

REGIONAL TRAINING WORKSHOP OF TRAINERS ON END-TO-END PROCESSES ON THE FORECASTING AND THE EARLY WARNING FOR FLOODS AND DROUGHT

Current End-to-End Process(es) on drought forecasting, monitoring and early warning

Case of: **Ghana**

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I. Introduction

Overview of the drought in the country



ADAPTATION FUND

Period	Areas Affected	Impact	Level
1910-1920	affected the Gold Coast colony, Ashanti and the Northern Territories	<ul style="list-style-type: none"> Reduced precipitation 	Low
1939-1949	droughts occurred in Navrongo , Wa, Kumasi, Kete Krachi	<ul style="list-style-type: none"> Most rivers reach low levels or dry up. Water reservoirs levels reduce or dry up. Bushfires are also rampant 	Medium
1968, 1975-1977, 1982-1983	Whole Country	<ul style="list-style-type: none"> Destruction of farms, livestock and other forms of life and property by bush fires 500,000 people affected The cost of famine relief was \$1.7 million 	High

I. Introduction

Overview of the drought in the country

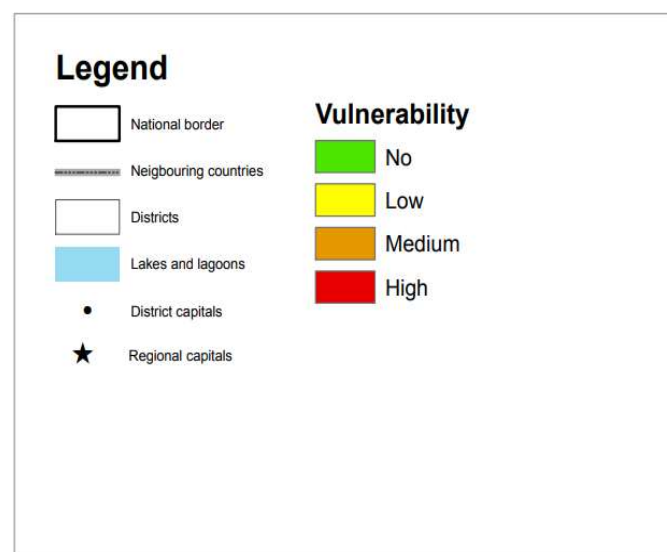
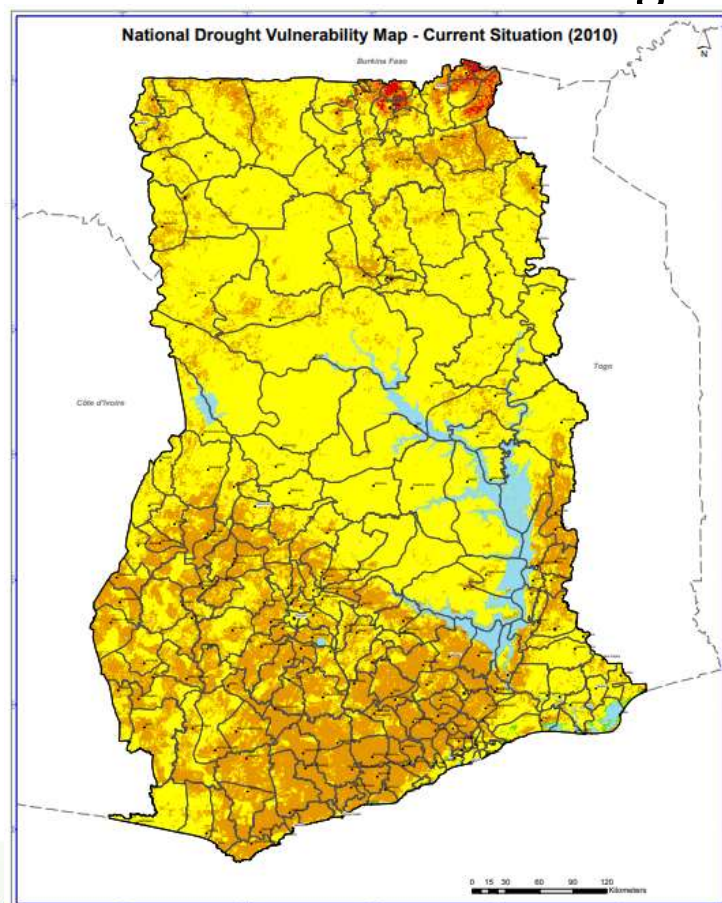


