

CTCN assistance in Ghana

Improving Resiliency of Crops to Drought through Strengthened Early Warning within Ghana



Summary report from the second National Workshop (activity 6)

26 October 2017 in Accra, Ghana

This report has been prepared under the DHI Business Management System certified by Bureau Veritas to comply with ISO 9001 (Quality Management)

Approved by

06-11-2017

X



Approved by
Head of Projects, Water Resources
Signed by: Oluf Zeilund Jessen

CTCN assistance in Ghana

Improving resiliency of crops to drought through strengthened early warning within Ghana Needs Assessment report

Summary report from the second National Workshop (activity 6)

Prepared for **UNEP**
Represented by **Mr. Manfredi Caltagirone**

Project manager	Oluf Zeilund Jessen
Quality supervisor	Per Bøgelund Hansen
Prepared by	Bertrand Richaud and Oluf Jessen

Project number	11819285-1
Approval date	01 November 2017
Revision	Draft final version 1
Classification	Restricted

CONTENTS

1	Background	2
2	Purpose of the workshop	2
3	Participating Institutions	3
4	Minutes from the meeting.....	5
4.1	Agenda	5
4.2	Opening.....	6
4.3	Technical outputs from the CTCN and GCF activities	6
4.4	Green Climate Fund readiness activities	9
4.5	Green Climate Fund in Ghana	11
5	Key outcomes from the workshop.....	13
6	Remaining activities.....	14

Acronyms and Abbreviations

CREW	Community Resilience Early Warning
CTCN	Climate Technology Centre & Network
GCF	Green Climate Fund
DHI	DHI - see more at www.dhigoup.com
EPA	Environmental Protection Agency
EWS	Early Warning System
GIDA	Ghana Irrigation development Authority
GMET	Ghana Meteorological Agency
GWP	Global Water Partnership
HSD	Hydrological Services Department
MWRWH	Ministry of Water resources, Works and Housing
MWRWH	Ministry of Water resources, Works and Housing
NADMO	National Disaster Management Organisation
NDA	National Designated Authority
NIE	National Implementing Entity
SDG	Sustainable Development Goals
UNEP	United Nations Environment Programme
UNEP-DHI	UNEP-DHI Partnership – Centre on Water and Environment
VRA	Volta River Authority
WRC	Water Resources Commission
WRI	Water research institute

Minutes from National Workshop

This document gives an overview of the content and main outcome of the Second national workshop, which was held at Water Resources Commission in Accra on 26 October 2017.

1 Background

The national workshop marked the finalisation of the Climate Technology Centre and Network (CTCN) funded technical assistance on “Improving resiliency of crops to drought through strengthening early warning”. The workshop was held at the Water Resources Commission in Accra, Ghana on October 26th, 2017.

The national workshop took place over a full day and provided an overview of the technical outputs from the CTCN and the upcoming GCF activities, but was also an important workshop for defining the scope of the proposed GCF full size project.

The **expected outputs of the national workshop** are insight into the developed drought early warning system and knowledge of how it could be applied and used in Ghana. The second part of the workshop provided valuable input to the development of the GCF concept note, and it was an opportunity for the participants to influence the content of the concept for the proposed GCF full size project.

The CTCN funded technical assistance relates to improving resiliency of crops to drought through strengthened early warning within Ghana. The objective is to facilitate transfer and capacity building for climate change adaptation focusing on dry season management and planning. The proposed support will utilise existing knowledge and capacity and further develop and validate these for applications to local issues within Ghana.

The following technical aspects have been included in the technical assistance:

- **Data accessibility:** Increased access to local and satellite based data relevant for drought management.
- **Climate forecasting:** Improved weather forecasting functionalities enabling climate forecasting across different temporal scales.
- **Early warning:** Development of a drought early warning system facilitating the provision of timely and effective information related to the water and agriculture sectors allowing these sectors to take actions to mitigate impacts of the upcoming drought.
- **Early warning communication:** Tools for dissemination of drought related information to national and regional organizations.

