has already demonstrated its relevance to the basin, given its impacts at national and regional scales. Like any other young institution, it is facing some institutional growth challenges, the major one being the lack of financial contributions by some of the member states to the annual VBA budget. This challenge is solvable provided there is ample political commitment by the member states. Once this challenge is resolved, the remaining challenges such as staffing, incomplete VBA structures, lack of communication strategy will be routine ordinary operational issues that can be pragmatically resolved.

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