ADAPTATION FUND

Period	Areas Affected	Impact	Level
1990-1992	Portions of northern Ghana	<ul style="list-style-type: none"> Imposed cost on the nation through direct monetary costs such as famine relief, production losses, social costs through poor school performance, increase in nutritional problems and nutritional related disease and impact on technological change and rural development. 	Medium
2001, 2005 -2007	Northern Ghana	<ul style="list-style-type: none"> Diseases and epidemics inflows into the Volta reduced significantly resulting in low level of water in the Akosombo and Kpong reservoirs, and recently the Bui dam. This led to reduction in power generating capacity by close to 1000 megawatts of power. literally every sector of the economy with grave consequences for industry, health and tourism sectors. 	Medium
2013- 2014	Northern Ghana	<ul style="list-style-type: none"> Most rivers reach low levels or dry up. Water reservoirs levels reduce or dry up. Bushfires are also rampant. 	low

I. Introduction

Overview of the drought in the country



Title

National Drought Vulnerability Map
Current Situation (2010)

Project

Community Resilience through Early
Warning (CREW)

NADMO and UNDP



I. Introduction

Overview of the drought in the country

- Types of drought usually experienced in the country and in the national portion of the Volta Basin in the country (what percentage referring to the country?)
 - Meteorological Drought
 - Agricultural Drought
 - Hydrological Drought
 - Hydrological drought is experienced at the Akosombo Dam when water level is at the critical point of 240ft
- Frequency or recurrence of these types of drought over the last three decades in the national portion of the Volta Basin and in the country?.
 - Meteorological Drought occurs every year
 - Agricultural Drought also occurs annually
 - Hydrological Drought occurs in decades and also reduced to between 3-5years

II. Institutional framework for drought management Ghana

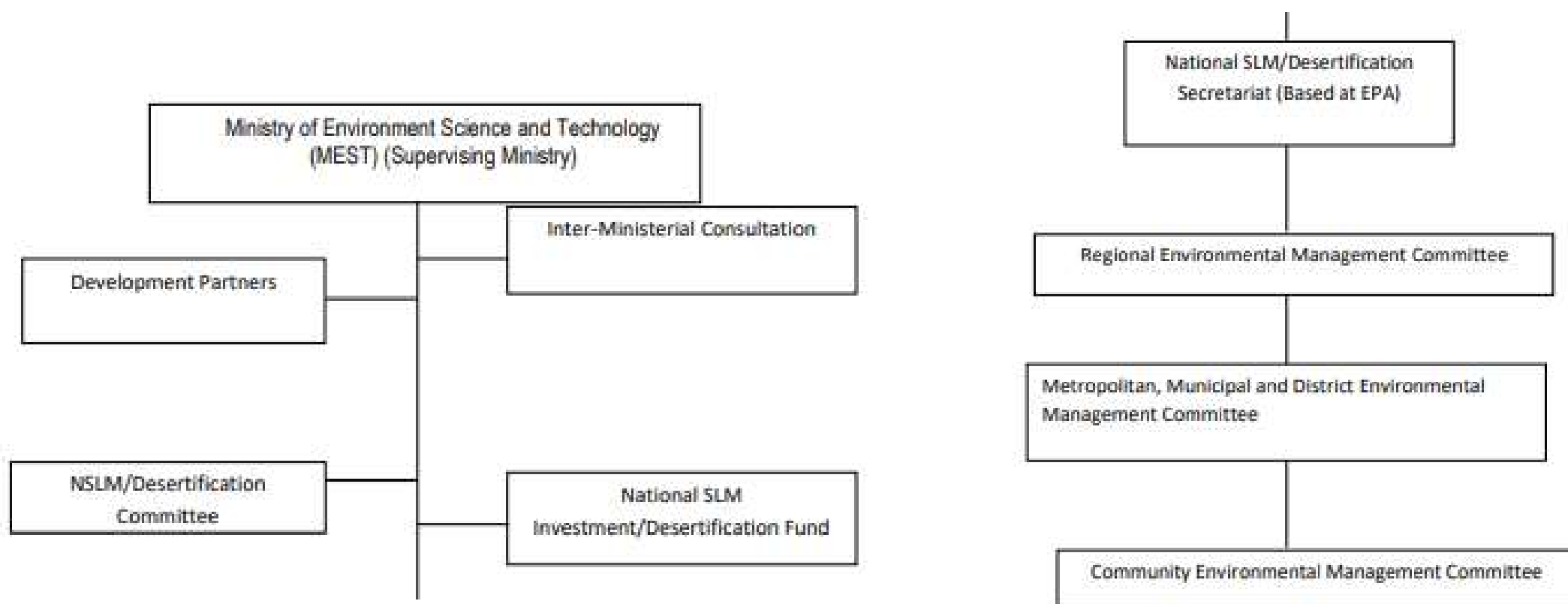
The Environmental Protection Agency coordinates all matters on the environment and responsible for desertification and climate changes programmes while the Ministry of Environment, Science, Technology and Innovation deals with policy matters.

