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 BEST PRACTICES AND OPPORTUNITIES FOR IMPROVING INTEGRATED MANAGEMENT OF FLOODS AND DROUGHT RISKS AND CLIMATE RESILIENCE IN THE VOLTA BASIN

(6th and 7th May 2024, Coconut Grove Regency Hotel, Accra, Ghana)

Deliverable 8: 2nd National Workshop Report

Implementing Partners

WORLD METEOROLOGICAL ORGANIZATION

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

Global Water Partnership West Africa

May 2024

Volta Flood and Drought Management

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Acronyms and abbreviations

AAP	Annual Action Plan
AF	Adaptation Fund
AU	African Union
BPA	Bui Power Authority
CCA	Climate Change Adaptation
CONIWAS	Coalition of Non-Governmental Organizations in Water and Sanitation
CSIR	Council For Scientific and Industrial Research
DA	District Assembly
DCE	District Chief Executive
DDMC	District Disaster Management Committee

DMTDP	District Medium Term Development Plan
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DVG	District Volunteer Groups
EPA	Environmental Protection Agency
EPP	Emergency Preparedness Plan
EWS	Early Warning System
GES	Ghana Education Service
GHS	Ghana Health Service
GIDA	Ghana Irrigation Development Authority
GMet	Ghana Meteorological Agency
GNFS	Ghana National Fire Service
GWP-WA	Global Water Partnership in West Africa
HYDRO	Ghana Hydrological Authority
IMFDR	Integrated Management of Flood and Drought Risks
ISD	Information Service Department
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
WMO	World Meteorological Organization
WRC	Water Resources Commission
WRI	Water Research Institute

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), Global Water Partnership in West Africa (GWP-WA) and relevant national institutions of VBA Members States are implementing the project *Integrating flood and drought management and early warning for adaptation to climate change in the Volta Basin* (VFDM) 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 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 strategy highlights the vision, objectives, priority areas, and operational 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: (i) improve 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) build the 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) develop a collaborative process to ensure that policies, strategies, plans and tools for long-term integrated floods and drought 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 Consultant 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 led to the first national workshop held in Accra from 29-30 April 2024 on the integration of disaster risk reduction (DRR) and climate change adaptation (CCA) across scales. This 2nd national workshop aims to strengthen CC resilience through enhancing best practices and opportunities of IMFDR and CCA in the VB.

2. Social Management of the Workshop

The workshop was marked by the opening ceremony that included welcome statements by the Ghana Country Water Partnership (CWP-Ghana) and Water Resources Commission (WRC). The opening address was delivered by the Chairman of CWP-Ghana, followed by the presentation of the workshop objectives and the adoption of the agenda.

2.1 Opening Ceremony

Mr. Ben Yaw AMPOMAH, Chairman of CWP-Ghana, chaired the opening ceremony of the workshop. He said, "Barely a week ago, we gathered in this same venue and went through a successful two-day national workshop on integrating policies concerning *disaster risk reduction and climate change adaptation at local, national and transboundary levels in the Volta Basi*n in Ghana". He noted that the second national workshop is focused on establishing *Best Practices and Opportunities for Improving the Integrated Management of Floods and Drought Risks and Climate Resilience in the Volta Basin* in Ghana. He called on participants to seize the opportunity to make inputs to the investigation of best practices for DRR and CCA while identifying opportunities to improve the integration management of floods and drought risks in the Volta Basin. This should be based on a well-framed and appropriate institutional coordination and collaboration mechanism at local, national, and transboundary levels in the Volta Basin. He observed the alignment between the objectives of the first and second workshops and emphasized their mutually reinforcing perspectives towards a holistic approach to addressing floods and drought risks in the Volta Basin in Ghana.

He acknowledged the support received from the AF that enabled WMO, VBA, and the GWP-WA to jointly implement the project to strengthen the capacities of hydro-meteorological and disaster management institutions in the Volta basin. In conclusion, he wished participants fruitful discussions and declared the workshop duly opened.

2.2 Presidium of the Workshop

The workshop was chaired by Mr. Ben Ampomah and the rapporteurs were Messrs. Maxwell BOATENG-GYIMAH and James AGGREY. Participants took turns to introduce themselves.

2.3 Workshop Participants

There were thirty (30) participants at the workshop. They were drawn from the ministries, departments, agencies, and civil society organizations including the following:

- Ghana Meteorological Agency (GMet)
- Water Resources Commission
- Environmental Protection Agency (EPA)
- CSIR-Water Research Institute (WRI)
- CSIR- Science Technology and Policy Research Institute (STEPRI)
- Ministry of Sanitation and Water Resources
- Ghana Hydrological Authority (HYDRO)
- National Disaster Management Organization (NADMO)
- Land Use and Spatial Planning Authority (LUSPA)
- Professional Network Association (ProNET)
- Ghana National Fire Service
- Ghana Irrigation Development Authority
- Volta River Authority

- Institute of Environment and Sanitation Studies

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

2.4 Adoption of the Workshop Agenda

The chairman of the workshop took participants through the proposed agenda, which was accepted by all. The agenda was structured into sessions as presented below:

- Session 0: Opening ceremony and introductory activities;
- Session 1: Best practices and opportunities for improving IMFDR and CCA measures in the Ghana part of the Volta Basin;
- Session 2: Ways of disseminating best practices identified and documented in Ghana, and the responsibilities of local and transboundary stakeholders;
- Session 3: Framework for involving local communities in the implementation of long-term IMFDR and CCA measures in Ghana.

Mr. Maxwell BOATENG-GYIMAH briefed participants on the workshop's logistical arrangements.

2.5 Communications

Communication at the workshop was in English.

3. Progress of Work and Summary of Discussions

The activities carried out for the successful conduct of the workshop are presented in this section.

3.1 Reminder of Objectives and Results

Dr. Emmanuel Obeng BEKOE, the national consultant, gave an overview of the VFDM project so far since it started and took participants through the Mission's scope of work and objectives. He cited the three project sites in Ghana with two (2) located in the Upper East Region of the White Volta Basin and the other, in the downstream area of the Akosombo and Kpong dams in the Lower Volta Basin. He further noted the expected results of the workshop including improved knowledge of participants on floods and drought, and the ways of disseminating flood and drought information to all stakeholders are 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 for plenary feedback. The facilitation techniques used at the workshop included experience sharing, brainstorming, presentations of group work, and discussion at plenary sessions. The group work sessions were managed by a chair and rapporteur appointed by the groups.

3.3 Implementation of Workshop Sessions

The facilitators made presentations and led the sessions of the workshop agenda, as presented below:

Session 1: Best practices and opportunities for improving IMFDR and CCA measures in the Ghana part of the Volta Basin

Dr. Portia Adade WILLIAMS presented the best practices and opportunities for IMFDR in Ghana based on the community visits and stakeholder engagements in the three areas of the Mission study. She underscored the importance of adaptation and mitigation efforts to combating climate change. She reiterated that climate change remained a topical issue on the global agenda and that its attention in the national development plans

and programs was key to unlocking funding for structural and non-structural measures to reduce or eliminate the devastating impacts on life and property. She noted the dimensions of best practices and opportunities for DRR and CCA including understanding the parameters of floods and drought risk (hazard, vulnerability, exposure, and adaptive capacity), investments, strengthening governance, and improved preparedness and reconstruction.

She noted that CCA required consideration of key stages including planning that is underpinned by impacts, vulnerability and risk assessments, implementation, monitoring, and evaluation. She also highlighted DRR, relating to the priority dimensions of the Sendai Framework such as prevention and mitigation of disaster, preparedness, response, and rehabilitation/recovery efforts.

Some comments/questions that were responded to include the following:

1. Which type of flood was considered?

   Answer: General floods were considered in the field assessment.
2. Were organizations in the communities also interviewed?

