



Report of the Regional Starting workshop in view of the Development of the Transboundary Diagnostic Analysis (TDA) of the Volta River Basin

07-09 December 2009 (Lomé, Togo)









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# **Table of contents**

List of a	abbreviations and acronyms	ii
Executi	ve summary	iii
1. Op	pening of the Meeting	4
1.1	Opening remarks	4
1.2	Appointment of the Bureau	5
1.3	Review of Agenda and Introduction of participants	5
1.4	Objectives and expected outcomes of the meeting	5
2. Ke	y presentations and discussions	6
2.1	Presentation on TDA/SAP process and methodology	6
2.2	Presentation of the Review of Preliminary TDA	6
2.3	Identification/Review of Transboundary Problems	6
2.4	Presentation on Socio-economic issues	6
2.5	Presentation on Analysis of Governance & Stakeholders Participation in the Volta basin	7
2.6	Presentation on Governance Issues	7
2.7	Identifying sources of information to fill data gaps	7
2.8	Presentation on the Methodology for TDA finalisation and related work plan	8
2.9	Presentation of TDA Reports Outline	9
2.10	Synopsis of the Workshop	9
3. Cl	osing remarks and closure of the meeting	10
4. Ar	nexes	11
4.1	List of participants	12
4.2	Annex 2: Workshop agenda	17
4.3	Proposed work plan for the finalisation of the TDA	19
4.4	Outlines of national reports	20



# List of abbreviations and acronyms

**Abbreviation Definition** 

APNP-VRB Action Plan for the National Part of the VRB

DGEF Division of GEF Coordination

ECOWAS Economic Community Of West African States

EQO Environmental Quality Objective

EU European Union

GEF Global Environment Facility

IWRM Integrated Water Resources Management

PAGEV Projet d'Amélioration de la Gouvernance de l'Eau dans le bassin de la Volta

PMU Project Management Unit RPC Regional Project Coordinator SAP Strategic Action Program

TDA Transboundary Diagnostic Analysis
UNEP United Nations Environment Program
UNOPS United Nations Office for Project Services

VBA Volta Basin Authority VRB Volta River Basin

# **Executive summary**

The Volta Basin TDA Starting Workshop was held in Lome, Togo from 07th till 09th December 2009. The purpose of the workshop was to discuss issues related to the development of the Transboundary Diagnostic Analysis (TDA) for the Volta Basin. The Workshop was organized by the UNEP-GEF Volta Project entitled 'Addressing Transboundary Concerns in the Volta River Basin and its Downstream Coastal Area'. The Workshop was attended by 44 water and environment related experts, including scientists drawn from key institutions and organizations in the riparian countries of the Volta basin.

The main objective of the workshop was to engage key stakeholders in the Volta River basin, in the participatory process for the development of the scientifically-based, non-negotiated TDA for the basin and to establish mechanisms for compiling and/or validating data and information that will feed into the process. The Volta River Basin TDA will therefore set the basis for the formulation of a mutually negotiated and regionally agreed Strategic Action Programme (SAP) for the Volta River Basin that would be implemented within the framework of the Volta River Basin Convention.

While taking note of the preliminary TDA developed during the project PDF-B phase, the key transboundary issues identified then were reviewed and updated during the workshop, while the stakeholders (national, regional and international) who could be involved in the implementation were also updated. This exercise also provided opportunity to identify ways and means of filling the information gaps earlier identified in the preliminary TDA. It should be noted that these gaps have been collectively acknowledged by participants as capable of constituting a major challenge for the development of TDA for the basin.

At the end of the workshop, majority of the participants are of the opinion the workshop objectives were accomplished. This report of the TDA Starting workshop provides readers with a broad insight on the processes and outcomes of the workshop.