Implementation Structure for Drought and Desertification

Drought matters are covered by a multiplicity of agencies.

The relevant sectors are agriculture, food security, environment, meteorology, energy and tourism.

II. Institutional framework for drought management **Ghana**



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Component	Institutions	Roles/ Responsibilities
Monitoring, forecasting and early warning	GMet, VRA, Bui Power Authority, HYDRO, EPA, WRC, NADMO	
Drought Vulnerability and Risk Assessment	WRC, NADMO, GMet, MoFA, EPA	
Implementation of measures to mitigate the impacts of drought and better respond to it	WRC, NADMO, GMet, MoFA, EPA, CSIR-Crop Research Institute, GIDA	Early warning, Water efficiency

III. Collection of data

- Institution(s) in charge
 - GMet, VRA, Bui Power Authority, HYDRO, EPA, WRC, NADMO
- Types of data used for monitoring, forecasting and their spatio-temporal resolution
 - Rainfall, water level, crop yield
- Data storage location?
 - Server at National Headquarters,
- In situ data collection network: its spatial coverage, the tools used, etc.
 - Rainguage, staff gauges,

III. Collection of data

- Difficulties and needs in data collection.
 - Maintenance of instruments
 - Theft
 - Internet
 - Inadequate spatial network coverage/ telemetry devices
 - Limited technical Staff strength

V. Dissemination of the warning

- Actor(s) in charge of warning dissemination?
 - NADMO, GMet, Media, Information Service Department
- Drought warning, communication and dissemination products?
 - Text, Images
- Effectiveness of warning products?
 - Not effective like that of flood products
- Protocol and means of communication and dissemination of drought warnings
 - No protocols
- Feedback
 - No feedbacks
- Difficulties and needs in disseminating drought warnings
 - Not available

VI. Decision support

- Response deployment decision process
 - Structures are in place
- Collaboration between technicians and decision-makers: taking into account the concerns of technicians
 - There is a strong collaboration between technicians and decision -makers
- Mobilizing resources for the response
 - There is also a strong mobilization of resources for the response
- Declaration of drought conditions
 - It is a challenge when it comes to declaration drought conditions
- Communication and coordination guidelines
 - It exist
- Difficulties and needs in terms of decision support
 - no

VII. Response

- How is the preparation done in advance?
 - Centres have been created at specific areas which aid in linking up to all the national centres
- Drought management plan available for the country?
 - There are SOP for all centres
- Are there anticipatory actions? If so why?
 - No
- How is the answer made? (emergency response and recovery)
 - Made passively
- Challenges and response needs

A major setback for communicating information on drought is that there is no integrated early warning system that serves the needs of all sectors.
- Consequences of difficult access to the response
 - No consequences

VI. Conclusion and suggestions

- Assessment of the operation of the end-to-end system in place
 - Not available
- Any product or tools under development or available for Drought EWS? Use of Global products
 - NDVI, Sentinel Satellite Product,
- How is the response is made? (Emergency response and recovery)
 - Not available
- Difficulties encountered in the implementation
 - Lack of trained technicians to
- Suggestions/recommendations

Thank you for your attention

More information

Web site:

Email addresse: