Risk Management Framework - the big LEAP* in Ethiopia

and:

Insurance in Catastrophe Risk Management

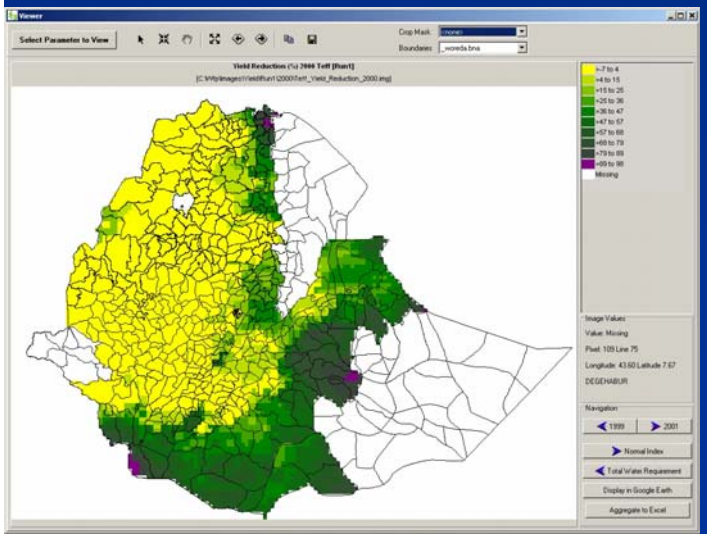
November 14, 2007

Bündnis Entwicklung Hilft

Nachhaltige Entwicklung als Katastrophenvorsorge

Gustav-Stresemann Institut, Bonn

Ulrich Hess, Chief of Business Risk Planning, WFP



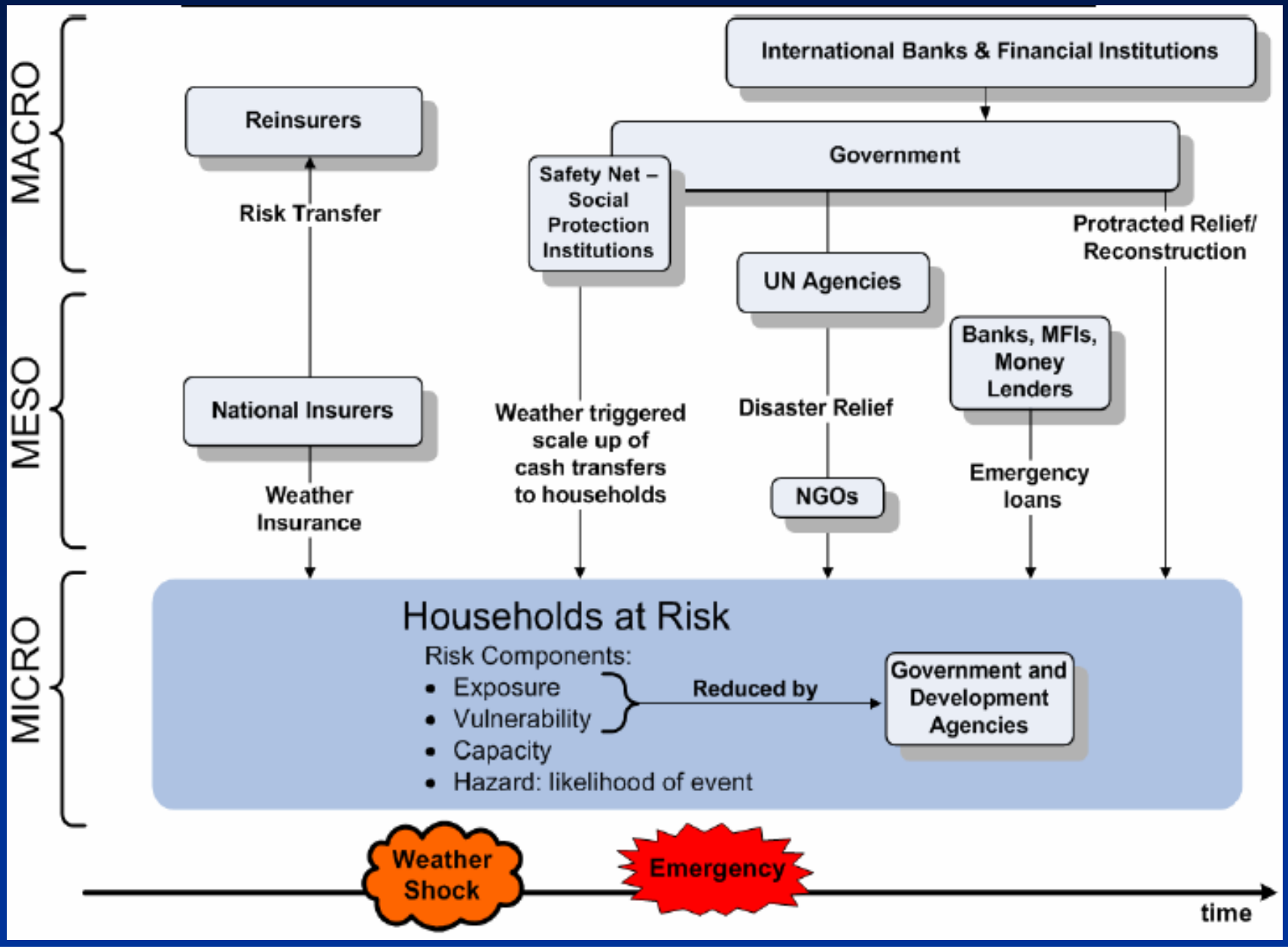
**Livelihoods + Early Assessment + Protection*

WFP

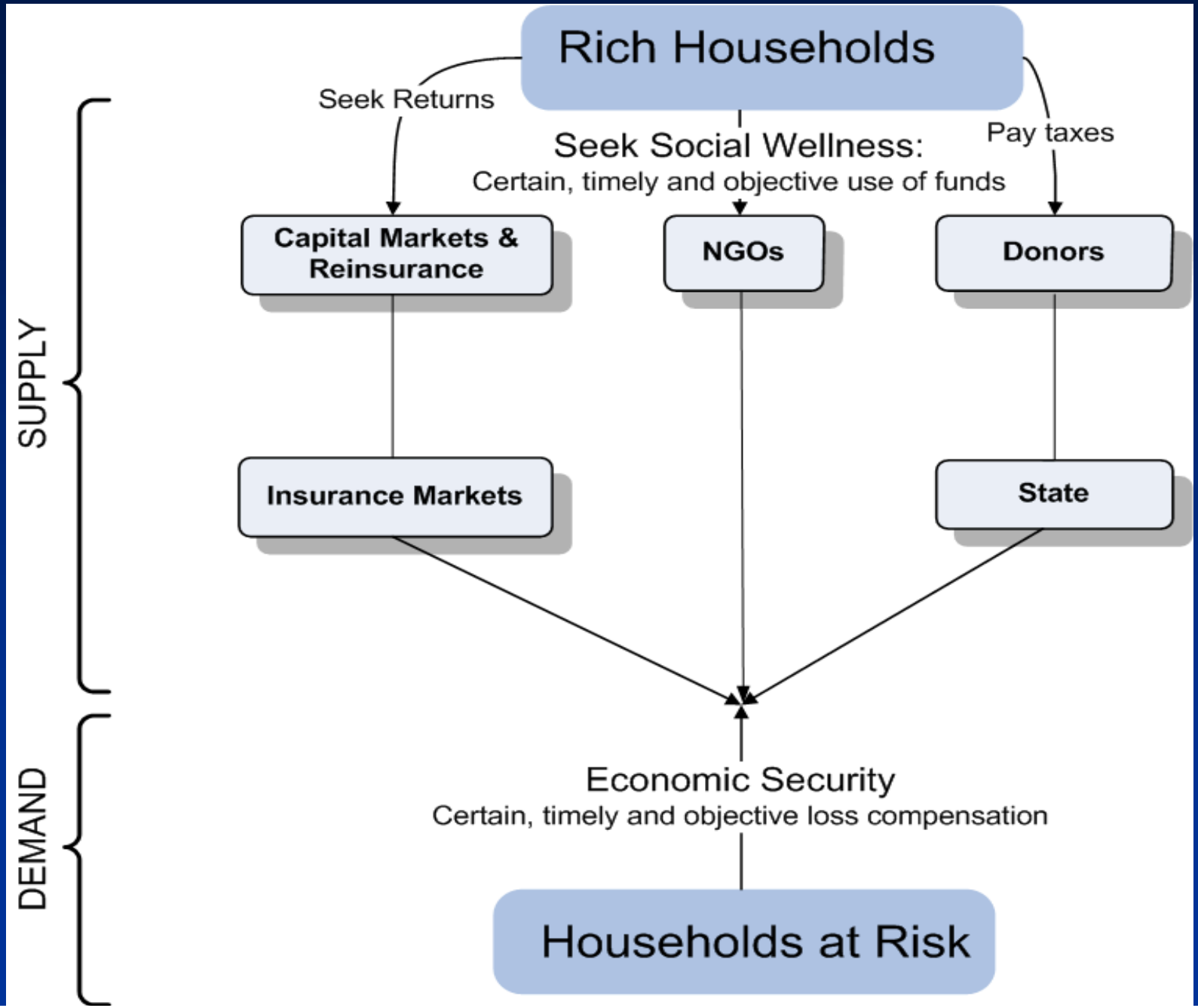
AGENDA

- Context: Disaster Risk Universe
- Problem and Rationale: Managing Risk instead of Managing Disasters
- Ethiopia Phase I: Weather Risk Management Pilot
- Ethiopia Phase II: Risk Management Framework
    I. LEAP: Livelihood stress Early Warning + Index
    II. Contingency planning
    III. Capacity building
    IV. Risk Financing
- Conclusion: Bündnis Catastrophe Bond

CONTEXT (I): Disaster Risk Universe



Context (II): Demand & Supply for Risk Transfer



Context (III): People want Security – India Weather Insurance Survey

Why did households buy?

	Frequency by reason no.			
	1st	2nd	3rd	average
Security/risk reduction	139	53	20	40.1%
Need harvest income	25	62	12	15.6%
Advice from progressive farmers	17	28	12	8.8%
High payout	9	27	11	6.8%
Other trusted farmers purchased	16	11	16	6.3%
Low premium	17	10	6	5.7%

Why did households not buy?

	Frequency by reason no.			
	1st	2nd	3rd	average
Do not understand product	45	59	11	24.9%
No cash / credit to pay premium	58	21	11	21.4%
Rain gauge too far away	38	39	9	19.0%
Too expensive	32	23	7	14.1%
No castor, groundnut	13	6	1	4.9%

Research Design:

2004: Household survey of **1052 households** in selected villages.

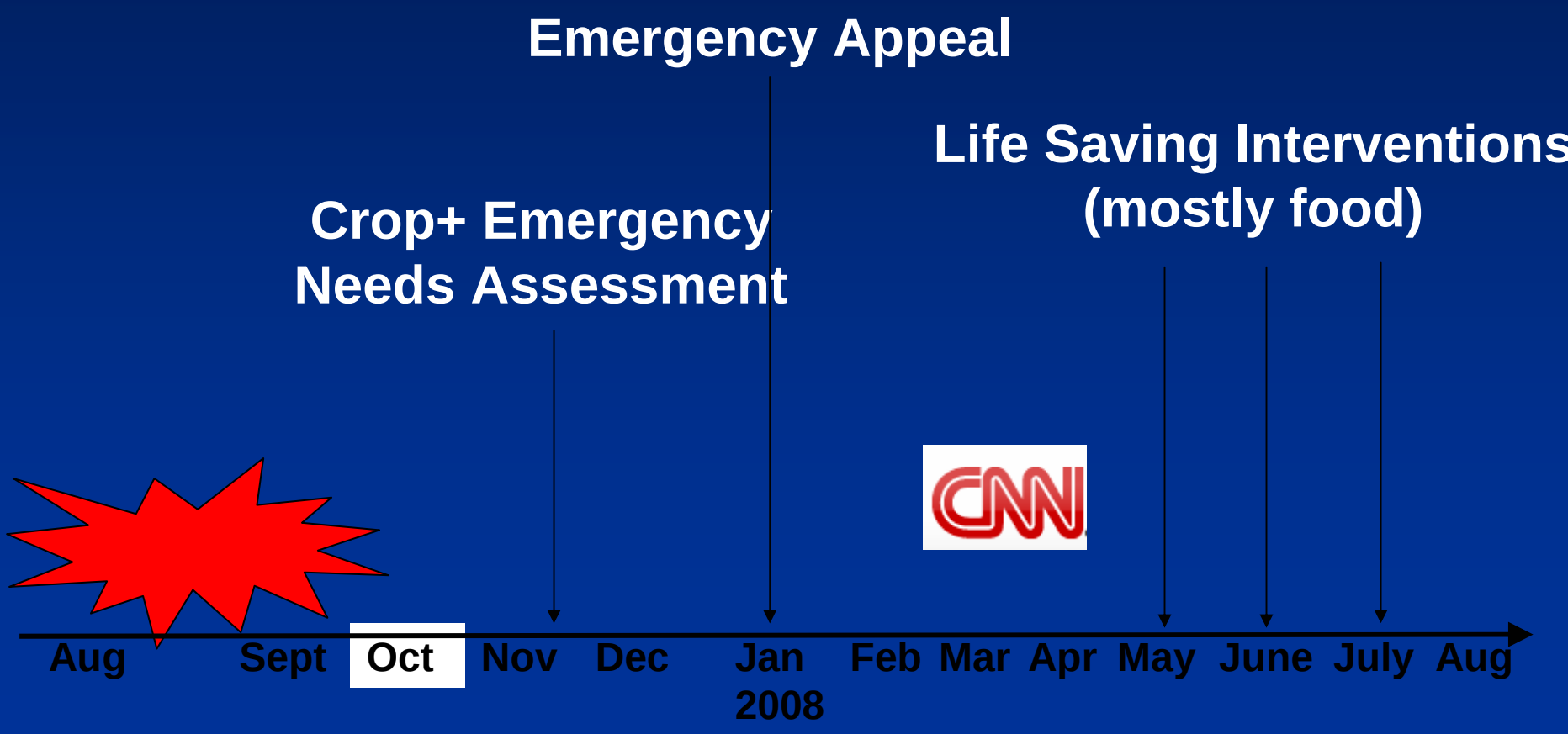
2005: "Mini-survey", follow-up of the same households from 2004.

