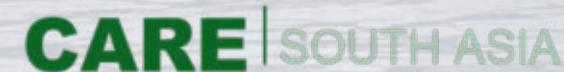


# PLANNING WORKSHOP ON Impact-Based Forecasting and Climate Services

21–24 January 2025 | Bangkok, Thailand

**The AWARE Platform: Bridging Gaps in Early Warning and Anticipatory Action**

Giriraj Amarnath, Principal Researcher, International Water Management Institute & CGIAR Interim Deputy Director for Climate Action Science Program

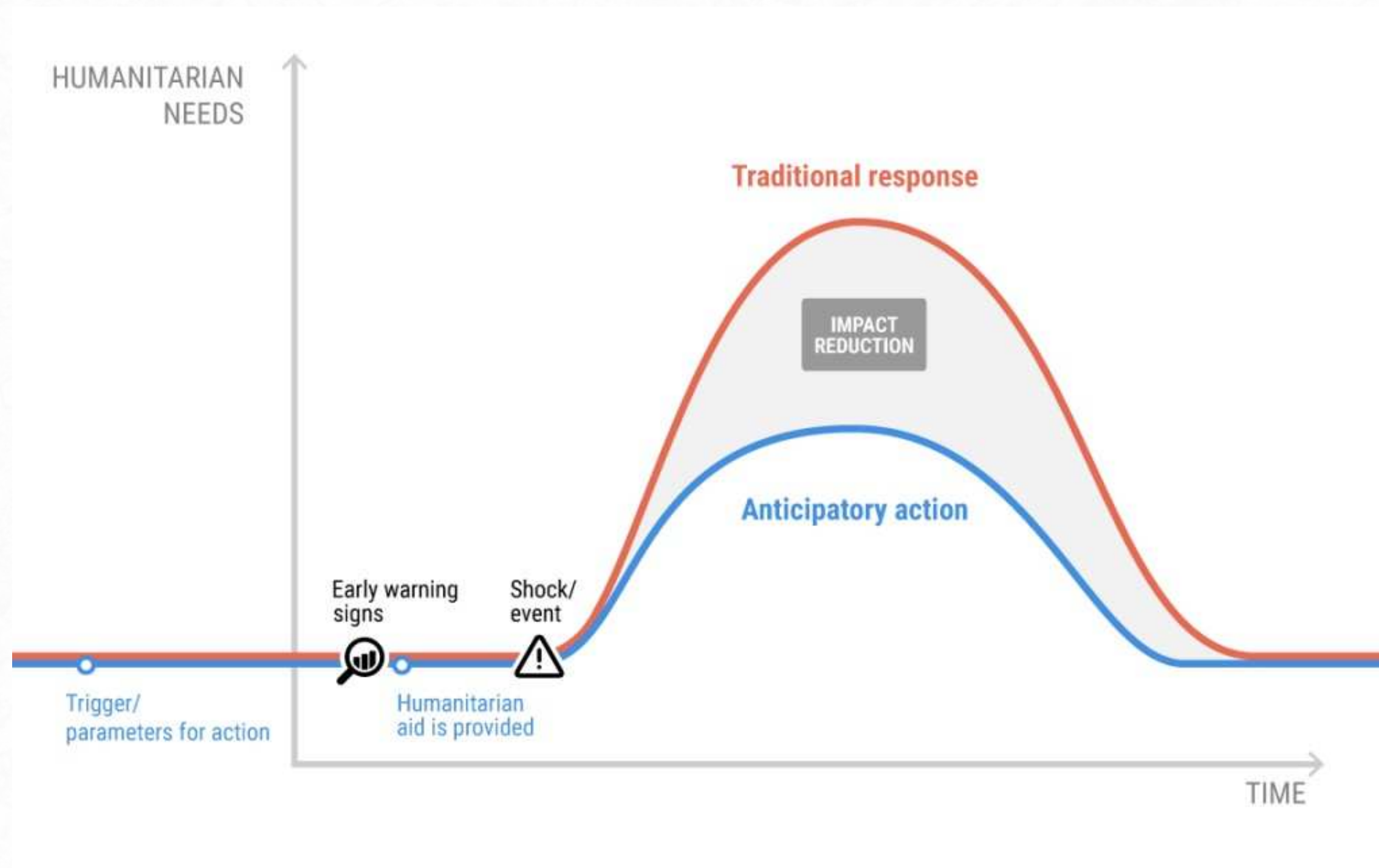


# What are the current gaps and challenges in early warning and IBF?

- **Inadequate real-time, high-resolution data** and challenges in integrating diverse datasets hinder accurate forecasting and impact assessments.
- **Last-mile delivery, language, cultural considerations**, and risk literacy issues limit the accessibility and understanding of warnings.
- **Weak inter-agency coordination, fragmented policies, and insufficient funding** undermine the effectiveness of EWS and IBF systems.
- **Low risk perception, lack of inclusion of vulnerable groups, and inadequate community preparedness** reduce the uptake of early warnings.
- **Constraints with IBFI with limited vulnerability and exposure data**, lack of standardization, and skillset gaps hinder the translation of hazards into actionable impact scenarios.
- **Unequal access to digital tools** affect the reliability and inclusivity of early warning systems.
- **Shifting weather patterns due to CC** complicate the reliability of traditional models and require adaptive, future-ready systems.

# Why anticipatory action?

Anticipatory action is a set of actions taken to prevent or mitigate potential disaster impacts before a shock or before acute impacts are felt.



