“Virtual Exchange Institutional Coordination for Drought Resilience“

Dr. Asher Nkegbe
Ghana

WORLD METEOROLOGICAL ORGANIZATION

Global Water Partnership

INTEGRATED DROUGHT MANAGEMENT PROGRAMME

Food and Agriculture Organization of the United Nations

CONTEXT

Drought in Ghana: The Critical Threat

No. 1

Water Security Threat

Drought is ranked the most critical water security challenge in Ghana

3

Sectors Impacted

Hydropower, **Agriculture** & **Domestic water supply** all severely affected

VBA

River Basins at Risk

White Volta, Black Volta, Oti

Transboundary drought exposure

Ghana's Northern Regions are most vulnerable - shorter rainy seasons, erratic rainfall, and dependence on rain-fed agriculture amplify drought risk significantly

Why Drought Resilience Matters in Ghana

Critical impact statistics and vulnerability context requiring urgent action

HUMAN IMPACT

3.5 Million

People affected annually (~13% of population). Without intervention, this could surge to **13 million (~30%) by 2050**

ECONOMIC LOSS

15% GDP

Average annual drought-related losses. In severe climate scenarios, losses could escalate to **34% of GDP by 2050**

FOOD SECURITY CRISIS

36% Drop

Projected decline in maize harvest for the **2024/25 season**, underscoring immediate threats to staple food supply

HIGH RISK ZONES

Northern Belt

Northern, Upper East/West, & Savannah regions face highest exposure, threatening livelihoods of smallholder farmers

Institutional Coordination for Drought Management in Ghana

Institutional Coordination: Who Leads?

- **NADMO serves as the statutory lead for emergency coordination under Act 517 (1996)**
- **EPA is tasked as the lead Drought coordinating institution in Ghana under the new Environmental Protection Act, 2025 (Act 1124)**
- **WRC, Gmet, and Ghana Hydro provide technical-specific anchor for water sector on Drought**

NADMO – Lead Institution

- Mandate under NADMO Act 1996 (Act 517)

Responsibility

- Leads emergency response, preparedness & recovery
- Coordinates disaster declarations & resource mobilization
- Oversees inter-Agency drought response nationwide

WRC – Specific Technical Anchor

Responsibility

- Monitors river basin hydrology across Ghana
- Issues and enforces water use licenses
- Advises government on drought impacts on water availability
- Bridges technical data and emergency decision-making

Institutional Coordination for Drought Management in Ghana

Environmental Protection Authority – Lead Body for coordination on Drought

- Under the **Environmental Protection Act, 2025 (Act 1124),** the newly established **Environmental Protection Authority (EPA) is designated as the lead body for coordinating Ghana's response to climate change**, which specifically includes managing climate-induced disasters like Drought.

The Authority's expanded mandate for drought and climate coordination includes:

- **Disaster Risk Reduction**: The EPA must integrate climate change disaster risk reduction, specifically for flooding and **drought,** into national and local strategies to minimize loss and damage.
- **Adaptive Capacity**: It is tasked with leading the development of **adaptation plans** designed to enhance the resilience of vulnerable communities and ecosystems against the impacts of drought.
- **Mainstreaming Responses**: The Act requires the Authority to work with ministries, district assemblies, and the private sector to weave climate responses into all levels of national and sectoral planning.
- **Data Coordination:** The EPA is responsible for establishing and operationalizing enhanced data systems to aid in planning and implementing these adaptation measures

Institutional Coordination for Drought Management in Ghana

Water

WRC · GWCL · CWSA

Licensing, basin hydrology monitoring & policy; Research on drought thresholds, basin vulnerability, urban and rural water supply

Meteorology & EWS

Ghana Meteorological Authority (GMet)

Rainfall analysis; drought indices (SPI, PDSI); seasonal early warning

Agriculture

MoFA · GIDA

Irrigation demand management during drought; focus on northern Ghana

Disaster Risk

NADMO (Lead institution)

