

**NATIONAL STAKEHOLDERS WORKSHOP TO DEVELOP REGIONAL
STRATEGY FOR FLOOD AND DROUGHT RISK MANAGEMENT IN THE
VOLTA RIVER BASIN**

Venue: Coconut Grove Hotel, Accra

Date: November 29- December 1, 2022



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1 Acronyms and abbreviations

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2 Introduction

This national stakeholder workshop is part of the activities of the activities in relation to “Integrating Flood and Drought Management and Early Warning for Climate Change Adaptation in the Volta Basin (VFDM)” Project. The purpose of this workshop was to develop a regional strategy for the management of flood and drought risks in the Volta Basin.

The workshop was held at Coconut Grove Regency Hotel in Accra from November 29 to December, 2022. The program was attended by national stakeholders such as Hydrological Service Department, Ghana Meteorological Agency, Environmental Protection Agency, Ghana Irrigation Development Authority, Water Research Institute, National Development Planning Commission, National Disaster Management Organisation, Media houses etc

3 Opening Ceremony

The workshop started with a welcome Address from Madam Adwoa Painsil, the Acting Executive Secretary of Water Resources Commission who thanked participants for being present at the event. They were speeches from HOUNYEK ARMAND, Executive Secretary of GWP-WA, DESSOUASSI YAOVI ROBERT, Executive Director of Volta Basin Authority, NIKENA P. MICHAEL, Project Officer from World Meteorological Agency.

The official opening of the workshop was done by Acting Executive Secretary on behalf of Hon. Minister for Sanitation and Water Resources. Afterwards, there was a group photograph to commemorate the opening ceremony. The technical session started immediately after the tea break and the sessions were presided over by Mr. Sylvester Darko from the Hydrological Service Department.

4 Establishment of Presidium

Chairperson: Mr. Sylvester Darko

4.1 Reporters

1. Mr. Joachim Ayiwe Abungba – Principal Basin Officer, WRC Black Volta Basin Secretariat, Wa, Ghana
2. Mr. Godfred Asamoah – Water Quality Officer, WRC Head Office, Accra, Ghana.

4.2 Adoption of the agenda

The provisional agenda (presented under Annex 2) was adopted without any amendments.

4.3 Session 2

Presentation 1: Marco Massabo, a consultant from CIMA presented on the Methodology for the development, validation, and adoption of the regional strategy.

He explained that the process and methodology were divided into three phases namely: elaboration, validation, and adaptation & operationalization. With respect to phase 1 (Development), is subdivided into four categories which are: induction, preparation, co-development, and summary. We were in the co-development stage, which is National workshops with stakeholders on the vision, horizon, objectives, and orientations of the strategy and action plan.

Presentation 2: Overview of Volta Basin and Impacts by Joachim, Head of Black Volta Basin of the Water Resources Commission

He mentioned that since 2007, several persons have been affected by climate change. He reiterated that a community called Ntreso were wiped out due to flood. Additionally, boreholes have been polluted, animals lost, food insecurity, and low agriculture yield, economic and social activities have been impacted negatively. This has led to dependence on family relatives. However, through strong collaboration and good practices like relief items for affected persons by NADMO, the effects have been reduced. Flood and drought risk maps have also been developed for the Volta Basin.

4.4 Session 3, methodology

Figure 1: Methodology

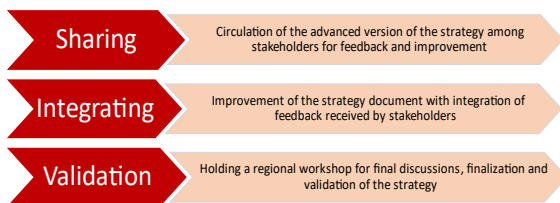


Methodology and process

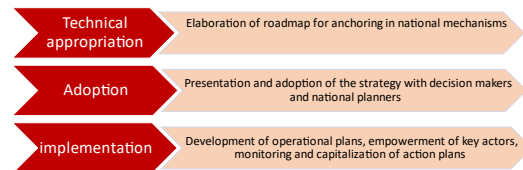
The process of developing the Strategy is led by the VBA with support from GWP-AO, WMO and technical and scientific support from CIMA. The process can be divided into three main phases:



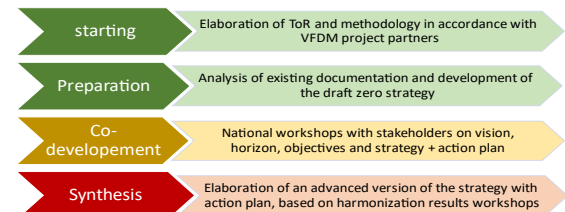
Phase 2: Validation



Phase 3: Adoption et opérationnalisation



Phase 1: Elaboration



Presentation 1: Analysis of the situation; challenges, gaps and opportunities

There were four priority areas namely

- I. Understanding disaster risk
- II. Strengthening disaster risk governance to manage risk
- III. Investing in disaster risk and resilience
- IV. Enhancing disaster preparedness for effective responses

The presentation opened us to basic definitions we need to know. These are

Challenges: Exposure to natural and human phenomenon

Opportunities: Possibility to get useful stuff for development

Need: A target attained by taking a challenge

Gaps: Lack or insufficiency

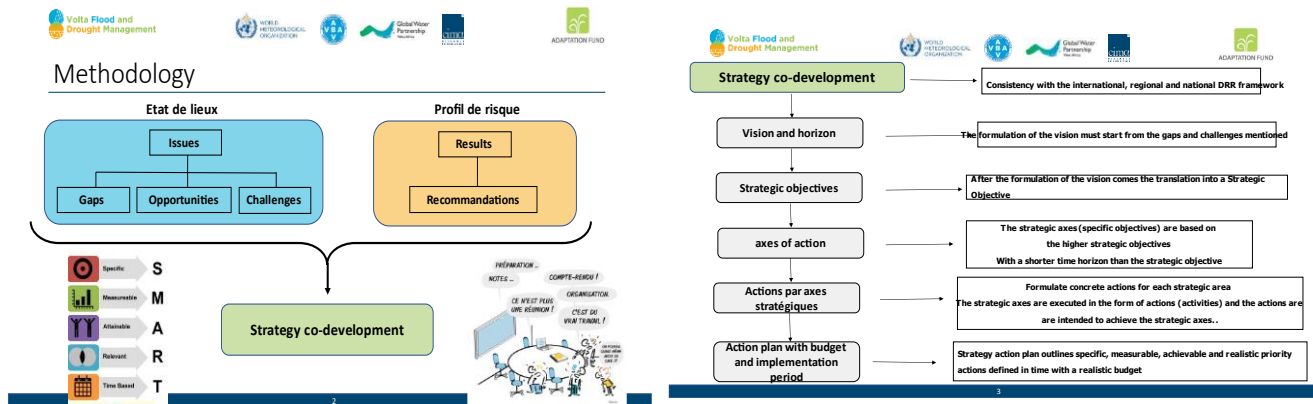
The four challenges towards integrated and cross-border flood and drought risk management in the Volta Basin are:

- I. Improving the understanding of flood and drought risks
- II. Strengthen governance and institutions
- III. Investing in DRR measures for resilience
- IV. Implementing early action protocols

Presentation 2: Flood and Drought Risk Profile for the Volta basin

This presentation emphasized on multi hazard risk profiling taking into account these objectives: Scientific Modelling for Probabilistic Risk Assessment and Bring Risk Information closer to Decision Makers and DRM practitioners. There was also present conditions and projections with respect to climate and socio-economic factors. The use of RCP 7.0 (Medium emission scenario) was employed and that of socio-economic was dependant on population

Session 4 : Development of the Strategy Figure 2: Strategy development



The stakeholders were divided into three groups of seven persons. The aim of the group was to achieve two tasks:

- I. To identify additional gaps in DRR and DRM in the Volta Basin by adding additional challenges and need to the already existing document.
- II. To formulate the vision of the regional strategy

The day 1 ended with a collective decision with the assistance of the consultants and stakeholders to conclude on a common vision for the strategy:

A climate resilient basin through an evidence-based integrated approach to flood and drought risk management as well as effective collaboration and cooperation for a sustainable socio-economic and ecosystem development by 2030

Proceedings of Day 2

The groups were further engaged to develop the objective, specific objectives and medium-term actions plan of the strategy. The information provided below are finalized outcome from the groupwork and deliberations.