# Why AWARE?

- Traditionally, most countries across the global South establish an early warning system, which serves as the foundation for providing timely information about water-related hazards, while AWARE takes this information and **encourages proactive measures** to reduce the impact of disasters.
- The AWARE platform focuses on **translating early warnings into concrete actions** that can mitigate the impact of a hazard or disaster. For example, early actions can include evacuation plans, pre-allocation of resources, reinforcing infrastructure, pre-financing agreements across humanitarian actors, and community preparedness.
- More importantly, the **AWARE platform brings in a wider spectrum of stakeholders**, including government officials, emergency responsive managers, humanitarian organizations, and the local communities at risk. It encourages them to take preventive actions before the disaster strikes to minimize its effects and, most importantly, save lives.

# Novelty

- **Integrated Framework:** AWARE uniquely combines early warning systems with actionable, finance-linked anticipatory responses, setting it apart from traditional risk management tools.
- **Multi-Sector Partnerships:** Establishes collaboration between National Hydrological and Meteorological Services (NHMS), Disaster Management Units, and humanitarian organizations to create a cohesive response ecosystem.
- **Global Adaptability:** Operational across diverse geographies, including Africa, South Asia, and Latin America, showcasing its flexibility to address varied disaster risks like floods and droughts.

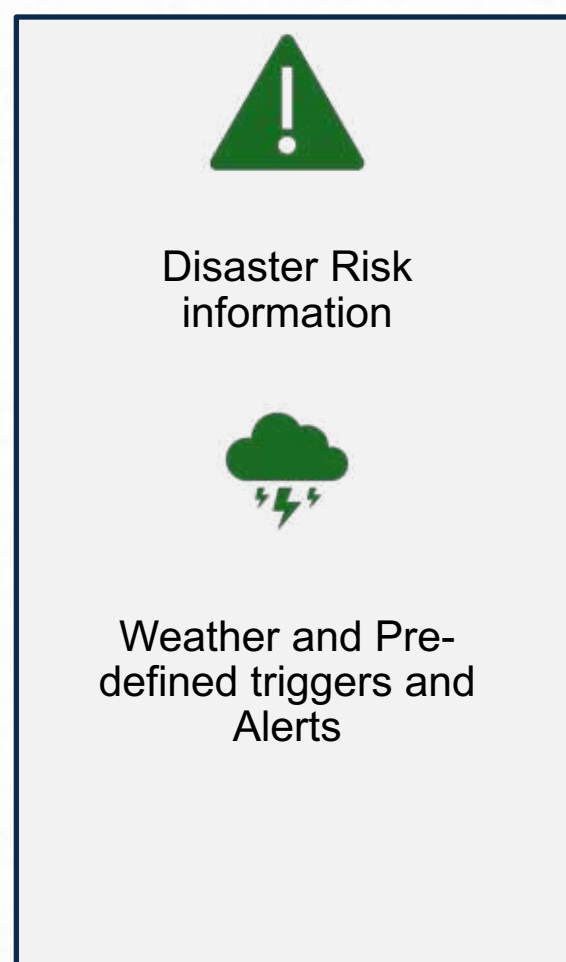
# Innovation

- **Leverages advanced tools** such as climate modeling, ML/AI, GIS-based risk assessments, and real-time data visualization for precise early warnings.
- Provides an **interactive digital platform** (Demo) that empowers stakeholders to test scenarios and decision-making pathways.
- **Introduces mechanisms for early financing**, including risk insurance and anticipatory funding, to enable timely and effective responses.

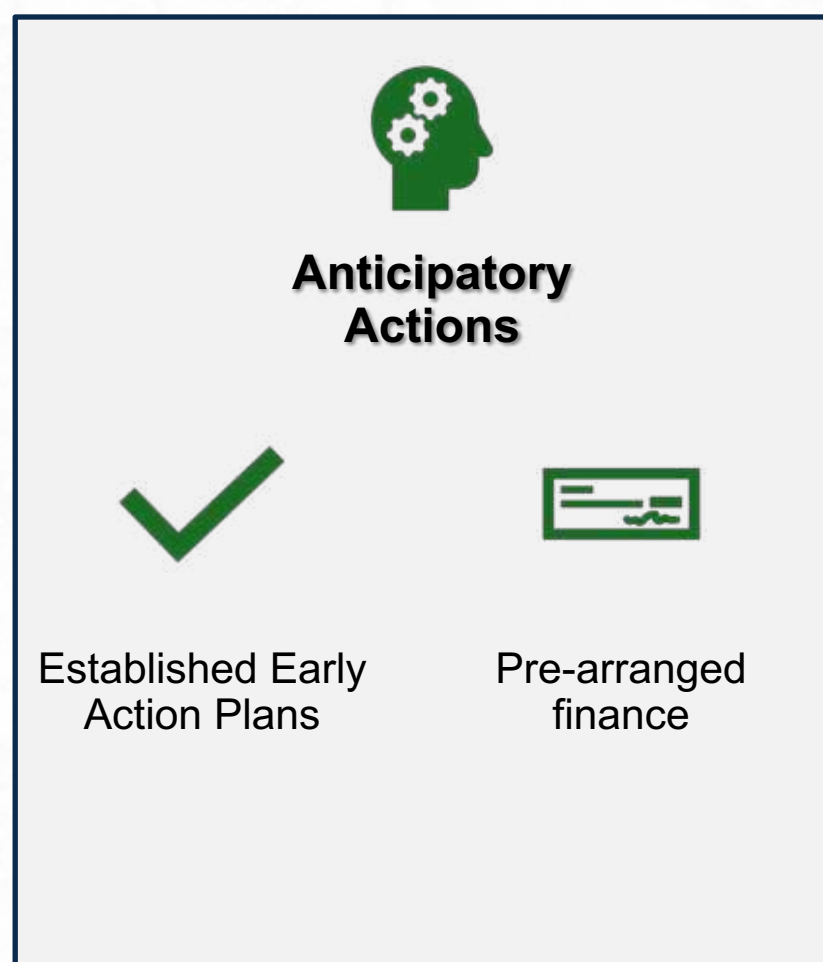
# Impact

- **Proven use cases** in Zambia, Sri Lanka, and Kenya demonstrate reduced disaster impact through early action (e.g., flood and drought risk reduction).
- **Successfully implemented in 9 countries**, benefiting governments, local communities, and humanitarian agencies.
- **Strengthens disaster governance** by bridging gaps in risk anticipation and on-ground action, influencing policies and international frameworks.