   Answer: No only individuals in the communities were interviewed.
3. What type of best practices do they expect from the yet-to-be-listed best practices as some of the best practices are beyond the communities?

   Answer: The communities were asked to put their best answers forward and not necessarily their ability to implement them including nature-based solutions, if any.
4. Why is the private sector not engaged in support of DRR?

   Answer: Perhaps there is not much support for DRR because most communities might have adapted to it.
5. How do we consider the people with disability (PWD) in the information dissemination?

Answer: Participants acknowledged that PWDs do receive information but are limited in their actions unless supported on safer grounds.

Session 2: Ways of disseminating best practices identified and documented in Ghana, and the responsibilities of local, national and transboundary stakeholders

In this session, Dr. WILLIAMS gave a presentation on ways of disseminating the best practices identified and documented in Ghana, and the responsibilities of stakeholders at the local, national and transboundary levels. She also detailed some examples of the best practices and opportunities for improving IMFDR and CCA gathered from the local workshops.

The presentation was followed by an introduction to the group work that bothered on best practices on the one hand, and opportunities for improving IMFDR and CCA on the other hand, based on the following four dimensions:

- Understanding (study and knowledge) the parameters (hazard, vulnerability, exposure, etc.) of flood and drought risks
- Investment in Disaster Risk Reduction for Flood and Drought Risk Resilience
- Strengthening the governance of flood and drought risks
- Improved preparedness and reconstruction

The interactive session was followed by group work to elicit further information on best practices and opportunities for DRR and CCA, the dissemination pathways, and the potential actors under the four dimensions. The results have been harmonized and presented in Table 1 and

In Table 2, the opportunities for exploitation are outlined while providing action and potential actors from the local to transboundary level during CC-related disasters.

- Within the context of understanding the parameters of floods and drought risk, stakeholders identified opportunities including sensitization, pre-planning assessments, and construction with climate change consideration. The opportunities will be exploited through advocacy by potential actors such as chief and queen mothers, opinion leaders, and leaders of religious bodies within the traditional and social media space.
- As part of the investment drive, the effort will be channelled to no/low regret investments underpinned by technology and innovation for sustainable livelihoods. This objective includes making low/no-regret investments through Public Private Partnerships and cost-effective savings to secure livelihoods and promote economic well-being.
- The opportunities to strengthen governance arrangements include empowering the local actors through the active involvement of communities in decision-making on floods and drought risk while enhancing collaboration across scales. The ways of exploiting opportunities include implementing policies and enforcing the related regulations. This is underpinned by effective stakeholder engagements between relevant agencies at local, national, and transboundary levels towards aligning the policies and their related plans.
- The improved preparedness and reconstruction phase is enhanced by the existence of early warning schemes that leverage indigenous knowledge and technology to inform floods and drought risk and actions at the community level. The relevant actors under this aspect will include institutions in charge of land-use planning, disaster management, local government administrations, paramilitary services and the environment.

Table 2.

In Table 1, the best practices noted for improving DRR and CCA measures include the following.

- Understanding the parameters of floods and drought entails the collection of relevant data to establish the hazard frequency-magnitude relationship, severity, and related impacts while identifying the elements at risk, and their extent of vulnerability. Hazard maps are developed for targeted dissemination through the appropriate medium including radio stations, social media, and community information centres.
- Investments in DRR arise from the government and are supported by development partners through grants and loans, philanthropists, especially during periods of disaster, and research grants to deepen understanding of the causes, effects, and solutions for uptake by relevant institutions. The elaboration of bankable proposals allows for external resource mobilisation as well as making appeals for support of victims of disasters (floods and drought) in the electronic and print media.
- During disasters, a formidable governance scheme underpinned by institutional and legal arrangements enables the steering of affairs to their logical conclusion. This allows for standardization of processes through monitoring and evaluation (M&E) while identifying gaps in floods and drought risk management strategies. Stakeholder engagement is key to the process of M&E and the eventual report is published or made available upon request.
- A good understanding of the hazard, availability of financial resources, and the right governance framework often lead to improved preparedness and reconstruction. This includes the adoption of methods that minimize or eliminate the risk through preparedness actions such as early warning systems, and contingency plans (that are triggered at the instance of an emergency).

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Table 1 Best Practices for Improving IMFDR and CCA Measures in the National Portion of the Volta Basin in Ghana and Dissemination Pathways

Dimensions	Best practices (title)	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/ channels)	Potential actors (local-to-national and transboundary)
Understanding (study and knowledge) the parameters (hazard, vulnerability, exposure, etc.) of flood and drought risks	Hazard identification and assessment	**Impacts, vulnerability and risk assessment** • *Collection and analysis of historical data to develop: hazard-frequency-magnitude-relationship (e.g., flood return periods),* • *flood hazard maps*	• Develop and share hazard maps through print media, radio stations, social media, community liaison persons, information centres	**Local level**- - NADMO/MMDA/EPA **National level**- NADMO/HYDRO/ GIDA/EPA/NDPC/CSIR-WRI **Transboundary**- WRC/VBA
	Exposure and vulnerability assessment	**Impacts, vulnerability, capacity and risk assessment** • *To Identify critical elements at risk (Building footprints, road network, health and educational facilities, population, farmland, etc.)*	• Develop and share hazard vulnerability map through print media, radio stations, social media, community liaison persons, information centres	**Local level**- NADMO/MMDA/EPA **National level**- NADMO/HYDRO/GIDA /EPA/NDPC/CSIR-WRI **Transboundary**- WRC/VBA
	Risk profiling	**Impacts, vulnerability and risk assessment** • *Classify and quantify the extent of vulnerability*	• Develop and share hazard maps through print media, radio stations, social media, community liaison persons, and information centres	**Local level**- NADMO/MMDA/EPA **National level**- NADMO/HYDRO/ GIDA /EPA/NDPC/CSIR-WRI **Transboundary**- WRC/VBA
Investment in Disaster Risk Reduction for Flood and Drought Risk Resilience	Government funding	**All the key stages for CCA and DRR** • *The government should allocate funding for the planning of CCA and DRR*	• Inclusive and participatory stakeholders' engagement in planning • implementation of Disaster Risk Reduction for Flood and Drought Risk Resilience	**Local level**: MMDA **National level**: MWH, MESTI, MWRS, MoF **Transboundary**: VBA

	Funding from development partners	**All the key stages for CCA and DRR** • *Development partners should provide loans and grants*	• Through proposal writing • MOU with development partners	**Local level**: MMDA **National level**: MWH, MESTI, MWRS, MoF **Transboundary**: VBA
	Assistance from philanthropic/charity organisations and individuals, etc.	**Disaster response/disaster rehabilitation/recovery** • *Provision of donations and relief items for affected people*	• Appeal through the media • Direct request to philanthropic/charity organisations and • Individuals for assistance	**Local level**: MMDA; Traditional leaders, Assemblymen, Unit committee, MMDA **National level**: MWH, MESTI, MWRS, MoF
	Community contribution	**Disaster prevention/ Disaster response/disaster rehabilitation/ recovery** • Mobilising funds from local communities through community-based initiatives to supplement government and external funding	• Community engagement • Relay of information through information centres	Local level: Communities
	Research grants	**All the key stages for CCA and DRR** • *Institutions and research organizations could source for grants to conduct research in DRR to inform policy and practice in mitigating flood and drought*	• Proposal writing	**Local level**: **National level**: Universities, Research Institutions **Transboundary**: WASCAL, AGHRYMET
Strengthening the governance of flood and drought risks	Standardizing method through which information flows from the national level to the local level	**Planning;**	• Stakeholder engagements/ meetings • Develop and share relevant standards practice for addressing DRR and CCA	**Local level:** MMDAs, Community **National level:** WRC, NADMO, HYDRO, GIDA, GMet, etc. **Transboundary**: VBA