General Objective

To promote evidence-based integrated and sustainable approach to flood and drought risk management, strengthening investments, institutional capacity, collaboration and cooperation among the member states to mitigate the potential impact on communities and ecosystems in the Volta basin.

Specific Objectives

- I. Improve systematic data collection and sound scientific knowledge in risk information for evidence-based integrated and sustainable approach to flood and drought risk management in the Volta basin.
- II. Improve the capacity of the local communities to build climate resilience within the Volta Basin
- III. Strengthening gender-inclusive institutional capacity, collaboration and cooperation at all levels within and among the member states to reduce and manage the risks of floods and droughts and to increase the resilience of the communities within the Volta Basin.
- IV. Boosting infrastructural and financial investments in flood and drought risk management to enhance the resilience and adaptation mechanisms in the Volta basin.

Moreover, the three groups were tasked to work in this format:

Group 1:

1. Improve systematic data collection and sound scientific knowledge in risk information for evidence-based integrated and sustainable approach to flood and drought risk management in the Volta basin.
2. Improve the capacity of the local communities to build climate resilience within the Volta Basin

Group 2

1. Improve systematic data collection and sound scientific knowledge in risk information for evidence-based integrated and sustainable approach to flood and drought risk management in the Volta basin
2. Strengthening gender-inclusive institutional capacity, collaboration and cooperation at all levels within and among the member states to reduce and manage the risks of floods and droughts and to increase the resilience of the communities within the Volta Basin.

Group 3

1. Boosting infrastructural and financial investments in flood and drought risk management to enhance the resilience and adaptation mechanisms in the Volta basin.
2. Improve the capacity of the local communities to build climate resilience within the Volta Basin

Proceedings of Day 3

The three groups were tasked to work on the second session of medium-term action plans, make recommendations and lastly finalized and validated the draft zero report of the strategy. The outcomes are presented in the tables below.

5 Groupwork results

GROUP 1

Specific objective 1: [Improve <i>systematic data collection and sound scientific knowledge in risk information</i> for evidence-based integrated and sustainable approach to flood and drought risk management in the Volta basin]						
Actions/Activities	Baseline	Expected result	Responsible	Implementing Partners	Budget Estimate USD	Calendar
1.Establish new stations and upgrade the existing network for data collection within the Volta Basin	Baseline exist but may require further assessment	a.New data stations established b.Existing stations upgraded	Water Resources Management institutions (e.g. Ghana Hydrological Authority & Ghana Meteorological Agency	Key Ministries and Agencies concerned	6M	2023-2025
2.Institute and maintain operational and maintenance regime for data collection networks in the Basin	To be determined (TBD)	Network operational plan developed	Water Resources Management institutions	Key Ministries and Agencies concerned	4M	2023-2030
3.Provision logistics (Financial and Human) for monitoring and maintenance of networks	TBD	Financial and human resources to support monitoring available	VBA Member countries/Development partners	Water Resources Management institutions	3M	2023-2025
4.Implement operational and maintenance plan	Operational Plan Developed	Operational plan implemented	Water Resources Management institutions	Key Ministries and Agencies concerned	6M	2023-2030
5.Harmonise and establish a data sharing framework for the Volta basin	TBD	Harmonised data sharing	VBA		1M	2023

		policy developed				
6.Capacity building of key stakeholders to ensure sustainable data collection	TBD	150 key stakeholders capacity built	VBA/ Water Resources Management institutions	Key Ministries and Agencies concerned	2.5M	2023-2027
7.Establish ICT infrastructure to support data management for the key institutions	TBD	ICT infrastructure supporting data management in each state agency concerned established (e.g. GMet, WRC, HGA for Ghana)	VBA/ Water Resources Management institutions	Key Ministries and Agencies concerned	2.5M	2024

Specific objective 2: [Improve the capacity of the local communities to build climate resilience within the Volta Basin]

Actions/Activities	Baseline	Expected result	Responsible	Implementing Partners	Budget Estimate USD	Calendar
1.Prepare Sub-Basin disaster preparedness plans in all sub-basins of the Volta	Flood and drought hazard maps	Community risk preparedness plans developed	NADMO, MMDAs	WRC, VRA, Bui Power Authority	1M	2023-2024
2.Develop Community climate Smart agriculture systems	(TBD)	Climate Smart agriculture practised	MoFA	WRC, DAs	2M	2023-2030
3.Introduce and implement sustained climate insurance schemes in the Volta Basin	TBD	Climate insurance scheme available	VBA Member countries/Development partners	Water Resources Management institutions	500000	2023-2025