# How does AWARE looks like?



Early Warning



Early Action

Early Finance



# Elements in AWARE



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## Risk information, forecasting and early warning systems

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- Weather forecasts
- Seasonal outlooks
- Impact analyses
- Situational monitoring
- Pre-disaster risk assessments



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## Planning, operations and delivery

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- Standard Operating Procedures
- Menu of potential AAs
- Sectoral AA plans
- AA Protocols in contingency plans



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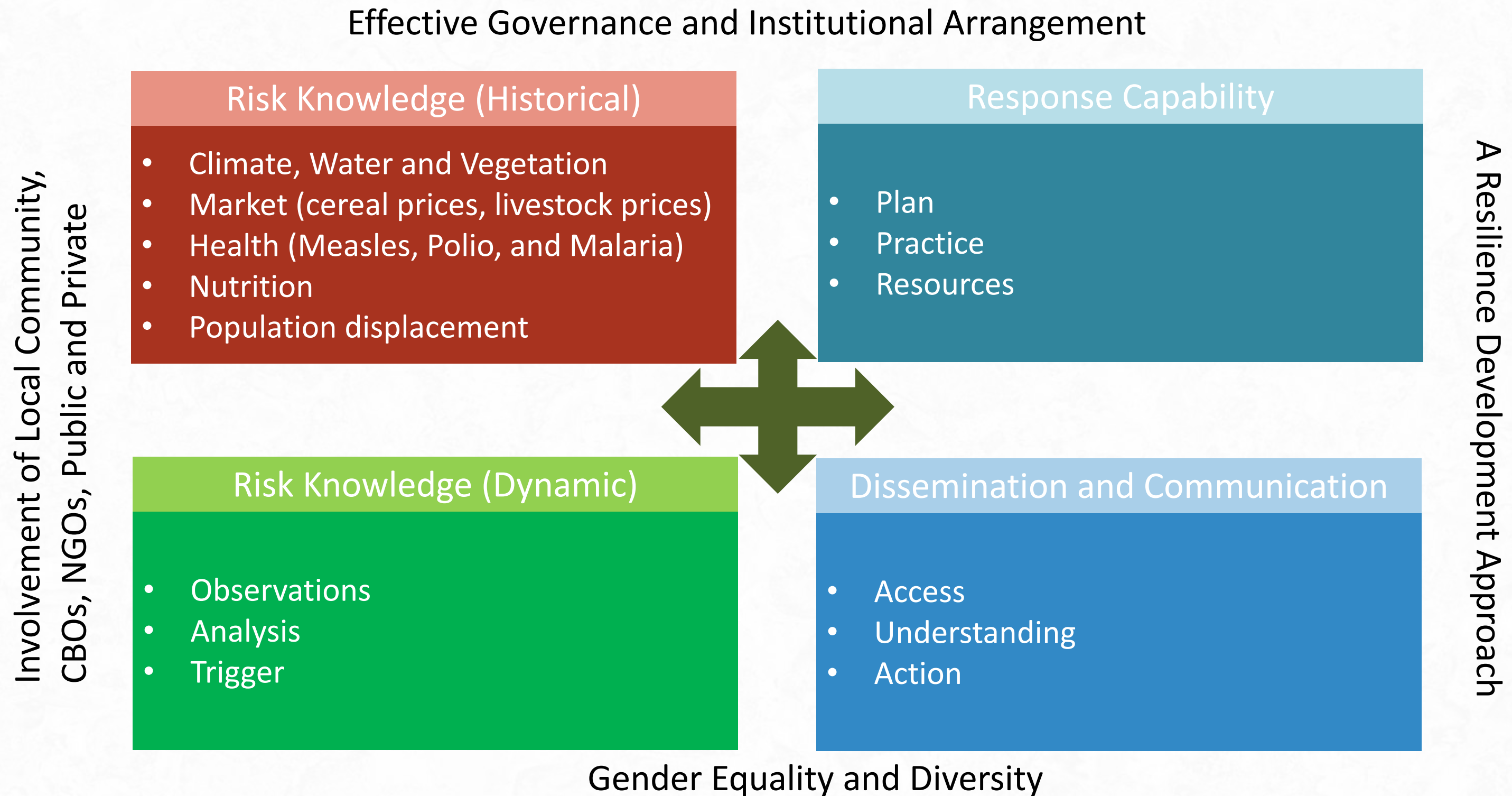
## Pre-arranged finance

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- Dedicated AA funds in DRM budgets and contingency plans
- DRF instruments include AA and link to AA triggers/protocols

# AWARE Platform

*Increasing food and nutrition security among vulnerable households*





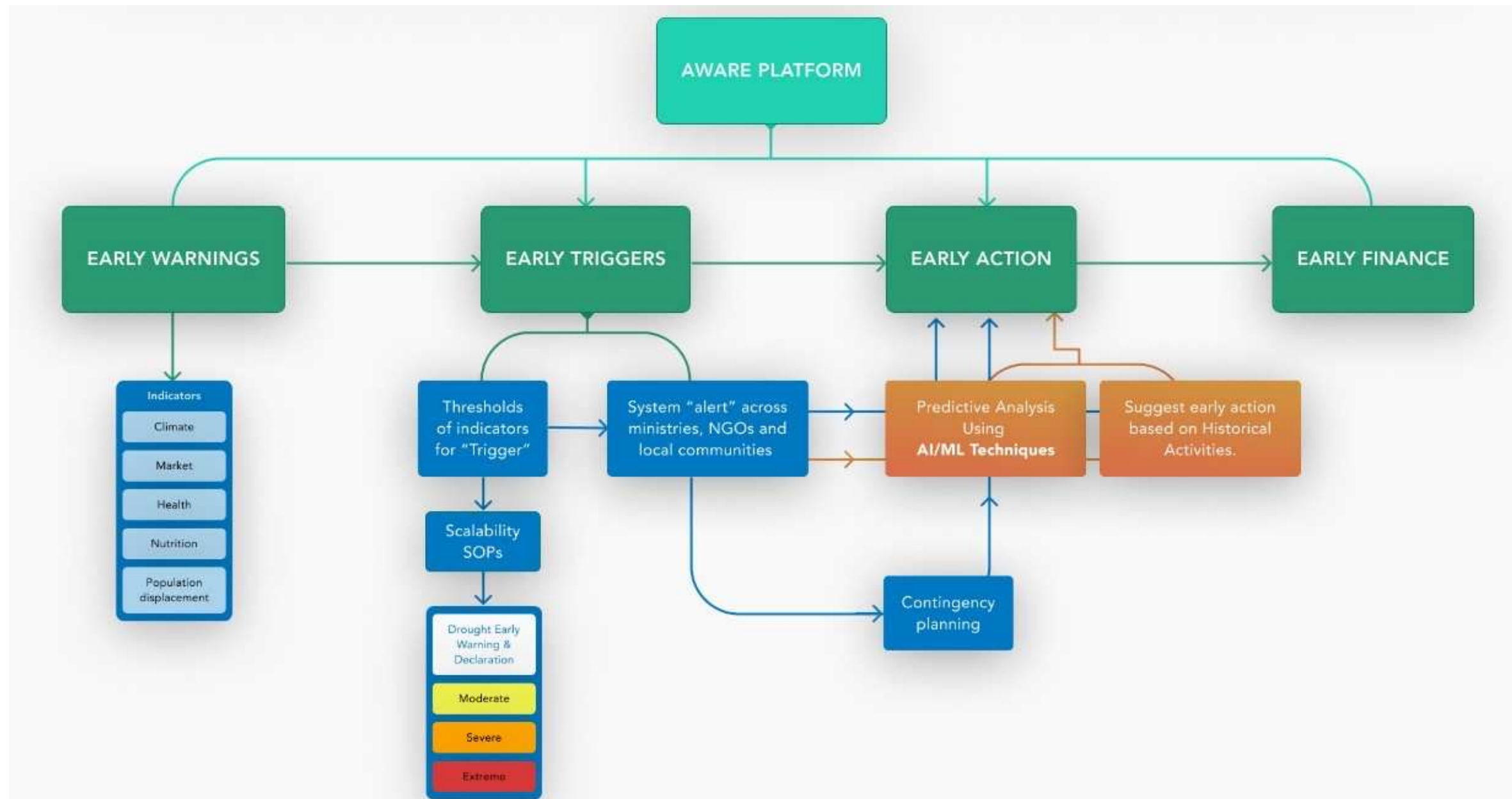
# AWARE Platform

Developed by IWMI

- Interconnectedness of early warning early action
- Near real-time data indicators (Floods, drought) for climate risk preparedness and promote anticipatory response mechanism
- Collaborative platform across multi-institutions, multi-scale, multi-sector
- Promotes inclusive governance and clear roles and responsibilities
- Ability to integrate with existing platform

The screenshot displays the AWARE Platform website. At the top, there is a green header with the CGIAR logo, the text 'AWARE Platform', the IWMI logo, and navigation options for 'Development Version', 'English', and 'ANACM'. Below the header is a large banner image showing a group of people and cows near a river, with the text 'Effective Governance and Institutional Arrangement' overlaid. The main content area features a section titled 'About ClimBeR' with a brief description of the program's goals. Below this is a 'How Aware Works' section with six cards: 'Early Warning', 'Early Action', 'Early Finance', 'Online Bulletin', 'News Feed', and 'User Guide'. To the right of these cards is an 'Alerts' section with a 'View Dashboard' button and a list of alerts including 'SPI | Dakar', 'Rainfall Deficit | Kolda', 'Dry Spell | Thies', and 'NDVI | Tambacounda'. The total number of alerts is shown as 37.