2 Purpose of the workshop

The purpose of the workshop is to:

- Present the Technical outputs from the CTCN and GCF activities
 - Presentation of the drought early warning system
 - Provide feedback from the technical training which took place during the two previous days
- Overview the scheduled Green Climate Fund readiness activities
 - Overview and status of the remaining activities
 - Status on the GCF concept note
- Provide input to the GCF concept note on the institutional part
 - What is the current institutional and technical state of drought management and forecasting in Ghana?
 - What are the technical and institutional requirements or needs for improving drought-related services in Ghana?
- Provide input to the GCF concept note related to the technical activities
 - Identify relevant technical services currently lacking for strengthening the national water resources and drought planning with respect to food security. The identified services are to be implemented in the full-scale GCF project.
 - Identify relevant technical services targeting and supporting local level climate resilient solutions. The identified services are to be implemented as part of the full-scale GCF project.

3 Participating Institutions

The following institutions participated in the workshop:

- Department of Earth Science, University of Ghana
- Environmental Protection Agency
- Ghana Meteorological Agency
- Ghana Irrigation Development Authority
- Global Water Partnership, Ghana
- Hydrological Services Department
- National Disaster Management Organisation
- Ministry of Water Resources Works and Housing
- Ministry of Food and Agriculture



- Ministry of Finance
- Water Resources Commission, White Volta
- Water Resources Commission

List of participants is shown in Appendix 1.

4 Minutes from the meeting

4.1 Agenda

Time	Title
09.00 – 09.30	Registration
09.30 – 09.45	Welcome and presentation of the objective with the workshop
09.45 – 10.00	Presentation of participants
10.00 – 10.30	<p>Technical outputs from the CTCN and GCF activities</p> <p>Presentation of the drought early warning system Feedback from the technical training</p> <p>Outcome: Overview of the technical outputs from the CTCN and GCF activities.</p>
10.30 – 11.00	<p>Green Climate Fund readiness activities</p> <p>Overview and status of the remaining activities Status on the GCF concept note</p> <p>Outcome: Overview of the Green Climate Fund activities</p>
	Green Climate Fund
11.00 – 11.45	<p>Session 1:</p> <p><i>Institutional and technical state of drought management and forecasting in Ghana. Discussion on topics relevant for the development of the GCF concept note.</i></p> <p>What is the current institutional and technical state of drought management and forecasting in Ghana? What are the technical and institutional requirements or needs for improving drought-related services in Ghana?</p> <p>The above mentioned gaps or requirements are to be addressed in the full-size GCF project.</p> <p>Outcome: Input to the GCF concept note</p>

11.45 – 12.30	<p>Session 2:</p> <p><i>Identification of technical services needed to strengthen the national water resource and drought planning with respect to food production.</i></p> <p><i>Discussion on topics relevant for the development of the GCF concept note.</i></p> <p>Identify relevant technical services currently lacking for strengthening the <u>national</u> water resources and drought planning with respect to food production. The identified services are to be implemented in the full-scale GCF project. Identify relevant technical services targeting and supporting <u>local level</u> climate resilient solutions. The identified services are to be implemented as part of the full-scale GCF project.</p> <p>Outcome: Input to the GCF concept note.</p>
12.30 – 13.00	Discussion and wrap up

4.2 Opening

Presenter: Bob Alfa (WRC) representing the host organisation

Key messages:

- Opening of the meeting
- Individual presentation of the participants
- Brief introduction to the previous activities in the CTCN assistance.
- Highlighted the objective of this meeting: *update the participant in the status of the CTCN Technical Assistance and discuss the GCF Concept note.*

4.3 Technical outputs from the CTCN and GCF activities

Presenter: Bertrand Richaud (DHI)

Key messages:

- Web based drought management and early drought warning portal is now available for the key stakeholders and their organisations
- Staff from a number of organisations are trained in the use of the drought early warning system and they will be able to act as trainers for the other organisations in Ghana.

- The developed portal will allow users in Ghana to i) evaluate the cause behind drought events, ii) select relevant indicators to measure the state of an impact, iii) provide access to near real time data and information for drought assessment, iv) provide access to a wide range of drought indicators updated in near real time and v) enable WRC to schedule automated reports to be submitted to relevant organisations in Ghana

Presentation is included in Appendix 2.

Questions:

Do the indicators have been validated for application in Ghana?

- The performance of the satellite based data and the calculated indicators are one of the key considerations related to the system. WRC staff will in the following months perform a validation of the performance of the system in Ghana, which will be reported to the key stakeholders.

How will the output of the system reach the end users?

