



Integrated Agricultural Production and Food Security Forecasting System for East Africa

Rationale, objectives, and approaches

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Climate Change,
Agriculture and
Food Security



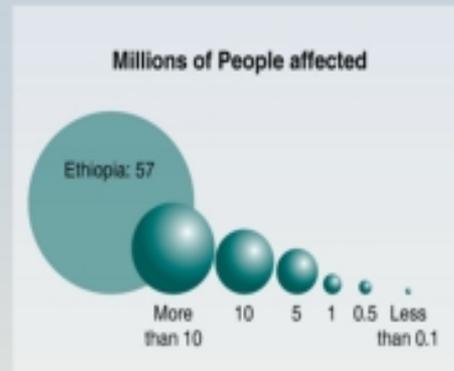
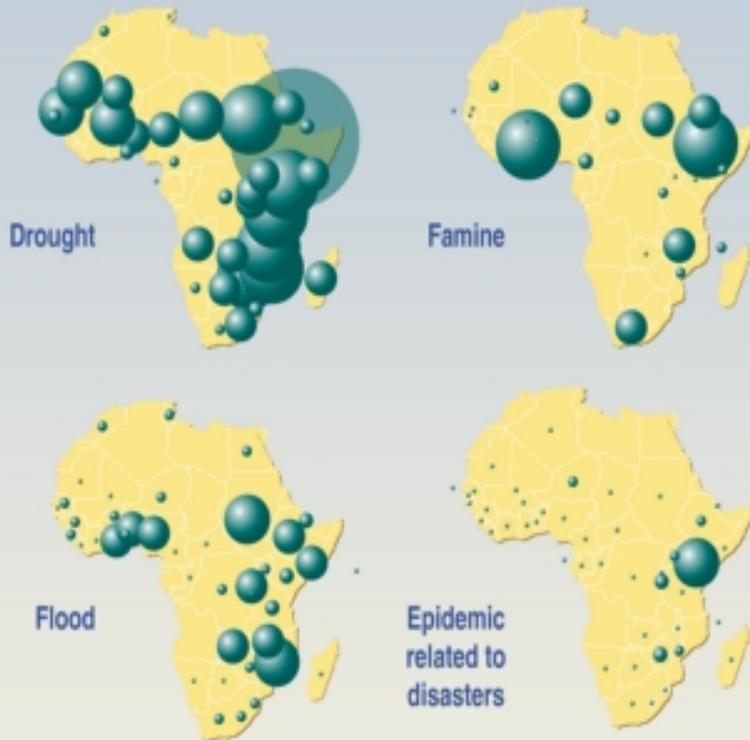
Why early warning systems?

East Africa has been a major hotspot for climate variability



>200 million people

People affected by Natural Disasters during the period 1971-2001



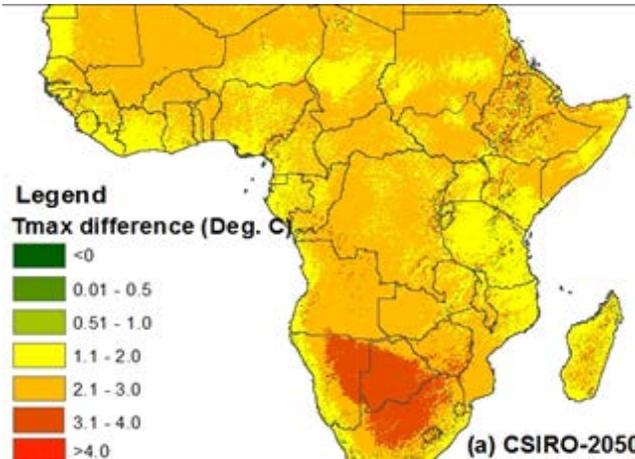
Source: The Office of U.S. Foreign Disaster Assistance (OFDA), The Centre for Research on the Epidemiology of Disasters (CRED), International Disaster Database, www.cred.be/emdat, Université Catholique de Louvain, Brussel, Belgium.

National, regional and international responses

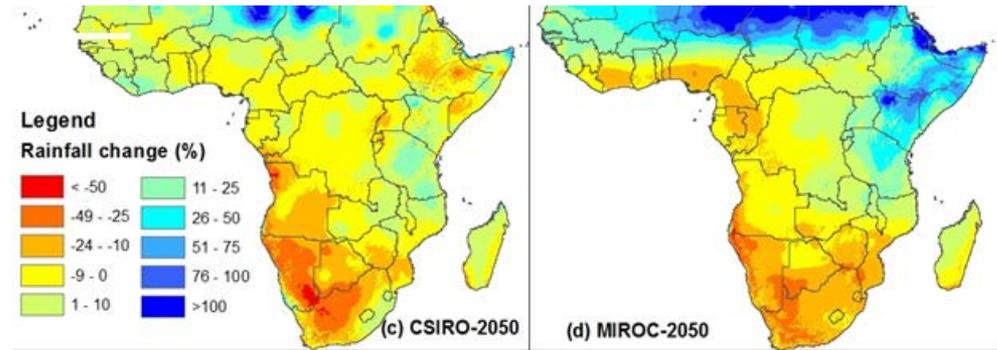
- Relief
- Safety net programs
- Climate prediction and early warning systems
- Food security classification (assessments) and disaster resilience initiatives

East Africa is also a major hotspot for climate change

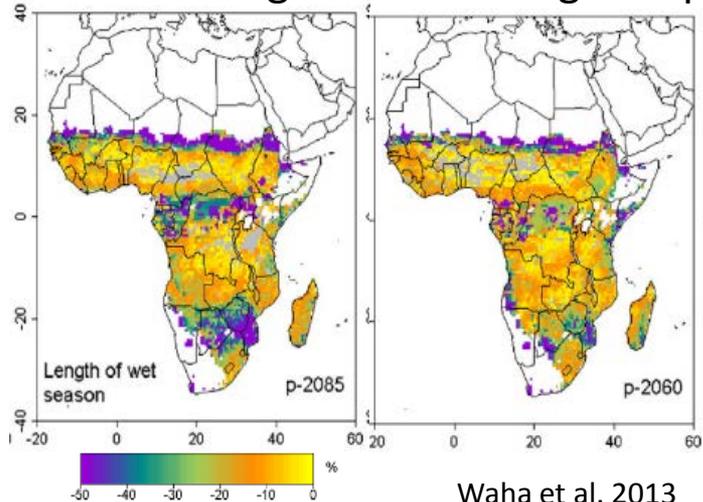
Maximum temperatures



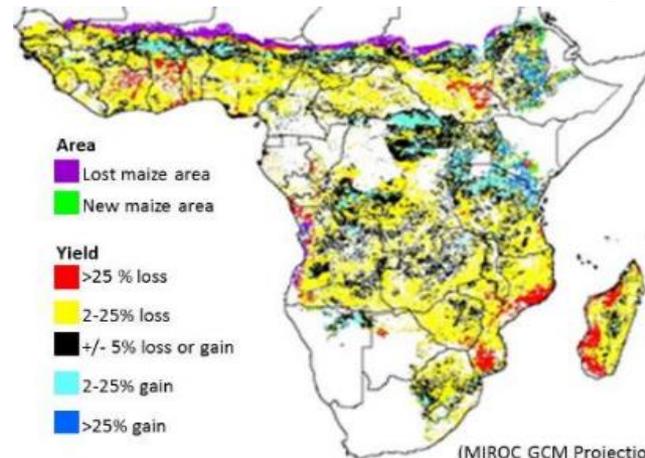
Rainfall uncertainties



Climate change - season length impact



yield losses under climate change



Tesfaye et al. 2015

Emerging needs

- Addressing the effects of not only climate variability but also climate change
- Improving the spatial and temporal resolution of climate forecasts
- Increasing need for climate early warning information and its implications for operational decisions
- Need for tools that integrate different facets of information for meaningful analysis and delivery of early warning information



Project objective

Building on existing tools and services, the project aims to develop a robust, scientifically sound and user-friendly food security forecasting system for the East Africa region that integrates improved seasonal climate, production and 'price' forecasts.

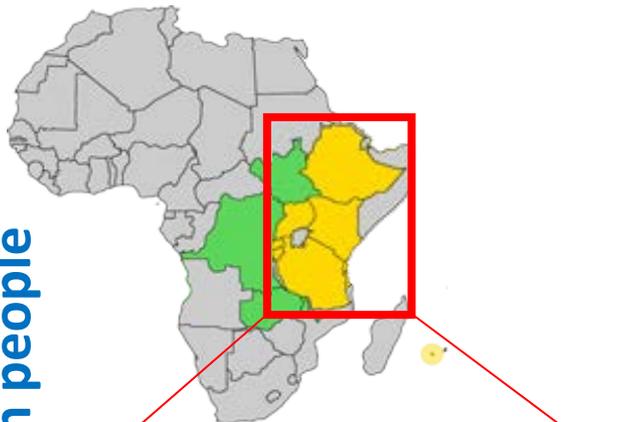


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Focus countries

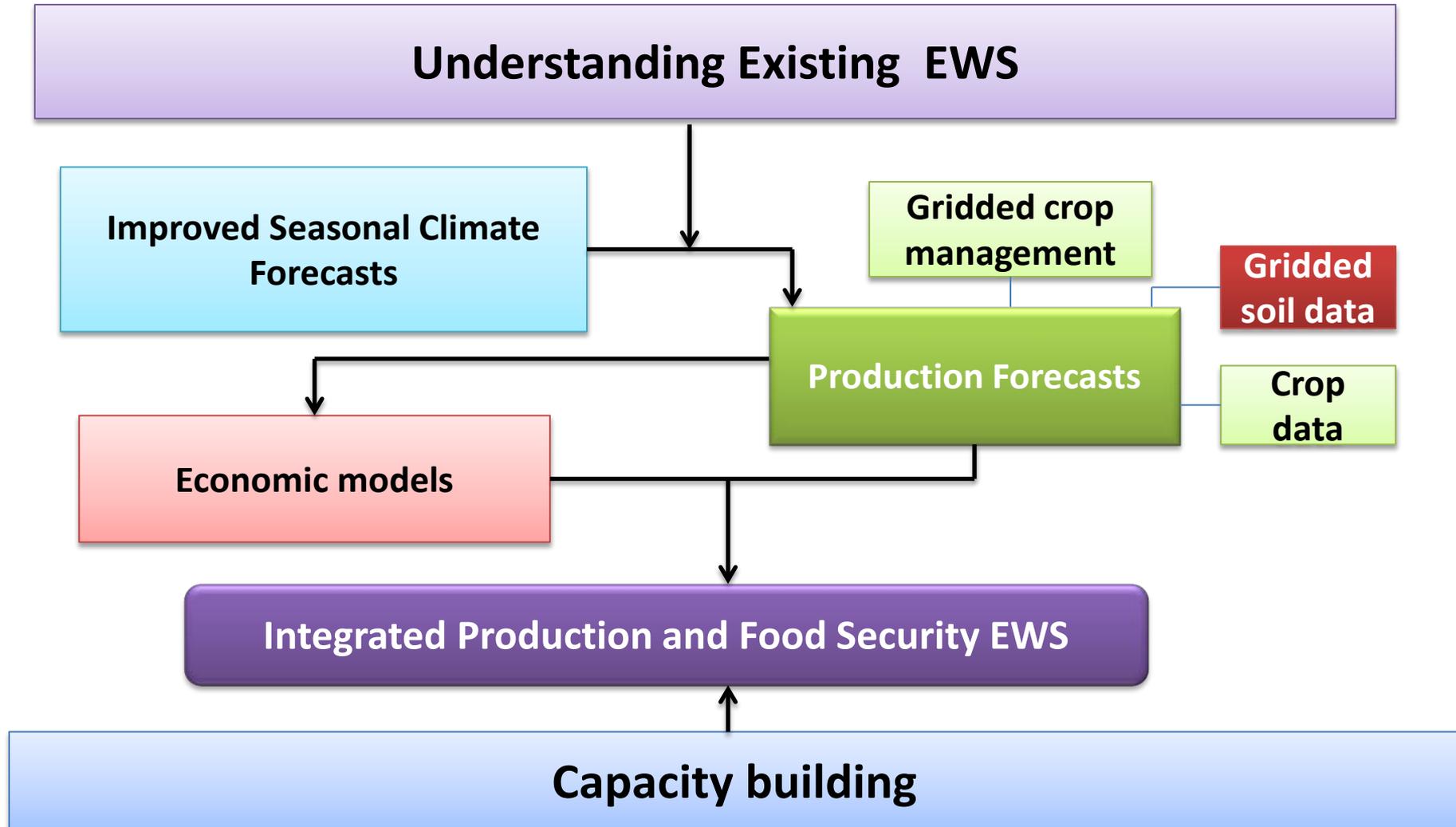
Population: >200 million people



Phase-1: Kenya, Ethiopia, Tanzania

Phase-2: Burundi, Rwanda, Uganda

Framework



Activities

1. Review and evaluation of existing food security assessment methods and tools
2. Develop a robust seasonal climate forecasting system with high spatial and temporal resolution for the EA region which will be used as input to crop models, and seasonal climate outlook advice
3. Provide seasonal crop production forecasts for major food security crops (maize, sorghum and common bean) using process-based crop growth simulation models locally calibrated and evaluated at different spatial scales

Activities...

4. Modelling food security at regional, national and sub-national levels
5. Developing an integrated food security forecasting tool
6. Capacity development, monitoring and evaluation and project management

Activities, Outputs and Outcomes

Activity 1, 2,3, 4, 5 & 6

- *A robust seasonal climate forecasting system with high spatial and temporal resolution*

- *Seasonal yield forecasts for major food security crops*

- *Refined method for regional, national and sub-national food security modeling*

- *Integrated food security forecasting system*

Regional and national partners will provide accurate, reliable and spatially disaggregated food security forecasts to local and regional governments, donors, and relief agencies to enhance response timeliness and efficiency.

ACTIVITIES

OUTPUTS

OUTCOME





Target users

- **Regional**
 - ICPAC
 - FEWS NET
- **National**
 - Met offices
 - DRMFS offices
 - Local NGOs
 - National and local governments
- **International**
 - WFP
 - FAO
 - International NGO's working in the region



Thank You!



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