

# The potential for scale and sustainability in weather index insurance for food security and rural development



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wfp.org

Enabling poor rural people to overcome poverty



# Outline

- Findings of IFAD/WFP research
- Present the key recommendations
- IFAD WFP Weather Risk Management Facility strategy
- IFAD/WFP experience in Ethiopia
- Discussion



# The Weather Risk Management Facility

- A joint initiative of the International Fund for Agricultural Development (IFAD) and the World Food Programme (WFP).
- Launched in 2008 with the support of the Bill and Melinda Gates Foundation.

**Objective:** Increase the access of vulnerable smallholders to a wide range of risk management tools to promote agricultural development and more effective disaster risk management



# Traditional farmer risk management strategies

- Crop diversification
- Farm fragmentation
- Share-cropping
- Savings, Credit, Remittances
- Temporary employment
- Intra-community sharing
- And more



- Sub-optimal farm output
- Highly vulnerable to low frequency covariate risks (e.g. severe droughts)



# Index insurance

- A financial product – an insurance policy linked to an index such as rainfall, temperature, humidity or crop yields rather than actual loss
- Payments are triggered when the index reaches a predefined threshold that can be expected to result in crop losses
- Used for (i) **development** and (ii) **disaster management**



# Advantages of index insurance

- Transparency
- No on-farm loss adjustment
- No subjectivity to payouts
- No adverse selection and no moral hazard
- Addresses correlated risks
- Lower operational and transaction costs
- Rapid payout



# Disadvantages of index insurance

- **Basis Risk**, potential difference between the loss experienced by the farmer and the payout triggered by the index.
- **Limited perils**: Index insurance only covers one or two weather risks.
- **Replication**: Products need to be specifically tailored to each location and crop, which requires considerable technical work.

# Study background

- 36 weather index insurance programs evaluated and reviewed
- A comprehensive analysis of opportunities, challenges and good practice with WII

# Additional challenges for index insurance

- Demand
- Cost
- Contract design
- Reinsurance



# 1. Critical lessons learned

- Create a proposition of real value to the insured, and offer insurance as part of a wider package of services



# PepsiCo India's Package



- High quality potato seeds
- Access to fertilizer, pesticides, chemicals
- Extension services
- Fixed buying price with incentive structure
- Weather information via SMS
- Index insurance



## 2. Critical lessons learned

- Build the capacity and ownership of implementation stakeholders



# 3. Critical lessons learned

- Increase client awareness of index insurance products



## 4. Critical lessons learned

- Graft onto existing, efficient delivery channels, engaging the private sector from the beginning



# 5. Critical lessons learned

- Improve the infrastructure and quality of weather data



# 6. Critical lessons learned

- Promote enabling legal and regulatory frameworks



# 7. Critical lessons learned

- Monitor and evaluate products to promote continuous improvement

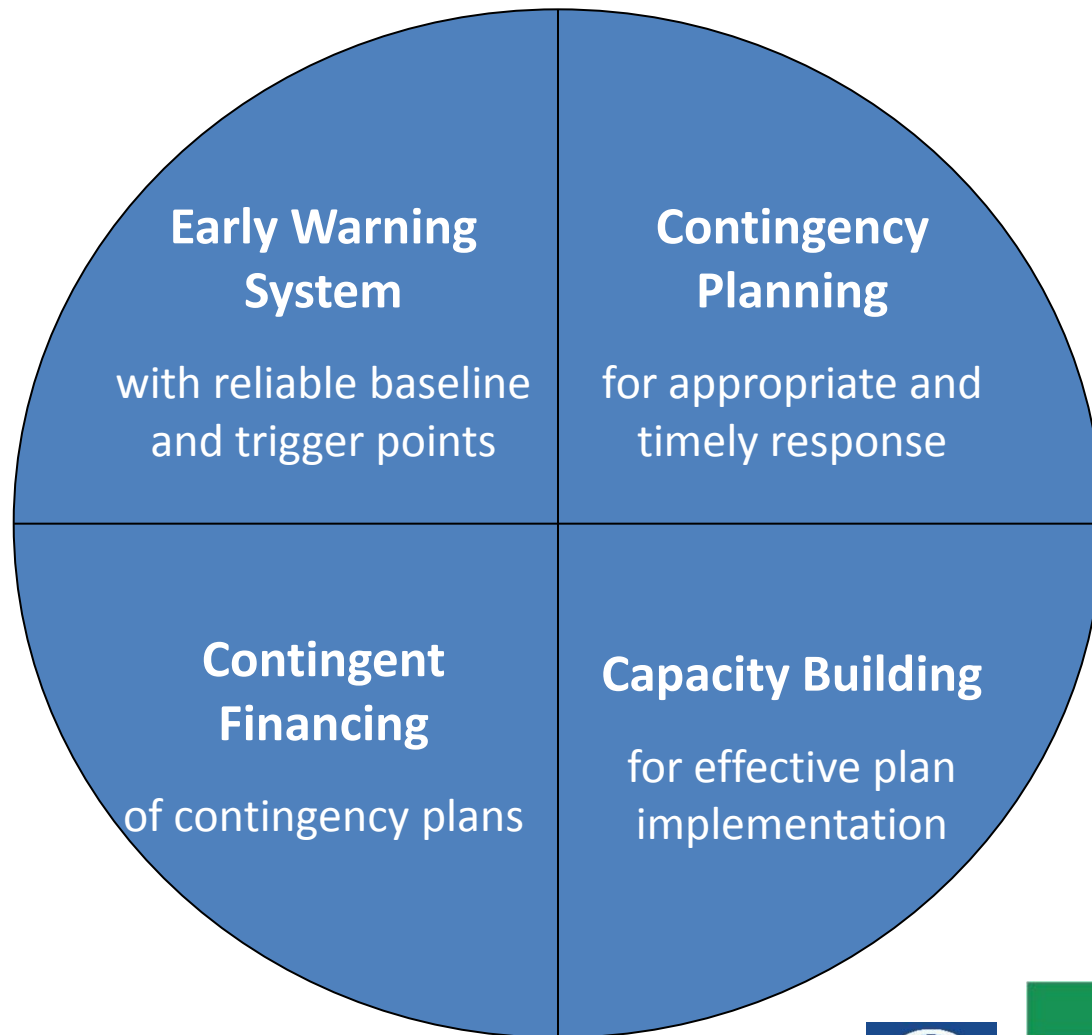




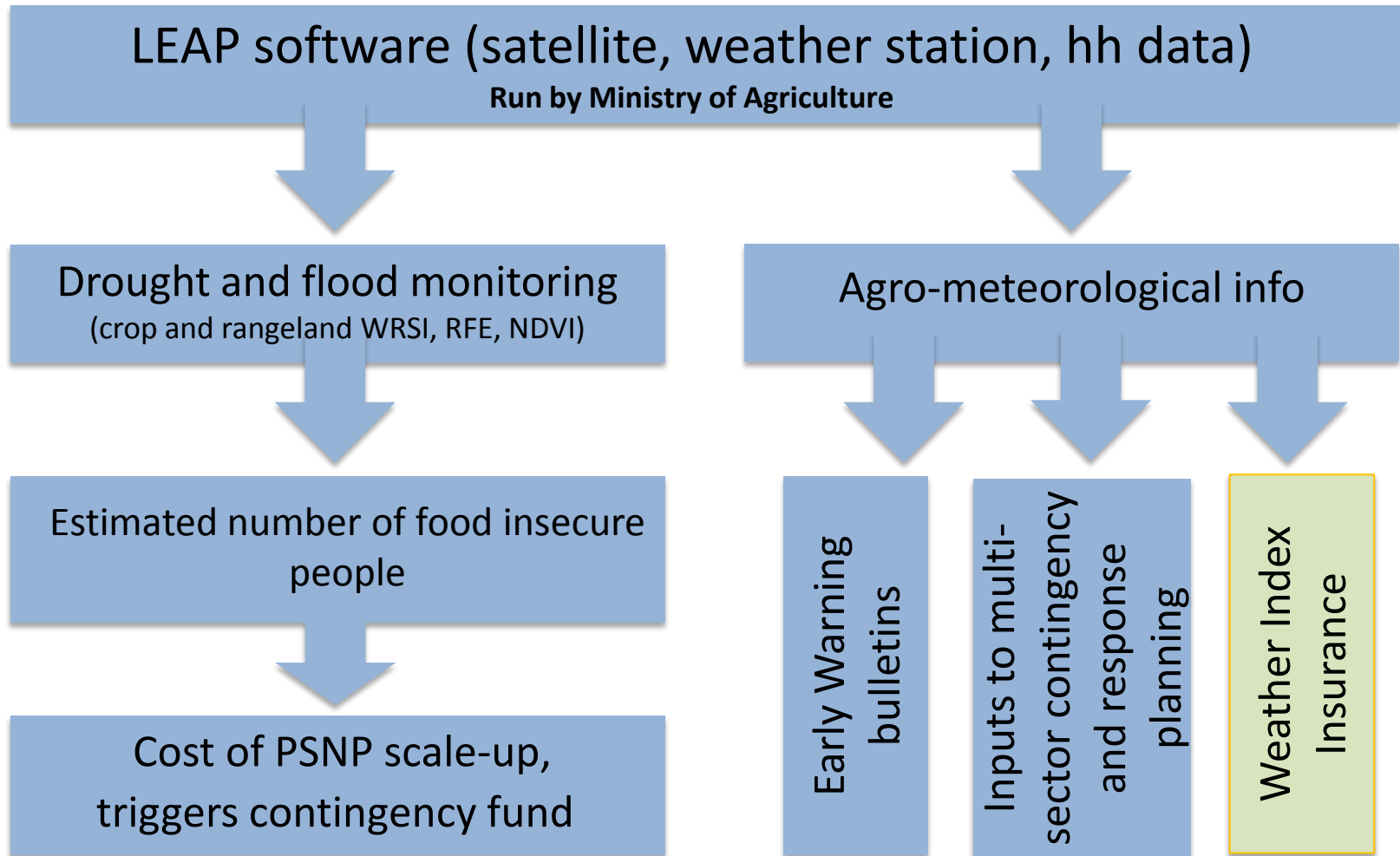
# Key pillars under the WRMF strategy

- 1. Building the capacity** of local stakeholders in weather risk management
- 2. Promoting inclusive financial systems** for poor people in rural areas, including innovative delivery channels and client education
- 3. Improving weather and climate services,** infrastructure, data monitoring and management
- 4. Promoting holistic approaches to weather risk management**

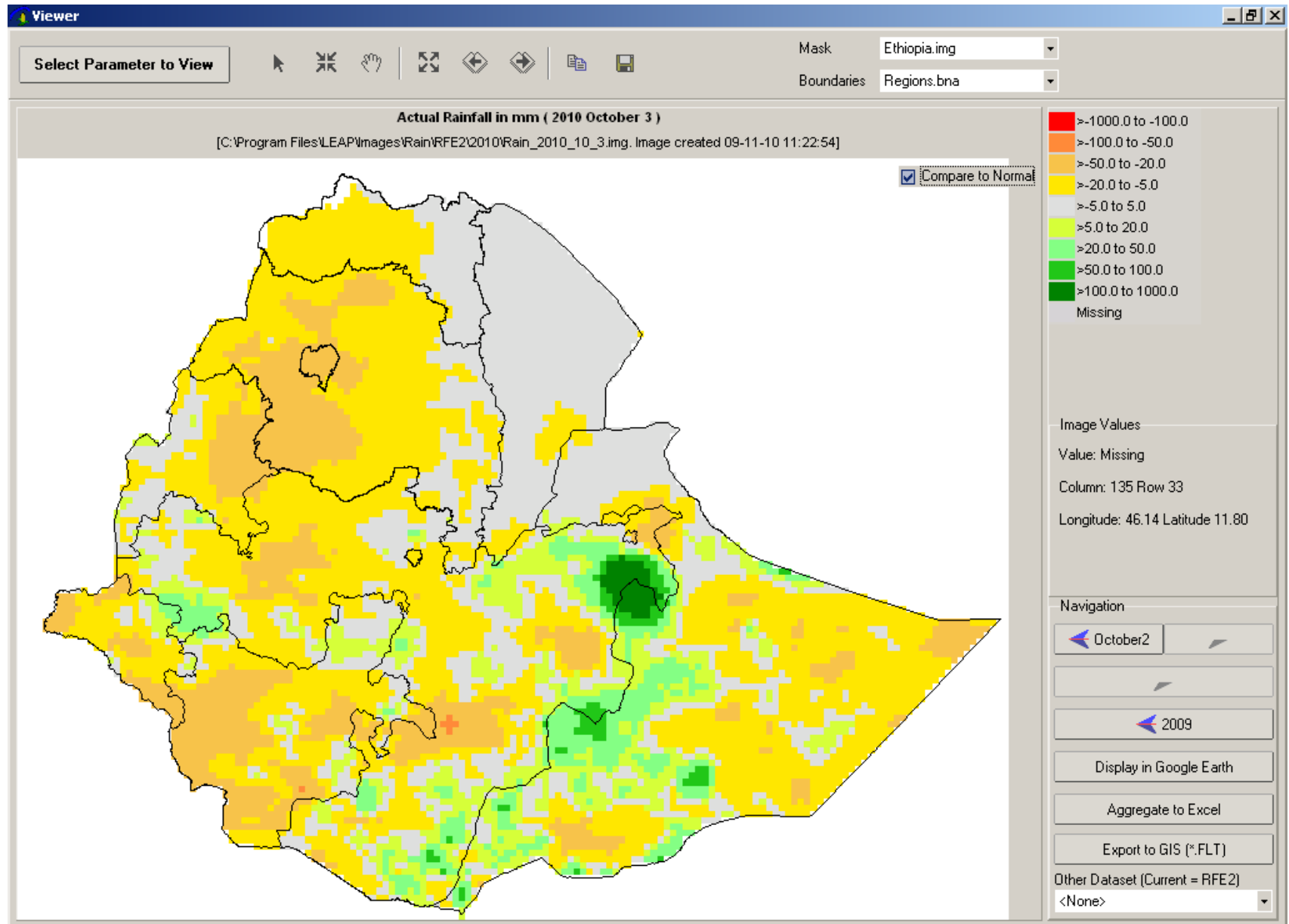
# Ethiopia's Disaster Risk Management Framework



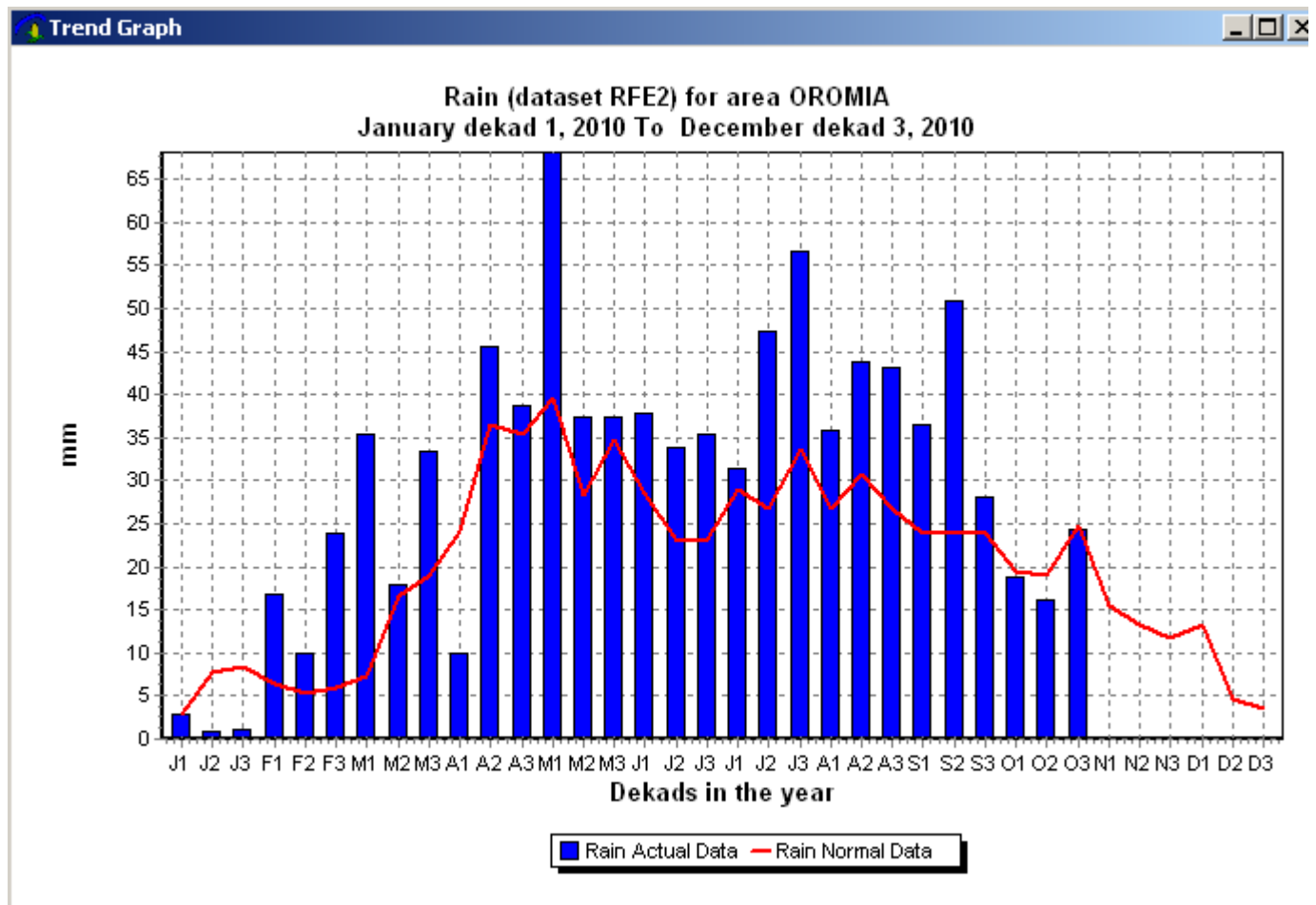
# How LEAP informs risk management



# LEAP software outputs: examples



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Rainfall in Oromia January to end October 2010 (using NOAA RFE2 satellite data)

# LEAP software outputs: examples

LEAP Bulletin – October 10, 2008

## Analysis of the 2008 Meher cropping season (and analysis of Rangeland conditions) *as at September 30, 2008*



World Food Program



Worldbank



Government of Ethiopia

### Introduction to analysis for 2008

Looking back at the **Belg season** (ended in May) it becomes apparent that Belg was less favourable than last years. Many Belg areas have not received sufficient rains for planting especially in Northern and Eastern areas. In areas where planting has been possible, this has generally taken place later than last years leading to lower yields and in some areas no yields at all.

This means that the success of the **Meher season** is more crucial for food security in Ethiopia than other years. The Meher season started off late in the North-East, while more or less normal in the rest of the Meher area. Conditions have been generally good in the second half of July throughout September. Yields should be normal to above average, except for Eastern Tigray and Amhara.

### Highlights for the development of the Meher season

#### Rainfall

- Normal to good rainfall has occurred in the month of September 2008 in most Meher areas except for Jijiga and W. Harerge.
- The rains started late in some zones - especially Meher eastern zones of Amhara, Tigray and Jijiga (see earlier bulletins).
- The Rangeland areas of Afar and Northern Somali have received below normal rainfall since the beginning of this year.
- The south of Somali region received normal rainfall with strong local variations.

#### Planting Opportunities

- Planting has been early to normal in the western parts of the Meher area.
- Planting has been late in the eastern part of the Meher area
- For long cycle crops planting has been (too) late in the eastern parts of Amhara and Tigray, given a normal Meher end of season.

#### Expected Yield Reduction long cycle crops with high water requirement (like long-cycle Maize)

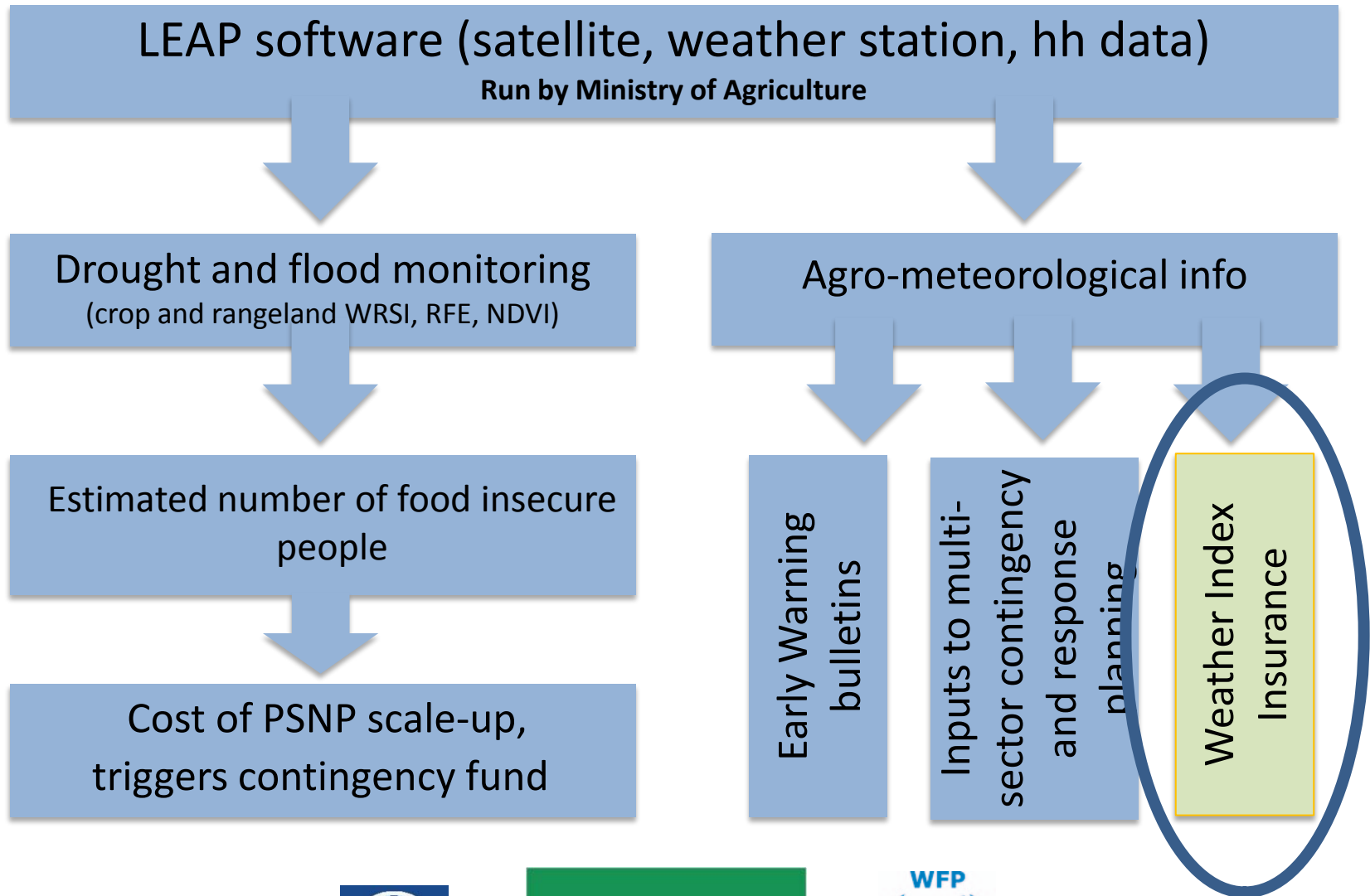
- The western areas have generally have a few percent yield reduction, which should predict a normal harvest. Some of the yield reduction is caused by water excess rather than



Map 1: Meher Area analysed

The gray area is roughly the area where the Meher cropping season is taking place.

# How LEAP informs risk management



# Drought index Insurance Pilot Ethiopia

- Partners: MoA, Nyala Insurance, National Met Agency, WFP
- Drought insurance coverage (haricot beans) during the 2009 Meher season for 137 farmers of the Lume-Adama farmers' cooperative union in Bofa, Oromia
- Introduction of fully automated weather stations to monitor rainfall and trigger compensation
- Premium: 11% of the sum insured – pre-financed by farmers' cooperative

# Drought index Insurance Pilot II

- 50% of the total sum insured (approx. US\$ 25,000) was paid out due to erratic and less rainfall than normal
- Key lessons:
  - Client education – Awareness and understanding of the product creates trust
  - Timeliness of pay-outs
  - Combination with credit and agricultural inputs
  - Weather data quality, quantity and access
  - Capacity building at all levels

# Recommendations to governments, development agencies, and donors

- Technical assistance, training, and product development
- Client education and training
- Innovation
- National weather services, infrastructure, data systems and research
- Enable the legal and policy environment
- Promote a holistic approach to risk management
- Impact studies

# Thank you very much!



The Potential for Scale and Sustainability  
in Weather Index Insurance  
for Agriculture and Rural Livelihoods

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Further information and full report at:  
[www.wfp.org/disaster-risk-reduction](http://www.wfp.org/disaster-risk-reduction)  
[www.ifad.org/ruralfinance/wrmf/index.htm](http://www.ifad.org/ruralfinance/wrmf/index.htm)

# Achievements to date

- Assessment of 36 index insurance initiatives – lessons and recommendations for scale and sustainability
- Country level assessments: Ethiopia, Mali, Kenya and China
- Pilot exercises in China and Ethiopia
- Weather data infrastructure support to national meteorological agencies
- A technical guide for donors: Effective ways to support index insurance
- Mapping exercise with Wageningen University to determine crop vulnerability to weather and climate risk, also relative to weather data availability and household socio-economic conditions