



# JAMAICA

## TOWARDS A STRATEGY FOR MANAGING AGRICULTURAL WEATHER RISKS

World Bank  
Non-Lending Technical Assistance  
Agriculture Risk Management in the Caribbean

June 18, 2009



European Commission

ALL ACP AGRICULTURAL COMMODITIES PROGRAMME

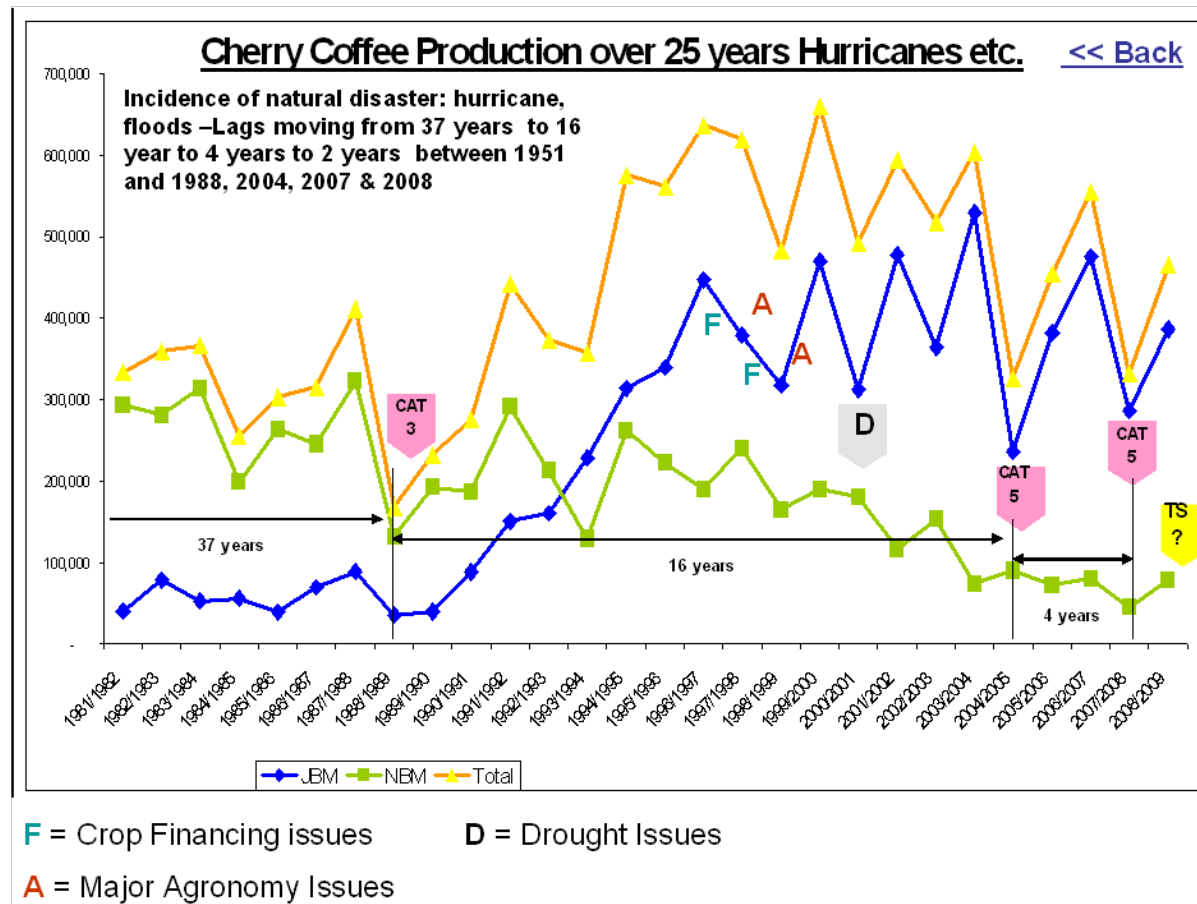


ACP Group of States

# Content

- Weather Risks and Agriculture
- Weather Risks Layering
- Public Sector Role
  - Catastrophic Insurance for small farmers
  - Supporting the development of the commercial insurance market
  - Public Investments
- Final Remarks & Next Steps

