Volta Flood and Drought Management

ADAPTATION FUND

Project: "Integrating flood and drought management and early warning for climate change adaptation in the Volta Basin"

(VFDM Project)

NATIONAL WORKSHOP ON THE INTEGRATION OF DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION POLICIES AT LOCAL, NATIONAL AND TRANSBOUNDARY LEVELS IN THE VOLTA BASIN''

29 & 30 April 2024
at Coconut Grove Regency, Accra, Ghana.

Deliverable 5: 1st National Workshop Report

Ghana

Implementing Partners

WORLD METEOROLOGICAL ORGANIZATION

AUTORITE DU BASSIN DE LA VOLTA — VBA — VOLTA BASIN AUTHORITY

Global Water Partnership West Africa

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Volta Flood and Drought Management

Contents

List of Figures

List of Tables

Acronyms and Abbreviations

AF	Adaptation Fund
AU	African Union
AAP	Annual Action Plan
CCA	Climate Change Adaptation
CONIWAS	Coalition of Non-Governmental Organizations In Water and Sanitation
CSIR	Council For Scientific and Industrial Research
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DA	District Assembly
DCE	District Chief Executive
DDMC	District Disaster Management Committee
DMTDP	District Medium Term Development Plan
DVG	District Volunteer Groups
EWS	Early Warning System
EPP	Emergency Preparedness Plan
EPA	Environmental Protection Agency
FS	Fire Service
GES	Ghana Education Service
GHS	Ghana Health Service
GIDA	Ghana Irrigation Development Authority
GMet	Ghana Meteorological Agency
GWP-WA	Global Water Partnership in West Africa
HYDRO	Ghana Hydrological Authority
IMFDR	Integrated Management of Flood and Drought Risks
LUSPA	Land Use and Spatial Planning Authority
MMDAs	Metropolitan Municipal and District Assemblies
MOFA	Ministry of Food and Agriculture
MOSWR	Ministry of Sanitation and Water Resources
NADMO	National Disaster Management Organization
NCCE	National Commission on Civic Education
NGO	Non-Governmental Organization

ProNet	Professional Network Association (NGO)
VBA	Volta Basin Authority
VFDM	Volta Flood and Drought Management
VRA	Volta River Authority
WRC	Water Resources Commission
WRI	Water Research Institute
WMO	World Meteorological Organization

1. Introduction

In response to the problem of floods and droughts in the Volta Basin (VB), the World Meteorological Organization (WMO), the Volta Basin Authority (VBA), the Global Water Partnership - West Africa (GWP-WA) and relevant national institutions of VBA Members States are implementing the project titled "Integrating flood and drought management and early warning for adaptation to climate change in the Volta Basin" from June 2019 to the end of June 2024. The VFDM project, funded by the Adaptation Fund (AF), focuses on (i) capacity building for the hydrometeorological service providers, disaster management, and other relevant stakeholders in the six riparian countries of the Volta Basin; and (ii) the development of flood and drought early warning system (EWS) for the Volta Bain (VB).

As part of the activities of the VFDM project, a VoltAlarm flood and drought forecasting and warning platform has been developed and information bulletins are being produced. The VBA and the national institutions in charge of hydrology, meteorology, disaster management and agriculture disseminate the bulletins. A regional strategy for the reduction and integrated management of floods and drought risks (IMFDR) was also developed together with the Volta Basin stakeholders. The regional strategy highlights the vision, objectives, priority areas for attention and operational arrangements to contribute to building community resilience.

From November 2023 to May 2024, a series of planned activities are being implemented to contribute to: (i) improving policies, strategies, plans and tools as well as decision support for long-term integrated management of floods and drought risks to strengthen resilience to climate change (CC) at the local, national and transboundary levels in the basin; (ii) developing capacity of stakeholders and decision-makers on policies, strategies, plans and tools for long-term integrated management of floods and drought risks at local, national, and transboundary levels; and (iii) developing a collaborative process to ensure that policies, strategies, plans and tools for long-term integrated floods and droughts risks management are adopted by local organizations and communities, and tailored to the local context.

It is against this background that a National Consultant was recruited to conduct the "*Mission to strengthen the political, institutional and organizational capacities for integrated management of floods and drought risks in the Volta basin in Ghana*". To this end, the National consulting team carried out a literature review, field visits and interviews with stakeholders, and local workshops in selected districts of the Upper East Region and downstream of the Akosombo dam. These were followed by holding this first national workshop towards integrating disaster risk reduction and climate change adaptation across scales.

2. Social Management of the Workshop

The workshop was marked by the opening ceremony that included welcome statements by the Water Resources Commission (WRC) and the GWP-WA. These were followed by the opening address, a presentation of the workshop objectives, and the adoption of the agenda.

2.1 Opening Ceremony

Dr. Bernadette Araba ADJEI, the representative of the Ag. Executive Secretary of WRC chaired the opening ceremony of the workshop. She expressed her pleasure and honour to welcome participants to the workshop on "Integration of Disaster Risk Reduction and Climate Change Adaptation Policies at Local, National and Transboundary Levels in the Volta Basin." Dr ADJEI observed that it was the first of two national workshops following the three local workshops on "Tools, Strategies and Other Arrangements for the Integrated Management of Flood and Drought Risk to Strengthen Resilience In the Volta Basin", which targeted the Lower Volta Basin downstream of the Akosombo Dam and sections of the White Volta in the Upper East region. She noted the gains made in the VFDM project towards minimizing the extreme hydro-climatic disaster risks in the Volta Basin adding that systems for generating information to complement the options available for rational decision-making were vital for our populations. On behalf of the National Focal Structure of the VBA and the WRC, she once again welcomed participants to the workshop on the integration of Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) policies at local, national, and transboundary levels in the Volta Basin.

In a statement by Mr. Sidi COULIBALY, the Communications Officer at GWP-WA appreciated the Ghanaian authorities for the warm reception and support for the VFDM Project since its inception in 2019. He observed that GWP-WA and its partners were committed to working with the national stakeholders to the end of the project and to providing technical and financial support for mitigating and adapting to floods and drought. He wished participants fruitful deliberations.

In her opening address, Dr Bernadette A. ADJEI acknowledged that the Volta Basin in Ghana was well endowed with considerable freshwater and other natural resources. However, like the parts of the basin in the other five riparian countries, these resources have been adversely affected by extreme climatic phenomena, such as floods and drought, with the attending impacts on the livelihoods of populations.

