

Effects of Climate on Rural Livelihoods Workshop



Tegemeo Institute Workshop
Fairview, 3rd February 2011

Index-based weather insurance

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FSD Kenya

- ▶ FSD Kenya is an independent Trust established early 2005 to support the development of inclusive financial markets in Kenya
- ▶ Works in partnership with financial services industry
- ▶ Financed by partners including the UK's Department for International Development (DFID), the World Bank, the Swedish International Development Agency (SIDA), Agence Française de Développement (AFD) and the Bill and Melinda Gates Foundation together with the Government of Kenya.

Project partners

The project partnership was set up in 2008 between:

- ▶ Financial Sector Deepening (FSD) Kenya
- ▶ Rockefeller Foundation
- ▶ World Bank –ARMT
- ▶ DFID (livestock project implemented by ILRI, Equity Bank and UAP insurance)
- ▶ Implementers
 - Financial institutions, risk managers, input suppliers, public & private extension, weather agency (KMD)

The Kenya project partnership

- ▶ The main objective of the partnership is to test the use of index based weather risk management instruments in Kenya through pilot programs
- ▶ The partnership provides services to institutions with the interest and potential capacity to pilot an indexed insurance product, in particular:
 - Technical assistance
 - Coordination of interest and activity
 - Access to information
 - M&E
 - Regulatory Support



Weather Index Insurance Concepts

What is Weather Index Insurance

- ▶ Weather index insurance contracts are policies linked to the fluctuation of a weather variable
- ▶ The **weather variable is measured and indexed** according to the specific objective of the insurance policy
- ▶ Insurance payouts are based **only on the performance of the weather index and not on actual damage incurred or actual losses suffered on the ground**



What is Weather Index Insurance /2

Examples of weather variables used in index insurance:

- ▶ Rainfall
- ▶ Temperature
- ▶ Wind speed
- ▶ Soil moisture
- ▶ Growing degrees days
- ▶ Sea surface temperature

Non-Weather

- ▶ NDVI

What is Weather Index Insurance /3

- ▶ An example of an index insurance contract is a drought policy for crops that pays out if **precipitation falls below a certain threshold**
- ▶ **Payouts are not triggered by production losses** measured in the field but, if the index is designed appropriately, the contract will capture the losses in crop production
- ▶ The development of an **appropriate index** is one of the **keys** to successful implementation of index insurance