2006: Direct randomized marketing of insurance to households and follow-up surveys.

(Prof. Townsend-Gine-ICRISAT)

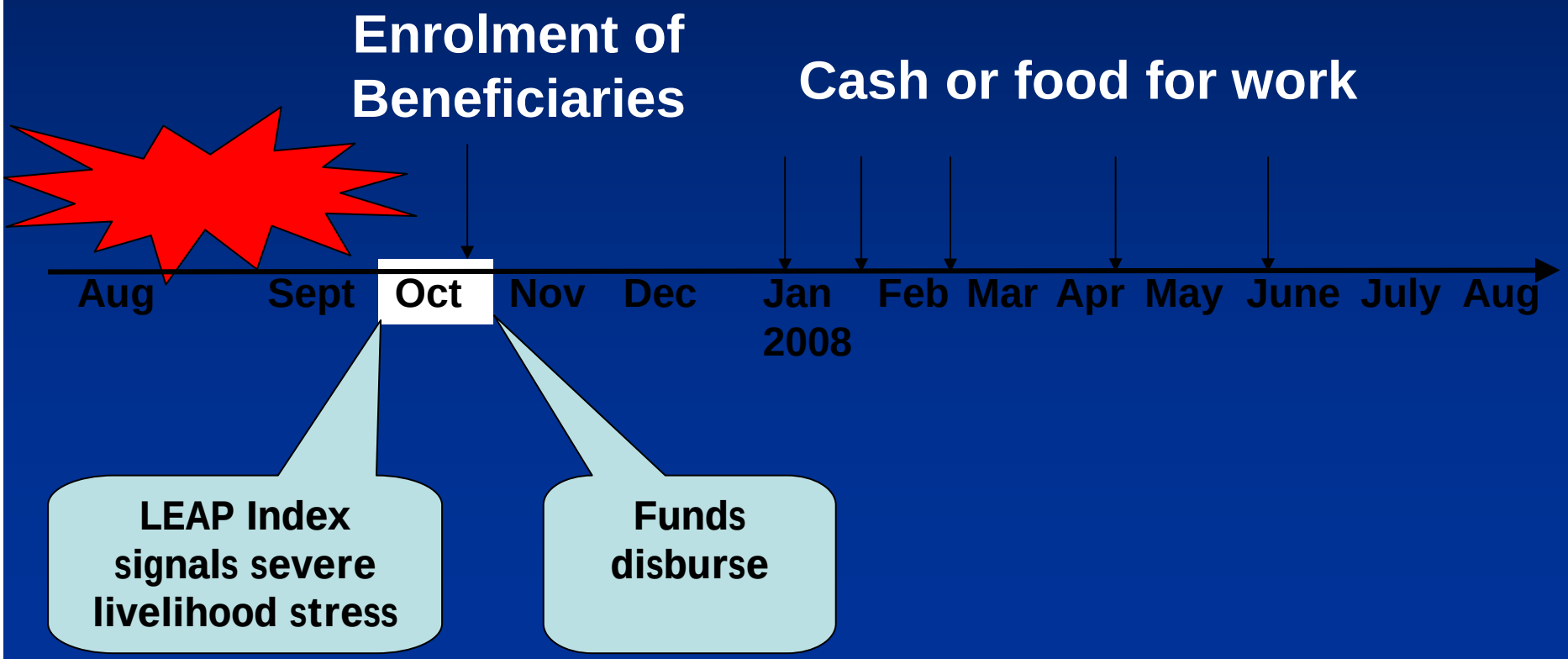
PROBLEM: TIMING and NATURE OF INTERVENTIONS

E.g. Safety Net Areas - Highlands



RATIONALE (I): EFFECTIVENESS - PROTECT LIVELIHOODS IN TIME

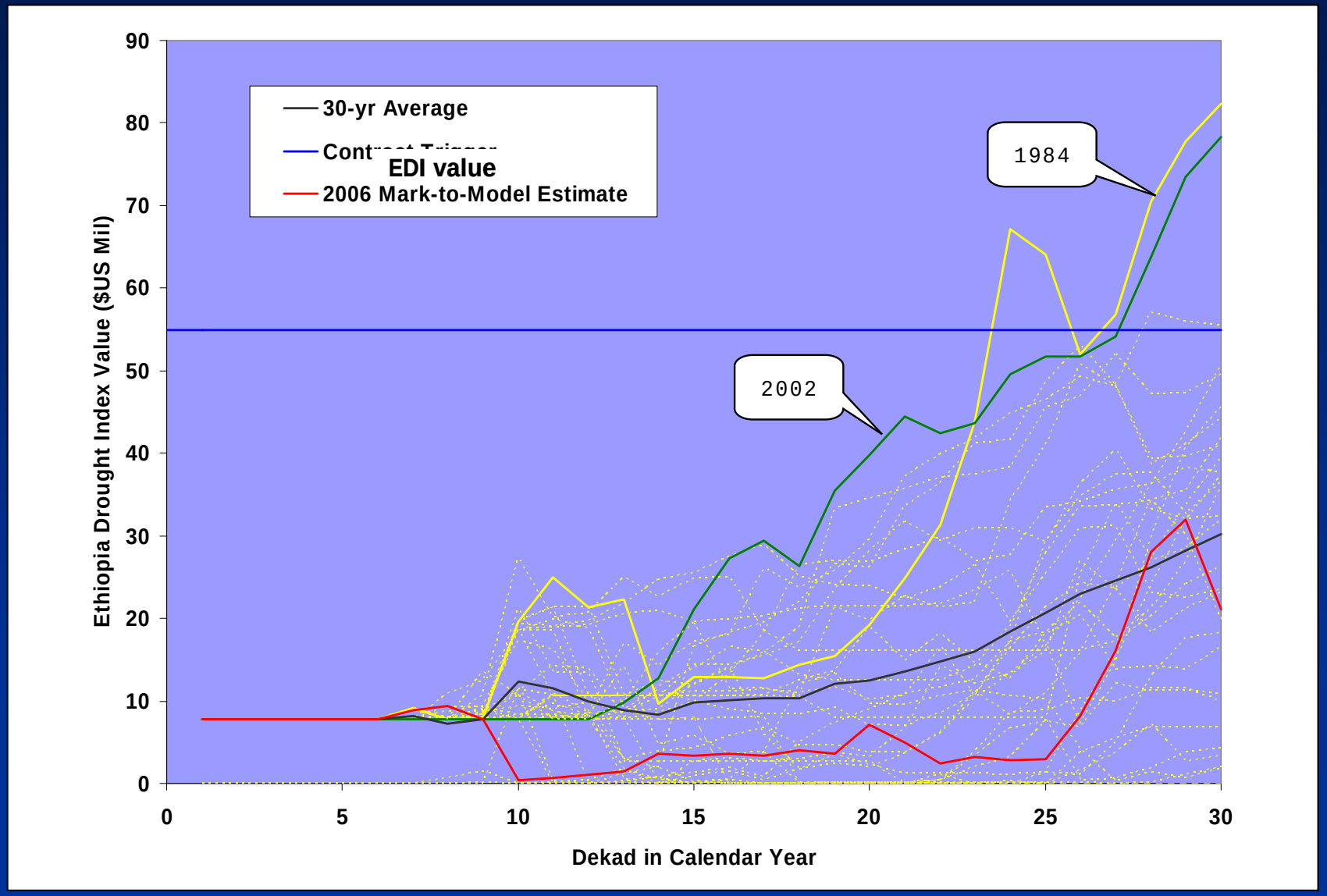
Example: Tigray, Ethiopia



RATIONALE (II) EFFICIENCY - PROTECTING LIVELIHOODS IS CHEAPER

- Cost benefit analysis reveals that for drought risk systematic livelihood protection is 6 times cheaper than ex-post emergency interventions

REVIEW OF 2006 PILOT DROUGHT INDEX PERFORMANCE



THE 2006 ETHIOPIA TRANSACTION

- Risk Transfer Structure:
  - Counterparty (buyer of option): UN World Food Programme

- Competitive Tender Process:
  - Official UN WFP procurement process
  - 9 companies invited to tender, 5 participated
  - Tender Winner (seller of option): AXA Re, Paris
  - Final Transaction:
    - Premium: $930,000, paid by USAID mainly
    - Maximum Payout: $7,100,000

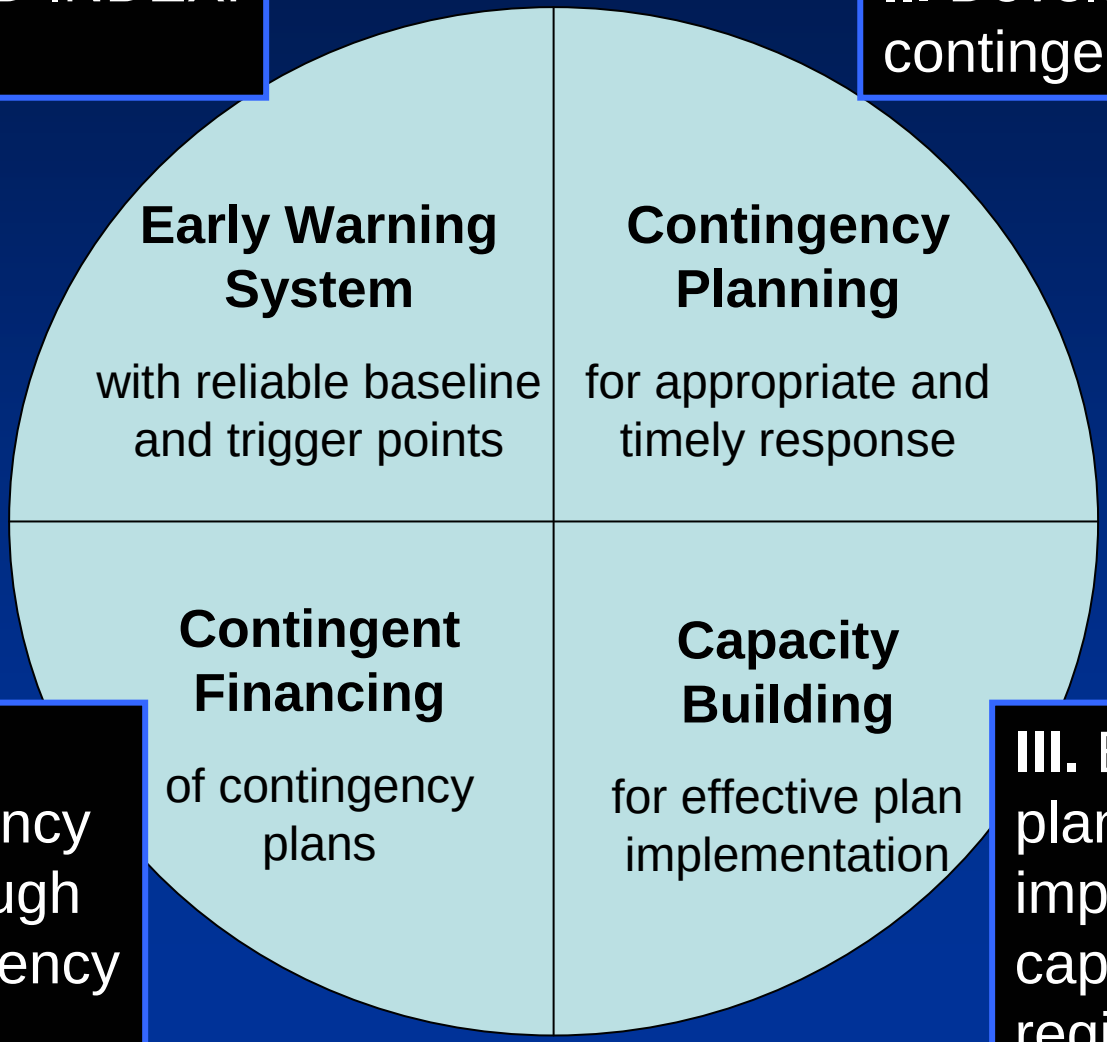
LESSONS LEARNED

- **Project demonstrated**
  - **Weather risk** of developing countries can be **transferred** using market mechanisms;
  - It is possible to develop objective, timely and reliable **indicators** that serve as proxy of actual aggregate needs
  - Ethiopia **weather data** can satisfy international weather risk market standards