	Legislative framework	**Planning/ Implementation** • *Develop and enforce comprehensive legislation and regulations that address drought and flood risk including zoning laws, building codes and land use planning regulation*	Stakeholder engagements/ meetings	**Local level**: MMDAs, Community **National level**: WRC, NADMO, HYDRO, GIDA, GMet, etc. **Transboundary**: VBA
	Monitoring and evaluation	**Monitoring and evaluation** • *Mechanisation to assess the effectiveness of flood risk management strategies* • *Identify gaps and adjust policies and practices*	• Sharing of reports and publications • Stakeholder engagements/ meetings	**Local level**: **National level**: WRC, HYDRO, GMet, NADMO **Transboundary:** VBA
Improved preparedness and reconstruction	Mitigation measures to control hazards	**Disaster prevention and mitigation** • *Adopt measures to reduce or eliminate the risk*	• The Media • Information centres in the communities • Community engagement	**Local level**: MMDAs; **National level**: HYDRO, GMet, NADMO, NCCE, ISD; **Transboundary**: VBA
	Early warning system	**Disaster prevention and mitigation/ Disaster preparedness** • *Establish an effective EWS*	• Media; • Information centres in the communities; Community engagement	**Local level**: MMDAs; **National level**: HYDRO, GMet, NADMO, NCCE, ISD; **Transboundary**: VBA
	Emergency planning	**Planning/Disaster Preparedness.** • *Develop a comprehensive emergency plan at community, municipal and national level*	• Sharing of reports and publications • Stakeholder engagements/ meetings	**Local level**: MMDAs; **National level:** HYDRO, GIDA, GMet, NADMO, National Communication and Civic Education, ISD **Transboundary**: VBA

In Table 2, the opportunities for exploitation are outlined while providing action and potential actors from the local to transboundary level during CC-related disasters.

- Within the context of understanding the parameters of floods and drought risk, stakeholders identified opportunities including sensitization, pre-planning assessments, and construction with climate change consideration. The opportunities will be exploited through advocacy by potential actors such as chief and queen mothers, opinion leaders, and leaders of religious bodies within the traditional and social media space.
- As part of the investment drive, the effort will be channelled to no/low regret investments underpinned by technology and innovation for sustainable livelihoods. This objective includes making low/no-regret investments through Public Private Partnerships and cost-effective savings to secure livelihoods and promote economic well-being.
- The opportunities to strengthen governance arrangements include empowering the local actors through the active involvement of communities in decision-making on floods and drought risk while enhancing collaboration across scales. The ways of exploiting opportunities include implementing policies and enforcing the related regulations. This is underpinned by effective stakeholder engagements between relevant agencies at local, national, and transboundary levels towards aligning the policies and their related plans.
- The improved preparedness and reconstruction phase is enhanced by the existence of early warning schemes that leverage indigenous knowledge and technology to inform floods and drought risk and actions at the community level. The relevant actors under this aspect will include institutions in charge of land-use planning, disaster management, local government administrations, paramilitary services and the environment.

Table 2 Opportunities and means of their exploitation for Improving IMFDR and CCA Measures in the National Portion of the Volta Basin in Ghana

Dimensions	Opportunities	Objectives	Ways to exploit opportunities (actions/ approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
Understanding (study and knowledge) the parameters (hazard, vulnerability, exposure, etc.) of flood and drought risks	• Pre-planning • Re-settlement • Become well-informed of the effects of CCA and DRR • Insurance • Construction with climate change considerations • Socio-economic development • Sustained development • Improved public health	To inform community on the impact of DRR and CCA actions	• Use of community information centres • Community durbars and festivals • Educational institutions: such as inter-school competitions • Using the media (traditional and social) • Audio-visual presentations such as FM stations, radio stations, TV stations • Religious bodies	Chiefs/Queen mothers Opinion leaders Religious leaders Family Heads Market queens MMDA's Ministry of information GES; NADMO; LUSPA
Investment in Disaster Risk Reduction for Flood and Drought Risk Resilience	• Private /public partnership (PPP) • Technology and innovation Infrastructural development (flood resilient structures) • Investment into Sustainable livelihood and proper land use	• To save money on the economy. • Cost effective investment approaches to save lives, livelihoods and property	• Organization of fora • Giving of incentives • External funding from Donor partners • Develop a database of past and current events	NADMO, Ghana Statistical Services, Development partners, National Insurance Commission, AGI (Association of Ghana Industries), Ghana National Fire Service, GIDA
Strengthening the governance of flood and drought risks	• Empowerment of the local people • Community involvement in decision making • Strengthening and Enhancing collaboration of various stakeholders	• To have policies aligned with national plans	• Implementation of policies • Enforcement of policies • Stakeholder engagement •	NADMO,GMET, WRC, LUSPA, EPA, GNFS, MMDA's
Improved preparedness and reconstruction	• Early warning systems • Advanced technology	• To save lives and properties	• Use of enhanced technology • Incorporation of indigenous knowledge	NADMO, GMET, WRC, LUSPA, EPA, GNFS, MMDA's, MESTI, Hydro, Ministry of Communications

Session 3: Framework for involving local communities in the implementation of long term IMFDR and CCA measures

Dr. Portia Adade WILLIAMS gave an interactive presentation on the involvement of local communities in the implementation of long-term measures of IMFDR and CCA**.** Focusing on the four dimensions of IMFDR and CCA, she noted the following:

- What needs to be done to ensure that communities are effectively involved?
- How to do it?;
- Who's to do it?; and
- When to do it?

These questions formed the basis of group work sessions targeted at leaving no one behind in DRR and CCA interventions with a focus on community involvement (the results are presented in **Table *3***).

The participants noted the gaps in community engagement and involvement in drought and flood risk management implementation and proposed measures to improve the situation. The proposals were organised around the four thematic dimensions of the IMFDR framework.

- The impact and vulnerability stage allows for the understanding of the parameters of flood and drought risk. The proposed actions include education and training that harness indigenous knowledge through interviews, focus group discussions, and participatory mapping.
- The aspect of investments is valid all year round where structural and non-structural measures encourage the incorporation of indigenous knowledge in early warning systems and community empowerment through information flow, sensitization and communal planning, and sensitization by the relevant stakeholders.
- To strengthen governance for IMFDR with community perspectives, it is imperative to have communal sessional planning through established dialogue platforms to inform community feedback. This should be facilitated by local NGOs as well as opinion leaders and traditional authorities.
- Community preparedness and the period of reconstruction will be influenced positively if they are involved in the planning for DRR. As a result, dissemination of emergency plans when demonstrated through simulation exercises and role play enables communities to better related to flood and drought risk thereby increasing community awareness and local participation.