- The output from the system will reach the end users through automated reports or bulletins developed through the portal. WRC will over the coming months develop a template for a bulletin, which will be initiated and submitted to the stakeholders before the closure of the assistance.

Will there be any fee associated with the use of the system?

- All of the key stakeholders will have a free and unlimited access to the system and new users will be able to register without any associated fee or cost.

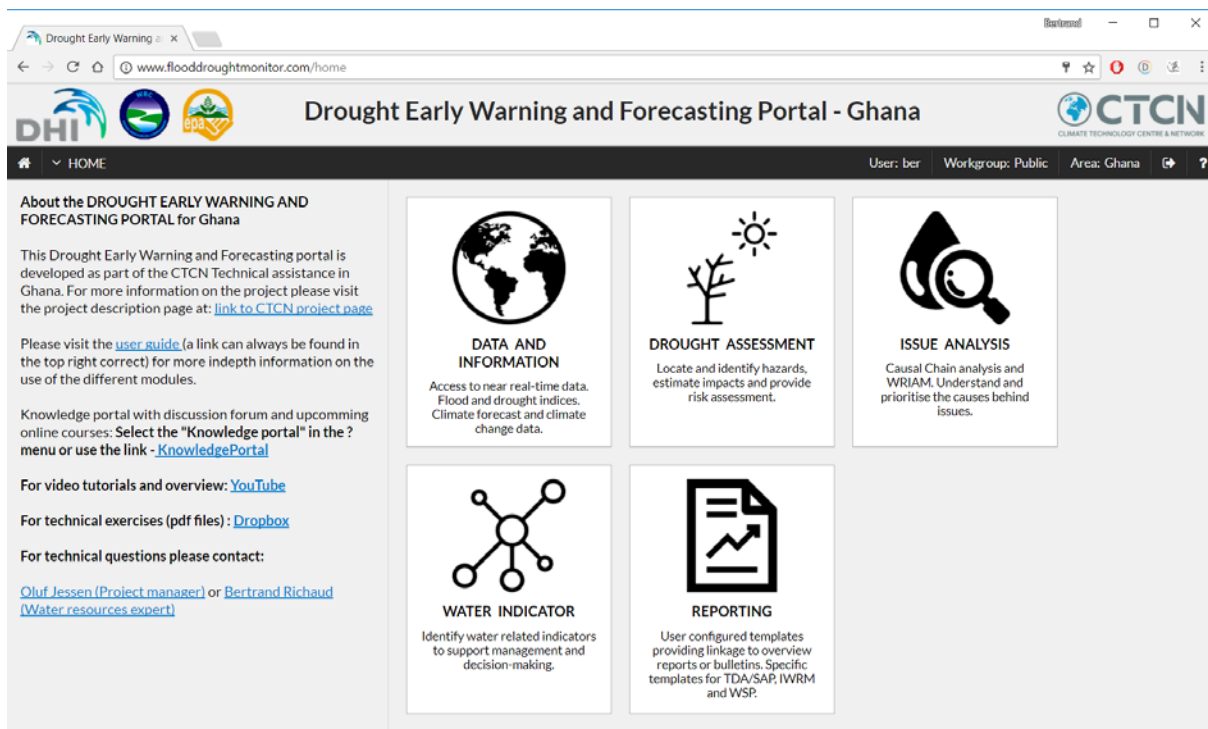


Figure 4-1 View of the landing page of the Drought Early Warning System

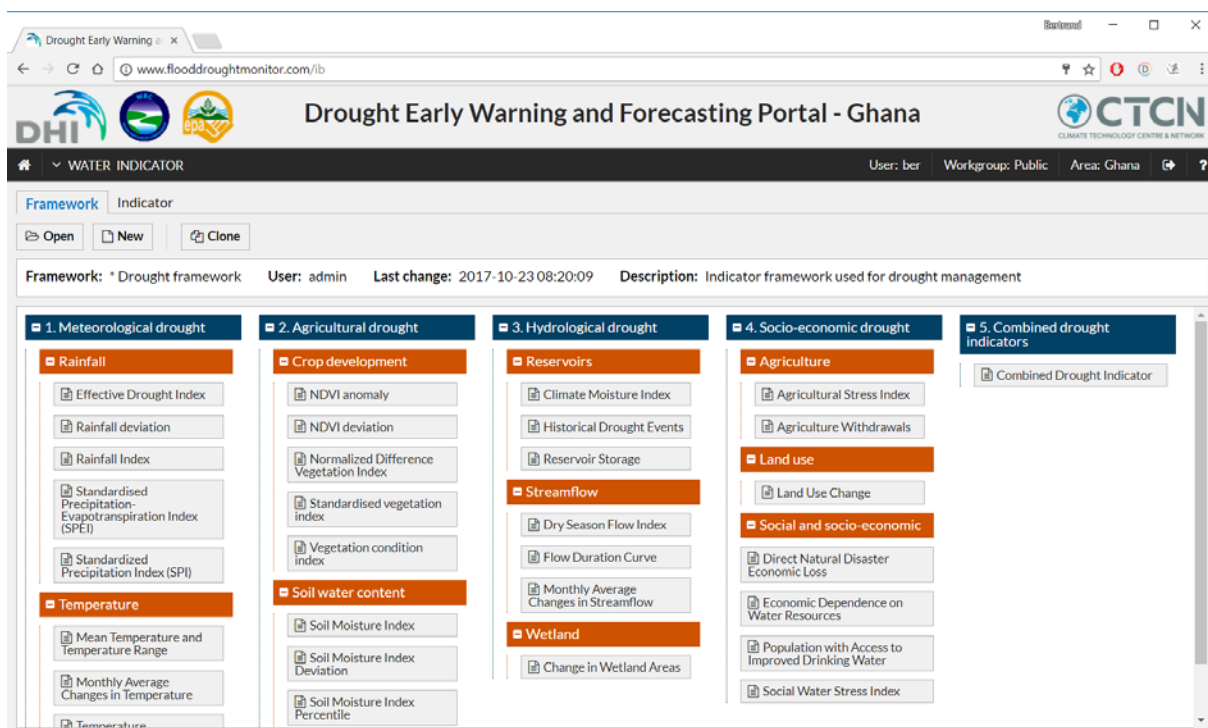


Figure 4-2 View of the Indicator application used for selecting relevant drought indicators.