ETHIOPIA PHASE II – RISK MANAGEMENT FRAMEWORK

I. IMPROVED INDEX: LEAP

II. Develop budgeted contingency plans

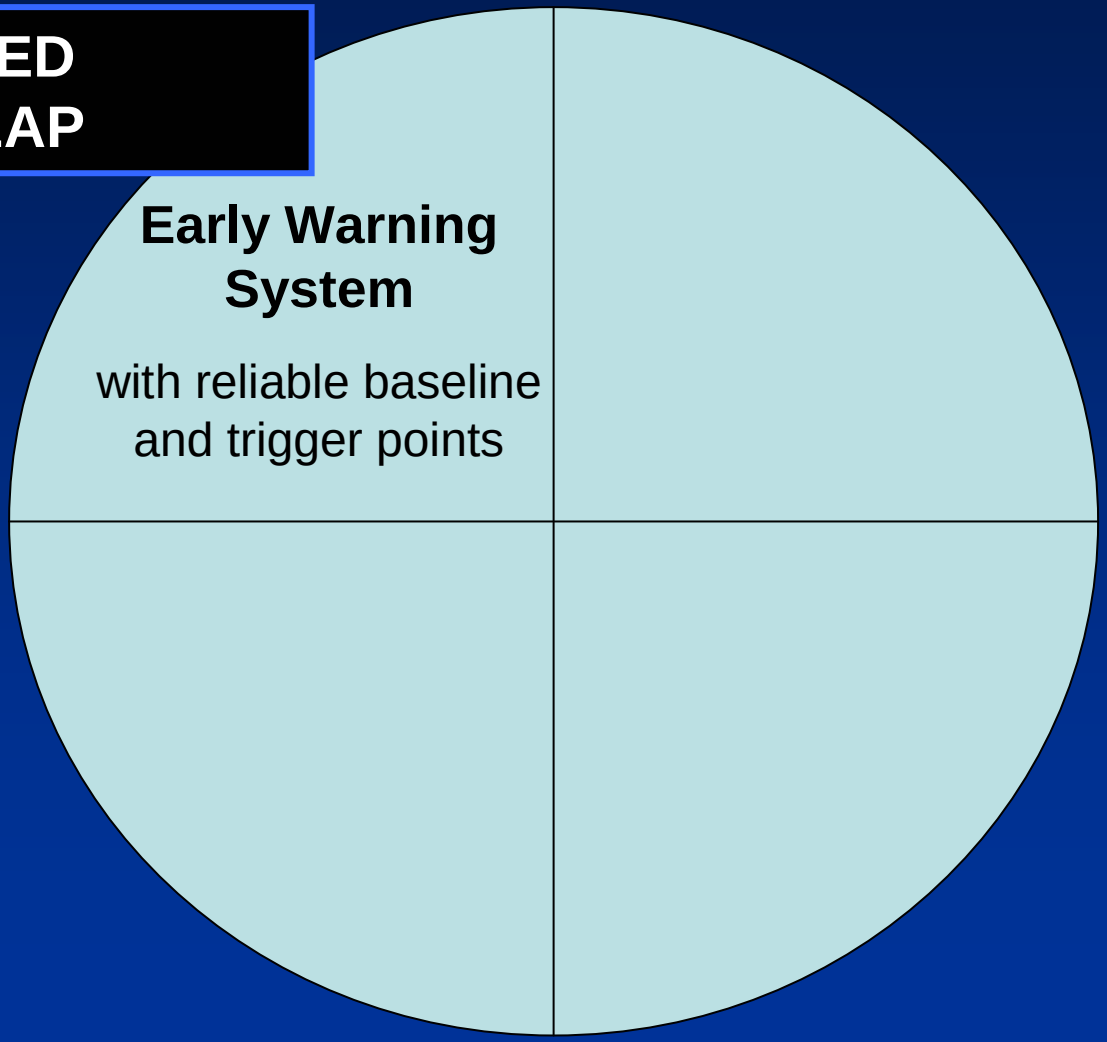


IV. Establish timely emergency financing through use of contingency financing

III. Build planning and implementation capacity at regional level

IMPROVED INDEX – PART OF RISK MANAGEMENT FRAMEWORK

I. IMPROVED INDEX: LEAP

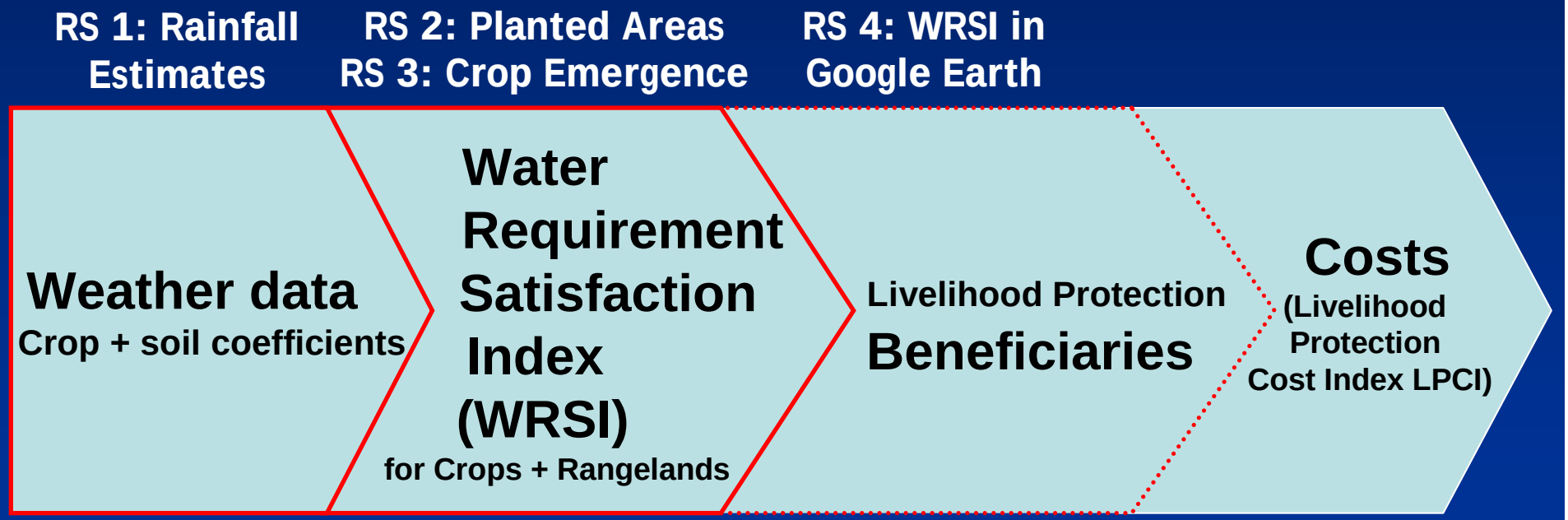


WHAT DO WE WANT FROM LIVELIHOOD PROTECTION COST INDEX?

- Represent cost of intervening early to protect vulnerable livelihoods
- Signal amount of financial resources needed for regions to protect vulnerable livelihoods before harvest
- Trusted by GoE and donors to trigger timely resources
- Provide early warning of livelihood stress levels
- Crop and pasture monitoring tool
- Easily customizable according to new purposes
- Open source and available for free

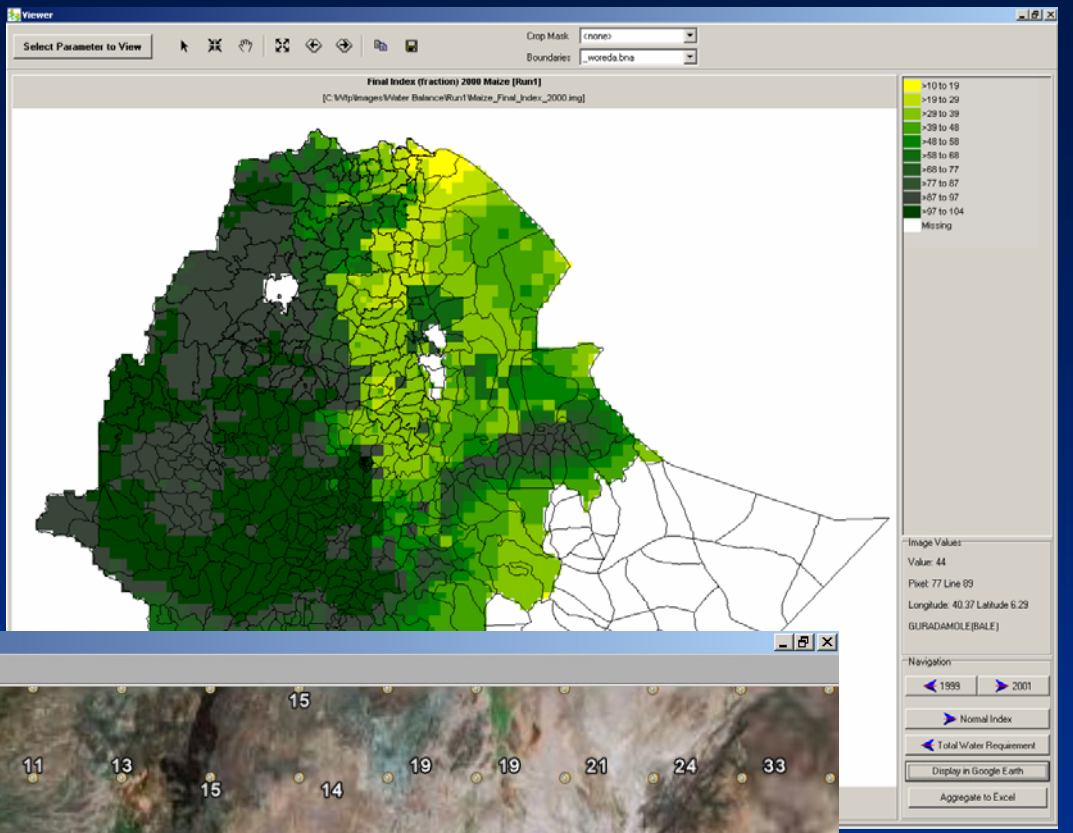
LEAP INDICES

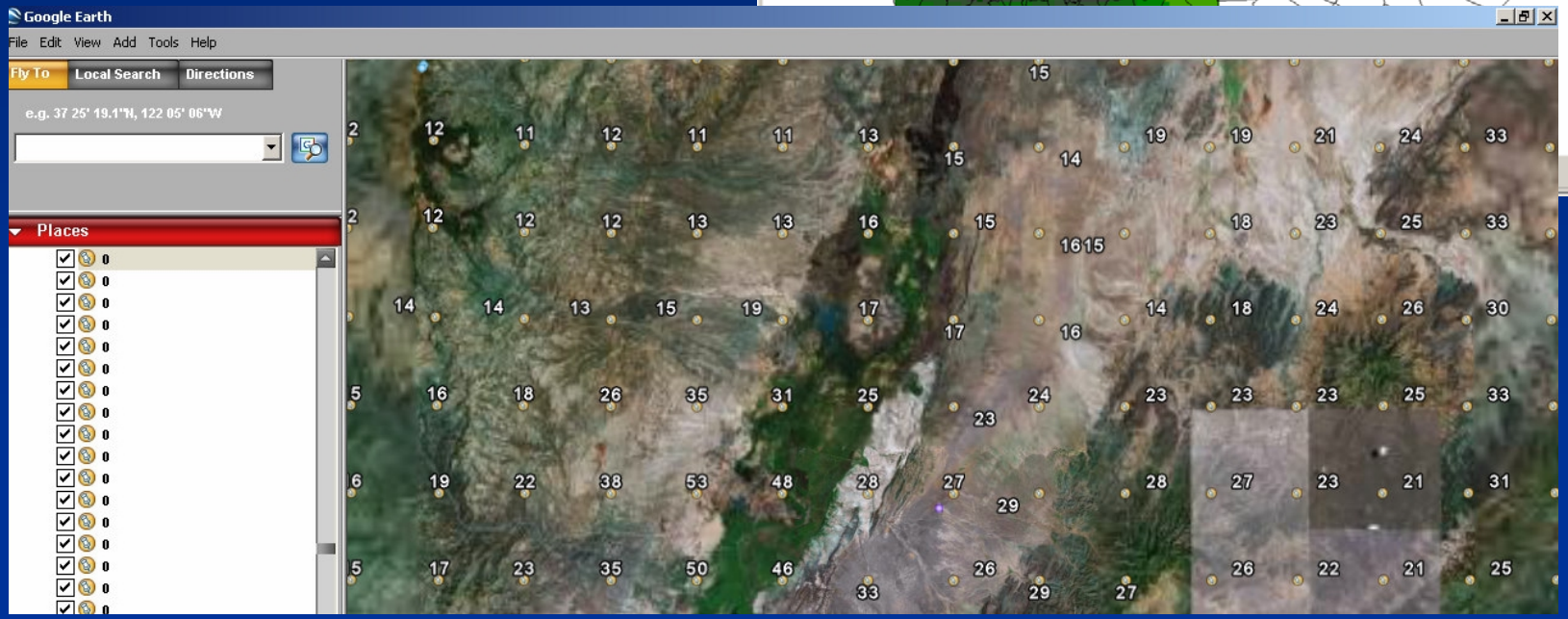
- Objective: capture livelihood protection funding needs at regional level
- Target group: vulnerable population