## 1. Opening of the Meeting

#### 1.1 Opening remarks

- 1. As part of the implementation of the UNEP GEF Volta Project, the TDA prepared during phase 1 of the GEF Volta project in 2002 is to be updated. It is within this frame work that the Regional Workshop on the Development of the Transboundary Diagnostic Analysis (TDA) of the Volta River basin was held.
- 2. The main objective of the workshop was to engage key stakeholders in the Volta River Basin in a participatory process for the development of the scientifically-based, non-negotiated TDA for the basin and the establish of mechanisms for the compiling and /or validating data and information that will feed into the process The meeting was held at Hotel Krimas, Lome from 7th to 9th December 2009. It was attended by about 44 participants including the National project Coordinators, representatives from VBA, IUCN/PAGEV, EU Volta Initiative, TDA Regional/National Experts, National/Regional resources persons and selected national institutions /stakeholders.
- 3. The opening ceremony was performed jointly by the Minister for Environment and Forestry Resources and the Senior Minister, Minister in charge of Water, Sanitation and Rural Water Infrastructure, H.E. Mr. AYIKOE Kossivi and Gl. ZAKARI Nandja respectively.
- 4. The opening ceremony was characterized by 4 interventions. The first was by the Regional Coordinator of the UNEP GEF Volta project in the person of Dr. Hubert Onibon. In his remarks, he thanked the government of Togo for not only hosting the workshop but also for the presence of the two government ministers at the opening ceremony. He presented the objectives of the workshop and outlined the expected outputs. He stressed the importance of the involvement of all actors in the process and extended his appreciation to the VBA for all the support to the process.
- 5. The Acting Executive Director of VBA, Dr. Charles Biney, in his intervention noted that VBA was honoured to be part of the TDA workshop. He thanked the GEF Volta Project for using a participatory process to establish the TDA that will form the basis for the preparation of the SAP. He informed the meeting that the VBA convention came into force on 14<sup>th</sup> August 2009. He equally noted that VBA, in collaboration with the GEF Volta Project have drafted the VBA Strategic plan which recommends the establishment of a Water Master Plan. He concluded that the SAP will contribute to the development of this Water Master Plan.
- 6. The Minister for Environment and Forest Resources, H.E. Mr. AYIKOE Kossivi, thanked the VBA and GEF Volta project for having chosen Togo for the finalization of the TDA. He noted that the government of Togo has already developed a management strategy as well as legal and regulatory frame for water supply and sanitation. He agreed that the TDA, when completed will be an efficient management tool for water resources and environment in the Volta basin. He ended his remarks by encouraging all the participants to play an active role in the workshop and thanked the project sponsors, partners and experts for their efforts to ensure sustainable water resources management in the Volta basin.
- 7. In his opening address, the Senior Minister, Gl. ZAKARI Nandja welcomed all the participants to Togo. He thanked the Acting Executive Director of VBA and the GEF Volta Project Coordinator for choosing to hold this workshop in Lome, Togo. He noted that with the signing of the VBA Convention in January 2007 in Lome and the coming into force of the convention on 14th August 2009, the governments of the Volta basin countries need to promote the spirit of integrated management of natural resources in the basin which will guarantee sustainable development of the population.
- 8. He expressed his expectation that the discussion would lead to the establishment of the TDA through a participatory process for the development of the scientifically-based, TDA for the basin. While wishing participants a successful workshop, he thanked the VBA, GEF Volta and project



sponsors and declared the workshop formally opened.

## 1.2 Appointment of the Bureau

9. The working session started with the establishment of the meeting secretariat. The following suggestions by the GEF Volta Project Coordinator were made for consideration of the participants regarding the establishment of the Workshop secretariat. He suggested the following and they were accepted by the participants: As Chairman: Mr. Abel AFOUDA, University of Abomey Calavi Benin; and as Rapporteurs: Dr. Jacob TUMBULTO and Mrs. Alice Paule ONADJA These proposals were accepted by all participants.

### 1.3 Review of Agenda and Introduction of participants

10. Following the introductory remarks by the chairman, he presented the draft agenda to the participants for their consideration. This was accepted by all without any amendments. The chairman then requested the participants to introduce themselves by giving their affiliation with project.

#### 1.4 Objectives and expected outcomes of the meeting

- 11. The presentation on objectives and expected outcomes of the meeting was made by Mr. Olumide Akinsola. After presenting the objectives of the workshop, he listed the expected outputs to consist of:
- Main transboundary water and associated environmental issues and problems identified and discussed through brainstorming exercises and impact analysis
- Data gaps and sources of information identified and discussed
- In-depth discussions conducted on governance (policies, legislation, regulatory and institutional frameworks), socio-economic values and ecosystems
- Preliminary discussions conducted on key stakeholders and actors to address trans-boundary issues, Methodology and work plan for TDA finalization at the national and regional level presented and discussed in details



## 2. Key presentations and discussions

#### 2.1 Presentation on TDA/SAP process and methodology

- 12. The Regional Project Coordinator, Dr. Hubert Onibon, gave an overview of the methodology for the TDA and its linkage to the SAP. His presentation addressed why TDA is necessary for the basin and the concern about over looking the wider geographical stretch of these problems. The presentation also addressed the characteristics of the TDA sub-processes such as the political framework, the scientific advisory committees' composition and the role of the national partners in the development of Action Plan for the National Part of the VRB (APNP-VRB).
- 13. Concerning the on-going TDA process, he noted that the regional consulting team has been established while the review of transboundary problems, the fact finding (data collection and analysis) and the causal chain and governance analysis will follow thereafter.