Table 3 Framework for involving local communities in the implementation of long-term IMFDR and CCA measures

Dimension	What needs to be done to for effective community involvement?	How to do it?	Who's to do it?	When to do it?
Understanding (study and knowledge) the parameters (hazard, vulnerability, exposure, etc.) of flood and drought risks	Community Engagement	Dubar, meeting opinion leaders,	**NADMO**, MMDAs, EPA, Hydro, WRC, traditional authorities	Impact and vulnerability assessment stage
	Education and Training	Workshops	**NADMO**, MMDAs, EPA, Hydro, WRC, NCCE, ISD	Impact and vulnerability assessment stage
	Use of indigenous knowledge	Face-to-face interview, focus group discussion, interview key informants	**NADMO**, MMDAs, EPA, Hydro, WRC, NCCE, ISD	Impact and vulnerability assessment stage
	Inclusive and Participatory Mapping	Survey, (involving representatives from the community in survey and mapping work)	**NADMO**, MMDAs, EPA, Hydro, WRC, NCCE, ISD	Impact and vulnerability assessment stage
Investment (structural and non-structural) in disaster risk reduction to protect and strengthen the resilience of communities and ecosystems and assets to flood and drought risks	Engage in communal planning	Increase information flow	Involve unit committees (Assembly men) Traditional authorities and Opinion Leaders Youth groups Religious groups	All year round
	Encourage communal labour	Sensitization to understand community roles		Yearly
	Use of indigenous knowledge in early warning	Use community information systems for sensitization Use of role plays Use of cinema vans		
	Community empowerment	Community engagements Use of role plays Use of cinema vans	MMDAs, NGOs CSOs	Yearly
Strengthening Flood and Drought Risk Governance	Integrate the local governance into our decentralization policy	Establish channels for communities to provide feedback	MMDAs, NGOs CSOs, Local community groups	Off-seasons
	Sessional planning involving different interest groups	Establish/Improve Governance dialogue platforms Engage diverse community groups and unions	MMDAs, NGOs CSOs, Local community groups	All year rounds During community gatherings, durbars and festivities

	• Review and update existing policies • Engage the Community in participatory decision making • Information sharing with the community • Build capacity of Community in DRR issues • Engage communities on how to mobilize resources	Stakeholder engagement Institutional collaborations	NDPC Opinion leaders NADMO Community-based organizations (CBO's) MMDA's Expert organizations e.g. fire service	Yearly
Improved preparedness and reconstruction	Involve the Community in preparation of DRR and CCA response planning	Workshops, meetings, focus group discussions etc.	**NADMO, GNFS,** EPA, MMDAs, Hydro, WRC, NCCE, ISD	Planning stage
	Dissemination of emergency action plans	Simulation exercise	**NADMO, GNFS,** EPA, MMDAs, Hydro, WRC, NCCE, ISD	Implementation stage
	Improve community participation	Encourage community participation	MMDAs, NGOs CSOs, Local community groups	All year round (before, during, and after)
	Awareness creation	Increase community awareness		
	Use of local knowledge in construction	Encourage local knowledge of construction		
	Improve communication	Use of community information systems		

4. Conclusions

The workshop concluded with a synthesis of the results of the best practices, the opportunities, and the involvement of communities in implementing DRR and CCA measures in the country portion of the Volta Basin. The dimensions and their respective best practices, opportunities, and dissemination actions for community involvement are summarized in Table 4.

The key point is that communities play a critical role in implementing plans and strategies to address CCA and DRR at the local and national levels. Therefore, efforts should be deployed to actively involve them in the planning process to foster the ownership and improvement of the best practices and to exploit the opportunities that emerge from implemented interventions.

Table 4: Synthesized Best Practices, Opportunities and Dissemination Actions for DRR and CCA

Dimensions	Best practices	Opportunities	Dissemination actions
Understanding Disaster Risk	- Hazard identification and assessment - Exposure and vulnerability assessment - Risk profiling	- Pre-planning - Resettlement - Construction with climate change considerations - Improved public health	- Community Engagement - Education and Training - Use of indigenous knowledge
Strengthening governance	- Standardizing method through which information flows from the national level to the local level - Legislative framework - Monitoring and evaluation	- Empowerment of the local people - Community involvement in decision making - Strengthening and enhancing collaboration of various stakeholders	- Integrate the local governance into our decentralization policy - Sessional planning involving different interest groups
Investing in Disaster Risk Reduction for Resilience	- Community Contribution - Funding (Government, Development partners, Charities) - Research Grants	- Private /public partnership (PPP) - Technology and innovation infrastructural development (flood resilient structures) - Investment into sustainable livelihood and proper land use	- Engage in communal planning - Encourage communal labour - Use of indigenous knowledge in early warning
Improved preparedness and reconstruction / Strengthening Readiness	- Mitigation measures to control hazards - Early warning system - Emergency planning	- Empowerment of the local community in decision making - Strengthening and enhancing collaboration of various stakeholders	- Integrate the local governance into our decentralization policy - Sessional planning involving different interest groups - Review and update existing policies

5. Closing of workshop

The closing ceremony was marked by speeches delivered by the lead of the national consulting team and the chair of CWP-Ghana.

In his closing remarks, Dr. Emmanuel Obeng BEKOE appreciated the participants for their commitment and support to the different sessions of the workshop. He observed that the objectives of the workshop

were largely achieved. He was hopeful that the results of the group discussions would facilitate reporting and bring the VFDM Project Mission in Ghana to a successful completion.

Mr. AMPOMAH, in his closing statement, expressed his appreciation to participants for the insightful reflections and interest demonstrated during the 2-day national workshop. He reiterated his thanks to WMO, VBA, GWP-WA and partners for the support, under the auspices of the Adaptation Fund to make the VFDM Project a success. He further noted the completion of all workshops, both local and national, and called on the consulting team to work tirelessly at producing the reports as outlined for the deliverables. He hoped that the enthusiasm shown would further the engagement across sectors towards improving coordination and collaboration for DRR and CCA interventions and deepen the adoption of best practices through the effective involvement of local communities. Going forward, the relevant sectors should take advantage of opportunities for funding through the development of bankable projects to increase support for DRR and CCA across scales. Mr. AMPOMAH finally declared the 2-day workshop duly closed and extended felicitations to all.

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
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Volta Flood and Drought Management

Appendix 2: Workshop Agenda and Concept Note

Appendix 2.1 Workshop Agenda

Time	Activities	Methodology	Speakers
Day 1			
08:30-09:00	**Registration of participants**	Secretariat	▪ CWP
09:00-10:00	**Session 0: Opening ceremony and introductory activities**		
	Opening ceremony ▪ Remarks from partners ▪ Opening speech	Delivering remarks and speeches	▪ CWP ▪ VBA NFS ▪ Ministry
	▪ Introduction of participants	Participants self-introduction	▪ CWP ▪ 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
10:00-10:15	**COFFEE BREAK**		
Session 1: Best practices and opportunities for improving IMFDR and CCA measures in the Ghana part of the Volta Basin			
10:15–11:30	▪ First findings of the study ▪ Instructions for group work 1 ▪ Group Work 1	Presentation/discussion Exercises	▪ National consultant ▪ Participants
11:30-13:00	▪ Group Work 1 (continued)	Discussion / Exercises	▪ National consultant ▪ Participants
13:00.-14:00	**LUNCH BREAK**		
14:00-15:30	▪ Working groups 1 (continuation and end) ▪ Reporting back at plenary	Presentation/discussion Exercises	▪ National consultant ▪ Participants
Session 2: Ways of disseminating best practices identified and documented in Ghana, and the responsibilities of local and transboundary stakeholders			
15:30–17:00	▪ First findings of the study ▪ Instructions for group work 2 ▪ Group Work 2	Presentation/discussion Exercises	▪ National consultant ▪ Participants
17:00	**End of the 1st day**		
Day 2			
Session 2: Ways of disseminating best practices identified and documented in Ghana, and the responsibilities of local and transboundary stakeholders (continuation and end)			
08:30 – 10:00	▪ Group Work 2 (continuation and end) ▪ Reporting back at plenary	Presentation/discussion Exercises	▪ National consultant ▪ Participants
10:00-10:15	**COFFEE BREAK**		
Session 3: Framework for involving local communities in the implementation of long-term IMFDR and CCA measures in Ghana			

Time	Activities	Methodology	Speakers
10:15-13:30	▪ First findings of the study ▪ Instructions for Group Work 3 ▪ Group Work 3 ▪ Reporting back at plenary	Presentation/discussion Exercises	▪ National consultant ▪ Participants
13:30-14:00	▪ Workshop wrap-up and recommendations ▪ Closing ceremony	Reporting Remarks by partners Closing speech	▪ National consultant ▪ WRC
14:00	**DEPARTURE FORMALITIES – LUNCH & DEPARTURE**		

Volta Flood and Drought Management

Appendix 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 BEST PRACTICES AND OPPORTUNITIES FOR IMPROVING INTEGRATED MANAGEMENT OF FLOODS AND DROUGHT RISKS AND CLIMATE

(6th and 7th May 2024, Coconut Grove Regency Hotel, Accra, Ghana)

Concept Note

Executing partners

April 2024

WORLD METEOROLOGICAL ORGANIZATION

AUTORITE DU BASSIN DE LA VOLTA — A V B A — VOLTA BASIN AUTHORITY

Global Water Partnership West Africa

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 being produced. The bulletins are disseminated by VBA and the national institutions in charge of hydrology, meteorology, disaster management, and agriculture. 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.