She noted that since 2007, floods have virtually become an annual event in Ghana, especially along the White Volta River and lately the Black Volta and Oti Rivers. Recently, the section downstream of the Akosombo dam also had its fair share of devastating floods. The inundation of flood-prone lands in these areas caused tremendous damage to life, farmlands, and property as well as human health through the pollution of potable water sources. She added that the solidarity principle in the National Water Policy expresses profound human companionship for common problems related to water and has guided and informed the government to come up with technical solutions to manage and minimize the floods and drought impacts in the Ghana part of the Volta Basin. However, in 2019 and 2022 the government took pragmatic steps to implement the structural measure of dredging sections of the White Volta Basin. The investments to increase the water holding capacity in the river channels have made quite a big difference in saving lives and underscored the value of planning and disaster risk management. She added that there was a need to do more by replicating and strengthening practical solutions from the experiences in policies, plans, and programs at the local, national and transboundary levels, especially in DRR and CAA. Dr. ADJEI expressed her gratitude to the WMO, VBA and the GWP-WA for their support; and to all the national partners for their contributions to the workshop. She then declared the 2-day National Stakeholders Workshop on Integration of Disaster Risk Reduction and Climate Change Adaptation Policies Strategies and Plans at Local, National and Transboundary Levels in the Volta Basin duly opened and wished participants fruitful deliberations.

Figure 1 Opening Ceremony at the First National Workshop at Accra

2.2 Presidium of the Workshop

The workshop was chaired by Dr. Bernadette Araba ADJEI and the rapporteurs were Messrs. Maxwell BOATENG-GYIMAH and James AGGREY. Participants took turns to introduce themselves.

2.3 Workshop Participants

There were twenty-eight (28) participants at the workshop. They were drawn from the ministries, departments, agencies, and civil society organizations including the following:

- Ghana Meteorological Agency;
- Water Resources Commission
- Environmental Protection Agency;
- CSIR-Water Research Institute/
- CSIR-Science Technology and Policy Research Institute (STEPRI)
- Ministry of Sanitation and Water Resources
- Ghana Hydrological Authority (HYDRO)
- National Disaster Management Organization (NADMO)
- Coalition of Non-Governmental Organizations in Water and Sanitation (CONIWAS)
- Land Use and Spatial Planning Authority (LUSPA)
- Professional Network Association (ProNET)
- Ghana National Fire Service; and
- Ghana Irrigation Development Authority.

The organizers include the WRC, Country Water Partnership (CWP) - Ghana, and the National Consulting Team who facilitated the workshop. See the attendance list in Appendix 1.

Figure 2 Group photo of the 1st National Workshop Participants at Coconut Groove Hotel, Accra

2.4 Adoption of the Workshop Agenda

The chairman took participants through the proposed agenda, which was accepted by all present. The agenda was structured into sessions as presented below (See the detailed Agenda in Appendix 2):

- Session 0: Welcome and introductory remarks including keynote address;
- Session 1: DRR and CCA policies, plans, and guidance at national and transboundary levels in the Volta Basin;
- Session 2: Integration of DRR and CCA policies, plans and guidelines at national and transboundary levels in the Volta Basin
- Session 3: Institutional coordination and collaboration mechanism on the implementation of DRR and CCA policies, plans and guidelines at local, national and transboundary levels in the Volta Basin

Mr. Maxwell BOATENG-GYIMAH spoke on the logistical arrangements for the workshop.

2.5 Communication

Communication at the workshop was in English.

3. Progress of Work and Summary of Discussions

The progress of activities for the successful conduct of the workshop is presented in this section.

3.1 Reminder of Objectives and Results

Participants were reminded of the workshop objectives through a presentation by the lead of the national consulting team, Dr. Emmanuel Obeng BEKOE. They include (i) documenting the experience of local communities with key long-term flood and drought management strategies; (ii) developing a summary of the main documented strategies; (iii) collecting feedback and improvement; (iv) providing technical recommendations; (v) developing linkage or alignment between policies and finally (vi) providing technical input to finalize the coordination and collaboration mechanisms of DRR and CCA in the Volta Basin in Ghana. He stated that there were three project sites in Ghana with two located in the Upper East Region of the White Volta Basin and the other, in the downstream area of Akosombo and Kpong dams in the Lower Volta Basin.

The expectation from the meeting was that participants' knowledge of drought and flood is built, comments and suggestions for improvement are received based on community experience and the process of disseminating flood and drought information to all stakeholders is identified and improved.

3.2 Methodological Approach

The methodological approach involved preparation, implementation, and reporting.

The preparation stage concerned the mobilization of participants and logistical arrangements for the workshop. The implementation stage included the development of materials for sessional presentation, discussion, and group works (see Appendix 3) for plenary feedback. The facilitation techniques used at the workshop included experience sharing, brainstorming, presentations of group work, and discussion at plenary sessions.

3.3 Implementation of Workshop Sessions

The facilitators took turns to make presentations and lead the sessions of the workshop agenda, as presented below:

Session 1: DRR and CCA policies, plans, and guidance at national and transboundary levels in the Volta Basin

Dr. Portia Adade WILLIAMS made a presentation on DRR and CCA-related policies, strategies, and plans that were reviewed under the Mission. She noted the existing global frameworks that capture DRR and CCA issues in which Ghana, like the other riparian states of the Volta Basin, is a party including

the Sustainable Development Goals (SDGs), Paris Agreement, the Sendai Framework, and the AU Agenda 2063. She observed that Ghana's Nationally Determined Contributions (NDCs) to the Paris Agreement, for instance, outline 47 programmes of action including 13 adaptation and 34 mitigation measures. Those referred to as NDC priority actions of the CCA component include early warning and disaster risk management (DRM), timely weather information, and city resilient infrastructure planning that target the promotion of a resilient economy, taking advantage of the global protocols to engage with the international community on the related thematic areas for technical and financial support for implementation. Further, Dr. WILLIAMS looked at the relevance of the reviewed regional and national policies, strategies, and plans to DRR and CCA, and cited the objectives/vision for which they were prepared/developed. Other areas touched on include:

- Key focus strategies for DRR and CCA.
- Institutional and management frameworks involving direct actors and funding sources.
- Strengths of the policies, strategies and plans:
    - Availability of structured policies/strategies and plans
    - Existence of support projects
    - Inclusion-oriented planning process
    - Existence of institutional support to coordinate activities for policy planning and implementation.
- Weaknesses of the policies, strategies and plans:
    - Inadequate financial resources to enhance uptake and adoption
    - Ineffective institutional coordination and collaboration
    - Outdated policy frameworks; and
    - Inadequate climate information and capacity for sustainability
- Opportunities for effective implementation of DRR and CCA:
    - Incentives and Subsidies - Access to climate finance
    - Building partnerships and collaboration to enhance the implementation of DRR and CCA
    - Research and Development Support for adaptation strategies: *Funding and support for technological innovation*
    - Support for smooth adoption and integration into development processes

Some comments/questions that were responded to include:

1. What is the scope of the project?

   Answer: The Volta basin as a whole and Ghana in particular

2. Were farmers part of the people surveyed?

   Answer: Yes. The farmers were well represented even at the local workshops.

3. Why is the Ministry of Local Government and Rural Development (MLGRD) missing in the collaboration among ministries for policy formulation, implementation and monitoring?

   Answer: It is the reason for this workshop so that stakeholders identify the gaps for redress.