# Agriculture is sensitive to hurricanes



- Note: X axis = years; Y axis = boxes of production; JBM = Jamaican Blue Mountain; and NBM = Non Blue Mountain (Low lands)

# Considerable losses & need for Government and donors mobilization

## Disaster Recovery Funding for the Agricultural Sector (2004-2008)

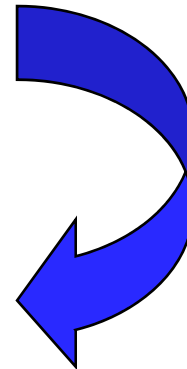
Only direct damages

Year	Disaster	Total Damage to the sector(Billions)	Government Support (MOA)	Donor Support
2004	<u>Hurricane Ivan</u>	\$6.70	Due to system problem, unable to access records	Bilateral: Canada (Hurricane Ivan Reconstruction) C\$800,000 / J\$44 million
2005	<u>Hurricanes Emily, Dennis and Tropical Storm Wilma</u>	\$0.99		
2006	NA	NA	NA	NA
2007	<u>Hurricane Dean</u>	\$3.76	\$102,099,629.60	-
2008	<u>Tropical Storm Gustav</u>	\$1.63	\$25,000,000.00	EU's Hurricane Assistance Programme €2.2 million /J\$222million
	Totals	\$13.08	\$127,099,629.60	\$266,000,000.00

**We estimate that over the past 5 years the Government and Donors have spent a yearly average of US\$1.5 to 2 Million to respond to agriculture sector losses post-disaster.**

# Is current system response to disaster in the agricultural sector satisfactory?

- In terms of:
  - Cost effectiveness
  - Efficiency in delivery
  - Transparency
  - Protection
  - Coverage



The answer depends on what it can be substituted for !

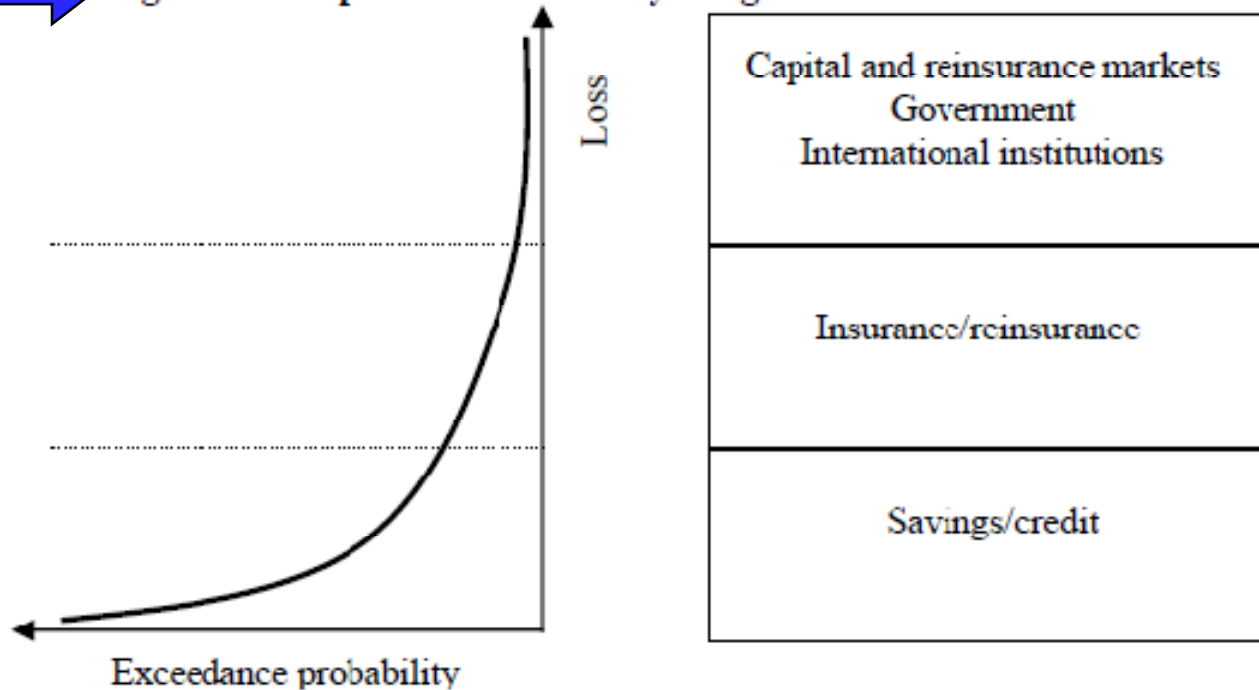
# Current weather risk management system

1. Catastrophic coverage for small vulnerable farmers is ex-post, and with slow response.
  2. Commodity Boards have no instruments for transferring risks for commercial farmers.
- High vulnerability to natural disasters !!

# Is there a different way how to administer agricultural weather risks?



## Agricultural production risk layering



# Jamaica: Framework for Public Sector Agricultural Risk Management Formulation

## **Objectives**

Agricultural and rural economic growth  
Poverty Reduction

## **Constraints**

Financial sector little penetration in agriculture  
Unexperienced insurers in agriculture  
Agricultural sector dominated by small farms  
Government fiscal limitations  
Frequent natural disasters

## **Operational Principles**

Segment independent versus correlated risks  
Minimize rent seeking that creates market distortions  
Risk Layering for Risk Management  
Risk transfer cost optimization - reduce transaction costs

## **Policy Instruments**

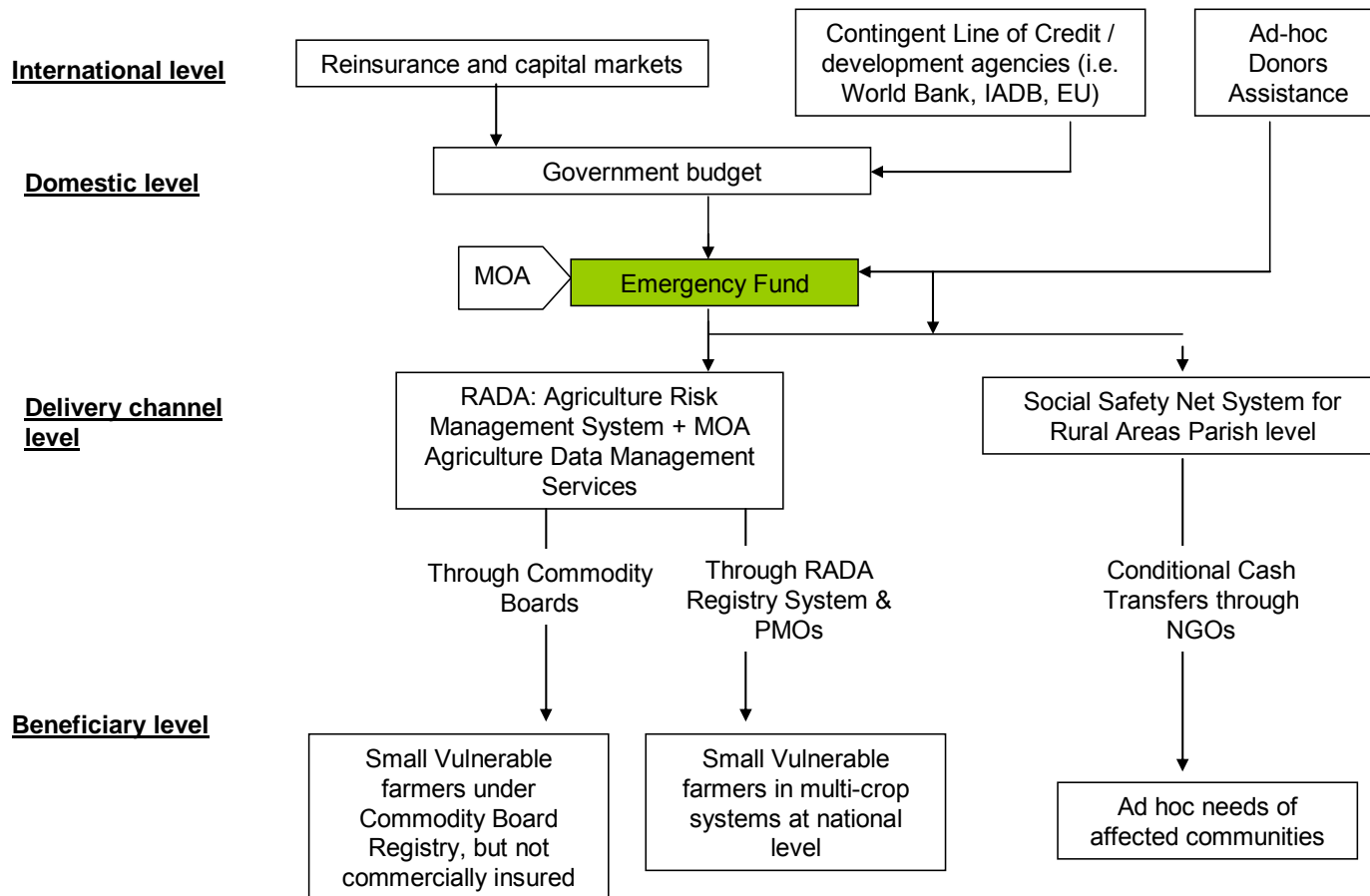
Mechanism for transferring catastrophic risk layers  
Public investments in information   
Contingent fundings for disaster relief & enhanced social safety nets  
Supporting private insurance market