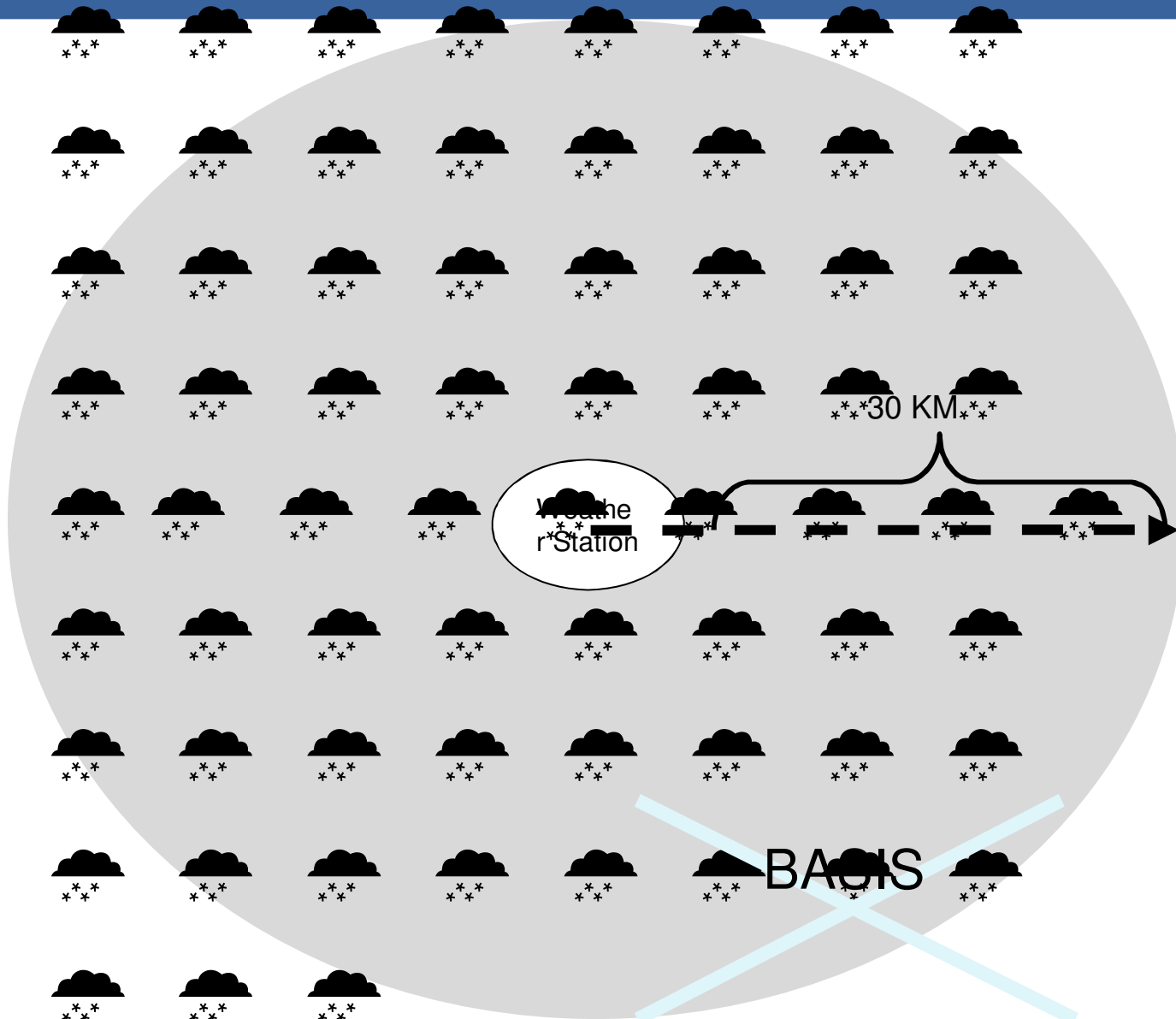
Strengths of Weather Index

- ▶ Eliminates most of the asymmetric information problems of traditional insurance products (moral hazard and adverse selection)
- ▶ No loss assessment required
- ▶ Objective and transparent
- ▶ Simplified claim process
- ▶ Provides timely payout
- ▶ Reduce administrative costs
- ▶ Facilitates risk transfer outside of the local community (international reinsurance)

Weakness of Weather Index Insurance

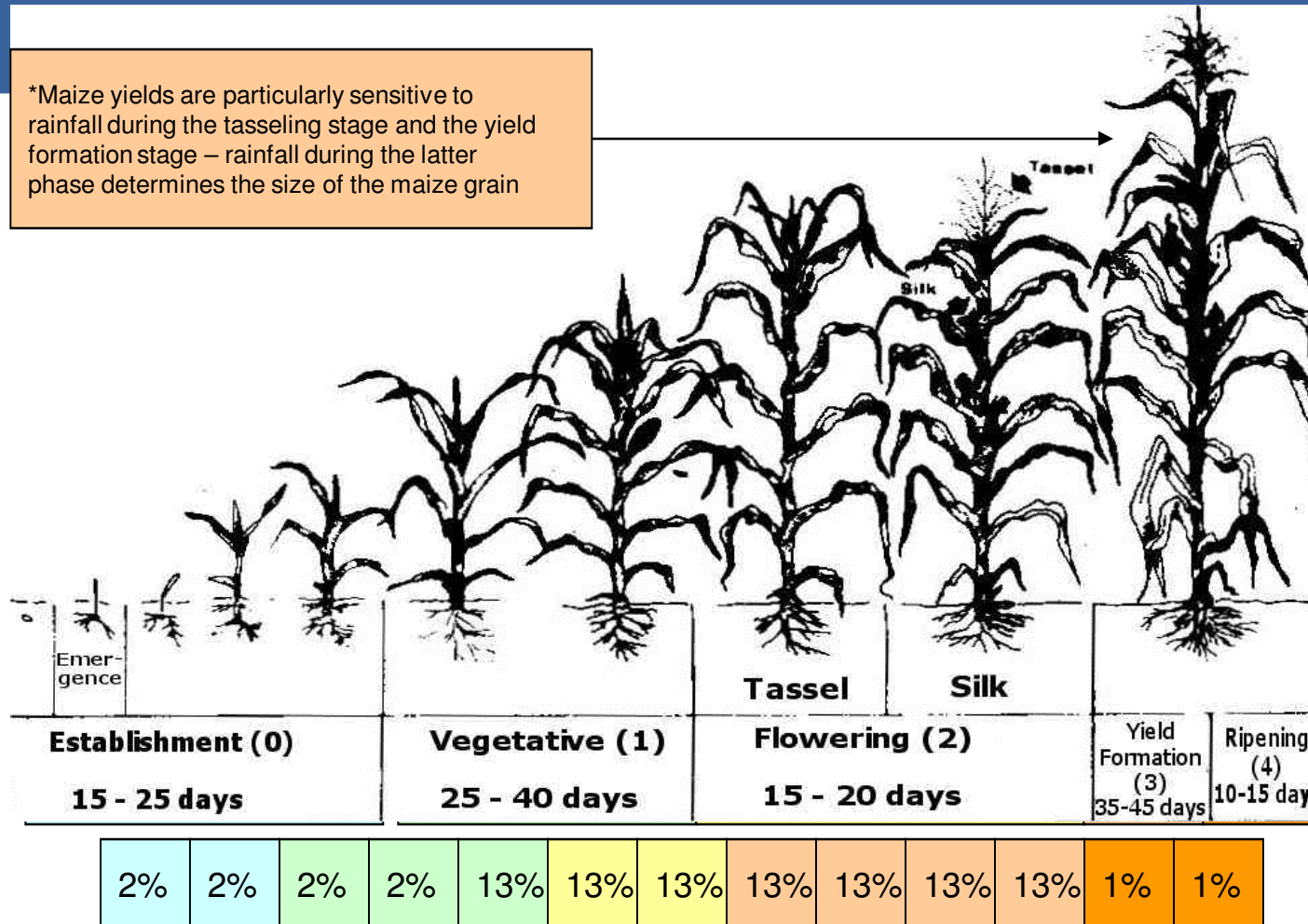
- ▶ “**Basis risk**”: when the actual losses suffered by the insured and the payouts of the contract don’t match perfectly
- ▶ By definition, weather index insurance does not cover **non-weather sources of risk**: in a multi-risk environment this can be a limitation for the end user