4. Why are some community members pessimistic about early warnings and alerts?

   Answer: From local workshops, some members of the communities do not trust the warnings of EWS due to past experiences of their unreliability. There are, however, late notifications as well.

Session 2: Integration of DRR and CCA policies, plans and guidelines at national and transboundary levels in the Volta Basin

Dr. Portia Adade WILLIAMS gave a brief presentation on the pathways for integrating DRR and CCA policies, strategies and guidelines at national and transboundary levels. She provided some entry points for DRR and CCA integration including:

- Strengthening inclusive and participatory decision-making processes.
- Building partnerships and collaboration between international organizations, government, civil society, NGOs and the private sector can leverage resources and expertise for DRR and CCA
- Capacity building of local institutions and governance structures to strengthen and effectively coordinate and implement DRR and CCA actions.
- Mainstreaming DRR and CCA focus areas into national development plans, policies and strategies to align local actions with national priorities and facilitate the allocation of resources.
- Promote access to climate finance and other funding sources.

The presentation was followed by the introduction to the group work that focused on three areas:

- update the list of policies, strategies, and plans that were reviewed in the context of DRR and CCA by making proposals for their inclusion at transboundary and national levels, citing the sector and the specific provisions of DRR and CCA in them;
- identify for each sectoral policy, strategy, or plan, the key players in implementation; the mechanism and what it does;

- functionality of the mechanism; what the difficulties and constraints in operating the mechanisms; vertical and horizontal collaboration between the various mechanisms and suggestions/actions to improve collaboration.

A harmonized update of policies, strategies, and plans is presented in **Erreur ! Source du renvoi introuvable.**. It has been complemented by content analysis concerning CCA and DRR by the consultants.

Table 1 Update the directory of policies, plans and directives, as well as DRR and CCA guidelines by geographical level in the Volta Basin

Updated list (or) directory of policy and strategic texts (laws, policies, plans, guidelines, etc.)		**What are the specific guidelines or provisions relating to DRR and CCA (content analysis)?**
Transboundary		
• Volta Basin Water Charter, 2018		• Chapter 7 (Article 53) of the VBA Water Charter encourages the state parties to promote climate change mitigation and adaptation measures. • Chapter 8 of the VBA Water Charter makes provision for disasters arising from climate hazards including floods and drought and calls on state parties to develop emergency preparedness and response plans to attenuate their impacts.
Sector	**National**	
Water including hydrology, hydrogeology and hygiene	Revised Ghana National Water Policy (2023)	Climate variability and change is assigned focus area 8 in the revised national water policy. The policy encourages water resource managers to incorporate climate variability and change projects in IWRM planning while building capacity to manage same.
	Ghana Wash Sector Development Programme (2021 – 2030)	• The programme is anchored on six thematic components of which the sixth, "cross-cutting component" includes climate change. The document acknowledges the direct link between the effects of climate change and the challenge posed to WASH services. • It advocates for the deployment of early warning systems to assure the safety of life and property and WASH facilities
Environment and Climate Change	Environmental Sanitation Policy (2010)	• Sub-section 3.6.3 • (330 – 333): the policy outlines the contribution to the causes of global warming in the Ghanaian context, particularly methane and CO_2 production from landfill sites. • 334: mention is made of the Clean Development Mechanism involving the sale of carbon credit
	Road Map for Resilient Infrastructure in a Changing Climate (2022)	The study provides for climate adaptation needs for the sectors of energy, water and transport. It prioritizes resilient development through infrastructure adaptation needs and also acknowledges the inadequate capacity for technical and financial perspectives on the future risks of the climate on the economic infrastructure.
Agriculture	National Irrigation Policy, Strategies and Regulatory Measures (2011)	The policy document did not make explicit provision for CCA nor DRR
	Food System Resilient Project (2022 – 2026)	While the national irrigation policy was silent on CCA, projects from the mother Ministry including the Food System Resilient Project take CCA into account.

Communications	Ghana National Framework for Climate Services (2019)	The framework prioritizes key sectors including water, energy, agriculture, transport, etc.
Works and Housing	Ghana Hydrological Authority ACT 1085 (2022)	Functions of the Authority: ((b) provide hydrological and drainage engineering services for the (i) prevention of floods; (ii) flood warning; and (iii) flood management, (g) provide hydrological info. And warning for the benefit of agriculture, water transport, and management of energy and water resources to mitigate the effects of natural disasters such as floods on socio-economic development and projects
Ministry of Local Government and Rural Development (Social Development)	National Building Regulations (2022, LI 2645)	Sections 4 (1), (2), and (3) and 5 of the Regulations provide for the insulation of mud walls against the effect of the weather; the mixing proportions of the mortar, and the minimum thickness of the mortar required to guarantee the safety of a house.
	Land Use and Spatial Planning Regulation (2019, LI 2384)	Under section 17(3 bb) of the LI 2384, provision is made for lands in disaster high-risk zones being declared as unsuitable for development.
Local (region, district, municipality)	District Medium-Term Plans (2022 – 2025)	Climate change and variability continue to be mainstreamed into national planning across scales. As part of the medium-term policy objectives and strategies (section 4.5.7), climate change is highlighted including weaknesses and strategies to enhance resilience by increasing access to finance. According to NDPC, about 54% of MMDAs successfully mainstreamed CC into their MTDPs (2022-2025).

The group work also touched on vertical and horizontal integration of DRR and CCA policies, strategies, and plans. This aspect was considered within the context of the national development planning spectrum while identifying the sectors of interest in the implementation of DRR and CCA interventions to combat the adverse effect of floods and drought, and the actions necessary to foster their integration at local, national and transboundary scales (**Table *2***).

Table 2 Integration of DRR and CCA policies, plans and guidelines at local, national, and transboundary levels in the Volta Basin – Questions and related responses

Question	Response
Analysis of vertical integration	
To what extent are DRR and CAA provisions at the higher level linked to those at the lower level and vice versa?	The National Development Planning Commission (NDPC) provides the plan preparation framework for mainstreaming CCA into the Medium-Term Development Plans of the Metropolitan Municipal and District Assemblies (MMDAs). The Ministries, Departments and Agencies (MDAs) and equally enjoined to take into account CCA and mitigation considerations in the planning
Analysis of horizontal integration	
How are DRR and CCA provisions integrated at each territorial level (local, national, cross-border and regional) and at sectorial level (water, environment, agriculture, transport, civil protection, etc.)?	Climate change adaptation is considered a cross-cutting theme in the national development planning framework. Therefore, all Ministries, Departments and Agencies are enjoined to make provisions for it in their Medium-Term Plans.