4.Training of communities on climate smart agriculture, sustainable farming systems, alternative livelihoods etc	TBD	All targeted communities trained	MOFA, BAC, NGOs/CSOs	Water Resources Management institutions/	3M	2023-2030
5.Monitoring and evaluation disaster plans implementation	TBD				500000	2023-2030

GROUP 2

Specific objective: [note down here the 1st specific objective]						
1. Improve systematic data collection and sound scientific knowledge in risk information for evidence-based integrated and sustainable approach to flood and drought risk management in the Volta basin						
Actions/Activities	Baseline	Expected result	Responsible	Implementing Partners	Budget Estimate USD	Calendar
1. Conduct data assessment needs on socio-economic, hydro, meteorological data	Tbd	Data need assessment report completed	GMet, HSD, WRC, Cersgis, NADMO	NDPC, Ghana Statistical Service, MMDAs, communities	tbd	2023
2. Establish state of the art High Performance Computers (HPC) to run NWP	none	HPC installed and running	GMet, HSD, NADMO	WRC	tbd	2024
3. Data and rescue of paper records	tbd	Manual Data Digitized	GMet, HSD			
4. Build capacity of data collection technicians	tbd	Report on Capacity				
5. Build capacity of data processing and analysis technicians						

6. Undertake vulnerability assessment						
7. User Engagement workshop						
8. Rehabilitate and upgrade localized Numerical Weather Prediction models eg WRF model, Hydro-WRF Model,						

Specific objective: [note down here the 1st specific objective]						
2. Strengthening gender-inclusive institutional capacity, collaboration and cooperation at all levels within and among the member states to reduce and manage the risks of floods and droughts and to increase the resilience of the communities within the Volta Basin.						
Actions/Activities	Baseline	Expected result	Responsible	Implementing Partners	Budget Estimate USD	Calendar
1. Conduct gender-based institutional capacity needs assessment on DRM	tbd	Gender-based institutional capacity needs assessment report completed	NADMO	GMet, HSD, WRC, Cersgis, EPA, NDPC, Gender Ministry	tbd	2023/24
2. Develop communication protocols for information exchange on DRM	tbd	Communication protocols established	WRC	Information services department, NADMO, VBA, MMDAs, EPA, GMet, HSD, MoFA,	500,000	2023
3. Develop learning materials on identified needs	tbd	Learning materials developed	NADMO	Information services department, VBA, MMDAs, EPA, GMet, HSD, MoFA,		
4. Conduct gender inclusive training on needs identified						

5. Strengthen an M&E Systems on Disaster Risk Assessment	tbd					
6. Strengthening collaboration and cooperation among relevant institutions on DRM	tbd					

GROUP 3

1. Specific objective: [Boosting infrastructural and financial investments in flood and drought risk management to enhance the resilience and adaptation mechanisms in the Volta basin. (G3)]						
Actions/Activities	Baseline	Expected result	Responsible	Implementing Partners	Budget Estimate USD	Calendar
1. Investment in state-of-the-art data collection platforms (eg. Hydrometeorological data, flood risk map) to inform water resources management, assessments, development and guide design of infrastructure.	<ul style="list-style-type: none"> Manually operated hydrometeorological stations Inadequate and non-updated flood risk maps 	<ul style="list-style-type: none"> Automated hydrometeorological stations. Updated flood risk maps 	<ul style="list-style-type: none"> Ghana Meteorological Agency Ghana hydrological Authority NADMO 	VBA WMO WASCAL		By 2030

2. Multi-purpose Dam construction, drains, weir, réservoirs construction for flood and drought risk management.	Feasibility studies of the Pwalugu Multipurpose dam done.	Fully operational multi-purpose dam	VRA GIDA Ministry of Energy Ministry of Agric	VBA GoG Developmental partners like the World Bank		By 2030
3. A Nature Based Solution to restore and better manage land along the Volta basin through afforestation.	To be determined	Fully established trees along the flood plain	Forestry Commission	VBA		By 2030
4. Introduction of crop insurance to support farmers who lose their crops to floods and drought	To be determined	Insured farms and Improved livelihoods	National Insurance Commission Ministry of Food and Agric.	VBA		By 2030
5. Encourage private sector involvement /participation to invest in infrastructure such as irrigation and aquaculture.	To be determined	PP partnerships within the volta basin established	Ministry of trade and Industry Ghana Investment Promotion Center	VBA		By 2050

