

DROUGHT RISK/  
DROUGHT DISASTER  
DECLARATION AND  
DROUGHT  
INDICATORS

Community Capitals  
Framework  
Lincoln, Nebraska, USA  
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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

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# CHALLENGE!



Agriculture experience regular droughts with the small-scale communal farmers suffering the most. Two different systems: Highly commercialized vs small scale subsistence



# SUBSISTENCE COMMUNAL - AGRICULTURE

- (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

**Floods**

**Crisis management**

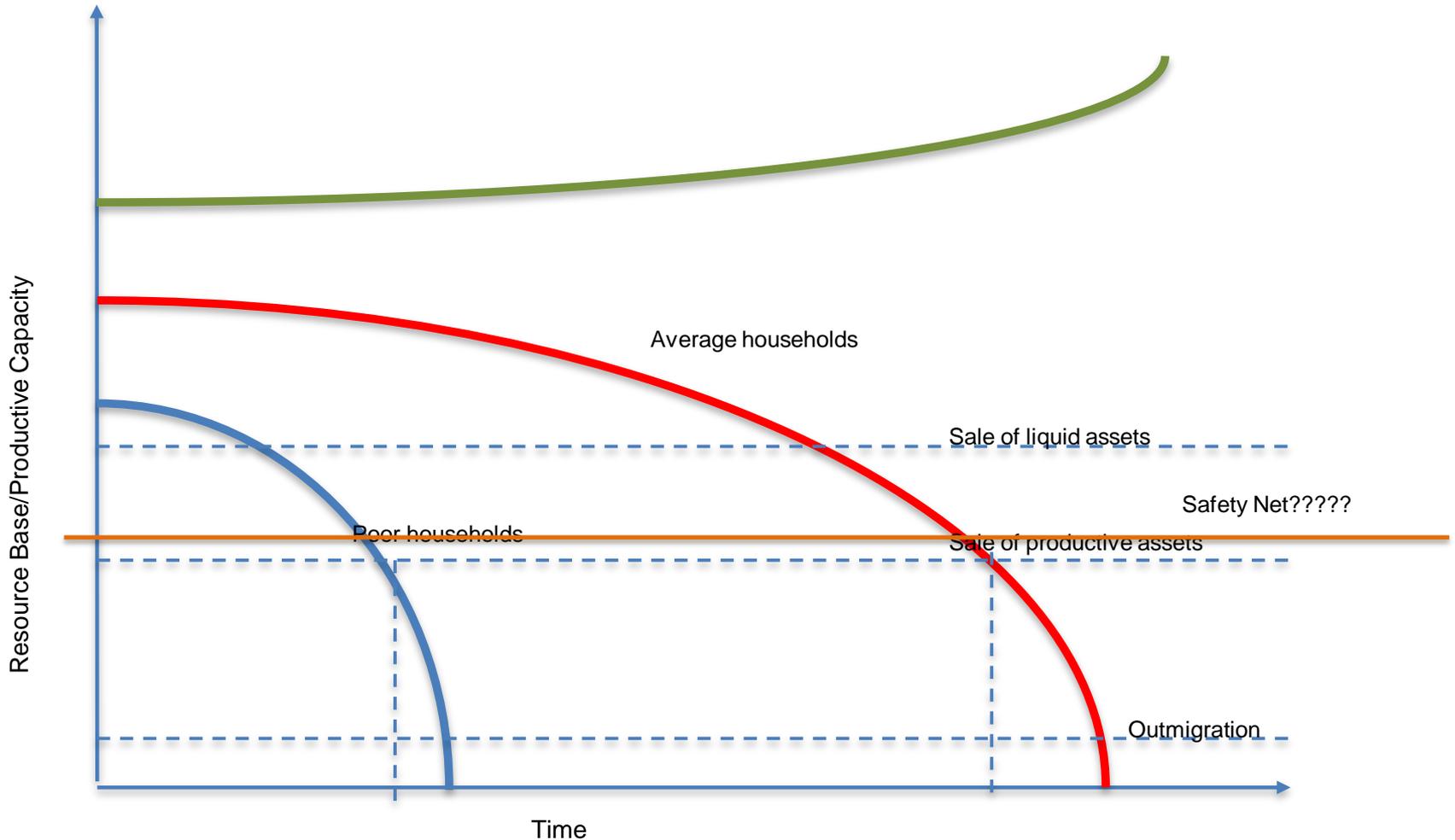
**Ideal production situation**

**Timely Tactical Decisions**

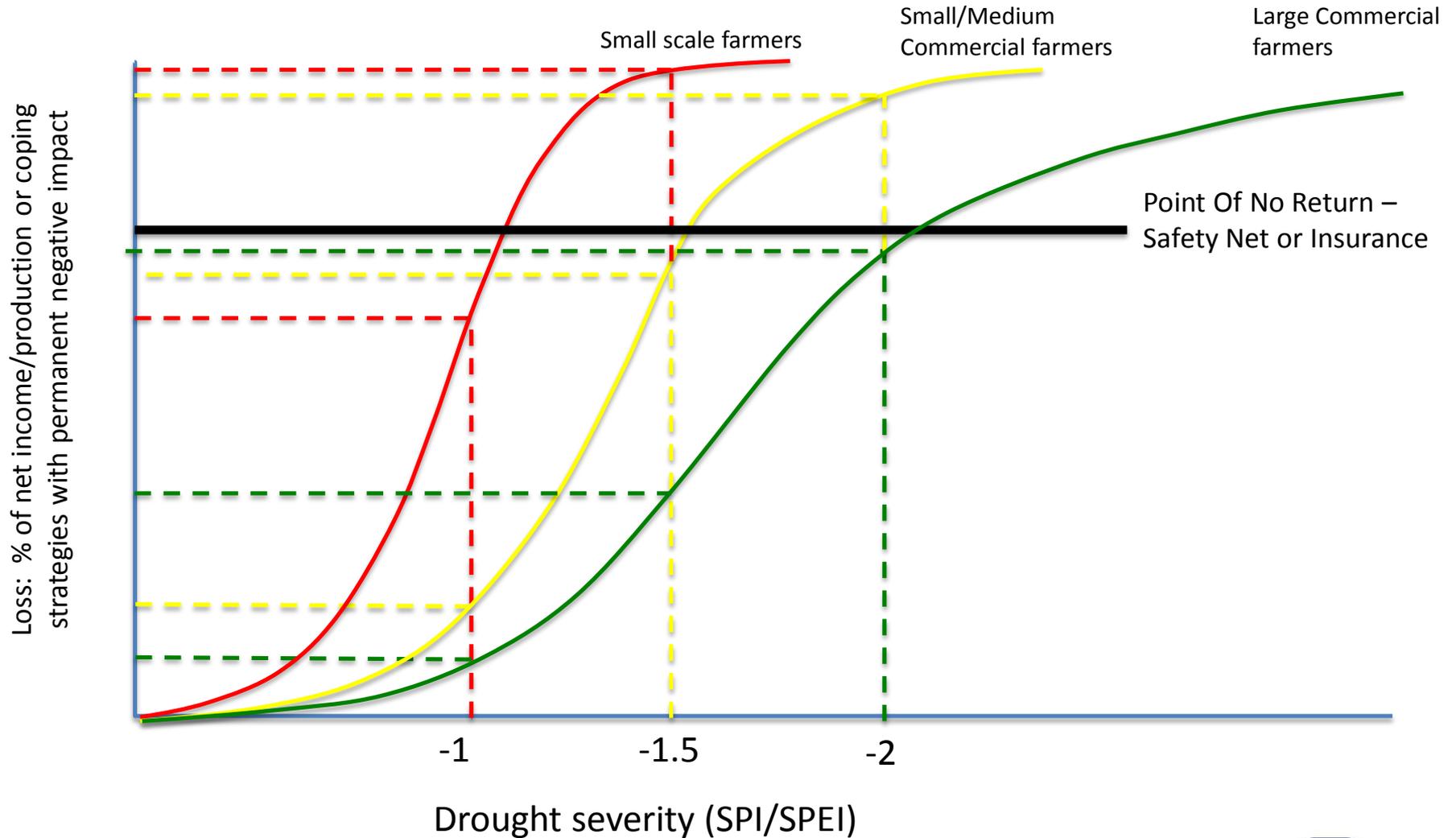
**Drought**

**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



# 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**

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