This concept note provides 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 strengthen CC resilience, highlighting best practices and opportunities of IMFDR as well as CCA in the VB.

Specifically, the national workshop aims to:

- Deepen and update best practices and opportunities for improving IMFDR and CCA measures in the national part of the VB in Ghana;
- Discuss and refine ways of disseminating best practices and highlighting IMFDR and CCA measures in the national part of the Volta basin in Ghana, highlighting the roles and responsibilities of stakeholders at local, national and transboundary levels in the Ghana part of the VB;
- Propose an action plan for the involvement of local communities in the implementation of long-term IMFDR and CCA measures at local, national, and transboundary levels in the national part of the VB in Ghana.

Expected results of the national workshop

At the end of the national workshop, participants are expected to establish an updated directory of best practices and opportunities for improving IMFDR and CCA measures in the national part of the Volta basin in Ghana. Furthermore, participants are expected to define:

(i) ways for disseminating IMFDR and CCA best practices; and

(ii) an action plan for involving local communities in the implementation of long-term IMFDR and CCA measures in the national part of 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). It will adopt an interactive approach, highlighting the prerequisites and experiences of participants using different animation and group dynamics techniques to ensure their active participation.

The educational materials include communications on each session, videos, preparatory documents (Terms of reference for workshop and working groups, summary of field surveys), and participant kits.

Among the workshop animation techniques are 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.

Participants will receive digital and/or paper documentation.

Content of the National Workshop

The national workshop will take place over two (2) days. It is structured around the following sessions and aligned with its specific objectives:

- Session 0: Opening ceremony and introductory activities;
- Session 1: Best practices and opportunities for improving IMFDR and CCA measures in the national part of the Volta Basin in Ghana;
- Session 2: Ways of disseminating best practices identified and documented in Ghana, and the responsibilities of local and transboundary stakeholders;
- Session 3: Framework for involving local communities in the implementation of long-term IMFDR and CCA measures in Ghana.

The table below provides details on different categories of 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&9	National Development Planning Commission	2
10&11	Ghana Meteorological Agency (including 1 EWS)	2
12&13	National Disaster Management Organization	2
14&15	Land Use and Spatial Planning Authority	2
16	Local government Service	1
17	Environmental Protection Agency	1
18	Ghana Irrigation Development Authority	1
19	Ghana Hydrological Authority (including 1 EWS)	2
20	Community Water and Sanitation Agency	1
21	Volta River Authority	1
22	Ghana Water Company Limited	1
23	Ghana National Fire Service	1
24	Information Services Department	1
	CIVIL SOCIETY ORGANIZATIONS	**4**
25	The Development Institute	1

26&27	CONIWAS	2
28	ProNET – Ghana	1
	ACADEMIA AND RESEARCH INSTITUTIONS	**5**
29	Water Research Institute	1
30	Institute of Environment and Sanitation Studies – University of Ghana	1
31	Institute of Climate Change and Sustainability Studies	1
32	WASCAL	1
33	CERGIS – University of Ghana	1
	WATER-RELATED PROJECTS/PROGRAMS	**2**
34	GAMA	1
35	GARID	1
	PRIVATE SECTOR	
36	Integrated Water and Agricultural Development (IWAD) Limited	1
	ORGANISERS	**9**
37-40	Water Resources Commission	4
41-43	Ghana Country Water Partnership	3
44-45	Consultants	2
	Total	**45**

About forty-five (45) participants will attend the workshop.

Dates and venue of the national workshop

This national workshop will be held at Coconut Grove Regency Hotel in Accra, Ghana, on the 6th and 7th of May, 2024

Appendix 3: Results of Group Work

A.3.1a Group Work: Best Practices Dissemination Pathways and Potential Actors for Improving IMFDR and CCA Measures in the National Portion of the Volta Basin in Ghana

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
GROUP 1				
Understanding (study and knowledge) the parameters (hazard, vulnerability, exposure, etc.) of flood and drought risks	Impact, vulnerability and risk assessment:	Risk Identification and Assessment: Disaster is a function of the risk process. It is the interaction of hazards, vulnerability, exposure & capacity. The higher the vulnerability and exposure levels, the higher the risk. A combination of vulnerability and exposure levels risk will higher/lower levels depends on the factors	**Actions/Approaches:** - Community focus group discussions - Field survey to identify flood zones - Capacity building for communities to identify floodable hotspots - Public-Private Partnerships - Conduct Climate risk assessments **Tools/Channels** - Use the media (Community Information Centres, documentaries etc.) for information dissemination - Physical engagement - Use of drama series to be telecasted - Use of social media	• Unit Committees of the local government structure • Involve traditional authorities and religious platforms • MMDAs • NCCEs **NATIONAL** - NADMO - VRA - WRC - HYDRO - BUI-POWER AUTHORITY - LUSPA - Lands Commission - GWCL
	Climate Change and Resilience in SDF, Structure Plan and Local Plans	Planning: Identify the impacts of CCA and DRR on the economy at the national, regional and local planning levels	- Use of print media - Stakeholder engagements involved in DRR and CCA	
	Medium- Term Development Plans	Planning: Mainstreaming Climate and resilience sector plans	Use of print media Sector engagements in the form workshops	
	GROUP 2			
	- Awareness and sensitization - Development of appropriate materials in both local and foreign dialects) - Training of community focal persons	Design appropriate materials to suit the local people. E.g.. illustrative messages, jingles, flyers, signal post, etc.	- Religious avenues (Use of churches and mosques in the dissemination of information to members of the community) - Traditional media (Such as radio and television) - Social media (Instagram, WhatsApp, telegram etc.) - Public gatherings (Funerals, festivals, Community durbar) - Information centres	- Traditional authorities, Unit, committee members, Family Heads, farm-based organizations, MMDA's, pastors, imams, teachers

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
			- Information vans - Educational institutions	
	GROUP 3			
	Hazard identification and assessment	- **Impacts, vulnerability and risk assessment** *Collection and analysis of historical data to develop :* *(i) hazard-frequency-magnitude-relationship (e.g., flood return periods),* *(ii) flood hazard maps*	Develop and share hazard maps through print media, radio stations, social media, community liaison persons, information centres	- Local level- NADMO/MMDA/EPA - National level- NADMO/HYDRO/ GIDA/EPA/NDPC/CSIR-WRI - Transboundary- WRC/VBA
	Exposure and vulnerability assessment	- **Impacts, vulnerability, capacity and risk assessment** *To Identify critical elements at risk (Building footprints, road network, health and educational facilities, population, farmland, etc)*	Develop and share hazard vulnerability map through print media, radio stations, social media, community liaison persons, information centres	- Local level- NADMO/MMDA/EPA - National level- NADMO/HYDRO/GIDA /EPA/NDPC/CSIR-WRI - Transboundary- WRC/VBA
	Risk profiling	- **Impacts, vulnerability and risk assessment** *Classify and quantify the extent of vulnerability*	Develop and share hazard maps through print media, radio stations, social media, community liaison persons, and information centres	- Local level- NADMO/MMDA/EPA - National level- NADMO/HYDRO/ GIDA /EPA/NDPC/CSIR-WRI - Transboundary- WRC/VBA
GROUP 1				
	Cost-Benefit Assessments	Planning: Assessments of the social/ environmental cost against investment	- Implementation of the Medium-Term Development Plan -	- Ministry of Finance - Common Fund Administrator - AGI - Financial/Banking Sector - CSO/CBOs/NGOs

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
Investment in Disaster Risk Reduction for Flood and Drought Risk Resilience				Local Level Assembly Members Transboundary Foreign Missions WRC
	Planning and Implementation: P-P-P	Leveraging on the Public Private Partnerships for investments on DRR projects	- Incentives for business investment -Invest in sovereign Insurance (insurance from the state) _Tax incentives for clean energy e.g. Solar panels	- Free Zone Board Opportunities - Ghana Investment Promotion Centres Local Level - Internally Generated Funds
	GROUP 2			
	- Collaboration of the state and private sector in terms of funding. - Creation of a disaster reduction fund from companies CSR fund - Intentional budgeting for DRR - Donor packages - Development partners - Insurance	- The private sector should also be involved in funding, easing the burden of solely state funding. E.g. insurance Access to loans	- Taxes - levies - Loans - Incentives - Local and international organizations interested inDRR - Grants from international organizations which have interest in DRR - Fines from a breach of environmental law	- Government agencies, private entities
	GROUP 3			
	Government funding	**All the key stages for CCA and DRR** *The government should allocate funding for the planning of CCA and DRR*	Inclusive and participatory stakeholders' engagement in planning and implementation of Disaster Risk Reduction for Flood and Drought Risk Resilience	-Local level: MMDA -National level: MWH, MESTI, MWRS, MoF Transboundary: VBA

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
	Funding from development partners	**All the key stages for CCA and DRR** *Development partners should provide loans and grants*	- Through proposal writing MOU with development partners	- Local level: MMDA - National level: MWH, MESTI, MWRS, MoF Transboundary: VBA
	Assistance from philanthropic/charity organisations and individuals, etc.	**Disaster response/disaster rehabilitation/recovery** *Provision of donations and relief items for affected people*	- Appeal through the media Direct request to philanthropic/charity organisations and individuals for assistance	- Local level: MMDA - National level: MWH, MESTI, MWRS, MoF
	Community contribution	**Disaster prevention/ Disaster response/disaster rehabilitation/recovery** Mobilising funds from local communities through community-based initiatives to supplement government and external funding	- Community engagement Relay of information through information centres	- Local level: Traditional leaders, Assemblymen, Unit committee, MMDA
	Research grants	**All the key stages for CCA and DRR** *Institutions and research organisations could source for grants to conduct research in DRR to inform policy and practice in mitigating flood and drought*	Proposal writing	- Local level: - National level: Universities, Research Institutions Transboundary: WASCAL, AGHRYMET
GROUP 1				
Strengthening the governance of flood and drought risks	Strengthening the District Disaster Management Committees	Implementation Stage: - Platform for state and non-state actors to contribute to disaster risk management	- Use of simulation exercises - Regular committee meetings	National Institutions: Department Agric, Security Agencies (Fire, Police), GES, Ghana Health Service and other relevant

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
				institution to a particular disaster occurrence can be co-opted. Local -MMDAs -NADMO
	Improve the Inter-Agency Working Groups with Donors	Implementation, Monitoring and Evaluation: Established Inter Agency Working Groups working with Donors with the lead institution being NADMO	**Actions/ Approaches** -Establish quarterly meetings -Develop composite budget **Tools/Channels** -Virtual Meetings including e-mail correspondences -Periodic physical meetings	National Public Institutions, Private sector Transboundary Development Partners
	Mainstream DRR/M at all levels of development	Planning, Monitoring and Evaluation: Consciously incorporate DRR and CCA in all plans at all levels	**Actions/Approaches** -Capacity Building on DRR and CCA at all levels -Fiscal planning and budgeting on DRR should be made an integral part of all MTDPs -DRR activities and budgets should be publicized -Simulation exercises **Tools/Channels** -Workshops -Meetings -Newsletters	National NADMO, MDAs, Local MMDAs
	GROUP 2			
	Adapt inclusive planning and implementation for DRR and CCA actions. Adopt integrated approach to flood management	- Map out related bodies interested in DRR. '(community, international, national and sub national levels) Strategies for engagement(specifically women)	Through organizing community durbar, using the media both traditional and social	traditional authorities, women groups PWD,s MMDA's
	GROUP 3			

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
	Standardizing method through which information flows from the national level to the local level	**Planning**	- Stakeholder engagements/ meetings - Develop and share relevant standards practice for addressing DRR and CCA	- Local level: MMDAs, Community - National level: WRC, NADMO, HYDRO, GIDA, GMet, etc. Transboundary: VBA
	Legislative framework	**Planning/ Implementation** *Develop and enforce comprehensive legislation and regulations that address drought and flood risk including zoning laws, building codes and land use planning regulation*	- Stakeholder engagements/ meetings	- Local level: MMDAs, Community - National level: WRC, NADMO, HYDRO, GIDA, GMet, etc. Transboundary: VBA
	Monitoring and evaluation	**Monitoring and evaluation** *(i) Mechanisation to assess the effectiveness of flood risk management strategies* *(ii) Identify gaps and adjust policies and practices*	- Sharing of reports and publications - Stakeholder engagements/ meetings	- Local level: - National level: WRC, HYDRO, GMet, NADMO Transboundary: VBA
	Standardizing method through which information flows from the national level to the local level	**Planning**	- Stakeholder engagements/ meetings - Develop and share relevant standards practice for addressing DRR and CCA	- Local level: MMDAs, Community - National level: WRC, NADMO, HYDRO, GIDA, GMet, etc. Transboundary: VBA
	Legislative framework	**Planning/ Implementation** *Develop and enforce comprehensive legislation and regulations that address drought and flood risk including zoning*	- Stakeholder engagements/ meetings	- Local level: MMDAs, Community - National level: WRC, NADMO, HYDRO, GIDA, GMet, etc. Transboundary: VBA

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
		laws, building codes and land use planning regulation		
		GROUP 1		
Improved preparedness and reconstruction	Develop update Disaster Risk Contingency Plans at all levels	Planning: Ensure preparedness Plans are in place at all levels	Actions/ Approaches -Assessments to inquire existing or absence of contingency plans -Conduct training on development of contingency plans -Develop Contingency Plans template -Conduct Simulation exercises to test the contingency plans -Organize debriefing sessions to fill gaps identified from the simulation exercises **Tools/ Channels** -Workshops -Physical exercises	National NADMO EPA Hydro WRC Local Level MMDAs Community Leaders NADMO
	Post Disaster Needs Assessment	Implementation, M&E: Assess and identify the social, engineering gaps and reconstruction needs	**Actions/Approaches** -Design and develop climate resilient infrastructure -Conduct Interviews **Tools/ Channels** -Physical verification -Interview -Observation -Workshops	National Disaster Risk Management Organisations, State Institutions, EPA, Ghana Hydrological Authority Transboundary VBA DPs
		GROUP 2		
	Intensify public education to persons living in flood zones(areas)	- Securing existing wetlands - Creation of buffer zones to prevent future occurences - Introduction of a monthly clean up concerning DRR	- Operation clean your frontage - Strengthening the institutions involved directly (environmental sanitation unit, EPA etc) Reward and recognition for compliance to DRR measures.	- MMDA's, Nadmo, LUSPA, GMET, Ghana Hydrological Authority, Ministry of works and housing, Ministry of Sanitation and Water Resources