2. **Specific objective:** *[Improve the **capacity of the local communities** to build climate resilience within the Volta Basin]*

Actions/Activities	Baseline	Expected result	Responsible	Implementing Partners	Budget Estimate USD	Calendar
1. Train locals along the hydrometeorological station to read and communicate daily water levels from manual stations.	Some trained locals. Number to be determined	Identify and train selected locals along the hydrometeorological stations of the Volta basin.	Ghana Hydrological Authority Ghana Meteorological Agency	VBA GoG		2025/ 2026
2. Train locals on Climate-smart agriculture; to include early maturing crops on their farms.	To be determined	The number of farmers who have been trained to incorporate early maturing crops on their farms.	Ministry of Food and Agric.	VBA		2025/ 2026
3. To assist communities and local government to integrate DRR and Flood mitigation mechanisms into their development plans.	To be determined	Trainings/ Sensitisations on DRR and Flood mitigations at the local government and communities. Inclusion of DRR/DRM in development plans	Local Government Service	VBA		By 2024

		of Local governments.				
4. Train and sensitise communities on early warning systems and how to respond to them.	To be determined Volta project provided training in 6 Local Communities	Trainings on early warning systems done. Locals are able to adequately and quickly respond to early warnings.	Ghana Hydrological Authority NADMO GMet. GIDA (Ghana Irrigation Dev Agency)	VBA Local Government Services		By 2024
5. Support communities in additional livelihood options.	To be determined	Number of farmers supported in additional livelihood options	Ministry of Food and Agric. Ministry of Trade and Industry	VBA		By 2030

Roles of the main stakeholders at different levels

Level	Institution	Roles
Regional	VBA ED	<ul style="list-style-type: none"> • Coordination and supervision of the implementation of Strategy • Lead the financial resource mobilization for the implementation • Monitor strategy implementation • Lead validation • Facilitate adoption of strategy at Council of Minister Level
Regional	VBA Council of Ministers and Summit of Head State	<ul style="list-style-type: none"> • Political Leadership
Regional	GWP-WA	<ul style="list-style-type: none"> • Technical support and capacity building for the implementation of Strategy • Resource mobilization • Policy dialogue
Regional	ECOWAS (DRR)	<ul style="list-style-type: none"> • Political leadership • Resource mobilization
Regional	WAEMU	<ul style="list-style-type: none"> • Technical Assistance and capacity building • Resource mobilization
	AGRYMETH	<ul style="list-style-type: none"> • Technical Assistance and capacity building • Resource mobilization
	CILS	<ul style="list-style-type: none"> • Political leadership • Resource mobilization
INTERNATIONAL	IUCN	<ul style="list-style-type: none"> • Technical Assistance and capacity building • Resource mobilization
	WASCAL	<ul style="list-style-type: none"> • Technical Assistance and capacity building • Resource mobilization
	ACMAD	<ul style="list-style-type: none"> • Technical Assistance and capacity building • Resource mobilization
INTERNATIONAL	WMO	
INTERNATIONAL	CIMA	
INTERNATIONAL	UNDRR	<ul style="list-style-type: none"> • Promote MCR campaign in the basin

	AUC	
National	Line/sector Minister	<ul style="list-style-type: none"> • Adoption and ownership at national level • Mainstreaming the strategy in the national planning • Allocate resources for the implementation of the strategy • Political leadership • Advocacy for adoption at Regional Level
	National Agencies	<ul style="list-style-type: none"> • Mainstreaming the strategy at national level • Monitoring and evaluating of strategy implementation • Strategy implementation based on Agency specific mandate • Resource mobilization • Continuous capacity building • Promote related research • Align projects and intervention to the strategy • Technical review of the strategy (NFP)
Local Level	Local Level	<ul style="list-style-type: none"> • Implementation of strategy actions at local level • Joint monitoring of the implementation • Local ownership