# AWARE Overview



## Strategic Engagement (Example)

### Data Providers:

- NIHSA, NIMET, FMEnv, MoWR

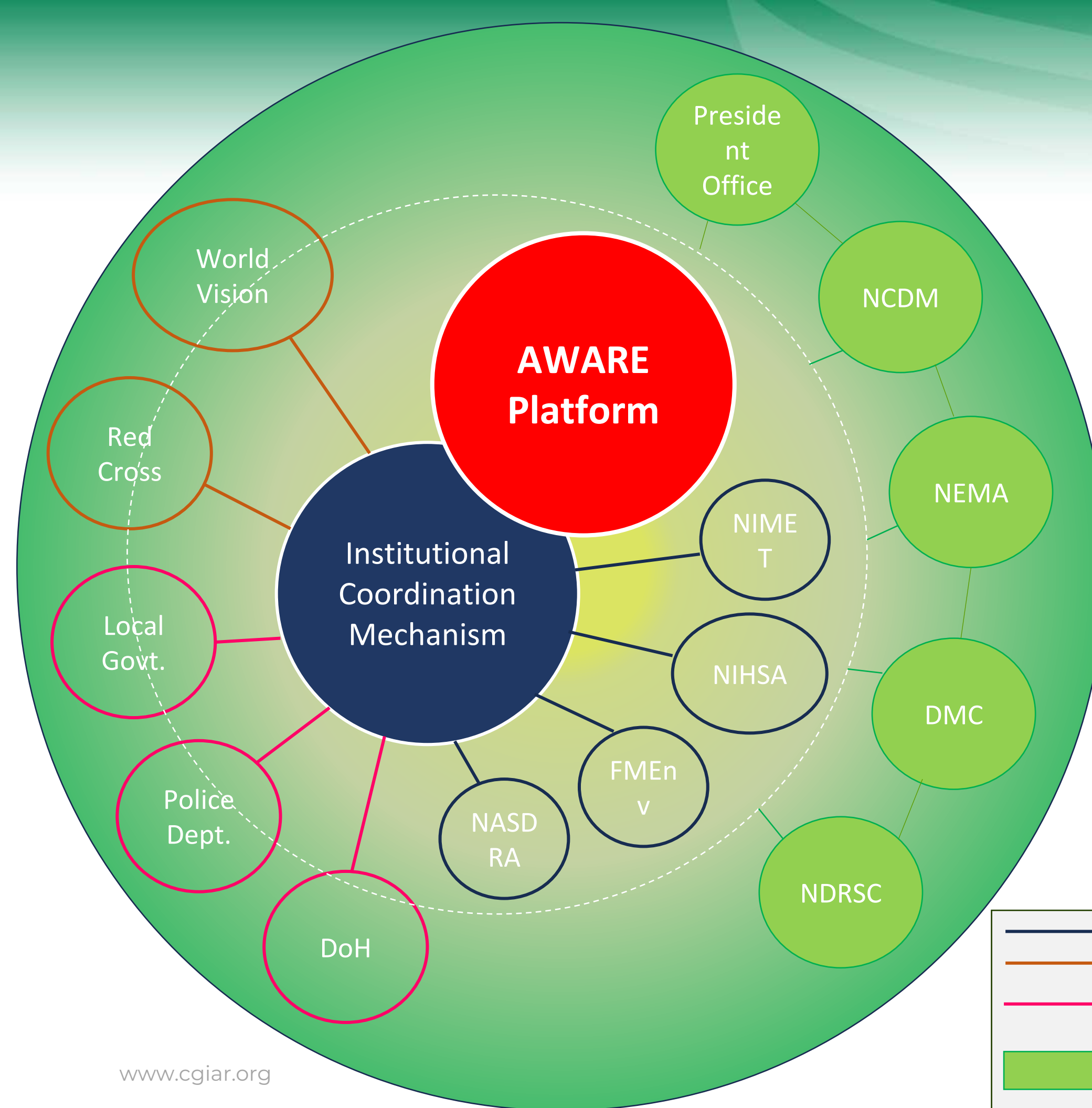
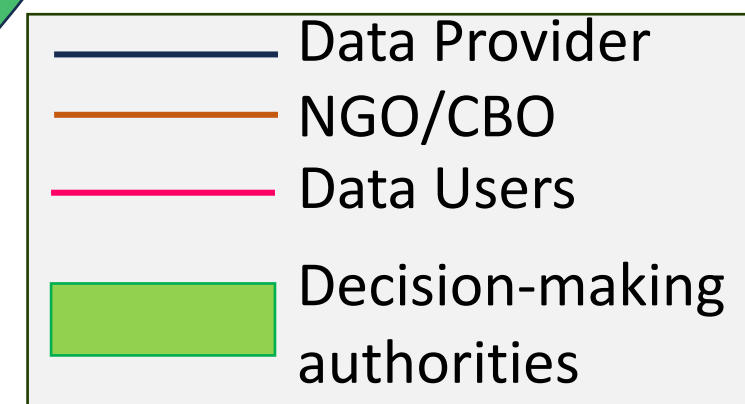
### Data Users and Decision Makers:

- NEMA, /Civil Protection, Local Govt.
- Development Partners: WFP, FAO, OCHA ..
- CSO/CBOs: World Vision, Red Cross, Oxfam ...

- Promote multilevel governance for resilience for proactive/informed decisions for anticipatory disaster mitigation responses
- AWARE Platform will facilitate coordination across ministries to trigger action and investment ahead of an extreme climate event, providing a better response to the needs of those affected.
- Built an accountability framework, which sets out the roles and responsibilities of key actors in ensuring the mechanism tightens the links between early warnings and response.