## 2.2 Presentation of the Review of Preliminary TDA

- 14. The presentation made by Mr. Daniel Malzbender provided an overview of the preliminary TDA. He explained that the essence of the overview which was carried out in 2008 was to assess the current scope of existing data and information gaps, presentation of information sequences, and assess the adequacy of depth of analysis. The presentation also covered detailed review of the preliminary TDA chapters and provided recommendations for updating the TDA.
- 15. In particular, he recommended the separation of social issues from socio-economic issues, the addition of legal and regulatory settings as section in the TDA, the inclusion of climate change as a transboundary environmental issue and the removal of the EQO analysis from the TDA to the SAP.
- 16. Following the above presentations, the Chairman opened the floor for comments, questions and contributions. The discussions and comments raised by the participants centred on two major issues namely, the problem of data collection, availability of data on issues like flooding, and management, exchange and compatibility of data format, and the involvement of stakeholders in the TDA development process especially at the national level.
- 17. There were suggestions on the need to add a communication plan as there cannot be effective exchange without communication and the need to ensure that the TDA takes into account the practice on the field so as not to develop it in a direction contrary to current practices.

## 2.3 Identification/Review of Transboundary Problems

- 18. The regional experts for water resources and ecosystem led the deliberations and discussion on the basin transboundary problems. Following the initial extensive deliberations at plenary, participants were made to identify and list transboundary and common problems in the basin on cardboards provided. The draft team subsequently clustered the cards against the earlier transboundary problems in the preliminary TDA.
- 19. The earlier eight transboundary problems identified in the preliminary TDA were reviewed by participants and confirmed relevant to the present situation in the basin. Following extensive discussions by the participants on new problems and emerging issues, the following three issues were identified and added to the initial transboundary issues:
- Migration of population
- Climate stress resulting from climate change
- Governance

#### 2.4 Presentation on Socio-economic issues

20. The presentation on socio-economic issues was made by the regional Consultant, Mr. Fall Oumar. He highlighted the question of the economic value of water in the framework of shared



transboundary water resources including livelihoods of population in the transboundary area, baseline setting and drivers of change. He also talked about macro-economic status and trends including regional economic characteristics like population, GDP, transboundary area exchanges mechanisms and assets, foreign donations and initiatives and poverty line in the targeted area of the Volta basin as opposed to the rest of the country. As part of the values of transboundary shared resources, he enumerated natural resources, biodiversity and cultural values.

21. In conclusion he highlighted possible drivers of change for future trends in the basin including population growth, migration and urbanisation and climate change

#### 2.5 Presentation on Analysis of Governance & Stakeholders Participation in the Volta basin

- 22. In his intervention, the TDA drafting Governance regional consultant, Mr. Diallo defined analysis of governance to include the totality of three components which consist of institutional, policy/legal analysis and stakeholders consultation. He indicated the necessity to identify stakeholders and clearly define their roles in all consultation processes. He noted that for objectivity in the analysis and efficiency, the creation of a common vision is necessary and emphasized that the stakeholders should be independently identified, fully participate in the process and consult effectively. He described stakeholders as all those who are involved in or affected by a problem and identified three categories of stakeholders namely governmental institutions, industries and enterprises, NGOs /Civil society organisations.
- 23. He concluded by noting that analysis of policy and legal issues are undertaken in a static or dynamic or sectoral manner and made relevant for water resource management at the basin scale. This also requires the harmonization and development of common policy and a legal framework.
- 24. During the follow-up discussions on the above two presentations, Mme Zanou from Benin reminded workshop participants of the need to link the concept of decentralisation to the way natural resources are utilized, while Mr. Compaoré from Burkina Faso suggested that health issues also needed to be incorporated and related to the economic. He, along with Mr. Thiombianofrom Burkina Faso however wondered if the national consultants would be able to address this issue as expected. In addition, there were concerns from the participants regarding the difficulty of obtaining socio-economic data at the basin scale, noting that such data is usually available only on country basis.