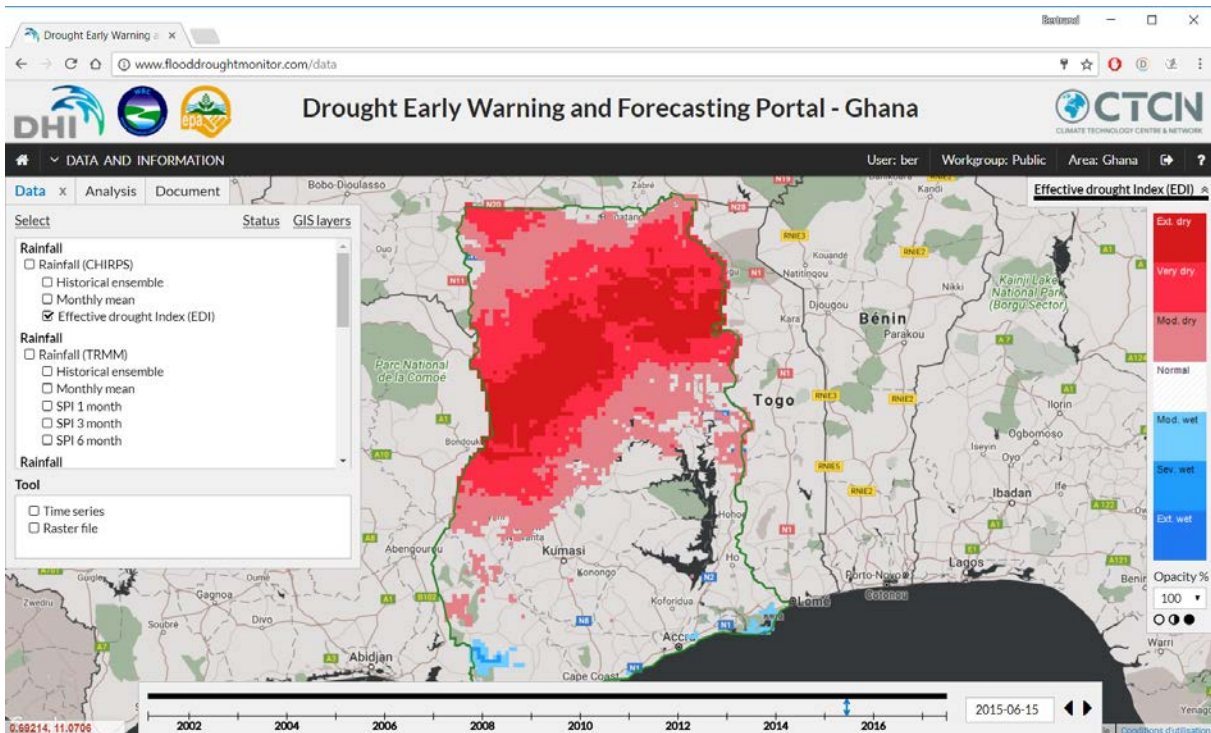


Figure 4-3 View of one of the drought indicators

4.4 Green Climate Fund readiness activities

Presenter: Oluf Jessen (DHI)

Key messages:

- Key contribution from the GCF readiness funds:
 - National experts providing input to the GCF concept note
 - Road map for upscaling to full size GCF project
 - High level national workshop
 - GCF concept note
- The four national experts will cover the following topics:
 - Expert 1:
 - Validate and test the developed web based early warning and forecasting system
 - Analysis of the existing technical tools used for drought management and drought early warning in Ghana
 - Expert 2:

- Assessment on the current institutional and technical state of drought management
- Recommendations for improving drought related services
- Expert 3:
 - Vulnerability assessment of the agricultural sector with focus on the food production
- Expert 4:
 - Identification of technical services needed to strengthen the water resource and drought planning
 - Identification of intervention sites where developed technical services could be implemented
- The developed GCF concept note will provide an overall description of the purpose and content of the GCF full size project. It's to be submitted to GCF by the accredited entity (UNEP) and will define the basis for the development of the project document
- The high level national workshop is planned for February 2018, with the main objective of getting a national acceptance of the developed GCF concept note
- The proposed upscaling of the CTC assistance will focus on “Improving resilience of food security and water management to climate variability and change”.
- A draft version of the log frame was presented.

Presentation is included in Appendix 2.

Questions:

What is the process after the National Workshop?

- The national experts will over the coming months provide input to GCF concept note, and the deadline for the national experts will be December 2017. Their input will be compiled into a first draft version of the GCF concept note which will be reviewed by a climate funding expert before a final draft version is available. The final draft version will be presented at the high-level workshop in February 2018.