Dimensions	Best practices	Brief description of the key stages of the practices	Dissemination pathways (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
	Map out all wetlands, Ramsar sites Creation of buffer zones Sustained dredging of drains			
	GROUP 3			
	- Mitigation measures to control hazards	**Disaster prevention and mitigation** - *Adopt measures to reduce or eliminate the risk*	- Media - Information centres in the communities - Community engagement	- Local level: MMDAs - National level: HYDRO, GMet, NADMO, National Communication and Civic Education, Information Services Department - Transboundary: VBA
	- Early warning system	**Disaster prevention and mitigation/ Disaster preparedness** -	- Media - Information centres in the communities - Community engagement	- Local level: MMDAs - National level: HYDRO, GMet, NADMO, National Communication and Civic Education, Information Services Department - Transboundary: VBA
	- Emergency planning	**Planning/Disaster Preparedness** - *Develop a comprehensive emergency plan at community, municipal and national level*	- Sharing of reports and publications - Stakeholder engagements/ meetings -	- Local level: MMDAs - National level: HYDRO, GIDA, GMet, NADMO, National Communication and Civic Education, Information Services Department - Transboundary: VBA

Volta Flood and Drought Management

A.3.1b Group Work: Opportunities Ways of Exploitation and Potential Actors for Improving IMFDR and CCA Measures in the National Portion of the Volta Basin in Ghana

Dimensions	Opportunities	Objectives	Ways to exploit opportunities (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
GROUP 1				
Understanding (study and knowledge) the parameters (hazard, vulnerability, exposure, etc.) of flood and drought risks	NADMO Act, 2016 (Act 927)	Spells out structures and provide guidelines for implementation of disaster management	**Action/Approaches** -Ensure the full operationalization of the NADMO Act -Organise community meeting and workshop to raise awareness -Enforce the sanctions spell out in the NADMO Act -Stakeholder capacity building and training **Tools/Channels** 1. Workshop 2. Leaflets/ flyers 3. Social media	**Local** • NADMO • MMDAs **National** • NADMO • Hydro • EPA • WRC **Transboundary** • WRC • VBA • Ghana Foreign Missions
	Sendai Framework for Disaster Risk Reduction	Aims to achieve substantial reduction of disaster risk and losses in lives, livelihoods and health	**Actions/Approaches** - Align National Policy with the Sendai framework - Develop National Strategy and Action Plan - Report the country's actions on the implementation of the Framework **Tools/Channels** - Technical Working Groups/Committees - Workshops - Meetings	• NADMO and collaborating state actors EPA MESTI+ • DPs • VRA Transboundary • WRC • VBA • DPs
	Develop the buffer Zone Policy into a Regulation	Reduces vulnerability and risk levels	**Action/Approaches** -Develop an LI to operationalize the Policy -Build capacity to MMDAs in reference to Policy -Disseminate the LIs to all MMDAs -Integrate the Buffer Zone Policy and Regulation in all sector policies, plans and programs **Tools/Channels** -Community Engagements -Workshops	National -WRC-MWR -EPA-MESTI -GIDA, -AGRIC

Dimensions	Opportunities	Objectives	Ways to exploit opportunities (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
			-Media	
	GROUP 2			
	- Pre-planning - Re-settlement - Become well informed of the effects of CCA and DRR - Insurance - Construction with climate change considerations. - Socio-economic development - Sustained development - Improved public health	To inform community on the impact of DRR and CCA actions	- Use of community information centres - Community durbars and festivals - Educational institutions such as inter-schools competitions - Using the media(traditional and social) - Audio-visual presentations such as FM stations, radio stations, TV stations Religious bodies	- Chiefs/Queen mothers - Opinion leaders - Religious leaders - Family Heads - Market queens MMDA's Ministry of information GES NADMO LUSPA etc
	GROUP 3			
	- Existence of fragmented policies and other documents	To harmonise existing policies	- Workshops, Stakeholder engagement	**NADMO,** EPA, MMDAs, Traditional leaders, Hydro, WRC, NCCE, ISD
GROUP 1				
Investment in Disaster Risk Reduction for Flood and Drought Risk Resilience	Early Warning Systems	To enhance Resilience and improve mitigation	**Action/ Approaches/Tools/Channels** - Harmonize early warning systems - Invest in modern equipment - Invest in observation - Invest in model design, forecasting, and development - Invest in Preparedness and Response	National GMet Academia Hydrological Authority Transboundary World Meteorological Organisation VBA

Dimensions	Opportunities	Objectives	Ways to exploit opportunities (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
			- Dissemination and Communication	
	Leveraging on Green Climate Fund	To seek for financial support for disaster risk reduction	**Action/Approaches** -Develop water retention pumps -Develop rain/run-off harvesting **Tools/ Channels** Strong and bankable Proposals	National Ministry of Finance EPA Hydrological Authority LUSPA NADMO Transboundary DPs
	Blue Adaptation: Nature Based Solutions in Coastal Areas.	To build the resilience of coastal communities	**Action/Approaches** - Design and develop climate resilience water storage facility - Grow and Protect Mangroves - Community Engagements - Planned Relocation of coastal communities **Tools/Channels** -Durbar, -Focus group discussions	Local MMDAs Environmental Agencies Communities National EPA LUSPA NADMO
	Capacity Building on Climate Risk Resilience and Infrastructure	Improve the knowledge and expertise of key stakeholders	**Action/Approaches** -Conduct research on climate resilience and infrastructure -Conduct capacities of relevant sectors on climate risk resilience **Tools/Channels** Workshops Seminars Focus Groups	Academia NADMO EPA Local MMDAs Coastal Communities
	Nature Based Solutions	Reduce flood risk, mitigate water runoff and enhance water resilience	**Action/Approaches** - Sponge City Concept - Afforestation - Research	Local MMDAs Forestry Commission EPA Water Resource Commission National LUSPA MLNR EPA Academia

Dimensions	Opportunities	Objectives	Ways to exploit opportunities (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
	Investment in Protective Structures: Dykes, Sea Defence etc.	To prevent and reduce coastal vulnerability and exposure of coastal communities	**Actions/Approaches** -Through Public-Private Partnerships -Government Budgetary Fund -Donor Funding **Channels/Tools** Bankable Proposals Partnerships Budgeting Research	National Ministry of Finance Hydro WRC Local CSOs MMDAs Transboundary DPs
	GROUP 2			
	- Private /public partnership(PPP) - Technology and innovation - Infrastructural development(flood resilient structures) Investment into Sustainable livelihood and proper land use	- To save money on the economy. - Cost effective investment approaches to save lives , livelihoods and property	- Organization of fora - Giving of incentives - External funding from Donor partners Develop a database of past and current events	- NADMO - Ghana statistical services - Development partners - National Insurance Commission - AGI (association of Ghana Industries) - Ghana National Fire Service - GIDA
		- **GROUP 1**		
Strengthening the governance of flood and drought risks	Explore opportunities for flood and drought risk	-Provide funds available for mitigative measures on DRR -To ensure the availability of coordinated funding source for DRR -	**Action/Approaches** - Ensure compliance to DRR funding in the District Assembly Common Fund - Resource harmonizing at the district level - Encourage private sector participation in DRR -Establish monitoring systems to ensure compliance - Align roles of key stakeholder institutions on DRR - Introduce sanctions to organizations who fail to comply -Timely release of the common fund **Tools/Channels** Proposals writing	<u>Local</u> MMDAs Local Government Service NADMO <u>National</u> Ministry of Finance MLGDRD