#### 2.6 Presentation on Governance Issues

- 25. The presentation on the governance issues by Mr. Diallo was followed by the participants group work. Participants were constituted into three groups to address Stakeholders' consultation, Institutional Analysis and Policy/Legal Analysis issues in the basin based on the terms of references prepared by the regional consultant for governance issues.
- 26. During the following presentations of group work, participants raised several issues including the need to update the lists of institutions. Specifically, Mr. Thanou from Burkina Faso suggested that Ministries of Finance, Town planning departments, statistics and population growth and the research institutions are relevant institutions to be included. Mr Sidi Toure from Mali noted that existing collaborations and ongoing consultation mechanisms between Burkina and Mali must be recognised and supported with political will.
- 27. Dr. Garane from Burkina Faso highlighted some points needed to advocate consultation and contents for information and consultation, including: Right to have access to information by public; Consultation must be from the project onset; Consultation is not to individuals but to representative organisation; States must take into account the concerns of people; and Citizens should have access to administrative recourse and process for their concern to be addressed.

## 2.7 Identifying sources of information to fill data gaps

28. As part of the task towards identifying the gaps in the existing draft TDA as analysed by the TDA Consultant, participants were requested to identify further gaps and possible sources of



- information to fill such gaps by country groupings. The data and information required include specific reports and institutions where information could be obtained by the team of national and regional consultants when required.
- 29. During plenary presentation, the group works highlighted the main sources of data and information that would help the TDA drafting team access the required information. In general, participants decided that it is important to agree on reference date for data use and collection dates to be used in the TDA. Mr. Bamba from Mali stated that acquisition of climate data from national institutions in Mali is not free and that it would have to be purchased and in some cases, there would be need for travel and at times conduct survey for raw data. It was also noted that there are considerable gaps in data from Togo and Cote d'Ivoire. While responding to issues on data gaps Dr. Tumbulto of VBA/Volta HYCOS noted that there are ongoing efforts at collecting new data but the challenge remains how to fill the 20 year gaps of missing data in countries like Togo. Dr. Hubert Onibon noted that the project currently has an overview of existing data and the gaps based on the studies that have been carried out and offered to discuss means of overcoming highlighted challenges.

#### 2.8 Presentation on the Methodology for TDA finalisation and related work plan

- 30. Mr. Daniel Malzbender, the TDA Team Leader started with the presentation on the Methodology for TDA finalisation and related work plan by highlighting the composition of the team structure as consisting of Regional Team comprising the Team Leader, Water Resources, Ecosystems, Economic and Governance Experts, and the National Teams which shall comprise a National Consultant and support team. He recapped that the final responsibility for the production of national report at appropriate level of quality lies with the National Consultant. He equally highlighted the role of the regional team as follows: Providing detailed guidance and support to country teams; Jointly with PMU monitor data collection and report writing progress in countries; Review draft country report; Oversee integration (by National Consultant) of review comments and comments from national validation workshops into final country reports; Develop Regional Synthesis Reports summarising key findings from the six country reports and add regional analysis; and Develop draft Final TDA with cross-cutting analysis and final recommendations.
- 31. The team leader also shared with the participants the planned communication channels for the team and the guidelines for national consultants, and concluded with the presentation of the proposed work plan (see Annex 3) for the development of the TDA and the draft outlines for the studies/report.
- 32. During discussions that followed, participants expressed satisfaction with the proposed procedure presented by the TDA Lead Consultant but raised concerns about the composition of the proposed supporting team, the need to validate the national reports at the national levels, the separation of the team responsible for TDA and the SAP, the validation of the TDA.
- 33. Mr. Compaoré and Mr. Thiombianoof Burkina Faso requested that the project properly define the role of the supporting teams required for the TDA development further in order to give more clarification and assurance that the team can deliver the expected task.
- 34. Mr. Sidi Toure from Mali reemphasized the importance of national validation of anticipated national reports. In addition he drew attention to the need not to overlook the fact that small area of the basin could cause bigger problems for the whole basin.
- 35. In his response to the issues raised by the participants, Hubert Onibon said that the support team composition will be based on the areas of need per country and that the national support teams will work directly with the national consultants. He confirmed that validation of national reports would be done at the national level while noting that the team compositions for SAP would be determined as the process for TDA advanced. He also noted that regional validation is needed to ensure quality of work. In support of the response by the regional coordinator, Mr Diallo added that detailled work plan at national levels would be developed.



