DROUGHT RISK/ DROUGHT DISASTER DECLARATION AND DROUGHT INDICATORS

Community Capitals Framework
Lincoln, Nebraska, USA
5 Nov 2014

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STATEMENTS AND QUESTIONS

• When is a dry period a drought?
• When to declare drought disasters?
• Different agricultural systems experience dry periods differently
• How to take political decisions and emotion out of disaster declaration
• Be fair to all
Agriculture experience regular droughts with the small-scale communal farmers suffering the most. Two different systems: Highly commercialized vs small scale subsistence.
• (i) ill defined property right systems,
• (ii) lack of infrastructure on land
• (iii) over-grazing of available land,
• (iv) imperfect markets
• (v) lack of reserves,
• (vi) lack of alternative income sources
• (vii) lack of institutions representing their interests,
• (viii) lack of economies of scale
WELL DEVELOPED COMMERCIAL AGRIC SECTOR
Maize… the staple foods in Africa
Climate profile

Production potential - (Long-term) (Long-term production strategies)

Above normal  Normal  Below normal

Ideal production situation

Timely Tactical Decisions

Crisis management
Floods
Drought
Crisis management
Comparison of livelihoods with assets to no assets... Exogenous shocks have different impacts and disaster safety nets must distinguish.
DIFFERENT LOSS FUNCTION FOR INSURANCE OR DROUGHT DECLARATION AND SUPPORT

Loss: % of net income/production or coping strategies with permanent negative impact

Drought severity (SPI/SPEI)

-1
-1.5
-2

Small scale farmers
Small/Medium Commercial farmers
Large Commercial farmers

Point Of No Return – Safety Net or Insurance

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CURRENT INDICATORS

- Percentage of normal rainfall
- NDVI
- Soil moisture
- Inspections by extension officers
- Pressure from farmers
- Pressure from political leadership
- Finally the National Disaster Management Centre must approve
  - Send people for inspections – no knowledge of agriculture
  - Too late
  - Already flooding
Proposed indicators

- Early warning mechanisms
  - SPI/SPEI (-1.3/-1.5/-2???)
  - SAWS – (El Nina, others)
  - NDVI
  - Soil moisture content
  - Dam levels
  - Reference farms per quaternary catchment

- Trigger indicators for drought declaration
  - SPEI/SPI (3, 6, 12, 18, 24 months)
  - Dam levels
  - River flow

- Secondary or confirmation indicators
  - NDVI
  - Soil moisture content
  - Reference farm data
QUESTION REMAINS?

• Do we have different thresholds for the different systems?
• What are these thresholds?
Thank You

Dankie