Identification of the sector(s) of interest for the integration and implementation of each DRR and CCA tool or provision in the directory drawn up as part of session 1.	• Water including hydrology and hydrogeology • Works and Housing • Environment (climate change) • Communications (Weather information) • Agriculture • Local government and rural development • Disaster Management
What action: (including capacity building) needs to be put in place for the effective integration and implementation of DRR and CCA policies, plans and guidelines at local, national and transboundary levels, with cross-sector synergy in Volta basin	1. Provision of funds and capacity 2. Budget allocation to support DRR and CCA 3. Strengthen institutional and legislative structures 4. Incorporate DRR into National planning and investments 5. Strengthen National coordination 6. Create awareness about disaster risks 7. Education and knowledge exchange 8. Develop a national framework for information sharing and exchange 9. Advocate for open access data with controls

Session 3: Institutional coordination and collaboration mechanism on the implementation of DRR and CCA policies, plans and guidelines at local, national and transboundary levels in the Volta Basin

Dr. Portia Adade WILLIAMS led participants to deliberate on the institutional coordination and collaboration mechanisms for implementing DRR and CCA policies, strategies, and plans that were discussed in group work. This involved the identification of the roles of the key actors and their power and influence on DRR and CCA implementation in Ghana (**Table *3***).

Table 3 Institutional coordination and collaboration mechanism on the implementation of DRR and CCA policies. (Power & influence: H = High; M = Medium; L = Low)

INSTITUTION	ROLES	POWER & INFLUENCE
National Disaster Management Organisation (NADMO)	Promote disaster risk reduction and climate change risk management through the establishment of national and regional platforms for all stakeholders	H-H
Environmental Protection Agency	Implementation of climate change mitigation and adaptation programs and simulation of flood disasters and disasters risk reduction simulation	H-H
Ghana Metrological Agency	Provide efficient and reliable metrological information	H-H
National Development Planning Commission	Develop national policy framework and indicators for all agencies and MMDAs	H-H
Land Use and Spatial Planning Authority	Ensure the sustainable development of land use and spatial planning in the country through the issuance of regulations, guidelines and standards	M-H

Volta River Authority	Control of water spillage and support affect communities for downstream of the White Volta	H-H
Water Resources Commission	Regulates and manages Ghana's water resources	H-M
Security Services	Involve in the rescue and evacuation of victims of disasters	H-H
Ghana Health Service	Prevent spread of infectious diseases	H-H
Information Service Department /Media/ NCCE	Information dissemination to affected communities	M-M
MMDAs	The planning authority responsible for the mobilization of resources, coordination and rehabilitation of the disaster management	H-H
Bui Power Authority	Control of water spillage and support affect communities for downstream of the Black Volta	H-H
CSOs	They advocate for government to provide support to communities on DRR	M-H
Traditional Authorities & Opinion Leaders	Mobilize and disseminate information	H-H

Further, the group work discussions enabled identification of the difficulties and constraints to effective coordination and collaboration of DRR and CCA implementation, and pathways for their improvement (**Table *4***).

Table 4 Constraints for CCA and DRR coordination and collaboration in Ghana

Issue	**Response**
What are the difficulties and constraints for effective coordination and collaboration on implementation of DRR and CCA policies	• Agencies responsible for DRR and CCA work independently leading to lack of coordination and duplication of activities among stakeholders • Lack of well-structured funding mechanisms to carryout DRR and CCA interventions • Inadequate sharing of information, knowledge and data among stakeholders • Limited expertise and capacity to effectively implement activities on DRR including Lack of capacity for location specific forecasting and Early warning • Power struggle and competing interests among stakeholders • Seemly mandate overlap among institutions • Implementation outside the laydown structures • Duplication of efforts by NGOs – same projects by different people • Indigenous knowledge not properly included in planning process • Non-aligned institutional policies • Communal resource mobilization has been relegated • Limited participation of the communities in local planning

What are the pathways/opportunities for effective coordination, collaboration and partnership for planning and implementation activities relate to CCA and DRR at the local, national and transboundary levels?	• Carry out capacity needs assessment on DRR and CCA, • Train/recapitalize sector actors on DRR and CCA actions • Harmonize information by creating a platform to share information among actors • Strengthen coordination among relevant agencies • Strengthen the Inter-Ministerial Coordination committees to discuss issues on DRR • Identify appropriate desk with requisite capacity in all institutions and properly coordinate their efforts • Lessons learnt from implemented programs should be replicated across the country to prevent unnecessary duplication. • National level planning implementation and monitoring of institutions at all levels using the appropriate mechanisms of integrated DRR and CCA policies at local, national and transboundary levels in the Volta basin

4. Closing of the Workshop

The closing ceremony was observed by statements and remarks made by the representatives of the WRC, GWP-WA, and the National Consulting team.

Dr. Emmanuel BEKOE applauded participants for the frank discussion during the plenary and group work sessions. He was hopeful that the inputs made would be harnessed towards fulfilling the mandate of the Mission.

On his part, the GWP-WA Communications Officer, Mr. Sidi COULIBALY praised participants for the results churned out of the workshop. He, however, requested the organizers to follow up on the invitation to institutions to attend the 2nd national workshop. He pledged the continued support of GWP-WA to invest in water security across sectors towards strengthening the countries to DRR and CCA.

Dr. Bernadette Araba ADJEI expressed her profound gratitude to the participants for their sustained interest during the sessions of the 2-day workshop. Despite the challenges of other commitments on day 1 and the heavy rains in the morning of day 2, Dr ADJEI was happy that the expected results of the workshop were largely achieved. She called on the participants to foster collaboration in the delivery of interventions related to DRR and CCA, recognizing that no institution could do it alone. She was full of thanks to WMO, VBA, GWP-WA and partners for the technical and financial resources made available to organize the workshop. She also pleaded with the participants who may be part of the 2nd national workshop to endeavor to attend towards the successful completion of the Mission. She duly closed the workshop and wished participants well.

Appendices

Volta Flood and Drought Management

Appendix 1 List of workshop participants

No.	Surname & Name	Institution / Community	Designation	Contact
1	GYOGLUU Sarah	Land Use and Spatial Planning Authority	Research Officer	gyzineyele@gmail.com/0503548291
2	NIAMPA Bukari	Volta Basin Authority	Technical Coordinator - VFDM Project	+22605410508
3	COULIBALY Sidi	Global Water Partnership - West Africa	Communications Officer	sidicoulibaly@gwpao.oorg/+22670234104
4	ADOM Desmond	Ghana Meteorological Agency	Meteorologist	desmond.adom@meteo.gov.gh/0243451471
5	Dr. SOVOE Simon	Environmental Protection Agency	Deputy Director	simon.sovoe@epa.gov.gh
6	ACFO I KLUTSE Gilbert	Ghana National Fire Service	Commandant	gillklutse12@gmail.com/0208311694
7	TANDOH Nada	Land Use and Satial Planning Authority	Deputy Director	nada.tandoh@gmail.com
8	Dr. BEKOE O. Emmanuel	Consultant	Consultant	eobekoe@yahoo.com/0242729297
9	OKU Jane Amerley	Coalition of NGOs in Water and Sanitation	Member	0557226919/0277612448
10	MUALA Eric	Water Resources Commission	Principal Officer (Monitoring)	0234502258
11	AGGREY James	Water Resources Commission	Senior Enginer - Surface Water	jamgrey04@yahoo.com/0242272445
12	Dr. DARKO Sylvester	Ghana Hydrological Authority	Director	0244177110
13	DONKOR Samuel Oduro	PRONET - Ghana	Executive Director	0244782957
14	ADISENU Emmanuel	Coalition of NGOs in Water and Sanitation	Programme Officer	0244998832
15	ASANTE Kwaku	Ghana Hydrological Authority	Hydrologist	0209115036
16	Dr. DARKO Deborah	CSIR - Water Research Institute	Senior Research Scientist	deborah.ofori@gmail.com/0243177729
17	Dr. ADJEI Bernadette Araba	Water Resources Commission	Director, Legal & Monitoring	0266003370
18	KARIKARI Kwadwo Twum	Water Resources Commission	Accountant	ktkpojo@gmail.com/0240959955
19	MANU Josephine	Ministry of Sanitation and Water Resources	Deputy Director	0240687877
20	ASHALEY James Komla	Ghana Irrigation Development Authority	Deputy Director	0241451341