## 2.9 Presentation of TDA Reports Outline

- 36. Mr. Daniel Malzbender, the TDA Team Leader while presenting the outline (see Annex 4), stated that the TDA would have three important parts:
- State of the basin report; which would appear in all reports,
- Possible future trends and drivers of change
- Transboundary diagnosis and conclusions
- 37. Following his presentation, Dr. Garane of Burkina Faso expressed concern that the team may not have data to make the necessary projections as needed for future trend analysis. He also suggested that the outline should indicate concrete relation between TDA and SAP. Dr. Tumbulto of VBA was also of the opinion that it would be difficult to have the level of detail anticipated due to lack of data especially in Togo and Cote d'Ivoire and Mali. Mr. Compaoré also suggested that the issues about dams, protected areas and aquatic fisheries, including town planning are very important and should be included in the outline.
- 38. In his intervention, the Chair suggested that the National Coordinators should look at the proposed outlines and make necessary suggestions for adjustment to the Team Leader. He also suggested that national report should lay less emphasis on trend than regional report in view of the credibility and perception of such reports when sent out to donors among others.
- 39. In his response to the comments, Mr. Daniel Malzbender recommended that the format for the reporting be retained and that in case there is no data, then the report would not address trend. He said that climate change aspect will cover green-house issues while water quantity would be addressed by the changing water use. He further noted that prioritization would be addressed at national level and in addition Dr. Hubert Onibon agreed that participants' comments will be addressed.

#### 2.10 Synopsis of the Workshop

40. During the final overview of the workshop presented by the Chair, he noted that the participants had a good deliberation during the 3 day meeting. He recalled that the highlight of the workshop was the identification of transboundary problems and the identification of information to fill gaps in the initial TDA. He submitted that the most thought provoking aspect of the process is the methodology for TDA development and after listening to the proposal for developing the TDA he concluded that the participants are on the right track to achieve the collective objective of developing the TDA as planned.



## 3. Closing remarks and closure of the meeting

- 41. Mr. Sidi Toure of Mali gave closing remarks on behalf of participants. He thanked the people of Togo for all the facilities made available to participants for the success of the workshop.
- 42. Dr. Hubert Onibon thereafter thanked the government and colleagues from Togo for supporting the workshop. He noted that the presence of high level officials from Togo is an indication of support from the government of Togo.
- 43. In summary, he reminded participants that the TDA is a regional initiative and encourage them to review the situation and the initial GEF document for the basin along with the review conducted by the consultant. He also highlighted the fact that during the workshop, participants looked at the governance and institutional issues in the basin and discussed how the institutions can help with the development of the TDA. Furthermore, he emphasised on the need for data gaps that exist at the country level to be filled as discussed by participants. Dr. Hubert Onibon also mentioned one of the key achievements of the workshop which is the presentation and discussion of the proposed methodology and draft content for the finalisation of the TDA.
- 44. He finally thanked all the participants, experts and institutions including the interpreters.
- 45. Dr. Charles Biney informed the meeting that VBA Experts and Council of Ministers meetings would come up in Accra shortly after this workshop. He thanked the workshop secretariat, the consultants and the able chairman for steering the meeting to a successful end. He also thanked the government of Togo for hosting the meeting.
- 46. In his closing remarks, the representative of the minister of environment noted that the meeting provided the opportunity to identify the initial TDA weakness and improve on the implementation of the TDA whose implementation would be for a period of 20 years. He concluded by expressing the people of Togo admiration of the successful organisation of the workshop and on behalf of the minister declared the workshop closed.