Emergency response; disaster zone declarations; inter-Agency mobilisation

Energy

VRA · GRIDCo . BPA

Manage drought impacts on hydropower at Akosombo and Bui Dams

Environment & Research

EPA · CSIR-WRI · Universities

Research on drought thresholds, basin vulnerability & environmental linkages

How Institutional Coordination Is Organized In Ghana

Multi-Sectoral Coordination Approach

LEAD COORDINATOR ON DROUGHT

EPA

Environmental Protection Authority

- Environmental Protection Act, 2025 (Act 1124),
- Managing climate-induced disasters like Drought
- Climate Change and Drought
- Inter-Agency resource mobilization

Technical Anchor - Water Sector

WRC and NADMO

Monitors river basin hydrology, issues water-use licenses, and advises the government on drought impacts on water availability. Bridges technical data with NADMO's emergency decisions and preparedness

Sector specific & Secondary Actor - Agriculture & Environment

MoFA · GIDA

Coordinates irrigation water demand during drought (especially in Northern Ghana); links drought to food security and environmental degradation.

Secondary Actor - Energy & Meteorology

VRA · GRIDCo · GMet

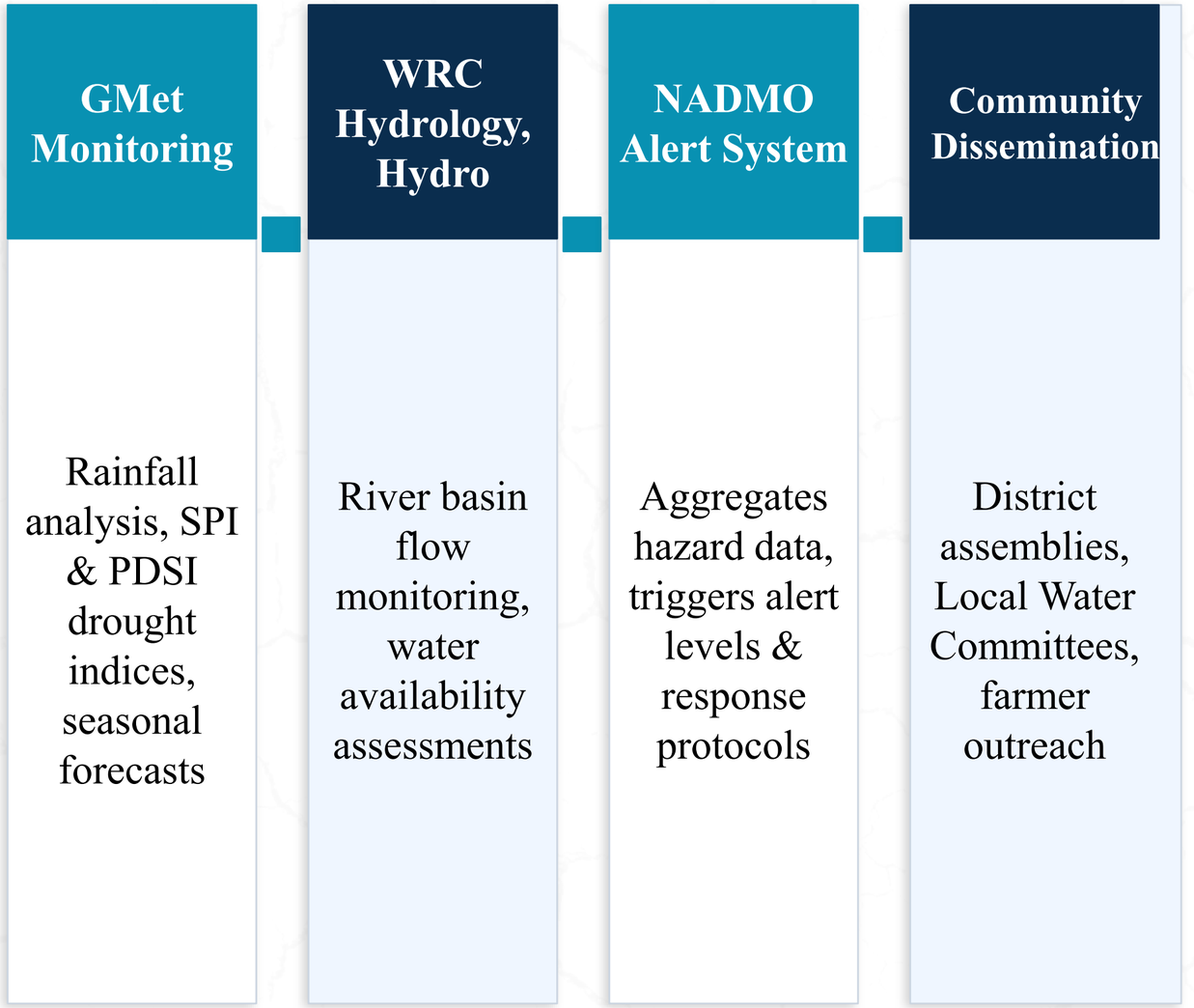
GMet supplies drought indices (SPI, PDSI) for early warning; VRA and GRIDCo manage critical hydropower exposure at Akosombo and Bui Dams.