21	MAHAMA Abdalla	Science Technology and Policy Research Institute	Assistant Research Scientist	0209442011
22	ZIWU Lawrencia	Water Resources Commission	Public Relations Officer	0245627642
23	WILLIAMS Portia Adade	Consultant	Consultant	0244788631
24	NANSAM-AGGREY Frank	National Disaster Management Organization	Deputy Director	0555301833
25	SETSOAFIA Elikem	Ghana Meteorological Agency	Deputy Director	0549617048
26	NORMAN Charlotte Nana	National Disaster Management Organization	Director	0209875188
27	BOATENG-GYIMAH Maxwell	Ghana Country Water Partnership	Executive Secretary	boatgyimax2@gmail.com/0558584069
28	LAMPTEY Mary Odarley	Chana Country Water partnership	Admin. Assistant	odarley70@yahoo.com/0243135630

Volta Flood and Drought Management

Appendix 2: Workshop Agenda and Concept Note

A.2.1 Workshop Agenda

Time	Activities	Methodology	Speakers
Day 1			
08:30-09:00	**Registration of participants**	Secretariat	▪ CWP-Ghana
09:00-10:00	**Session 0: Opening ceremony and introductory activities**		
	Opening ceremony ▪ Remarks from partners ▪ Opening speech	Delivering remarks and speeches	▪ CWP-Ghana ▪ WRC, VBA NFS ▪ Hon. Minister, MSWR or Rep.
	▪ Introduction of participants	Participants to introduce themselves	▪ CWP-Ghana ▪ National Consultant ▪ Participants
	▪ The workshop objectives ▪ The workshop agenda and its validation	Communication and exchanges	
	▪ The logistical aspects of the workshop		
	▪ Setting up the workshop presidium		Participants
10:00-10:30	**COFFEE BREAK**		
Session 1: DRR and CCA policies, plans, and guidelines at national and transboundary levels in the Volta Basin			
10:30 – 11:15	▪ Overview of risk profile ▪ First findings from the study – Document review	Presentation & Discussion	▪ National consultant ▪ Participants
11:15 –12:15	▪ Instructions for the Working Groups 1 ▪ Group Work 1	Group work/discussion	▪ Participants
12:15 –13:00	▪ Reporting back of the Working Group 1 results to the plenary session	Presentation/discussion	▪ Participants ▪ National consultant
13:00 -14:00	**LUNCH BREAK**		
Session 2: Integration of DRR and CCA policies, plans and guidelines at national and transboundary levels in the Volta Basin			
14:00 –16:30	▪ Instructions for the Working groups 2 ▪ Working groups 2	Presentation/discussion/ Exercises	▪ National consultant ▪ Participants
16:30	**Coffee break and end of the 1st day**	Plenary	▪ National consultant ▪ Participants

Time	Activities	Methodology	Speakers
Day 2			
Session 2: Integration of DRR and CCA policies, plans and guidelines at national and transboundary levels in the Volta Basin (continued)			
08:30 – 10:30	▪ Working groups 2 (continuation and end) ▪ Reporting back of the Working groups 2 results to the plenary session	Debate/Exercises	▪ National consultant ▪ Participants
10:30-10:45.	**COFFEE BREAK**		
Session 3: Institutional coordination and collaboration mechanism on the implementation of DRR and CCA policies, plans and guidelines at local, national and transboundary levels in the VB			
10:45-13:30	▪ Instructions for the Working groups 3 ▪ Working groups 3 ▪ Reporting back of the Working groups 2 results to the plenary session	Presentation/debate/	▪ National consultant ▪ Participants
13:30- 14:00	▪ **Workshop wrap up and recommendations** ▪ **Closing ceremony**	Reporting Words from participants and partners Closing speech	▪ National consultant ▪ NFS, CWP, Ministry
14:00	**DEPARTURE FORMALITIES – LUNCH BREAK – DEPARTURE**		

Volta Flood and Drought Management

A.2.2 Concept Note

ADAPTATION FUND

Project: "Integrating flood and drought management and early warning for climate change adaptation in the Volta Basin"

(VFDM Project)

NATIONAL WORKSHOP ON THE INTEGRATION OF DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION POLICIES AT LOCAL, NATIONAL AND TRANSBOUNDARY LEVELS IN THE VOLTA BASIN

(29th and 30th April 2024, Coconut Grove Regency Hotel, Accra, Ghana)

Concept Note

Executing partners

WORLD METEOROLOGICAL ORGANIZATION

AUTORITE DU BASSIN DE LA VOLTA — VBA — VOLTA BASIN AUTHORITY

Global Water Partnership West Africa

April 2024

Background and rationale

In response to the problems of floods and drought in the Volta Basin (VB), the World Meteorological Organization (WMO), the Volta Basin Authority (VBA), the Global Water Partnership in West Africa (GWP-WA) and relevant national institutions of VBA Members States are implementing the project entitled "Volta Flood and Drought Management (VFDM) "Integrating flood and drought management and early warning for adaptation to climate change in the Volta Basin" from June 2019 to the end of June 2024. The VFDM project, funded by the Adaptation Fund (AF), focuses on (i) capacity building for hydrometeorological service providers, disaster management, and other relevant stakeholders in the six riparian countries of the Volta Basin; (ii) the development of flood and drought early warning system (EWS) for the Volta Basin (VB).
As part of the activities of the VFDM project, a VoltAlarm flood and drought forecasting and warning platform has been developed and information bulletins are produced. VBA and the national institutions in charge of hydrology, meteorology, disaster management, and agriculture disseminate the bulletins. A regional strategy for the reduction and integrated management of floods and drought risks (IMFDR) was also developed together with the Volta basin stakeholders. The strategy highlights the vision, objectives, priority areas for attention and operational planning arrangements to contribute to building resilience in communities.
From November 2023 to mid-May 2024, a series of planned activities are being implemented to contribute to:
Improving policies, strategies, plans and tools as well as decision support for long-term integrated management of floods and drought risks to strengthen resilience to climate change (CC) at the local, national and transboundary levels in the basin;
Capacity building of stakeholders and decision-makers on policies, strategies, plans and tools for long-term integrated management of floods and drought risks at local, national and transboundary levels;
Developing a collaborative process to ensure that policies, strategies, plans and tools for long-term integrated floods and drought risk management are adopted by local organizations and communities, and tailored to the local context.
It is against this background that a National Consultant and investigators were recruited to conduct the "***Mission to strengthen the political, institutional and organizational capacities for integrated management of floods and drought risks in the Volta basin in Ghana***".