# AWARE Institutional Framework

- Early Warning Indicators from technical agencies
- Conduct stakeholder engagement process for early action plans
- Consultation with agencies responsible for allocating financial resources and emergency funds



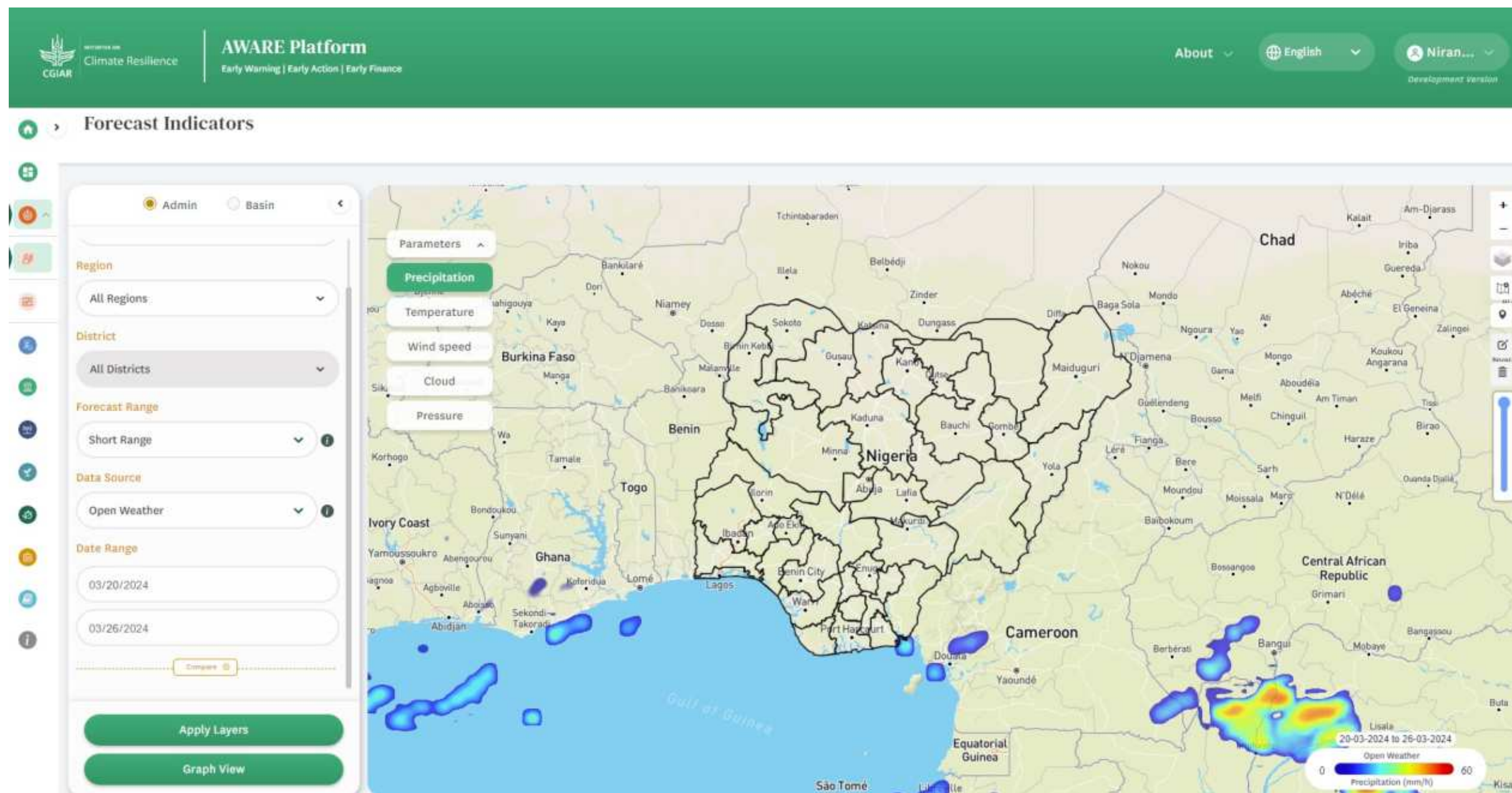


## AWARE - Development Phase

- National Platform
- Early Warning components on floods, drought and landslides available
- Standard AA Protocols completed
- Alert Dashboard in progress

# Early Warning Module - Forecast

It contains forecast and monitoring indicators to understand the current and future hazard occurrence and the continuation of existing hazards.