- Cooperation and partnerships for the strategy
 - ARC network
 - National Disaster Risk Reduction Programme
 - Create a new specific Working Group/platform for the strategy implementation and coordination by the National Focal Structure
- Resources mobilization
 - The VBA will:
 - Design a resource mobilisation plan (donor mapping, ...)
 - Present the Resources Mobilization Plan to Governments and donors
- Monitoring and Evaluation
 - VBA to implement the monitoring and evaluation plan
- Learning and sharing lessons
 - Workshops
 - Field visits and exchanges
 - KMS
 - Publications
 - Media and community radios for dissemination
 - Social media dedicated channels

6 Recommendations

1. Discussions related to the project should be kept on-going through the National Working Group in Ghana.
2. Sustainability of systems can be achieved through the involvement of youth and the system can be modified through training.
3. A community or system such as MCH must be created for the users of VoltAlarm to interact easily.
4. There was an advocacy that projects should not be duplicated but instead promote and complement related projects.

6. Timeline for the rest of the process until the strategy is validated.

Months Activities	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Second semester 23
1 – National workshop for co-development									
2 - Development of the advanced version of the strategy (synthesis of workshop results)									
3 – Circulation of the advanced version of the strategy among stakeholders									
4 – Holding national mini-workshops to evaluate and pre-validate the document at the national level (with identification of a small group of experts who will participate in the regional validation workshop)									
5 – Integration of the feedback from the national mini-workshops into the final version of the document to be used for the regional validation workshop									
6 – Holding of the regional validation workshop									
7 – Presentation of the strategy to the VBA Council of Ministers									

7 Annexe

7.1 Annexe 1: Publications on the training workshop

<https://www.inghananewstoday.com/2022/12/01/volta-basin-vfdm/>

<https://www.gbcghanaonline.com/general/floods/2022/>



Directors and dignitaries at the training workshop

7.2 Annexe 2: List of media participants

No.	Name	Institution	Job Title	Phone No.	Email Address
1	Timothy Ngenbe	Daily Graphic	Reporter	024-8790824	ngnenbetimothy@gmail.com
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3	Samuel Timbilla	GTV		054-7238291	samueltimbilla@gmail.com
4	Beatrice Enyonam	Hot FM	Reporter	055-8030444	priskyenyonam57@gmail.com
5	Franklin Asare-Donkoh	GBCONLINE/GWJN	Assit. Editor	024-2333243	franklindonkoh@gmail.com
6	Abigail Arthur	Ghanaian Times	Reporter	054-5896017	abigailarthur655@gmail.com
7	Ernest Adjei	UTV	Camera/ Reporter	050-6663912	ernestadjei@gmail.com
8	Joe Mills	UTV	Camera/ Reporter	024-4724080	-

7.3 Annexe 3: List of National Stakeholders

No.	Name	Institution	Job Title	Phone No.	Email Address
1	Adwoa Afran	WRC	Snr Officer	020-4831528	adwoa.afran@wrc-gh.org
2	Adwoa Painstil	WRC	Ag. Executive Secretary	024-4227972	adwoap@gmail.com
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5	Celestina Deku	LUPSA	Senior Spatial Planning Officer	024-5107866	cedken@gmail.com
6	Charlotte Norman	NADMO	Director	020-9875188	charlottenorman72@yahoo.com
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8	Dessouassi Yaowi Robert	VBA	Executive Director	226-77719797	
9	Eric Muala	WRC	Principal Officer	023-4502258	ericmuala25@gmail.com

No.	Name	Institution	Job Title	Phone No.	Email Address
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16	Jesse P. Kazapoe	WRC- WVBA	Basin Head	054-9977153	jesse.kazapoe@gmail.com
17	Joachim Ayiwe Abungba	WRC - Black Volta	Basin Head	024-6737819	joahimayiiwe@gmail.com
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19	Kenneth Amoateng	Abibi Nsroma Foundation		024-4023651	kamoateng@gmail.com
20	Kwaku Asante	HSD	Hydrologist	020-9115036	kayasante13@yahoo.com
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23	Marco	CIMA	Research Director		
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26	Niampa Boukari	VBA	FTO-VFDM		
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31	Shadrach Kojo Dzokoto	Ayawaso North Mun. Ass.	Ass. Physical Planner	024-7630971	shadrach9000@gmail.com
32	Sylvester Darko	HSD	Head of Hydrology	024-4177110	slykwesi@yahoo.com