BASIS RISK: THE BIGGEST LIMITATION



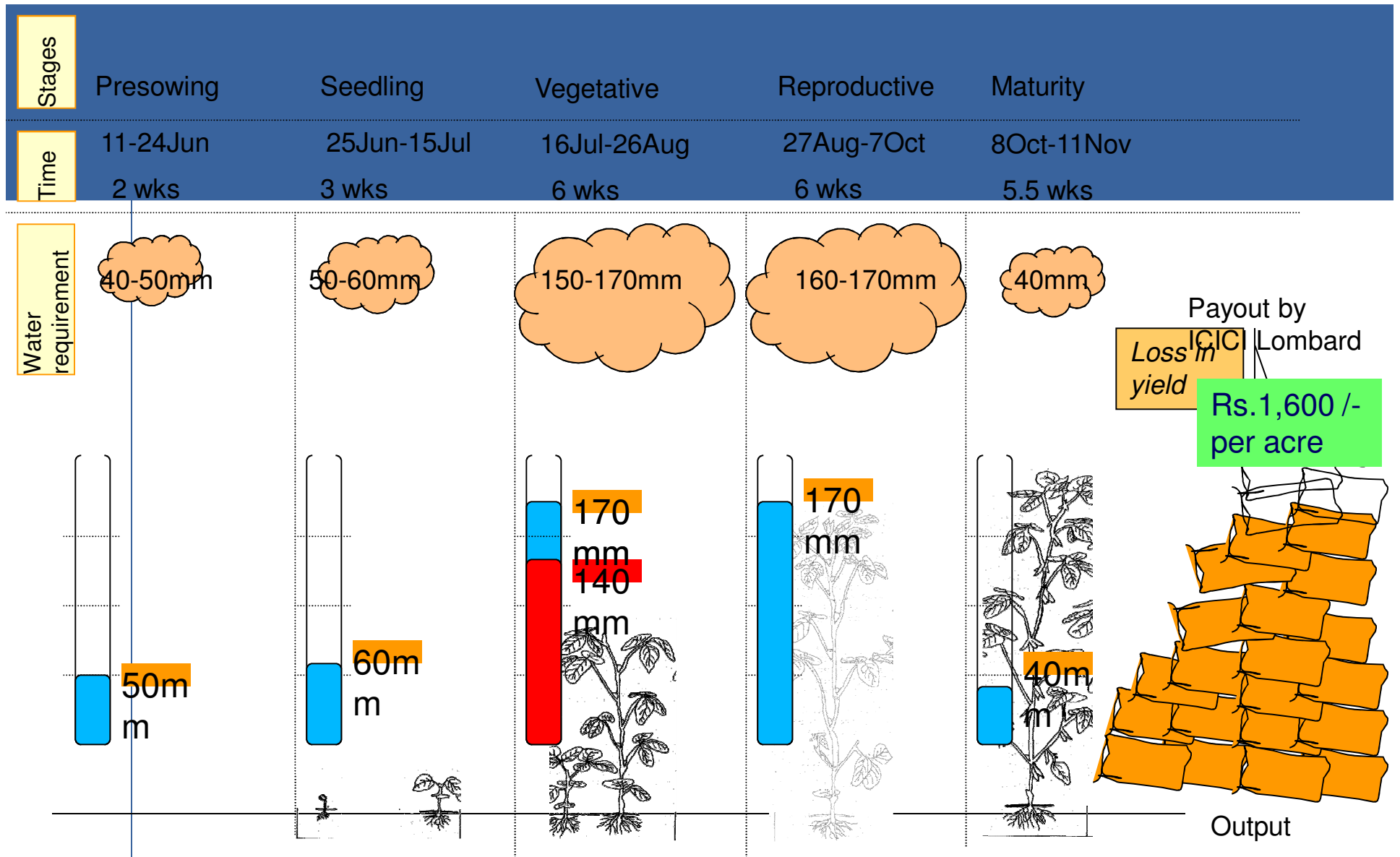
AN INDEX

*Maize yields are particularly sensitive to rainfall during the tasseling stage and the yield formation stage – rainfall during the latter phase determines the size of the maize grain