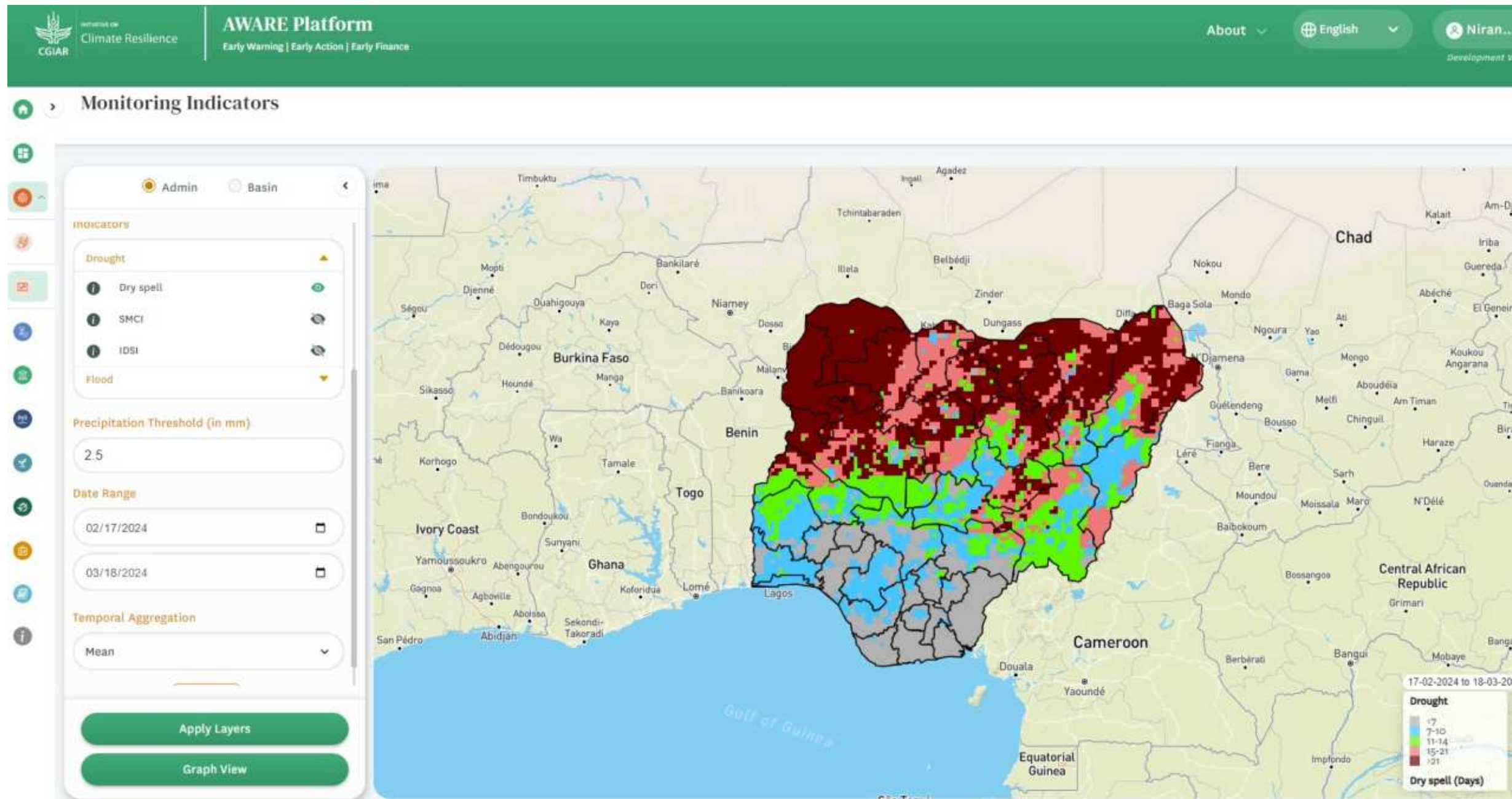
Short range

- Open weather
- NOAAAGFS

Medium range – ECMWF

Long range – IRI

# Early Warning Module - Monitoring



## Drought

- Dry spell
- SMCI
- IDSI

## Flood

- GLOFAS
- Accumulated Rainfall (GPM)
- Flood (ESA)
- GeoGlobs
- Flood (NASA)

## Landslide

- Accumulated Rainfall (GPM)
- Accumulated Rainfall (CHIRPS)

# Alert Dashboard

- AWARE Home
- Alert Dashboard
- Early Warning
- Early Action
- Early Finance
- Sectorial Climate Risks
- Crop Yield Assessment
- Rapid Response
- Online Bulletin
- User Guide
- Disclaimer

Alert Dashboard

Countries: Nigeria Regions: Abia District: District Risk: Drought Lead Time: April Clear All Table View

### Alerts

**IRI** Normal

Current Value: 0  
Active Threshold: -70  
Readiness Threshold: -50  
Preparedness Threshold: -40  
Severity: **Normal**

**Dry Spell** Active Phase

Current Value: 378.74  
Active Threshold: 21  
Readiness Threshold: 15  
Preparedness Threshold: 7  
Severity: **Extreme**

**SPI (GPM)** Preparedness Phase

Current Value: -0.37  
Active Threshold: -2  
Readiness Threshold: -1  
Preparedness Threshold: 0  
Severity: **Normal**

**IDS** Readiness Phase

Current Value: 0.19  
Active Threshold: 0.1  
Readiness Threshold: 0.2



# EARLY ACTION



INITIATIVE ON  
Climate Resilience

THIS TOOL SUMMARIZES THE ACTIONS TO BE MEASURED FOR DIFFERENT STAGES OF DISASTERS USING THE EARLY WARNING MODULE TO MITIGATE CLIMATE THROUGH PROACTIVE DROUGHT MANAGEMENT MEASURES.

The screenshot displays the AWARE Platform interface. The top navigation bar is green and contains the CGIAR logo, the text 'INITIATIVE ON Climate Resilience', the title 'AWARE Platform', and sub-navigation links for 'Early Warning | Early Action | Early Finance'. On the right side of the top bar are links for 'About', 'English', and a user profile 'Niran...' with a 'Development Version' label below it.

The left sidebar contains a list of navigation items: 'AWARE Home', 'Alert Dashboard', 'Early Warning', 'Early Action' (highlighted in green), 'Early Finance', 'Sectorial Climate Risks', 'Online Bulletin', 'User Guide', and 'Disclaimer'.

The main content area is titled 'Early Action' and features a vertical timeline on the left with four phases: 'Preparedness Phase', 'Readiness Phase', and 'Active Phase'. The 'Preparedness Phase' is currently selected and expanded, showing a flowchart with four steps: 'Category', 'Impact', 'Possible Anticipatory Actions', and 'Anticipatory Action Plan'. Each step is represented by a rounded rectangle with an icon and connected by dashed arrows. The 'Active Phase' is marked with a checkmark icon.

Below the flowchart, there is an illustration of a person sitting at a desk with a laptop, surrounded by gears and a plant, symbolizing proactive management and technology.



# Early Finance

## Early Finance



### Dashboard

The Early Finance Phase transforms into an interactive dashboard, giving stakeholders like governments, NGOs, and funders easy access to the meticulously crafted AAP. This fosters transparency, collaboration, and the generation of insightful reports for sharing, propelling proactive disaster preparedness and uniting efforts to mitigate potential crises.