To this end, the National Consultant carried out a literature review, field visits and interviews with stakeholders as well as local workshops in selected districts of the Upper East Region and downstream of the Akosombo dam.
These terms of reference provide some background of the project, objectives, expected results, the methodological approach, a list of selected stakeholders to participate in the workshop, and a tentative agenda.

Objectives and expected results of the national workshop

Workshop objectives

The main objective of the national workshop is to enhance the integration of DRR and CCA policies, plans, and guidelines at local, national, and transboundary levels to strengthen resilience to CC in the Volta Basin.
Specifically, the national workshop aims to:

- Assess the integration of DRR and CCA policies, plans, and guidelines and their implementation at local, national and transboundary levels in the VB;

- Suggest improvements for the effective integration and implementation of DRR and CCA policies, plans and guidelines at local, national and transboundary levels in the VB;
- Appreciate the existing institutional coordination and collaboration mechanism for the implementation of DRR and CCA policies, plans, and guidelines at the local, national, and transboundary levels in the VB;
- Suggest ways to improve the existing institutional coordination and collaboration mechanism for the implementation of DRR and CCA policies, plans, and guidelines at local, national, and transboundary levels in the VB, or propose a new one if relevant.

Expected results of the national workshop

At the end of the national workshop, participants reviewed DRR and CCA policies, plans, and guidelines, and proposed improvements to strengthen their integration and implementation based on an appropriate institutional coordination and collaboration mechanism at local, national, and transboundary levels in the VB.

Methodology for conducting the national workshop

The national workshop will be facilitated by the National Consultant in collaboration with the Ghana Country Water Partnership and the Water Resources Commission (VBA National Focal Structure, (NFS) Coordinator) in Ghana.

The national workshop's methodological approach is structured around the following: preparation, implementation, and reporting.

The preparation step mainly focuses on finalizing the terms of reference and the tentative agenda, preparation of communications materials, identification and mobilization of participants for the workshop, and other logistical arrangements.

The implementation step includes the development of materials for communication at the sessions, followed by discussions either in working groups or at plenary. Where working groups will apply, there will be a presentation at the plenary.

The reporting step will produce a report that emphasizes on the synthesis and the analysis of all products resulting from the workshop.

National workshop facilitation method

The national workshop will be facilitated by the National Consultant in collaboration with the Country Water Partnership-Ghana and the Water Resources Commission (Coordinator of the National Focal Structure (NFS) of VBA in Ghana).

The educational materials include communications on each session, videos, preparatory documents (concept note, workshop agenda, terms of reference for working groups, consultant's reports on the DRR and CCA policies, plans and guidelines and the coordination and institutional collaboration mechanism for their implementation at local, national, and regional levels in the VB.

Workshop animation techniques include brainstorming, sharing of participants' experiences, animation interludes to break the monotony and retain the participants' attention, presentations and discussions, working groups as well as feedback and discussion in plenary sessions.

Content of the National Workshop

The national workshop will take place over two (02) days. It is structured around the following sessions aligned with its specific objectives:

- Session 0: Opening ceremony and introductory activities;

- Session 1: DRR and CCA policies, plans and guidelines at local, national, and transboundary levels in the Volta Basin;
- Session 2: Integration of DRR and CCA policies, plans, and guidelines at local, national, and transboundary levels in the Volta Basin;
- Session 3: Institutional coordination and collaboration mechanism on the implementation of DRR and CCA policies, plans, and guidelines at local, national, and transboundary levels in the VB.
- National workshop participants

The table below provides details of the expected participants at the workshop.

No.	Categories of actors	Number
	Minister's Office	**2**
1	Hon. Minister	**1**
2	Ministry PRO	**1**
	MINISTRIES	**5**
3	Ministry of Sanitation And Water Resources	1
4	Ministry of Environment Science Technology And Innovation	1
5	Ministry of Communication	1
6	Ministry of Food And Agriculture (crops and livestock)	1
7	Ministry of Interior	1
	DEPARTMENTS AND AGENCIES	**18**
8	National Development Planning Commission	2
9	Ghana Meteorological Agency (including 1 EWS)	2
10	National Disaster Management Organization	2
11	Land Use and Spatial Planning Authority	2
12	Local government Service	1
13	Environmental Protection Agency	1
14	Ghana Irrigation Development Authority	1
15	Ghana Hydrological Authority (including 1 EWS)	2

16	Community Water and Sanitation Agency	1
17	Volta River Authority	1
18	Ghana Water Company Limited	1
19	Ghana National Fire Service	1
20	Information Services Department	1
	CIVIL SOCIETY ORGANIZATIONS	**4**
21	The Development Institute	1
22	CONIWAS	2
23	Pronet – Ghana	1
	ACADEMIA AND RESEARCH INSTITUTIONS	**5**
24	Water Research Institute	1
25	Institute of Environment and Sanitation Studies – University of Ghana	1
26	Institute of Climate Change and Sustainability Studies	1
27	WASCAL	1
28	CERGIS – University of Ghana	1
	WATER-RELATED PROJECTS/PROGRAMS	**2**
29	GAMA	1
30	GARID	1
	PRIVATE SECTOR	
31	Integrated Water and Agricultural Development (IWAD) Limited	1
	ORGANISERS	**9**
	Water Resources Commission	4
	Ghana Country Water Partnership	3
18	Consultants	2
	Total	**45**

About forty-five (45) participants are expected at the workshop. Particular attention will be dedicated to ensuring, as far as possible, a gender-balanced presence.

Dates and venue of the national workshop

This national workshop will be held at Coconut Grove Regency Hotel in Accra, Ghana, on April 29th and 30th, 2024.