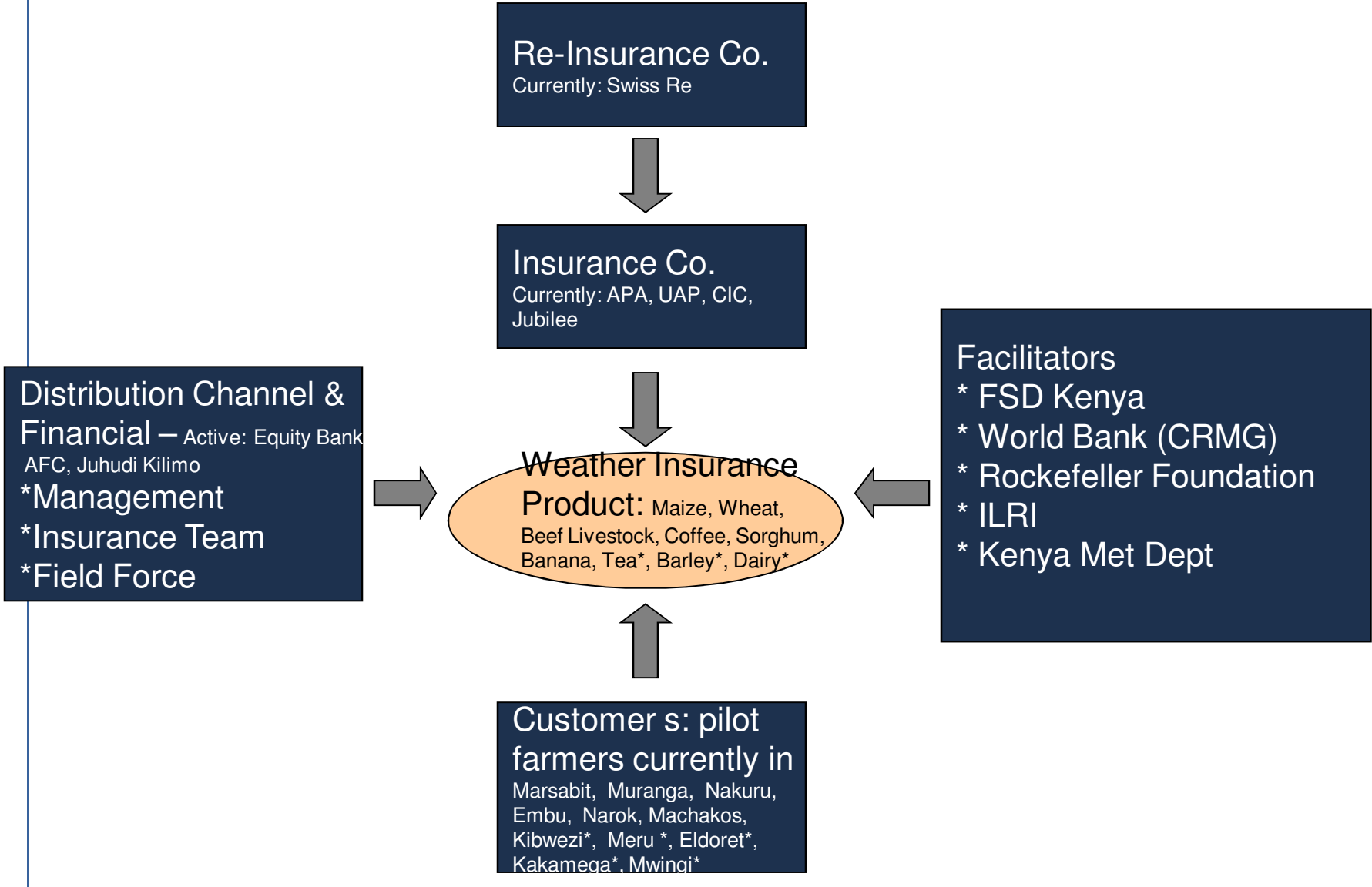


x Cumulative Rainfall in each decade = Maize Rainfall Index

Weights and diagram taken from the FAO's maize water requirement report*



A graphical illustration of a weather index insurance contract for agriculture
(Source: Basix, India)



Thoughts!

- ▶ High prices due to lack of economies of scale – strategy for building high volumes?
- ▶ Basis risk Vs. wide coverage? Weather infrastructure automation (donated 12 initially)– Role of WIND and government support?
- ▶ The plight of the poor farmers and relation to public support! – Safety net?
- ▶ Low local capacity for design?– a training done in January. More is required for researchers
- ▶ Scale up potential – risk mapping exercise?
- ▶ Increasing participation of private sector – 3.6% financial sector investment in agriculture, the role of input suppliers,

Thoughts /2

- ▶ National access of weather data – Research opportunities on alternative innovation – NDVI, EPT through satellite observations for non-coverage areas & basis risk management?
- ▶ What helps the farmers better? Value chain approach?
;.....The associated value chains risks like poor market price, poor farm management practices, lack of access to quality input, adverse weather



Thank you

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2/9/2011

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