- Yield reduction in %
- "Hot spot" monitoring

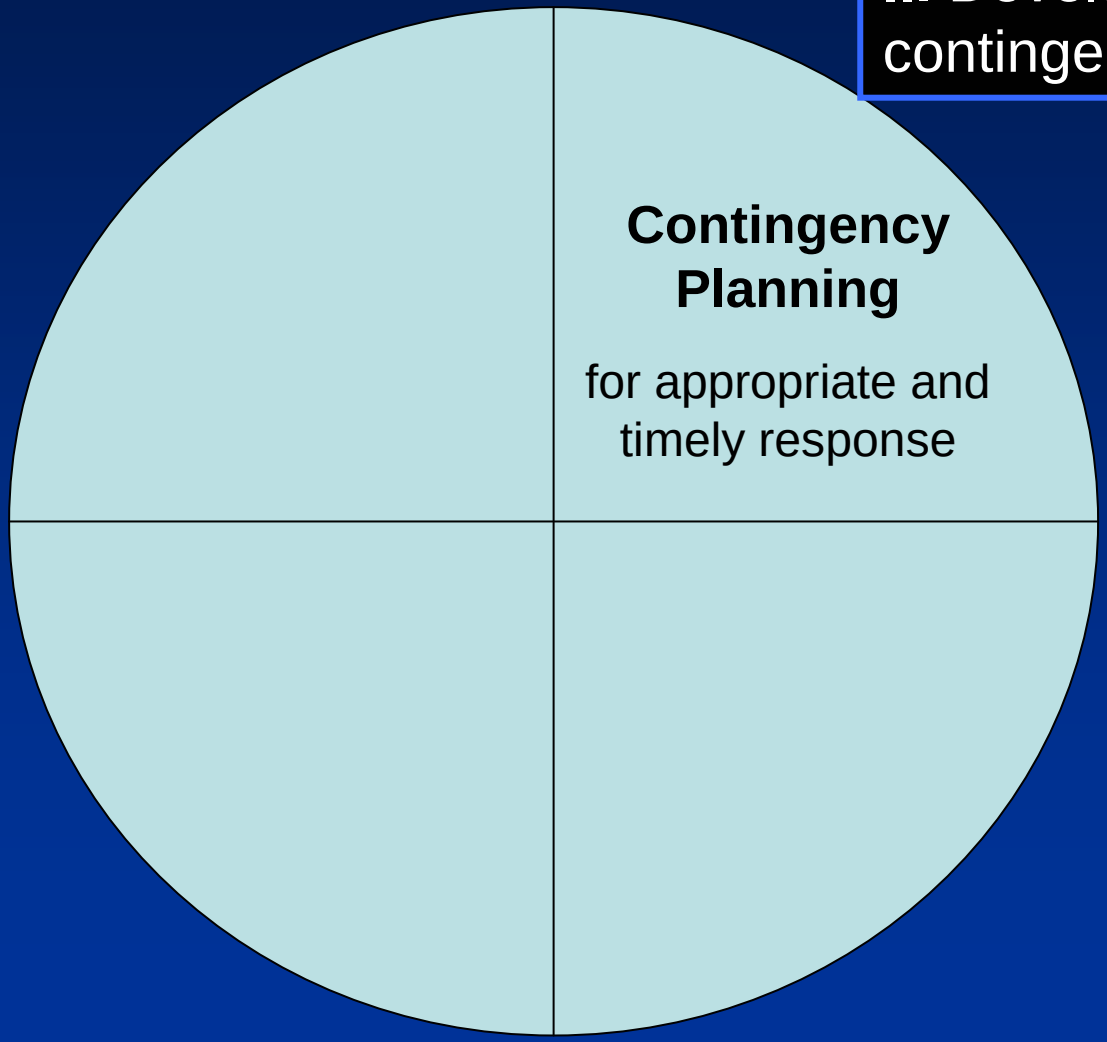
Viewing output parameters





RISK MANAGEMENT FRAMEWORK

II. Develop budgeted contingency plans

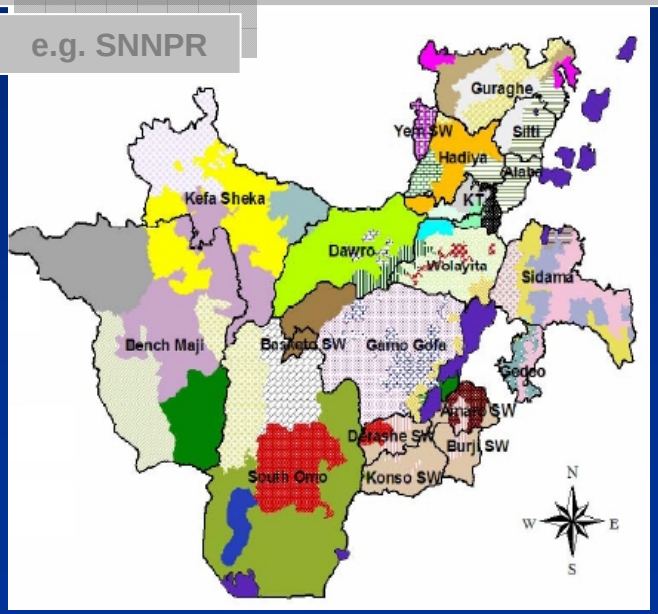


II. CONTINGENCY PLANNING IN CONTEXT

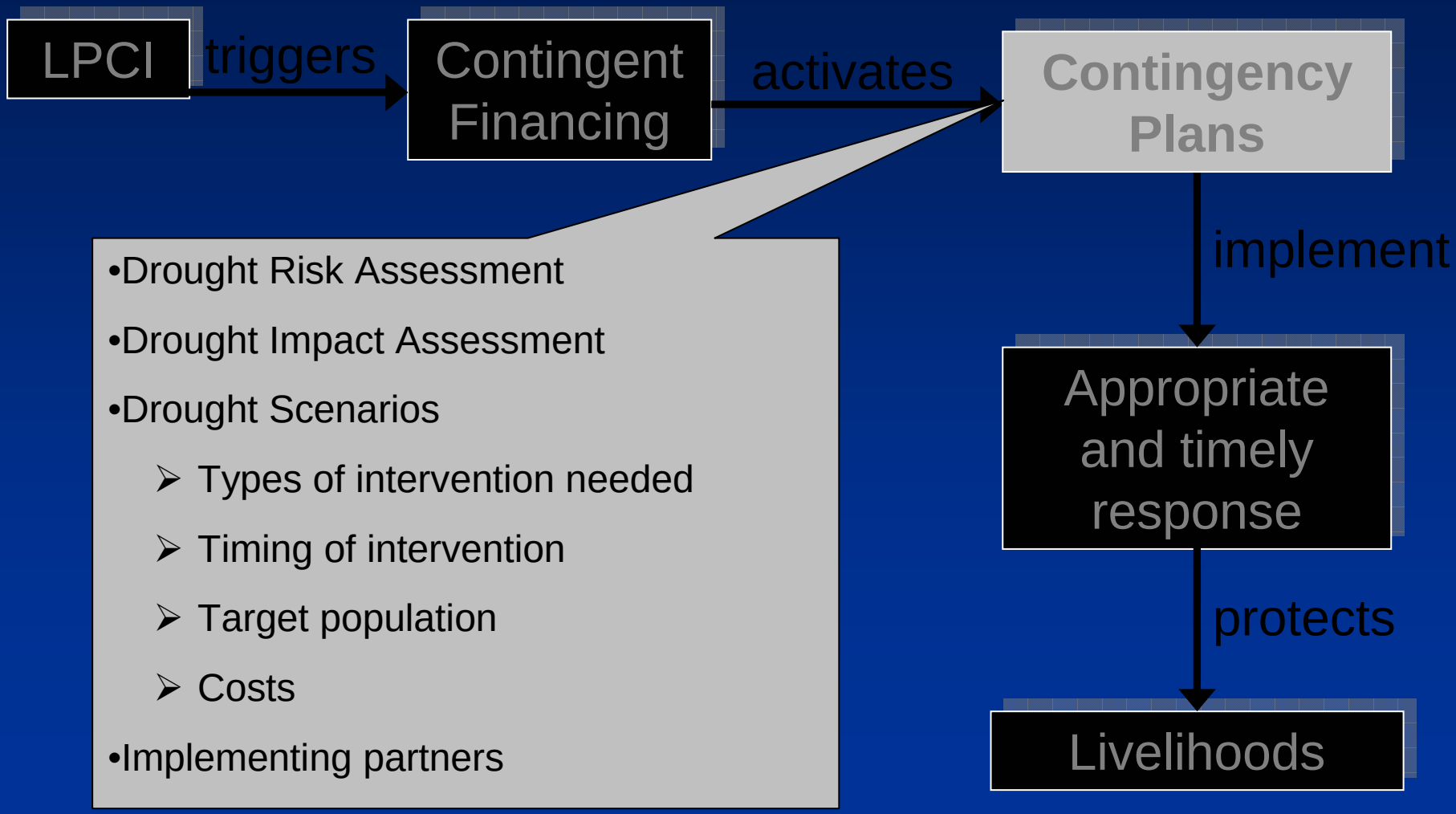
Contingency Plans

Livelihood Analysis

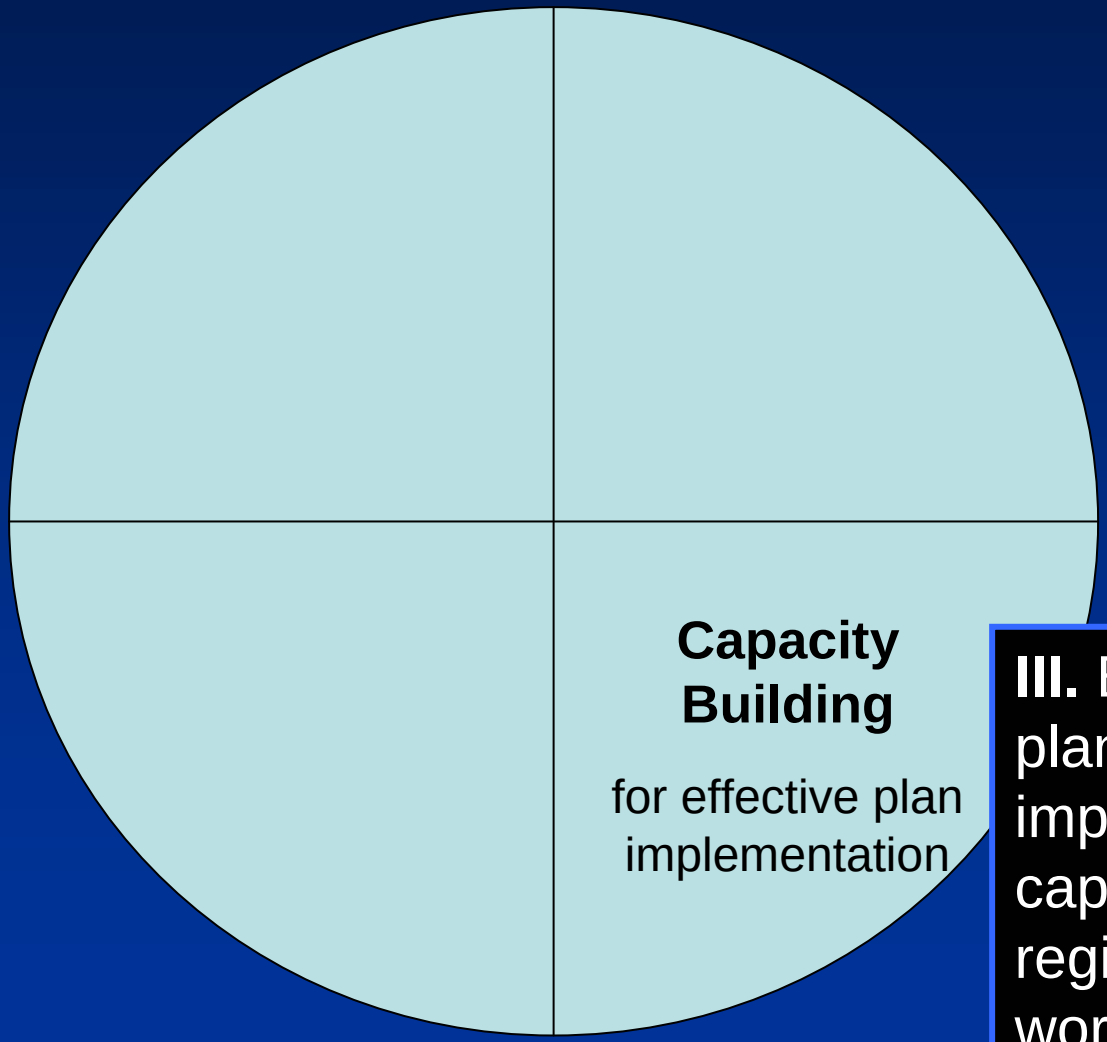
e.g. SNNPR



II. CONTINGENCY PLANNING IN CONTEXT



RISK MANAGEMENT FRAMEWORK

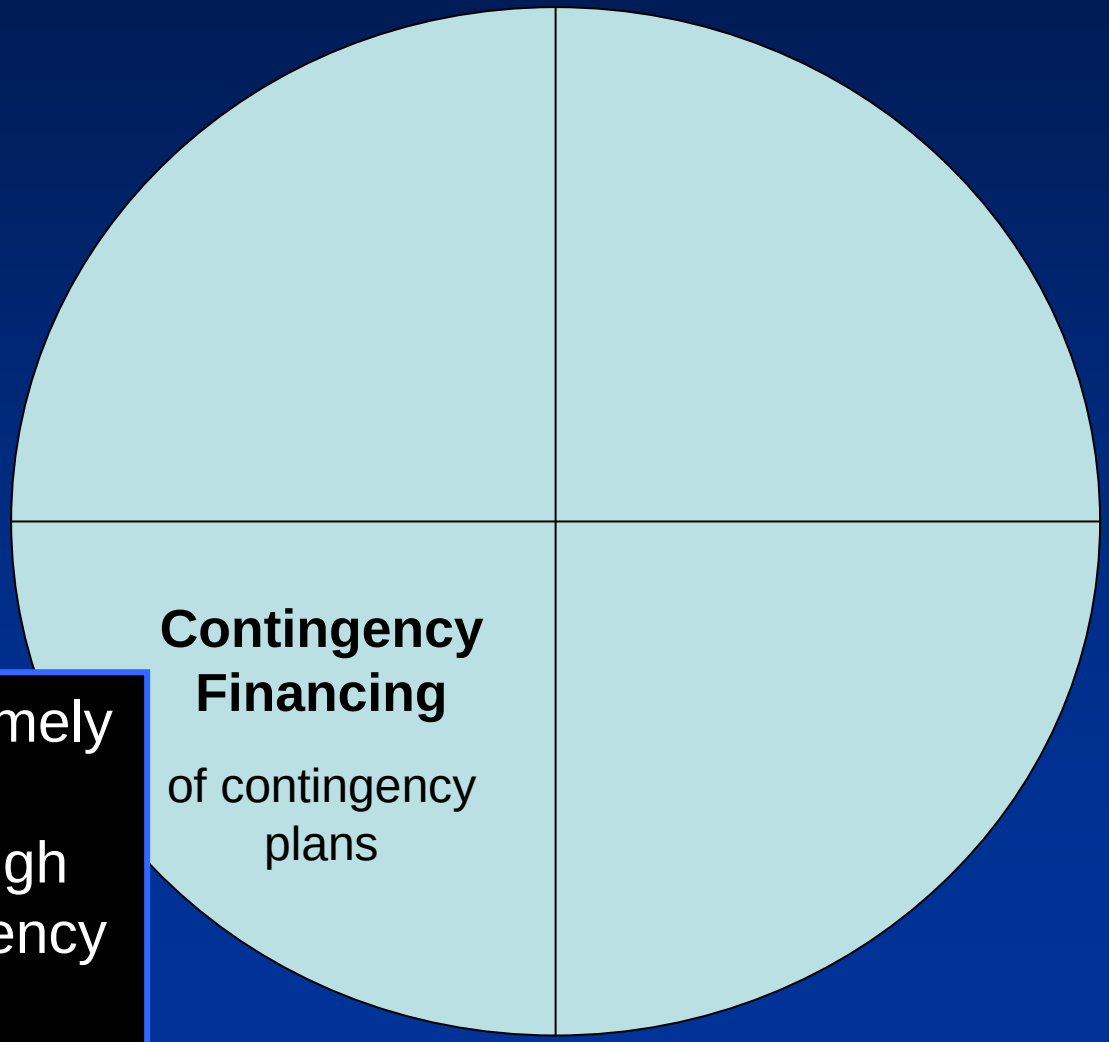


III. Build planning and implementation capacity at regional and woreda level

III. CAPACITY BUILDING + OWNERSHIP

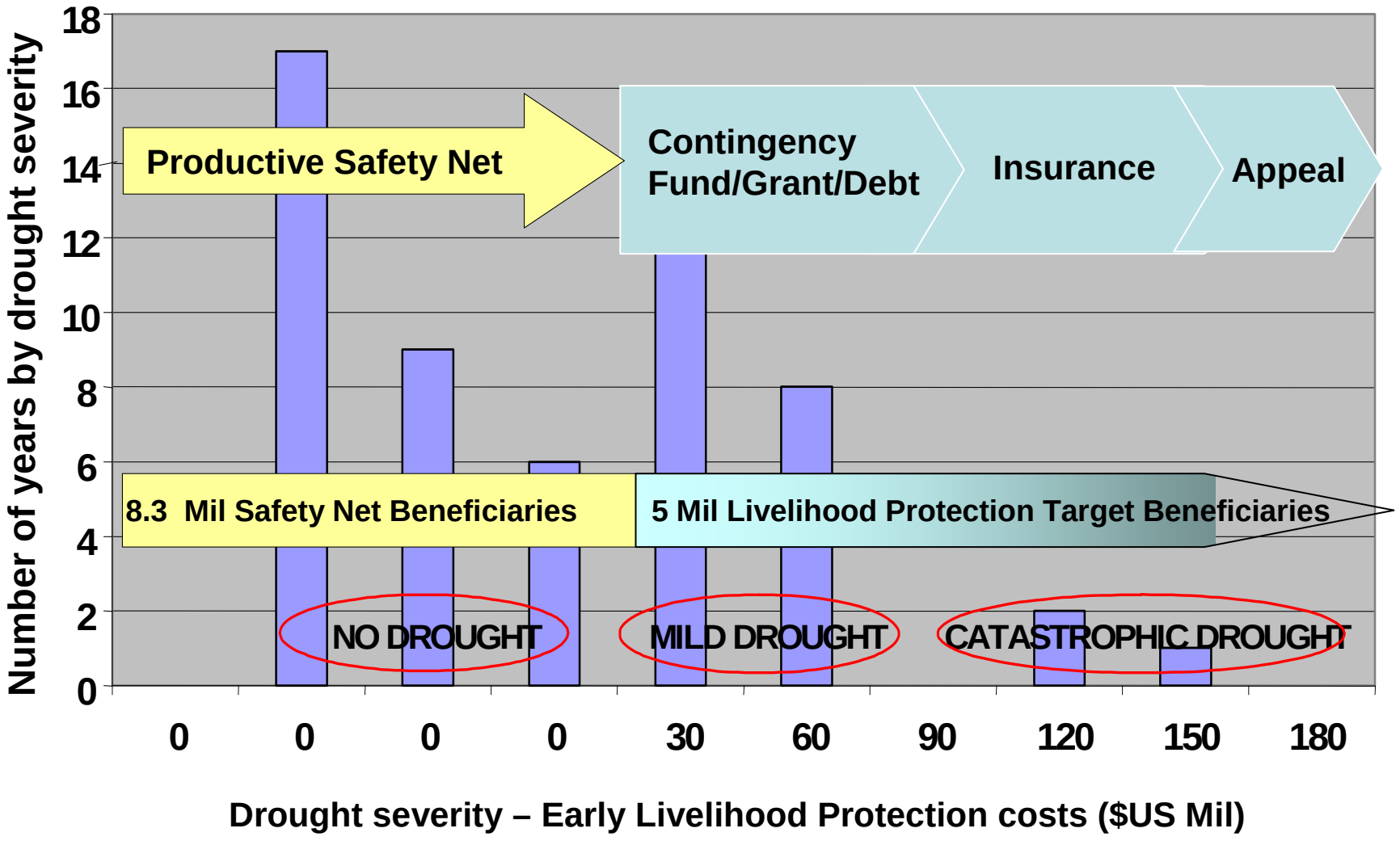
- Planning
  - Elaboration and updating of contingency plans
- Implementation
  - Through state and non-state actors
  - Co-ordination of line ministries
  - Supervision and Quality control
- Partners
  - DFID
  - WB

RISK MANAGEMENT FRAMEWORK



IV. Establish timely emergency financing through use of contingency financing

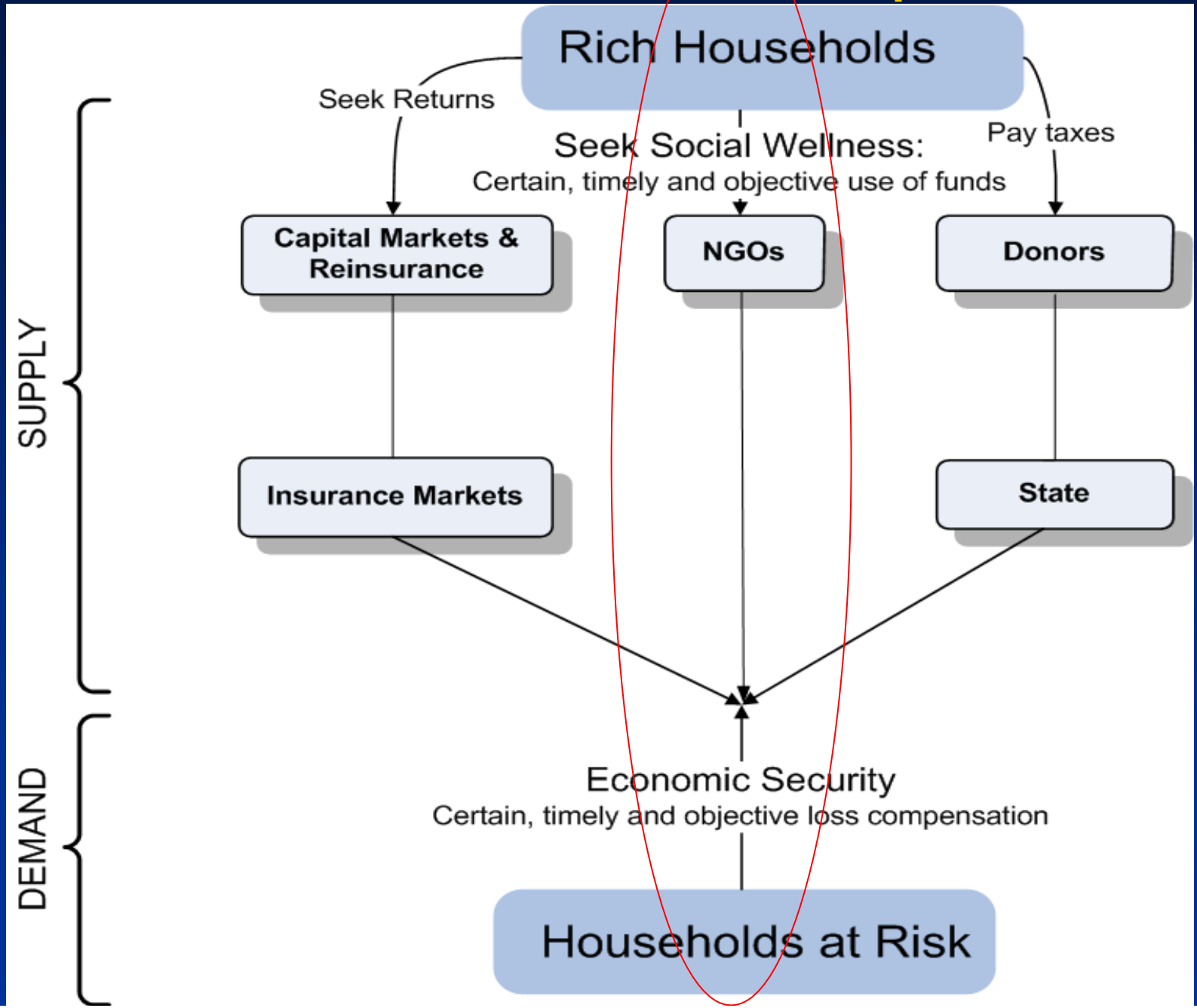
IV: INTEGRATED CONTINGENCY FINANCING



WHY IS THIS IMPORTANT

1. Destitution
2. Dignity
3. Cost
4. Climate Change

Conclusion: Bündnis Catastrophe Bond



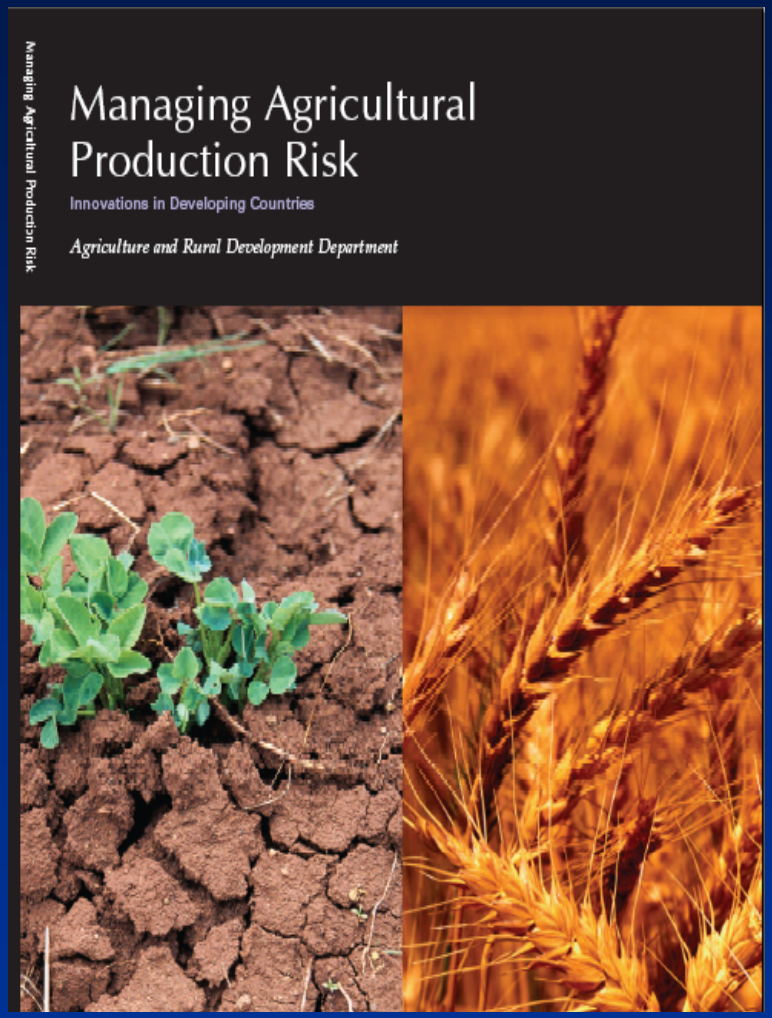
Bündnis Catastrophe Bond (II)

- Bündnis issues Natural catastrophe indexed bond to social investors
- Investors earn interest if nothing happens
- Investor loses principal if pre-defined event happens
  - Money pays for livelihood protection by activating Bündnis contingency plans and/or
  - Bündnis members transfer money directly to beneficiaries

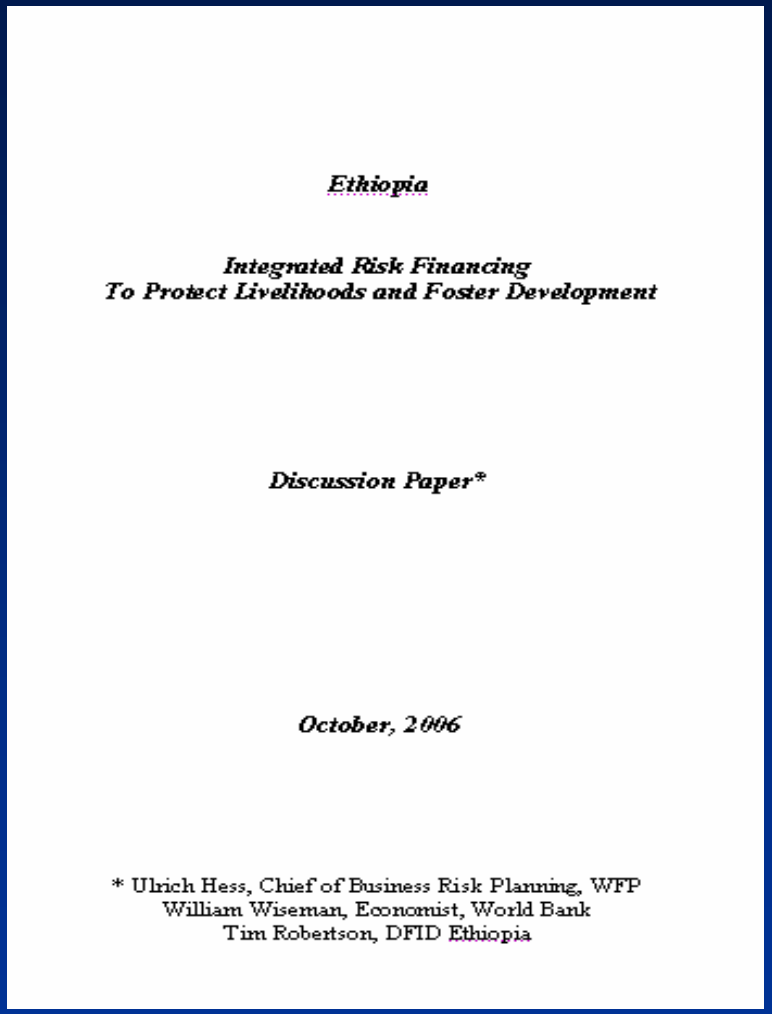
Bündnis Catastrophe Bond (III)

- Benefits for investor
  - Certain, timely and objective use of funds
- Benefits for households
  - Certain, timely and objective compensation and/or livelihood support
  - Economic Security
    - Access to credit
    - Innovation – technological leap
    - Out of poverty trap
- Risk: Index and payouts do not match actual needs

REFERENCES



http://www.ruralfinance.org



http://www.wfp.org/policies/introduction/background

THANKS!

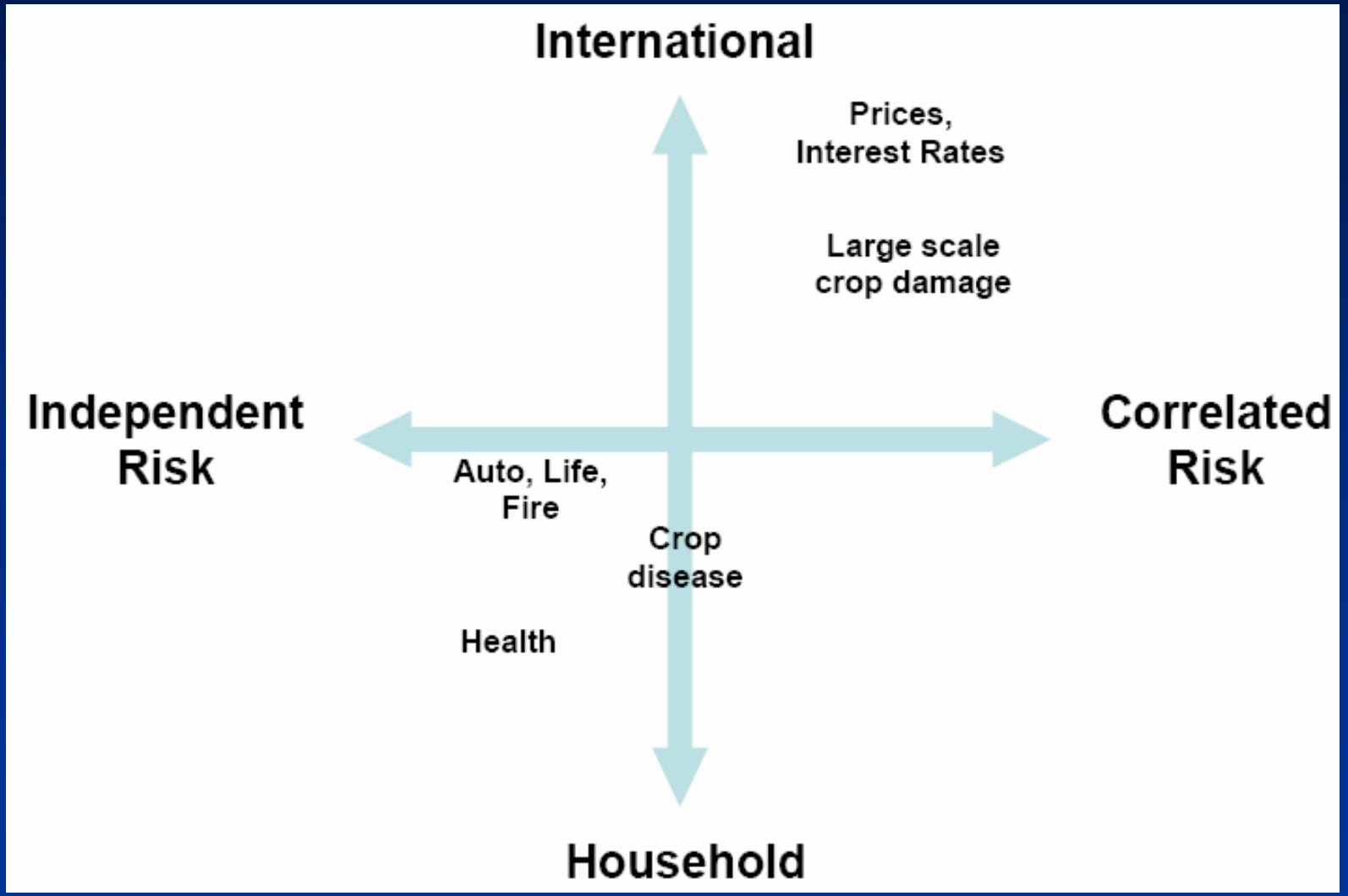
- Ethiopia LEAP Tool download:

  http://vam.wfp.org/LEAP

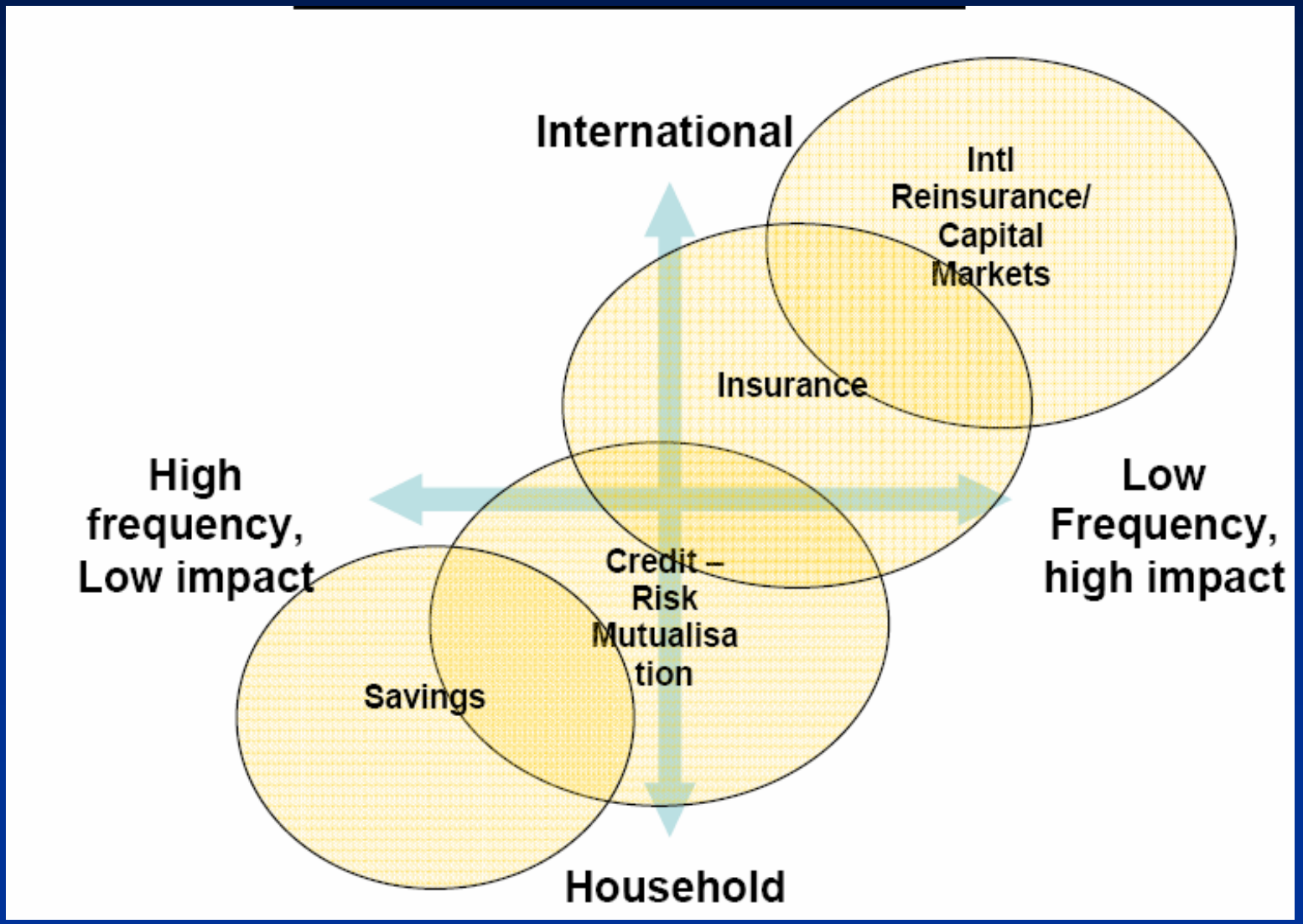
  Free software download. Please do not distribute without consent of WFP and World Bank
- For questions: ulrich.hess@wfp.org