### Alert Report

Our tool streamlines reporting by merging data from all stages—Early Warning, Early Action, and Early Finance—along with supplementary inputs like media reports and remarks. This feature produces comprehensive reports for easy sharing, facilitating informed decision-making and collaboration in disaster management.



← Early Finance Generate Report

### Intervention

 Education <b>Total Budget : ZK 3,370,000</b>	 Water, Sanitation & HealthCare (WASH) <b>Total Budget : ZK 12,200,000</b>	 Restoring Livelihoods and households' income source <b>Total Budget : ZK 4,740,000</b>
 Shelter, Housing and Settlements <b>Total Budget : ZK 15,590,000</b>	 Risk Forecasting, Preparedness and Preventive measures. <b>Total Budget : ZK 43,530,000</b>	

# Early Finance

← Education



### Education

Indicator: # of children benefited from alternative education programs set up to ensure continuous education during emergencies, # of nursery or pre-school children are reached with early childhood education material

Targeted households: 0

People Targeted: 1000

**Budget: ZK 3,370,000**

### Preparedness Phase

Budget: ZK 20,000



Activities	Time Frame	Target	Budget	Manage Data
Develop plan for, extracurricular activities, play schools, distribute early childhood education material, catch-up classes with special consideration of children with disabilities (special/ inclusive education).	2 months	20 communities	ZK 20,000	
Identify alternative evacuation centers (with access) to free school buildings occupied by displaced.	2 months	5 centres	ZK 0	
Establish volunteer teaching groups in community levels with basic sign language (if possible).	2 months	5 centres	ZK 0	

### Readiness Phase

Budget: ZK 700,000



Activities	Time Frame	Target	Budget	Manage Data
Education materials, books etc. to the affected children or displaced who have lost the education material.	3-7 days	100 children	ZK 500,000	
Reading material (sign if possible) for those students stationed in evacuation centers.	3-7 days	100 children	ZK 100,000	
Education material/games etc. designed to help kids, pre-school children etc.	3-7 days	500 children	ZK 100,000	

# Successful IBF calls for GESI Lens for last mile impact



## Recommendations for Strengthening Anticipatory Action through the AWARE Platform with a GESI Lens

- 1. Enhance Community Mapping and Social Analysis** - Conduct detailed community mapping and social and gender analysis to identify vulnerable groups and their unique challenges. Utilize disaggregated data by sex, age, disability, and social divisions to inform targeted and inclusive Anticipatory Action (AA) interventions.
- 2. Integrate GESI in Early Warning, Early Action, and Early Financing** - Embed GESI principles in each building block of AA by identifying and addressing barriers that limit the participation and access of vulnerable groups. Leverage the AWARE Platform to design interventions that cater to the specific needs and capacities of diverse community groups.
- 3. Promote Inclusive Participation and Decision-Making** - Engage vulnerable groups directly in risk assessment, planning, and execution processes. This participatory approach not only empowers marginalized communities but also enhances the effectiveness and equity of AA interventions.
- 4. Pre-Arrange Context-Specific Financial Resources** - Mobilize and allocate finances informed by social and gender analysis to support inclusive programming, technical expertise, and participatory monitoring mechanisms. Ensure resources are targeted to address vulnerabilities and strengthen community resilience.
- 5. Develop and Monitor Guiding Principles for GESI Integration** - Establish and implement guiding principles for planning, execution, and monitoring teams to ensure consistent application of GESI strategies. Leverage the AWARE Platform's capabilities to track progress and adapt interventions to maximize inclusivity and transformative impacts.



**Early Warnings for All**



Early Action Simulation Drill with multi-stakeholders in Sri Lanka



**Early Warnings for All**



Early Action Simulation Drill with multi-stakeholders in Sri Lanka

# Key priorities for consideration in the WISER Program

*Recommendations based on the CGIAR Climate Resilience initiatives, DIWASA and AICCRA programs*

1. User-Centric IBF design forecasting tools tailored to the needs of vulnerable communities and key sectors. Adopt human-centric approach to simplify and communicate forecasts effectively for actionable decision-making.
2. Strengthened Early Warning Systems - integrating hazard forecasts with impact assessments to enable anticipatory action for droughts, floods, and storms. E.g. Scaling SAHF products, AWARE Platform
3. Co-Production of Climate Services with diverse users, scientists, and intermediaries to ensure climate services are context-specific and meet local needs.
4. Capacity Building for NMHSs to enhance skills, tools, and infrastructure for accurate, timely, and user-focused weather and climate services.
5. Invest in data harmonization, use of technology, digital platforms, mobile technologies, and advanced analytics like AI to improve forecasting accuracy and accessibility.

# Key priorities for consideration in the WISER Program

*Recommendations based on the CGIAR Climate Resilience initiatives, DIWASA and AICCRA programs*

6. IBF integration with Policy and Planning with national adaptation plans (NAPs), disaster risk reduction strategies, and SDGs.
7. Focus on Gender and Social Inclusion (GESI) that IBFI are inclusive and address the needs of women, marginalized groups, and differently-abled individuals.
8. Gamification to train communities in IBF scenarios end-to-end e.g. uncertainty, resource allocation, and identifying safe evacuation routes.
9. Establish “Innovation Sandboxes” – space for local actors to adopt IBF prototype and test solutions for risk reduction and anticipatory action.
10. Establish MEL framework and indicators for IBF & CIS to assess the socio-economic impact of services, gather feedback, and adapt solutions for continuous improvement.



INITIATIVE ON  
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Thank You

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