Volta Flood and Drought Management

Appendix 3: Results of group work

A.3.1 Group Work: Updating the Directory of Policies, plans and directives, as well as DRR and CCA guidelines by geographical level in the volta basin

Level	Group 1		Group 2	
	Updated list (or) directory of policy and strategic texts (laws, policies, plans, guidelines, etc.)	**What are the specific guidelines or provisions relating to DRR and CCA (content analysis)?**	**Updated list (or) directory of policy and strategic texts (laws, policies, plans, guidelines, etc.)**	**What are the specific guidelines or provisions relating to DRR and CCA (content analysis)?**
Transboundary	• Water Charter for the Volta River Basin • The Volta Risk Profile	• Chapter 7 of the charter • Risk of the various countries	• Regional Flood Risk Management Strategy and Action Plan (2020 -2025) • Volta Basin Water Charter	• Chapter 7 of the charter on CCA • Chapter 8 of the charter on DRR
National	• Ghana Roadmap for Resilient Infrastructure in a Changing Climate • Ghana Hydrological Authority ACT 1085 (2022) • Food System Resilient Project • Ghana National Framework for Climate Services (2019)	•	• Revised Ghana National Water Policy (2023) • Environmental Sanitation Policy • Road Map to Climate Infrastructure in a Changing Climate • Ghana Wash Sector Development Programme • National Irrigation Policy, Strategies and Regulatory Measures • National Building Regulations 2022 (LI2645) • Land Use and Spatial Planning Regulation 2019 (LI 2384)	• Hand Hygiene Guideline
Sector of Updated List at the national and local levels				
Water including hydrology and hydrogeology	• Revised Ghana National Water Policy (2023) • Ghana Wash Sector Development Programme		No information	
Environment and Climate Change	• Environmental Sanitation Policy • Road Map to Climate Infrastructure in a Changing Climate		No information	
Agriculture	• National Irrigation Policy, Strategies and Regulatory Measures • Food System Resilient Project		No information	
Works and Housing	• Ghana Hydrological Authority ACT 1085 (2022)		No information	
Transport			No information	

Weather	• Ghana National Framework for Climate Services (2019)	No information
Health		No information
Disaster Management	•	No information
Social Development	• National Building Regulations 2022 (LI2645) • Land Use and Spatial Planning Regulation 2019 (LI 2384)	No information
Local (region, district, municipality)	• Disaster Management Plan for Districts • District Medium-Term Plans	No information

A.3.2a Group Work: Integration of DRR and CCA policies, plans and guidelines at local, national and transboundary levels in the Volta basin

Question	Response	
	Group 1	Group 2
Analysis of vertical integration		
To what extent are DRR and CAA provisions at the higher level linked to those at the lower level and vice versa?	NDPC provides the plan preparation framework for the linkage between National Development Planning Commission Plans and Medium-Term Development Plans of the Metropolitan Municipal and District Assemblies on basis of climate direction	Information not available
Analysis of horizontal integration		
How are DRR and CCA provisions integrated at each territorial level (local, national, cross-border and regional) and at sectorial level (water, environment, agriculture, transport, civil protection, etc.)?	Climate change adaptation is considered a cross-cutting theme in the national development planning framework. Therefore, all Ministries, Departments and Agencies are enjoined to make provisions for it in their Medium-Term Plans. For instance	Information not available
Identification of the sector(s) of interest for the integration and implementation of each DRR and CCA tool or provision in the directory drawn up as part of session 1.	• Water including hydrology and hydrogeology • Works and Housing • Communications (Weather information) • Agriculture • Local government and rural development	Information not available
What action: (including capacity building) need to be put in place for the effective integration and implementation of DRR and	1. Provision of funds and capacity 2. Budget allocation to support DRR and CCA	Information not available

CCA policies, plans and guidelines at local, national and cross border levels, with cross-sector synergy in Volta basin	3. Strengthen institutional and legislative structures 4. Incorporating DRR into National planning and investments 5. Strengthen National coordination 6. Inform people about the risk 7. Education and knowledge exchange 8. National framework for information sharing and exchange should be developed 9. Advocacy for open access data with controls 10. Good renumeration / conditions of service for staff to enhance staff retention	

A.3.3a. Group Work: Institutional Coordination And Collaboration Mechanism on the Implementation of DRR and CCA Policies

No.	**Institution**	**Roles**	**Power & Influence**	
			Group 1	**Group 2**
1.	National Disaster Management Organization	Promote disaster risk reduction and climate change risk management through the establishment of national and regional platforms for all stakeholders	H-H	H-H
2.	Ghana Hydrological Authority	Development of flooding early warning systems, responsible for channeling improvement	H-H	M-H
3.	EPA	Implementation of climate change mitigation and adaptation programs and simulation of flood disasters	H-H	H-H
4.	Ghana Metrological Services	Provide efficient and reliable metrological information	H-H	H-H
5.	National Development Planning Commission (Ndpc)	Develop national policy framework and indicators for all agencies and MMDAs	H-H	H-H
6.	Luspa	Ensure the sustainable development land use and spatial planning in the country through the issuance of regulations, guidelines and standards	M-H	M-H
7.	Volta River Authority	Control water spillage and support affect communities	H-H	H-H
8.	Bui Power Authority	Control of water spillage and support affect communities for downstream of the Black Volta	H-H	H-M
9.	Ghana Irrigation Development Authority	Provide infrastructure for water harvesting for irrigation	M-M	H-M
10.	Water Resource Commission	Regulates and manage Ghana's water resources	H-H	H-H
11.	Security Services (Fire Service, Police Service)	Involve in the rescue and evacuation of victims of disasters	H-H	M-M

12.	Ghana Water Company	Ensure the supply of safe water supply for urban communities	H-H	M-L
13.	Community Water And Sanitation Agency	Ensure the supply of safe water supply for rural communities	H-H	H-H
14.	Ghana Health Service	Prevent spread of infectious diseases	H-H	H-H
15.	Information Service Department /Media/ NCCE	Information dissemination to affected communities		M-M
16.	Affected Communities	Rapid response to early warnings	H-H	H-H
17.	Metropolitan Municipal District Assemblies (MMDAs)	The planning authority responsible for the mobilization of resources, coordination and rehabilitation of the disaster management	H-H	H-H
18.	Civil Society Organizations (CSOs)	They advocate for government to provide support to communities on DRR	H-H	H-H
19.	Traditional Authorities & Opinion Leaders	Mobilize and disseminate information	M-H	H-H
20.	Research Institutions/Universities	Research and Teaching	M-M	M-M

A.3.3b Group Work: Institutional Coordination and Collaboration Mechanism on the Implementation of DRR and CCA Policies