How will the national stakeholders be involved in the process of developing the concept note?

- The national workshop is intended to inform all the key stakeholders of the process and ensure that all relevant organisations are aware of the process. The national experts will over the coming months engage with the relevant national stakeholders ensuring a high level of engagement and awareness among the stakeholders.

Who will be the national executing agency?

- This is to be decided in close collaboration with the NDA's office.

4.5 Green Climate Fund in Ghana

Presenter: Robert Mensah (Ministry of Finance)

Key messages:

- GCF background
 - The Green Climate Fund was established with a mission to advance the goal of keeping the temperature increase on our home planet below 2 degrees Celsius.
 - The Fund will work through accredited implementing entities and intermediaries to implement approved projects and programmes using financial instruments such as grants, concessionary loans, equity, and guarantees.
 - GCF focuses on mitigation and adaptation to climate change
- Accreditation process
 - Large number of accredited organisations
 - At this stage no accredited National Implementing Entity (NIE) in Ghana
 - Two potential NIEs (i.e. Ecobank Ghana Ltd & Social Investment Fund) shortlisted for Direct Access.
- Main actions in Ghana
 - Three pipeline projects:
 - Ghana Shea Landscape REDD+ Project – Forestry Commission
 - Climate Resilient Landscape for Sustainable Livelihoods in the Northern Region – Ministry of Food and Agriculture
 - Accelerating Solar Action Programme, Ghana- Energy Commission.

Presentation is included in Appendix 2.

Questions:

Are there experiences from the GCF application process?

- The experience from Ghana is so far limited to the GCF Readiness Funds.
- The current knowledge is that the process to a full size GCF project is long and difficult and the preparedness phase is very important.
- Critical that the application is targeting the key GCF objectives.

How is the National Technical Advisory Committee developed?