Dimensions	Opportunities	Objectives	Ways to exploit opportunities (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
			Partnerships Budgeting Research	
	GROUP 2			
	- Empowerment of the local people - Community involvement in decision making - Strengthening and Enhancing collaboration of various stakeholders	To have policies aligned with national plans	- Implementation of policies - Enforcement of policies - Stakeholder engagement	NADMO,GMET, WRC, LUSPA, EPA, GNFS, MMDA's
	GROUP 1			
Improved preparedness and reconstruction	Institute Post Disaster Needs Assessment (PDNA) as a response measure of	Meet Post Disaster Needs of Affected victims and communities	**Actions/Approaches** - Incorporate PDNA in contingency plans - Build capacities of MMDAs on PDNA **Tools/Channels** Workshops Interviews	Local District Disaster Management Committees MMDAs National NADMO WRC Hydro
	Enhance Built-Back-Better Measures	Improve resilience and sustainability	**Actions/Approaches** -Incorporate BBB in Contingency Plans -Build capacities of MMDAs on BBB **Tools/Channels** Workshops Interviews	Local District Disaster Management Committees MMDAs National NADMO WRC Hydro
	GROUP 2			
	- Early warning systems - Advanced technology	- To save lives and properties	- Use of enhanced technology Incorporation of indigenous language	NADMO, GMET, WRC, LUSPA, EPA, GNFS, MMDA's, MESTI, Hydro, Ministry of Communications

Dimensions	Opportunities	Objectives	Ways to exploit opportunities (actions/approaches/methods/tools/channels)	Potential actors (local-to-national and transboundary)
	GROUP 3			
	- **Mitigation measures to control hazards**	- Disaster prevention and mitigation - Adopt measures to reduce or eliminate the risk	- Redesigning drainage infrastructure, implementation of nature-based solutions, improved land use and spatial planning, construction flood proof building	Hydro, LUSPA, MMDAs

Session 3: Framework of actions for the involvement of local communities in the implementation of long-term measures of IMFDR and CCA in Ghana

Dimensions	What needs to be done to ensure that the communities are effectively involved?	How to do it?	Who's to do it?	When to do it?
GROUP 1				
Understanding (study and knowledge) the parameters (hazard, vulnerability, exposure, etc.) of flood and drought risks	Down scale assessments done to enable communities to understand	Use indigenous and local simple languages Use community information systems for sensitizations Use of role plays	Involve unit committees (Assembly men) Traditional authorities and Opinion Leaders Youth groups Religious groups	All year round
	Increase sensitization on community engagements	Use community information systems for sensitizations Use of role plays Use of cinema vans	Involve unit committees (Assembly men) Traditional authorities and Opinion Leaders Youth groups Religious groups	All year round
	Encourage the use of local knowledge	Use of academia (school of languages) to simplify	Involve unit committees (Assembly men) Traditional authorities and Opinion Leaders Youth groups Religious groups	All year round-During festivals etc.

	GROUP 2			
	- Community engagement - Local dialect translation Role play	- Sensitization - Trainings - Meetings - Workshops - Use of durbars Use of information vans	- Opinion leaders - NADMO - Community-based organizations (CBO's) MMDA's Expert organizations e.g. fire service	- December -February All year round(flood)
	GROUP 3			
	- Community Engagement	- Dubar, meeting opinion leaders,	- **NADMO**, MMDAs, EPA, Hydro, WRC, traditional authorities	- Impact and vulnerability assessment stage
	- Education and Training	- Workshops	- **NADMO**, MMDAs, EPA, Hydro, WRC, NCCE, ISD	- Impact and vulnerability assessment stage
	- Use of indigenous knowledge	- Face-to-face interview, focus group discussion, interview key informants	- **NADMO**, MMDAs, EPA, Hydro, WRC, NCCE, ISD	- Impact and vulnerability assessment stage
	- Inclusive and Participatory Mapping	- Survey, (involving representatives from the community in survey and mapping work)	- **NADMO**, MMDAs, EPA, Hydro, WRC, NCCE, ISD	- Impact and vulnerability assessment stage
Investment (structural and non-structural) in disaster risk reduction to protect and strengthen the resilience of communities and ecosystems and	- Engage in communal planning	- Increase information flow	- Involve unit committees (Assembly men) - Traditional authorities and Opinion Leaders - Youth groups - Religious groups	- All year round
	- Encourage communal labour	- Sensitisation to understand community roles		-
	- Use of indigenous knowledge in early warning	- Use community information systems for sensitizations - Use of role plays - Use of cinema vans		-
	- Community empowerment	- Community engagements - Use of role plays	- MMDAs, NGOs CSOs	-

assets to flood and drought risks		- Use of cinema vans		
	GROUP 2			
	- Community involvement and sensitization (structural) -	- using a bottom up approach - organize durbars - focal discussion	- Opinion leaders - NADMO - Community-based organizations (CBO's), engineers - MMDA's - Expert organizations e.g. fire service	-
	- Community involvement and sensitization (structural) -	- using a bottom up approach - organize durbars - focal discussion	- Opinion leaders - NADMO - Community-based organizations (CBO's), engineers - MMDA's - Expert organizations e.g. fire service	-
	GROUP 3			
	- Community sensitization about DRR and CCA	- Education through audio-visuals, brochures translated into local languages	- **MMDAs,** EPA, NADMO, Hydro, WRC, NCCE, ISD	- Planning stage
GROUP1				
Strengthening Flood and Drought Risk Governance	- Integrate the local governance into our decentralization policy	- Establish channels for communities to provide feedbacks	- MMDAs, NGOs CSOs, Local community groups	- Off-seasons
	Sessional planning involving different interest groups	- Establish/Improve Governance dialogue platforms - Engage diverse community groups and unions	- MMDAs, NGOs CSOs, Local community groups	- All year rounds - During community gatherings, durbars and festivities
	GROUP 3			
	Involve the community in need assessment	- Engage the community through durbars, meetings etc	**MMDAs,** EPA, NADMO, Hydro, WRC	- Planning stage
	Involve the community in policy formulation	- Seek the inputs of the community in DRR and CCA policy formulation	**MMDAs,** NADMO, EPA, Hydro, WRC,	- Planning stage
GROUP 1				

	- Improve community participation	- Encourage community participation	- MMDAs, NGOs CSOs, Local community groups	- All year round (before, during and after)
	- Awareness creation	- Increase community awareness		
	- Use of local knowledge in construction	- Encourage local knowledge in construction		
	- Improve communication	- Use of community information systems		
	GROUP 2			
Improved preparedness and reconstruction	- Intensify community engagement - Monitoring and evaluation - Community Awareness - Leverage on indigenous knowledge championed by opinion leaders - Facilitate continuous inclusive decision making	- Community -led approach - Stakeholder engagement - Institutional collaborations - Trainor of trainees	- Key resource persons - Consultants in flood risk - Key stakeholders e.g NADMO, LUSPA, GNFS, GMET -	- Quarterly -
	GROUP 3			
	- Involve the Community in preparation of DRR and CCA response planning	- Workshops, meetings, focus group discussion etc	- **NADMO, GNFS,** EPA, MMDAs, Hydro, WRC, NCCE, ISD	- Planning stage
	- Dissemination of emergency action plans	- Simulation exercise	- **NADMO, GNFS,** EPA, MMDAs, Hydro, WRC, NCCE, ISD	- Implementation stage
	-	-	-	-

Volta Flood and Drought Management

Photo Gallery of the National Workshop in Ghana on best practices and opportunities for improving integrated management of floods and drought risks and climate resilience in the Volta basin


NATIONAL WORKSHOP ON BEST PRACTICES AND OPPORTUNITIES
IMPROVING INTEGRATED MANAGEMENT OF FLOODS AND DROUGH
RISKS AND CLIMATE RESILIENCE IN THE VOLTA BASIN
6th AND 7th MAY, 2024 @ COCONUT GROVE,
REGENCY HOTEL, ACCRA – GHANA.


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OPEN PLENARY


RISKS AND CLIMATE RESILIENCE IN THE VOLTA BASIN
4th AND 7th MAY, 2024 @ COCONUT GROVE,
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