Issue	**Response**	
	Group 1	**Group 2**
What are the difficulties and constraints for effective coordination and collaboration on implementation of DRR and CCA policies	1. Seemly mandate overlap among institutions 2. Implementation outside the laydown structures 3. Lack of well-structured funding mechanisms 4. Duplication of efforts by NGOs – same projects by different people 5. Non-aligned institutional policies 6. Communal resource mobilization has been relegated 7. Indigenous knowledge not properly included in planning process 8. Lack of capacity for location specific forecasting and Early warning 9. Limited participation of the communities in local planning	1. Agencies responsible for DRR and CCA work independently leading to lack of coordination and duplication of activities among stakeholders 2. Limited resources including funding from the government to effective carryout DRR and CCA interventions 3. Inadequate sharing of information, knowledge and data among stakeholders 4. Limited expertise and capacity to effectively implement activities on DRR 5. Power struggle and competing interests among stakeholders
What are the pathways/opportunities for effective coordination, collaboration and partnership for planning and implementation	• National level planning implementation and monitoring of the institutions at all levels using the appropriate mechanisms of integrated disaster risk reduction and climate change adaptation policies at local,	• Carry out capacity needs assessment on DRR and CCA, • Train/recapitalize sector actors on DRR and CCA actions • create a platform to share information among actors

activities relate to CCA and DRR at the local, national and transboundary levels?	national and transboundary levels in the Volta basin • Identify appropriate desk with requisite capacity in all institutions and properly coordinated their efforts • Lessons learnt from implemented programs should be replicated across the country to prevent unnecessary duplication.	• Strengthen coordination among relevant agencies • Strengthen the Inter-Ministerial Coordination on discuss issues on DRR •

Volta Flood and Drought Management

A.3.3c Group Work: Session 3: Existing institutional coordination and collaboration mechanisms for the implementation of DRR and CCA policies, plans and guidelines at local, national and cross-border levels in the VB

GROUP 1							
Level	**Updated list (or) directory of DRR and CCA coordination and collaboration mechanisms**	**Key player in the implementation**	**What does the mechanism do?**	**Functionality of the mechanism**	**What are the difficulties and constraints involved in operating the mechanism?**	**Vertical and horizontal collaboration between the various mechanisms**	**Suggestions / actions to improve collaboration**
Transboundary	WRC	WRC	Serve as National focal point for VBA issues	Mediating on transboundary issues	Funding and capacity Collaboration and **coordination** with all national institutions	All National institutions present their issues to the WRC that intends shares with VBA for redress. Information to national institutions goes through the WRC	Provision of funds and capacity Budget allocation Strengthen National coordination National framework for information sharing and exchange
National	NADMO GMet HYDRO WRC LUSPA Ghana Health NDPC EPA National Ambulance Service MoFA, MESTI, MoT, MoI, MoE, MOF	NADMO – DRR EPA - CCA	They coordinate issues related to DRR and CCA.	Ministries handle all the policies GMet, HYDRO, GSS - collection of data, forecasting, EWS NDPC, MMDA, LUSPA – Spatial planning and other plan	Data sharing and exchange challenges Inadequate funds to support collaboration. Inadequate human resource capacity	Horizontal – planning, preparation, response and recovery are carried out in coordinated manner between all national institutions. Formation of the Disaster Risks Management Committee	Provision of funds and capacity Budget allocation Strengthen National coordination National framework for information sharing and exchange Advocacy for open access data with controls Good remuneration / conditions of service for

	Statistical Service Ministry of Lands and Natural Resources GIDA Forestry Commission Ministry of Gender National Communication Authority Ghana Water Company ECG VRA Fire Service			NCA, ECG, GWL, CWSA – Utility providers Fire service, Ambulance Service, Forestry Commission – provisions of relief and emergency response			staff to enhance staff retention
Regional	NADMO GMet HYDRO WRC (Basin structure) LUSPA Ghana Health Service EPA National Ambulance Service Ghana Water Company	NADMO	They coordinate issues related to DRR and CCA.	No information	No information	Horizontal – planning, preparation, response and recovery are carried out in coordinated manner between all national institutions. Formation of the Disaster Risks Management Committee	Provision of funds and capacity Budget allocation Strengthen National coordination National framework for information sharing and exchange Advocacy for open access data with controls Good renumeration / conditions of service for staff to enhance staff retention
Local/district	Ghana Health Service EPA MMDAs	NADMO	They coordinate issues related to DRR and CCA.	No information	No information	Horizontal – planning, preparation, response and	Provision of funds and capacity Budget allocation

	Forestry Commission National Ambulance Service Ghana Water Company Community Water and Sanitation ECG VRA Fire service					recovery are carried out in a coordinated manner between all national institutions. Formation of the Disaster Risks Management Committee	Strengthen National coordination National framework for information sharing and exchange Advocacy for open-access data with controls Good remuneration/conditions of service for staff to enhance staff retention

GROUP 2							
Level	**Updated list (or) directory of DRR and CCA coordination and collaboration mechanisms**	**Key player in the implementation**	**What does the mechanism do?**	**Functionality of the mechanism**	**What are the difficulties and constraints involved in operating the mechanism?**	**Vertical and horizontal collaboration between the various mechanisms**	**Suggestions/actions to improve collaboration**
Transboundary	1. Volta Basin Authority 2. Water Resource Commission 3. VRA 4. Bui Power Authority	Water Resource Commission VBA	Responsible for regulating basins that cuts across the 6 countries	Regulates and manages Ghana's water resources	Government obligations to VBA Language barrier	Vertical collaboration among member countries	Train/recapitalize sector actors on DRR and CCA actions Harmonize information by creating a platform to share information among actors Strengthen coordination among relevant agencies

National	Ghana Hydrological Authority Bui Power Authority LUSPA NDPC NADMO EPA GIDA GMet Security Services (Fire Service, Police Service, Military) Ghana Water Company Community Water And Sanitation Agency Ghana Health Service	NADMO EPA	NADMO: Coordinate all DRR and CCA actions	NADMO: Promote disaster risk reduction and climate change risk management through the establishment of national and regional platforms for all stakeholders EPA: Implementation of climate change mitigation and adaptation programs and simulation of flood disasters and disasters risk reduction simulation	Inadequate expertise to carryout DRR and CCA activities Inadequate logistics and funding to carryout DRR and CCA activities	Horizontal collaboration among agencies	Carry out capacity needs assessment on DRR and CCA, Train/recapitalize sector actors on DRR and CCA actions Harmonize information by creating a platform to share information among actors Strengthen coordination among relevant agencies
Regional	LUSPA EPA GIDA GMet WRC	RCC	RCC coordinate all DRR and CCA activities in the region	Coordinate public services in the region	Inadequate logistics and funding to carryout DRR and CCA activities	Both Vertical and Horizontal	Create platforms to share information among actors Strengthen coordination among relevant agencies

	NADMO Ghana Hydrological Authority Security Services (Fire Service, Police Service, Military) Ghana Water Company Community Water And Sanitation Agency Ghana Health Service Ghana Ambulance Service Regional Coordination Council				Inadequate expertise to carryout DRR and CCA activities		
Local/district	MMDAs EPA GMet NADMO Fire Service Police Service	MMDAs	Planning Authority responsible for the planning and implementation of all DRR and CCA activities	No information	Inadequate logistics and funding to carryout DRR and CCA activities	Horizontal coordination	Create a platform to share information among actors Strengthen coordination among relevant agencies Table -top exercises among relevant actors

	Ghana Ambulance Service CSOs Communities Farmer Based Organisations						

Volta Flood and Drought Management

Appendix 4 Photo Gallery of Presentation and Group Works sessions at the first National workshop in Accra