- It was composed to cover the main national interest within the scope of the GCF, but currently water interests are not included.
- The NDA office will look at the composition of the National Technical Advisory Committee



Figure 4-4 Presentation by Robert Mensah (Ministry of Finance)

5 Key outcomes from the workshop

The workshop was very successful with participation of all the invited stakeholders. The key outcomes from the national workshop are:

- The participants acknowledged the importance of drought in Ghana and the need for technology supporting the staff at the key organisations related to drought management and early warning.
- There is a strong engagement in the process of further developing and distributing the developed portal among the stakeholders.
- The developed web based portal for drought management and early warning is an important step for strengthening the national capacity.
- The GCF concept note will be an important process for collecting and describing the current state and the gaps with respect to drought management within Ghana.
- The NDA has an important role in coordinating the national project applications to GCF.
- The Water Resources Commission will be the anchoring stakeholder for the technology and will ensure that all stakeholders are kept updated and involved after the closure of the CTCN assistance.

6 Remaining activities

The technical training and national workshop marked the end of the technical development within the CTCN and GCF assistance. The remaining activities within the CTCN and GCF assistance are:

- Initiation of the work by the selected four national experts
 - Expert 1: Validate and test the developed web based early warning and forecasting system, Analysis of the existing technical tools used for drought management and drought early warning in Ghana
 - Expert 2: Assessment on the current institutional and technical state of drought management, Recommendations for improving drought related services
 - Expert 3: Vulnerability assessment of the agricultural sector with focus on the food production
 - Expert 4: Identification of technical services needed to strengthen the water resource and drought planning, Identification of intervention sites where developed technical services could be implemented
- Development of the Technology validation report (December 2017)
 - Technology validation report describing how the drought early warning and forecasting system performs in relation to the selected area in the northern part of Ghana (results from the validation activities).
- Development of the Technology description and user guide (December 2017)
 - Report describing the content and use of the drought early warning and forecasting system (user guide with technical description in the annexes).
- Lesson learned and recommendation report (January 2018)
 - Lessons-learned report from the validation case and the initial use of the system in Ghana. This also includes description and design of gender relevant indicators, and identifying at-risk groups and recommendations to improve gender-relevant drought planning.
- High level national workshop (February 2018)
 - High level workshop aiming at achieving a national acceptance of the GCF concept note. The workshop will gather the most relevant accredited entities (national and/or international) to present and discuss the draft concept note, which will be revised accordingly.
- Roadmap documentation (February 2018)
 - The roadmap document provides recommendations for national scale deployment and use of the early warning drought forecasting technology deployment
- Draft GCF concept note (February 2018)

- Draft of a GCF project concept note based on the results and products of this technical assistance. The preliminary draft will serve as a reference document to present the project idea to accredited entities (national and/or international). The preliminary draft, prepared in coordination with and inputs from the NDE, the NDA and the Water Resource Commission, will cover all the relevant sections needed for submitting the concept note to GCF.



APPENDICES

APPENDIX 1: List of participants

	Name	Organisation	Email
1	Richard Yao Agyeman	Ghana Meteorological Agency	r.agyemang@meteo.gov.gh
2	Theresa FYNN	Ministry of Food and Agriculture	yaoansah@gmail.com
3	Aaron B. Aduna	WRC	aaronaduna@yahoo.com
4	Sadow Mark Yidana	Earth Science	smyidana@ug.edu.gh
5	Gavivina Yao Tamakloe	NADMO	gavivinaytamakloe@gmail.com
6	Tandoh Paulina Nanatreka	EPA	abatandoh21@gmail.com
7	Joseph Baffoe	EPA	jabaffoe@gmail.com
8	Kofi Moatzaka	GIDA	komodza@yahoo.com
9	Barnabas Amisigo	CSIR-WRI	barnyy2012@yahoo.co.uk
10	Maxwell Boateng	GWP Ghana	boatgyimax2@gmail.com
11	Bob Alfa	WRC	bobalfa@yahoo.com
12	Robert Mensah	Ministry of Finance	robmenspat@gmail.com
13	Richard Amartey	Ministry of Finance	ramartey74@yahoo.com
21	Oluf Jessen	DHI	ozj@dhigroup.com
22	Bertrand Richaud	DHI	ber@dhigroup.com

APPENDIX 2: Presentations