# 4. Annexes



# 4.1 List of participants

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# 4.2 Annex 2: Workshop agenda

Day 1: Monday 7<sup>m</sup> December 2009

Time	Activity	Responsible
08:00 - 09:00	Arrival and registration	PMU and National partners
09:00 - 09:45	Opening remarks	Regional Project Coordinator Executive Director of VBA Minister in charge of Environment Minister in charge of Water
09:45 - 10:15	Tea/Coffee Break	
10:15 - 10:30	Appointment of the Bureau of the meeting Review and Agreement of meeting Agenda	Hubert Onibon
10:30 - 10:45	Introduction of Participants	All participants
10:45 - 11:00	Workshop objective and expected outcomes	Olumide Akinsola
11:00 - 11:30	TDA / SAP methodology: Overview of the TDA Process and link to the SAP	Hubert Onibon
11:30 - 12:30	Review of the preliminary TDA	Daniel Malzbender
12:30 - 13:30	Discussions	All participants
13:30 - 14 :30	Lunch	
14:30 - 16:30	Brainstorming: Identification of transboundary problems/ common (environmental, social, economic) problems in the Volta River Basin	Opoku Ankomah Yaw Durphey Moses
16:30 - 16 :45	Tea/Coffee Break	
16:45 - 18:00	Preliminary identification of impacts (of transboundary problems) and stakeholders (causing and/or affected)	Opoku Ankomah Yaw Durphey Moses
18:00 - 18:20	Summary remarks and brief instructions for the following day	Chair and main facilitators
18:20	End of day 1	
18:20		



## Day 2: Tuesday 8th December 2009

Time	Activity	Responsible
08:30 - 10:00	Presentation on governance and socio- economic values	Ousmane Diallo Daniel Malzbender Fall Oumar
10:30 - 11:00	Tea/Coffee Break	
11:00 - 13:00	Group work on governance and socio- economic values	Ousmane Diallo Daniel Malzbender Fall Oumar
13:00 - 14 :00	Lunch	
14:0- 16:00 16:00 - 16:30	Identifying data gaps, sources of information and potential partners (Presentation and group work)	Hubert Onibon Olumide Akinshola
	Tea/Coffee Break	
16:30 - 18:00	Preliminary identification of key stakeholders and actors to address trans-boundary issues	Ousmane Diallo Hamidou Garane Durphey Moses
18:00 - 18:20	Summary remarks and brief instructions for the following day	Chair and main facilitators
18:20	End of day 2	

# Day 3: Wednesday 9<sup>th</sup> December 2009

Time	Activity	Responsible
08:30 - 9:30	Presentation of methodology for TDA finalisation and related work plan	Daniel Malzbender
9:30 - 10:00	Clarifications and discussion	Hubert Onibon Ousmane Diallo
10:00 - 10:30	Tea/Coffee Break	
10:30 - 12:30	Presentation of draft outlines for country studies and regional synthesis reports	Daniel Malzbender
12:45 - 13:00	Synthesis presentation on the results of the workshop	Chair and main facilitators
13:00 - 13:30	Closing Remarks	Regional Project Coordinator Executive Director of VBA Minister in charge of Environment Minister in charge of Water
13:30 - 14:30	Lunch	

# 4.3 Proposed work plan for the finalisation of the TDA

			20	09							20	10					
Step	Step Activities C		Q2	Q3	Q4	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Contracting of TDA regional team																
	Contracting of TDA country teams																
2	Regional inception workshop/ Lome																
	finalise process & expected outputs for country workshops																
3	Organise 6 country TDA starting workshops																
4	National level information and data collection and progressive development of country reports																
5	Monitoring of country progress by PMU																
6	Evaluation of draft country reports by TDA regional team																
7	Consolidation of review comments (reg. team & nat. cons. mtg.)																
8	Addressing review comments of TDA regional team and fill remaining information gaps by national consultants																
9	Validation of national TDA reports at country level																
10	Development of regional synthesis reports on each thematic area by regional team																
11	Development of draft TDA by TDA regional team																
12	Review of draft TDA by external technical experts																
13	Development of draft final TDA by TDA regional team																
14	Regional TDA validation workshop																
15	Finalisation of TDA and submission of final TDA																
16	Country endorsement																



### 4.4 Outlines of national reports

#### **Table of Contents**

List of Acronyms

Preface – Structure of the document

**Executive Summary** 

- 1. Background and context of the study
- 2 Methodology for the development of the country report

#### PART I: The state of the Volta River Basin in [country name]

- 3.1 Geographic scope and ecosystem boundaries
- 3.2 Physical Characteristics
- 3.2.1 Basin geology, relief (land forms), drainage patterns and soils
- 3.2.2 Climatic Regime
- 3.2.3 Climatic Variability and Climate Change
- 3.2.4 Hydrology and river morphology
- 3.2.5 Hydrogeology
- 3.2.6 Sediment transport
- 3.2.7 Water quality
- 3.2.8 Coastal features (Ghana/ Togo)
- 3.3 The ecosystem and its components
- 3.3.1 Land cover
- 3.3.1.1 The Short Grass (Steppe) Vegetation
- 3.3.1.2 Woody and Shrub Savannah
- 3.3.1.3 Woody and Shrub Savannah, Open Forest of Humid Type
- 3.3.1.4 Dense Forest
- 3.3.2 Basin ecosystems (incl. detailed info on wetlands)
- 3.3.3 Biodiversity and biological production
- 3.3.4 Ecosystem functions
- 3.3.5 Coastal ecosystems (Ghana/ Togo)
- 3.4 Social, cultural and health setting
- 3.4.1 Demographic characteristics and trends
- 3.4.2 Migration patterns
- 3.4.3 Social and cultural setting (incl. access to land, shelter and habitat)
- 3.4.4 Education
- 3.4.5 Food security
- 3.4.6 Health, water borne diseases, and access to potable water
- 3.5 Socio-economic setting
- 3.5.1 Macro-economic figures and economic characteristics and values
- 3.5.2 National development policies and key sector policies
- 3.5.3 Agriculture
- 3.5.4 Livestock
- 3.5.5 Fisheries
- 3.5.6 Forestry
- 3.5.7 Biodiversity, harvesting of natural resources and ecosystem services
- 3.5.8 Industry and Commerce
- **3.5.9 Mining**
- 3.5.10 Energy
- 3.5.11 Tourism
- 3.5.12 Transport and Communication
- 3.5.13 Water infrastructure
- 3.5.14 Current water use patterns
- 3.6 Macro-economic status and trends
- 3.6.1 Sectoral baseline data [country name]
- 3.7 Governance



- 3.7.1 Organisation of state
- 3.7.2 Natural resource management and environment protection laws, policies and institutions (water, land, biodiversity, climate change)
- 3.7.3Stakeholder involvement in natural resources management
- 3.7.4 Legal, institutional and policy constraints
- 3.8 Summary of the key environmental and social problems in the [country name] part of the basin

## PART II: Drivers of change and possible future trends

- 4.1 Drivers of change
- 4.1.1 Population growth, migration and urbanisation
- 4.1.2 Poverty
- 4.1.3 Regional and international market forces
- 4.1.4 National and regional development policies
- 4.1.5 Climate change
- 4.2 Projecting water use trends
- 4.2.1 Overall demand for water
- 4.2.2 Water supply for domestic consumption
- 4.2.3 Livestock
- 4.2.4 Irrigated agriculture
- 4.2.5 Industry, commerce and mining
- 4.2.5 Hydropower generation
- 4.2.6 Maintaining ecosystem integrity and services (environmental water requirements, Flows).
- 4.3 The impact of water resources development
- 4.3.1 Changes in flow characteristics
- 4.3.2 The impact on the river ecosystem
- 4.3.3 Overall ecosystem integrity
- 4.3.4 Socio-economic implications
- 4.4 Changing land use and vegetation cover
- 4.5 Changing sediment and erosion patterns
- 4.6 Changing Water Quality
- 4.7 Changing pressures on natural resources
- 4.8 Governance
- 4.8.1 Drivers of change in national and regional development laws, policies and institutions
- 4.8.2 Possible future development trends of national development policies and key sector policies
- 4.8.3 Enhancement of stakeholder involvement in natural resources management
- 4.9 Summary of pressures and possible changes in the [country name] part of the basin

#### Part III: Transboundary diagnosis and conclusions

- 5 Diagnostic analysis
- 5.1 Future pressures and probable consequences
- 5.1.1 The River
- 5.1.2 The Basin
- 5.1.3 The People
- 5.2 Hotspots and areas of particular importance in [country name]
- 5.3 Social consequences
- 5.4 Socio-economic consequences and livelihood implications
- 5.5 Macro-economic consequences
- 5.6 Governance Implications
- 5.7 Summary
- 6. Conclusions and recommendations
- 6.1 Key findings and priority transboundary issues for [country name]
- 6.2 Systemic recommendations
- 6.3 Basin planning recommendations
- 6.4 Sectoral recommendations
- 6.5 Socio-economic issues and opportunities



6.6 Macro-economic issues and opportunities6.7 Governance recommendations and opportunitiesReferencesList of team members