BACK UP SLIDES

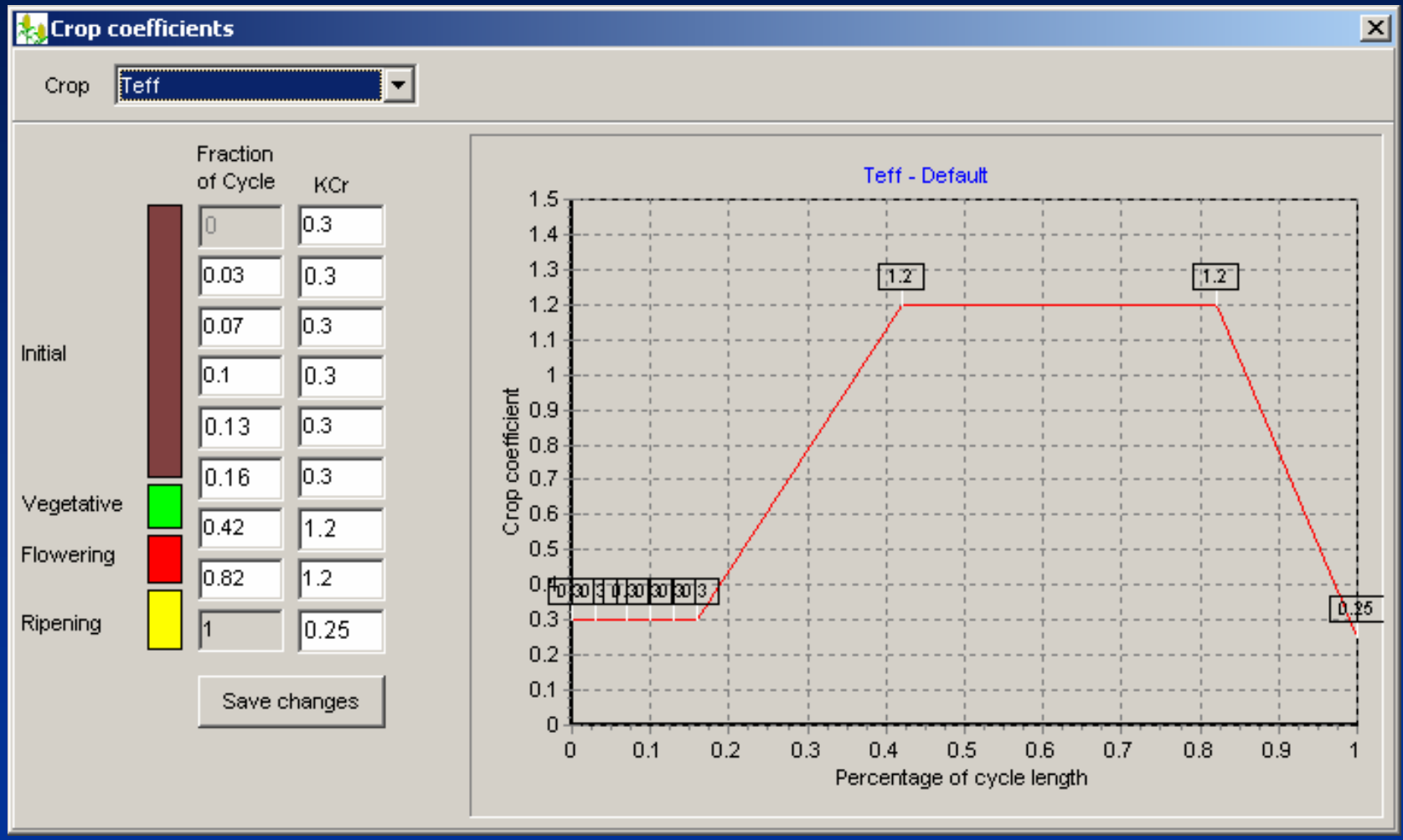
NATURE OF RISK



WHERE AND HOW TO SHARE RISK



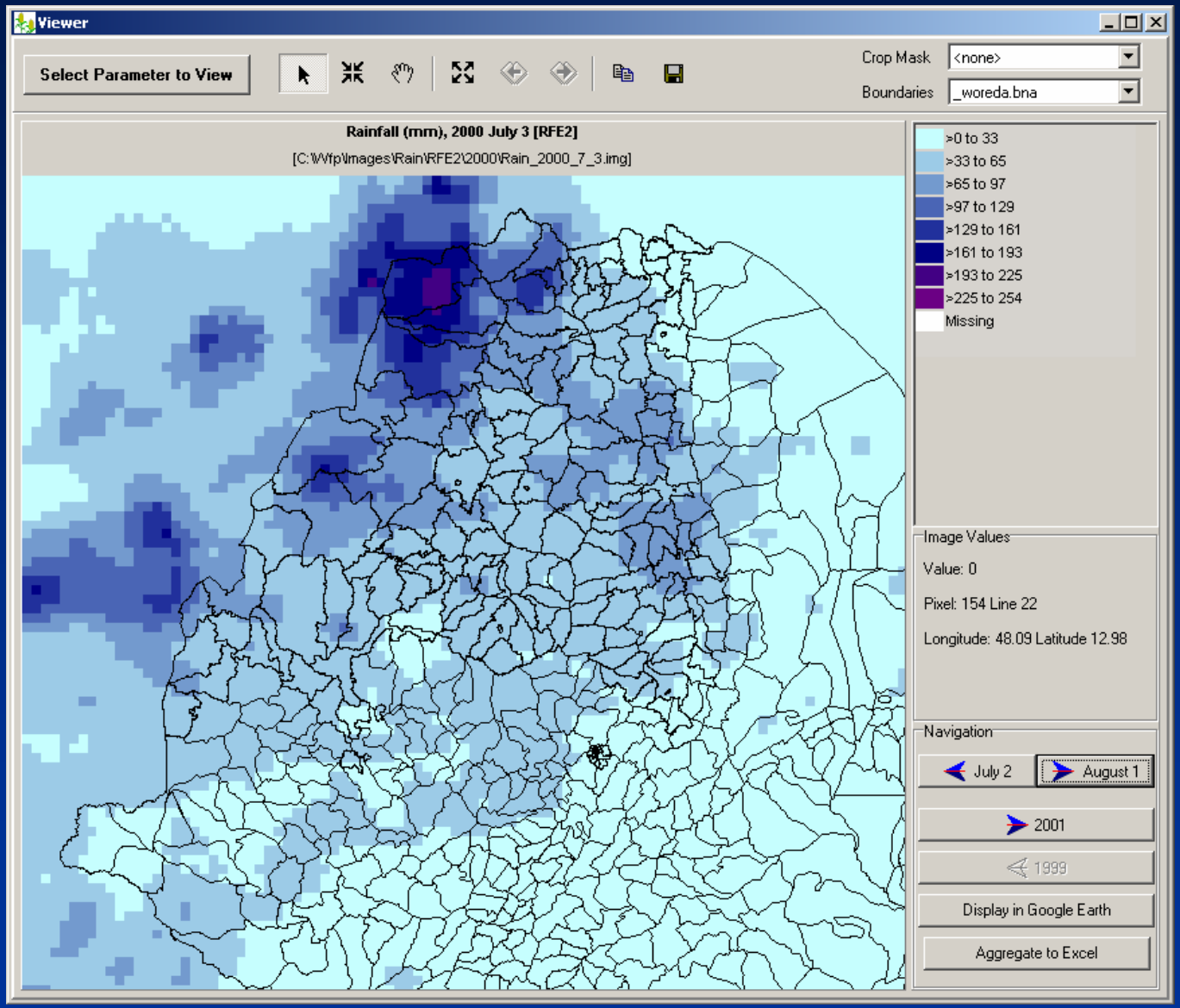
LEAP Software: Defining crops and model for crop water use



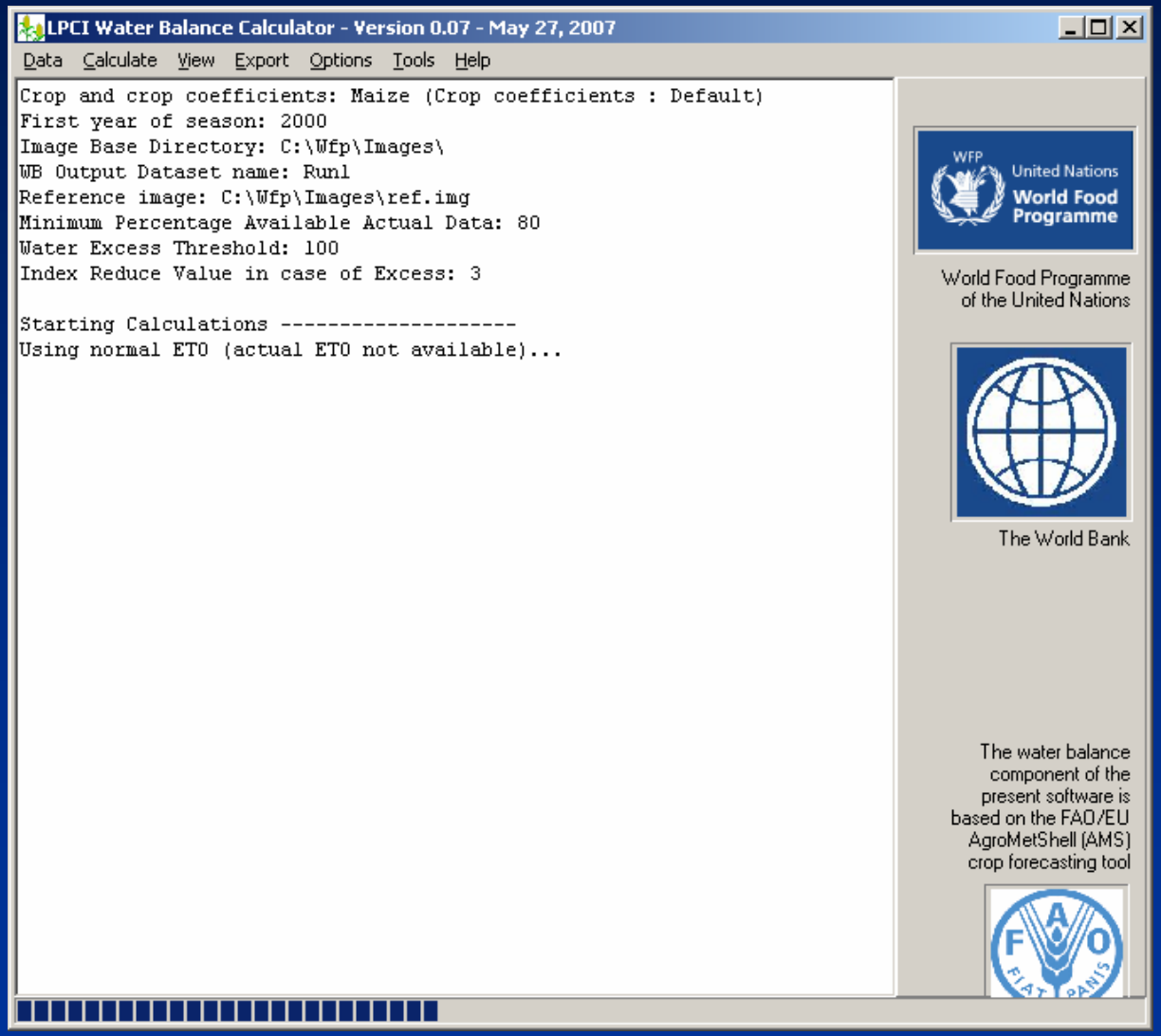
Download updated rainfall data from the internet from 5 different sources

(example RFE2)