Coordination in Practice

Ghana employs a multi-tiered coordination structure **guided by several key policy frameworks**

Framework	Purpose/Focus	Key Contributions to Drought Management
National Action Programme to Combat Drought and Desertification (NAP)	Provides strategic direction for addressing drought and land degradation	Promotes sustainable land management, aligns Ghana with global commitments under UNCCD, and strengthens community-level resilience
National Integrated Water Resources Management (IWRM) Plan	Guides coordinated and sustainable water resource management across sectors	Encourages efficient water use, supports disaster risk reduction, and ensures water availability during drought periods
National Drought Plan	Framework for drought preparedness and response	Aims to strengthen early warning systems, preparedness, and coordinated response mechanisms

Drought Early Warning Systems & Data Flows



Lessons Learned

Strong Institutional Mandates

Well-defined legal mandates help eliminate coordination gaps and reduce jurisdictional conflicts during drought crises

Integration Across Scales

Linking Local Water Committees with national systems ensures information flows and inclusive response

Early Warning is Critical

Proactive data sharing mechanisms are essential for timely, evidence-based decision-making

Transboundary Data Sharing

VBA cooperation with Burkina Faso is vital - downstream Ghana is exposed to upstream decisions

Community-Level Awareness

Local outreach in northern Ghana translates national policies into community-level drought resilience

Main Challenges & Gaps

1

Fragmented Data Systems

Weak institutional communication and limited real-time integration between national and local information systems.

2

Reactive Governance

Coordination during drought events is often improvised rather than guided by a pre-agreed, trigger-based framework.

3

Funding Constraints

Inadequate and inconsistent funding affects data collection, system maintenance, and emergency response capacity.

4

Community Dissemination Gap

High-resolution early warning data does not reach individual farmers or district assemblies in an actionable format.

5

Climate Change Intensification

Return periods for drought in the White and Black Volta basins are shortening - existing frameworks are becoming inadequate.

Key Lessons for Other Countries

1

Define Clear Legal Mandates

Assign lead institutions by law. Clear mandates reduce jurisdictional conflicts during drought crises

2

Invest in Transboundary Cooperation

Shared river basins require shared data. Regional water charters and joint monitoring are indispensable

3

Build Technical Capacity

Develop integrated data-sharing platforms across all institutions to improve coordination and facilitate decision making

4

Develop Trigger-Based Financing

Pre-arrange financial instruments for drought response. Prevention and preparedness are far cheaper than recovery

Examples of Drought related Projects In Ghana

Project 1 & 2

Ghana Landscape Restoration and Small-Scale Mining Project (GLRSSMP)

The Ghana Landscape Restoration and Small-Scale Mining Project (GLRSSMP)
It is a multi-sectoral initiative led by the Environmental Protection Authority and the Ministry of Lands and Natural Resources in collaboration with the Water Resources Commission and the Ministry of Food and Agriculture.
The project focuses on **restoring degraded** lands and improving sustainable natural resource management across key river basins in Ghana

GCF–UNEP–EPA Climate Resilience Project (Northern Ghana)

This **Green Climate Fund (GCF) project**, implemented by the Environmental Protection Authority in partnership with WRC and GMet, targets highly vulnerable districts in northern Ghana.

The project strengthens **early warning systems, hydrometeorological monitoring, and drought forecasting**, enabling proactive drought management.

It also promotes **climate-resilient agriculture, water storage, and landscape restoration**, improving soil moisture retention and reducing drought impacts on farming communities.

THANK YOU.

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