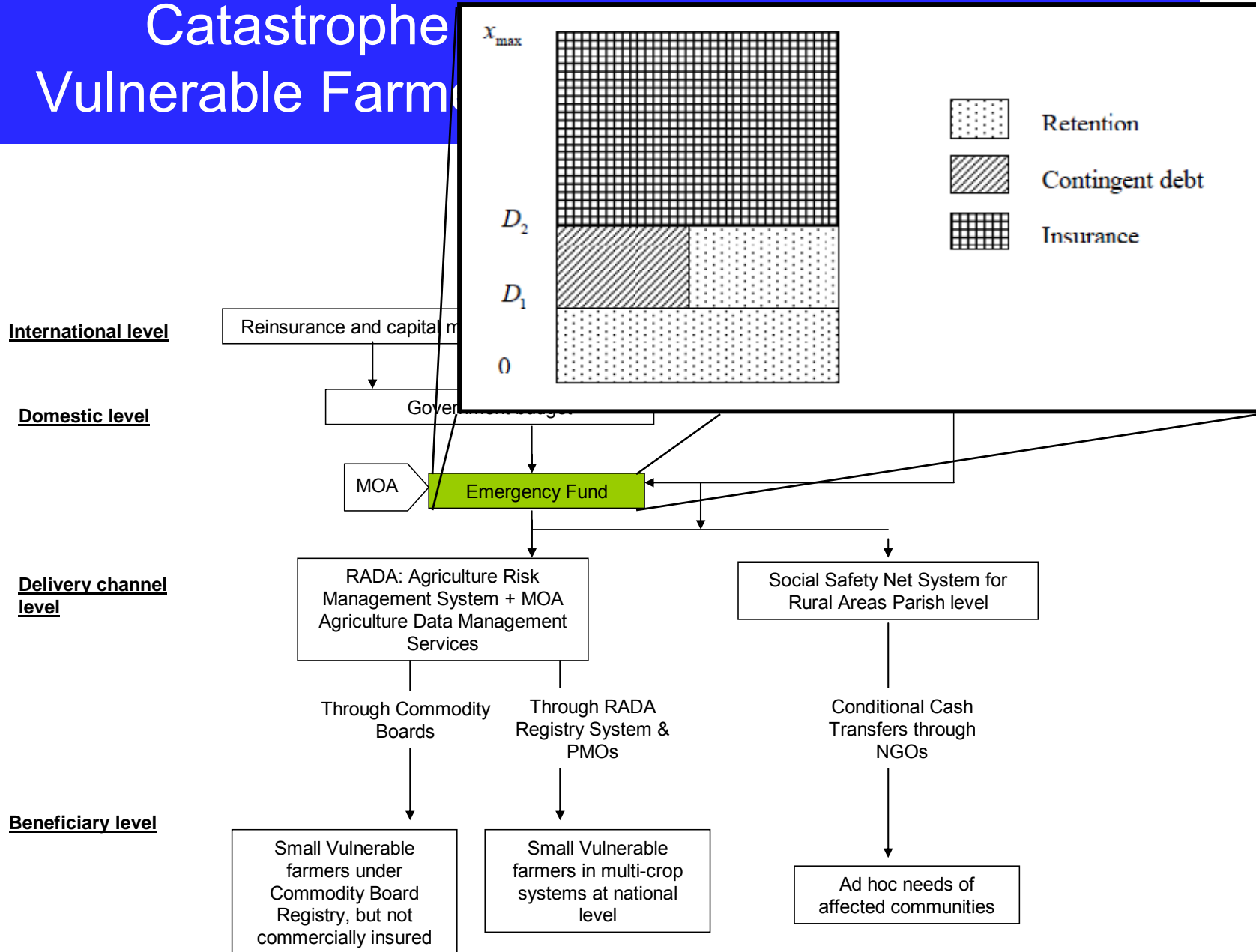
# What Public Policy is Needed ?

1. Catastrophic coverage for small vulnerable farmers (by macro-regions)
2. Supporting market development for commercial insurance
  - Financial Intermediaries (meso)
  - Commodity Boards (micro)
3. Public Investments

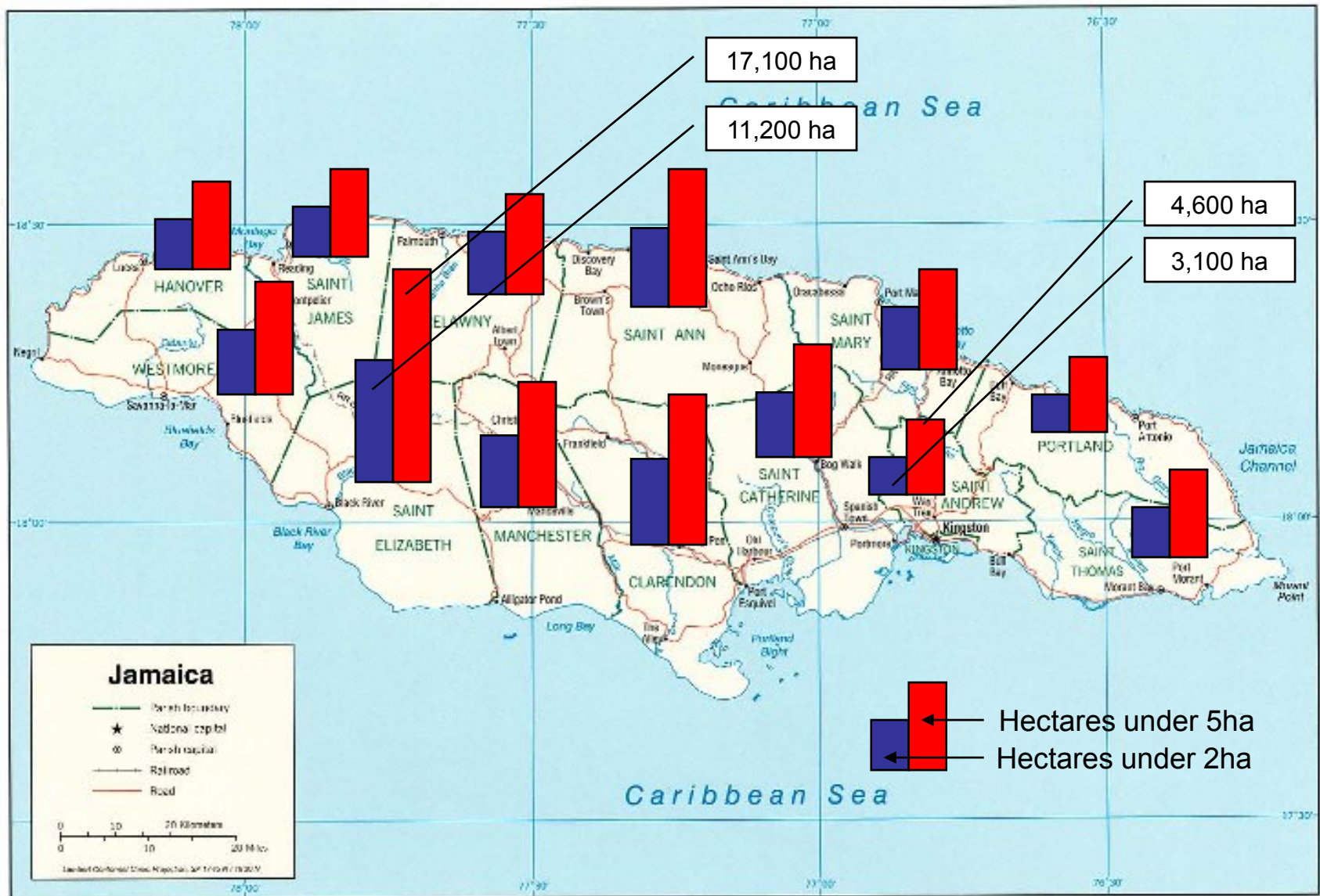
# Catastrophe Insurance for Small Vulnerable Farmers / Policy holder: GOJ