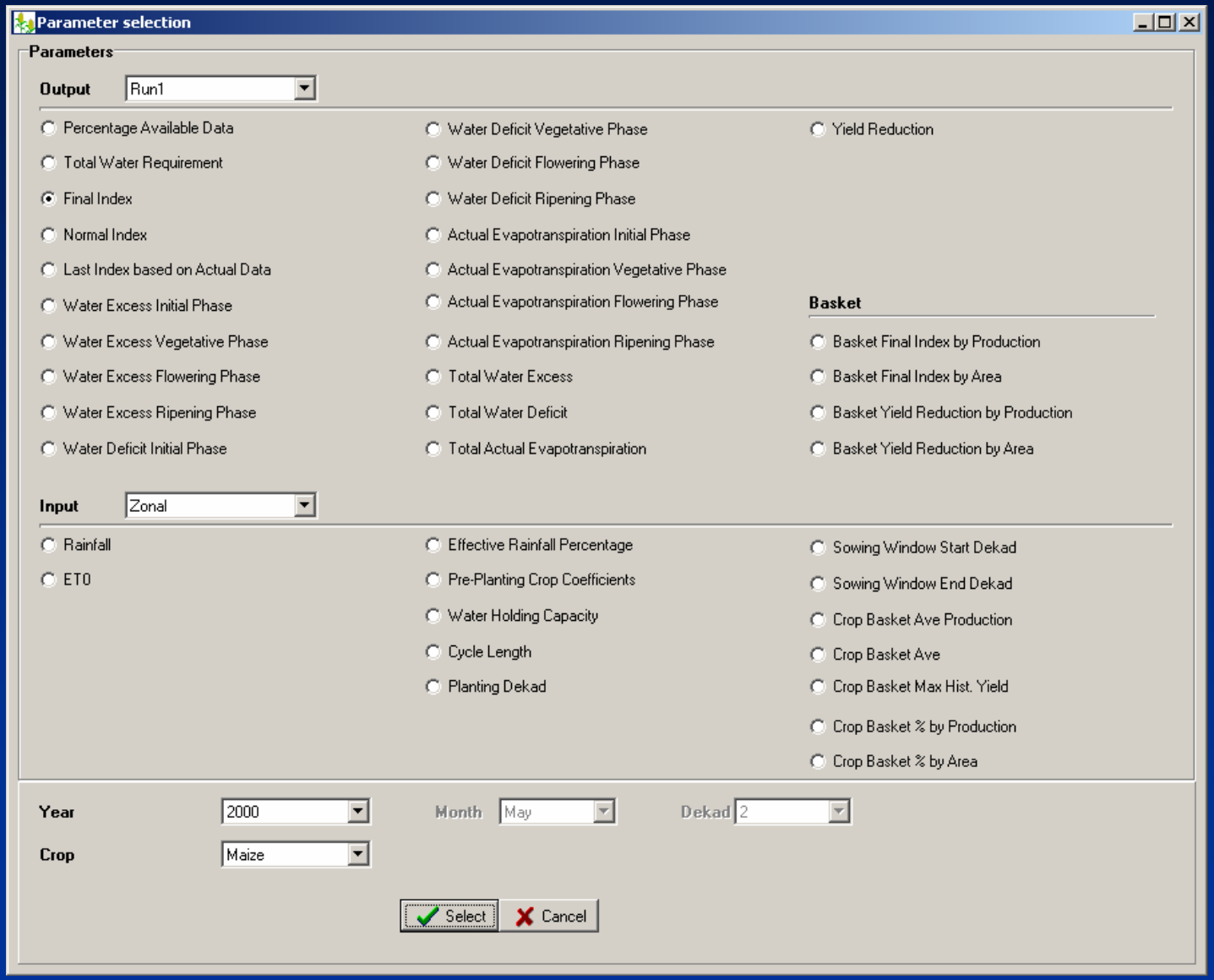
Integrate this rainfall into the tool



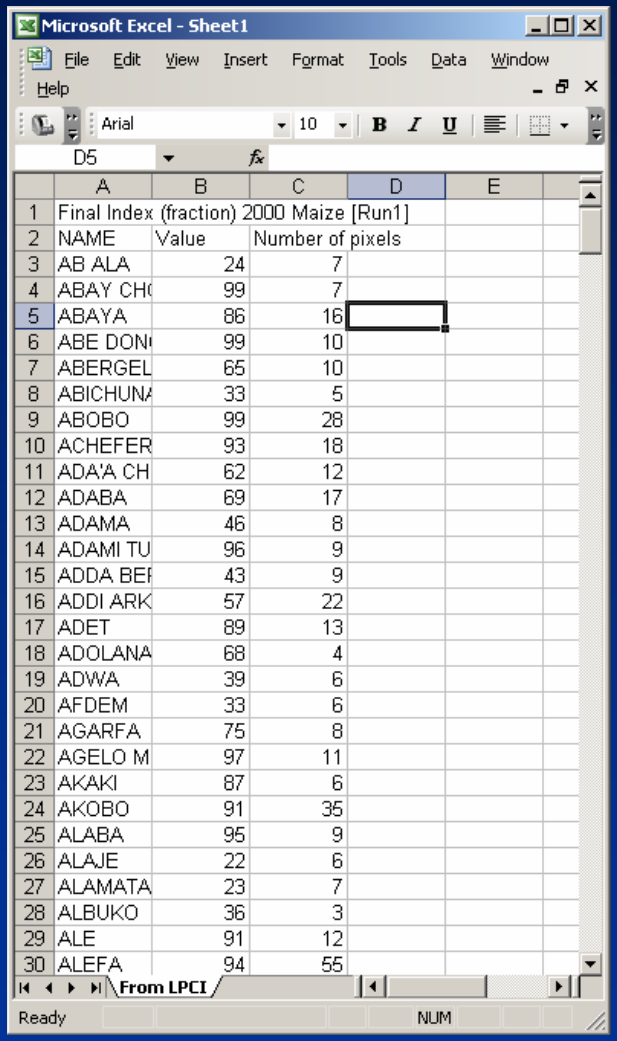
Water balance calculations resulting in WRSI



Selecting output (or input) parameter to view

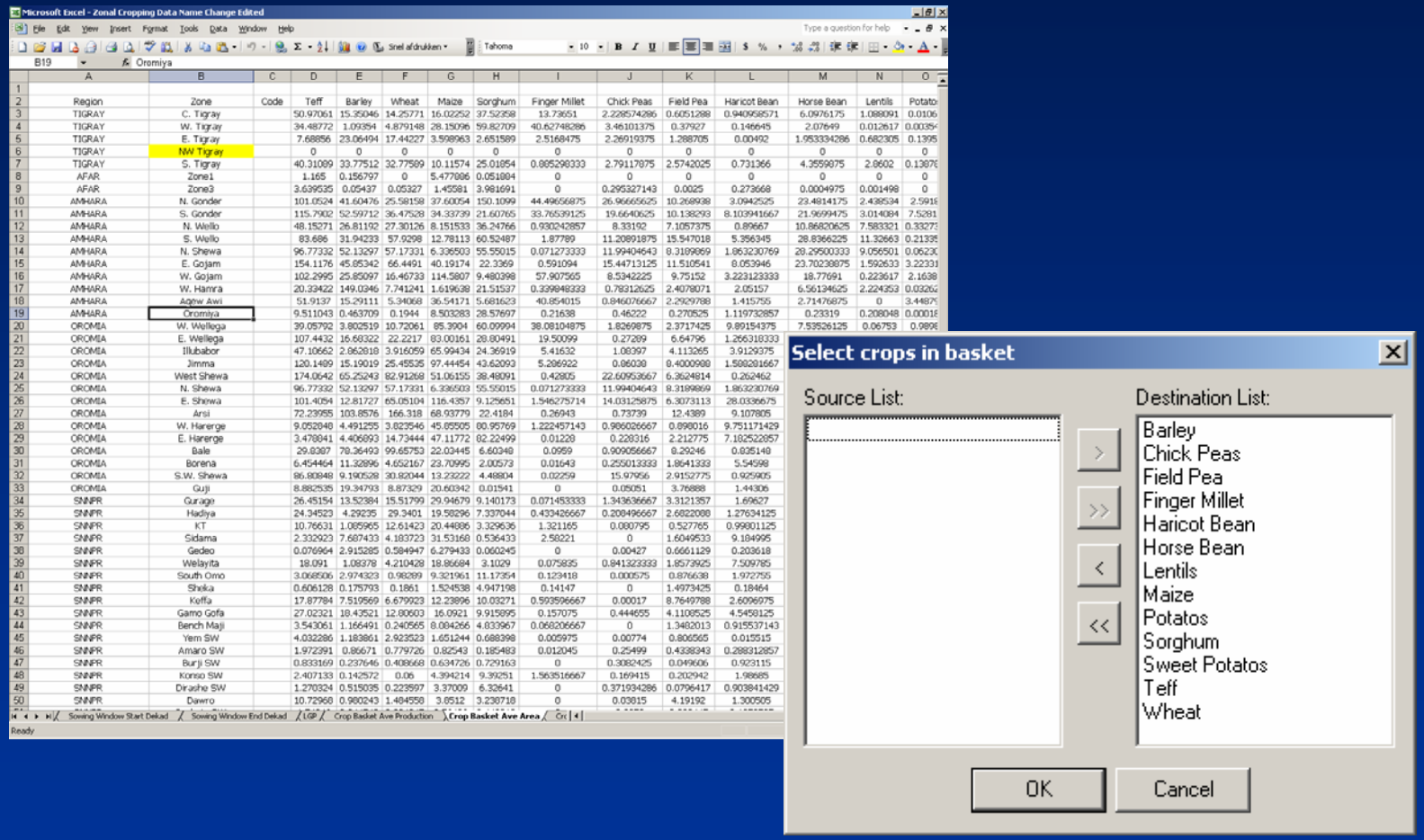


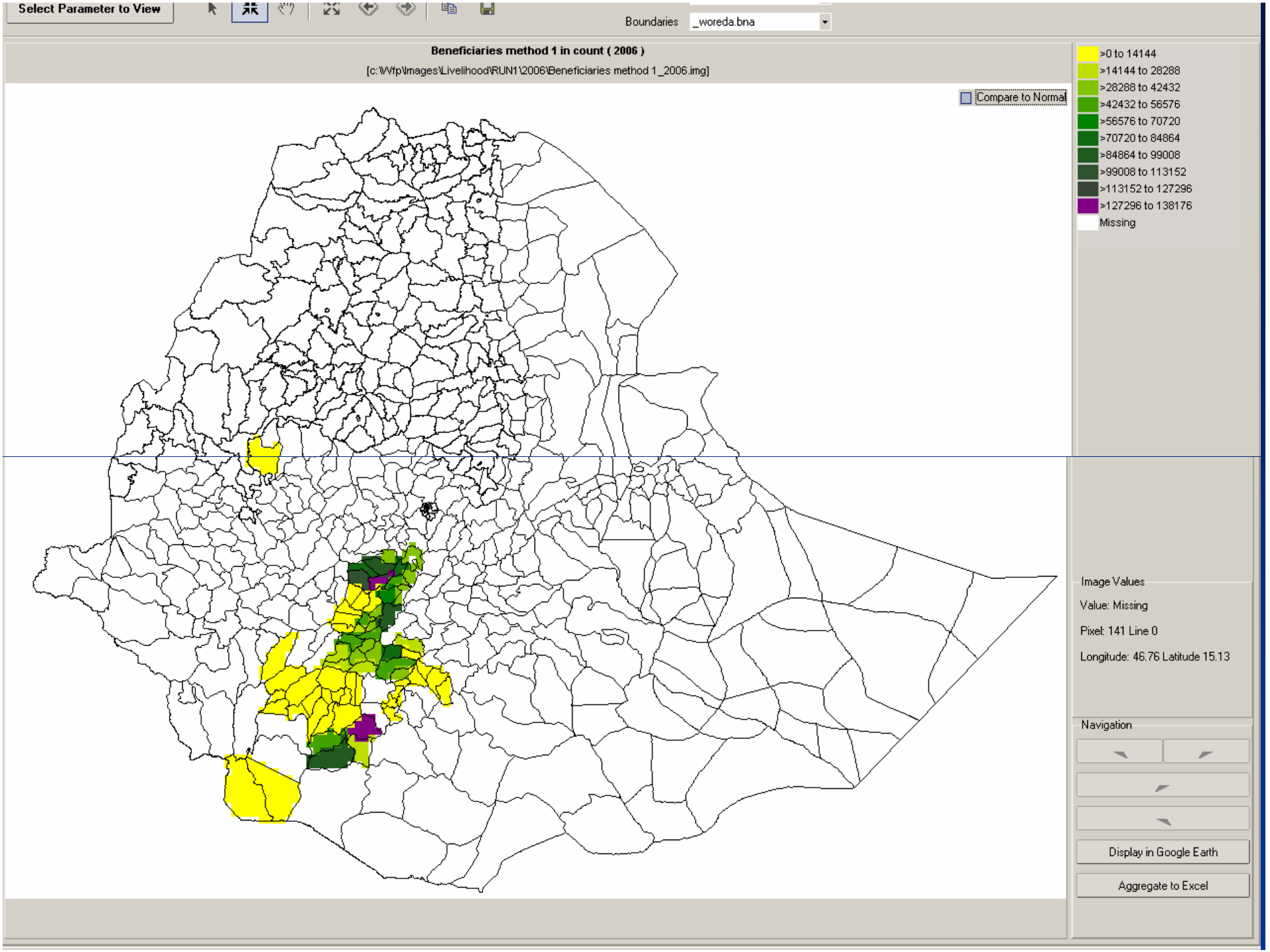
Export all map data to Excel



	A	B	C	D	E
1	Final Index (fraction) 2000 Maize [Run1]				
2	NAME	Value	Number of pixels		
3	AB ALA	24	7		
4	ABAY CH	99	7		
5	ABAYA	86	16		
6	ABE DON	99	10		
7	ABERGEL	65	10		
8	ABICHUNA	33	5		
9	ABOBO	99	28		
10	ACHEFER	93	18		
11	ADA'A CH	62	12		
12	ADABA	69	17		
13	ADAMA	46	8		
14	ADAMI TU	96	9		
15	ADDA BEI	43	9		
16	ADDI ARK	57	22		
17	ADET	89	13		
18	ADOLANA	68	4		
19	ADWA	39	6		
20	AFDEM	33	6		
21	AGARFA	75	8		
22	AGELO M	97	11		
23	AKAKI	87	6		
24	AKOBO	91	35		
25	ALABA	95	9		
26	ALAJE	22	6		
27	ALAMATA	23	7		
28	ALBUKO	36	3		
29	ALE	91	12		
30	ALEFA	94	55		

Work with crop baskets




Select Parameter to View
Boundaries
_woreda.bna
Beneficiaries method 1 in count (2006)
[c:\Wfp\Images\Livelihood\RUN1\2006\Beneficiaries method 1_2006.img]
Compare to Normal
>0 to 14144
>14144 to 28288
>28288 to 42432
>42432 to 56576
>56576 to 70720
>70720 to 84864
>84864 to 99008
>99008 to 113152
>113152 to 127296
>127296 to 138176
Missing
Image Values
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Longitude: 46.76 Latitude 15.13
Navigation
Display in Google Earth
Aggregate to Excel