# Catastrophe Vulnerable Farm

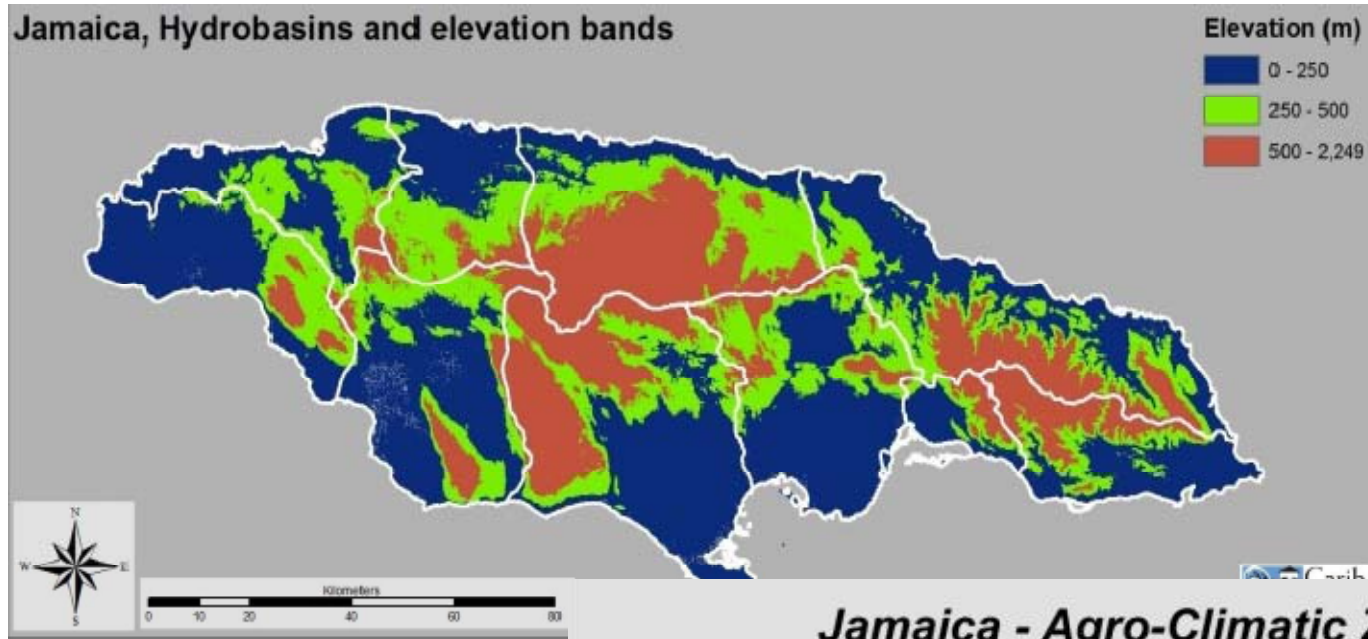


# Where are the Small Farmers?



# And what are their risks?

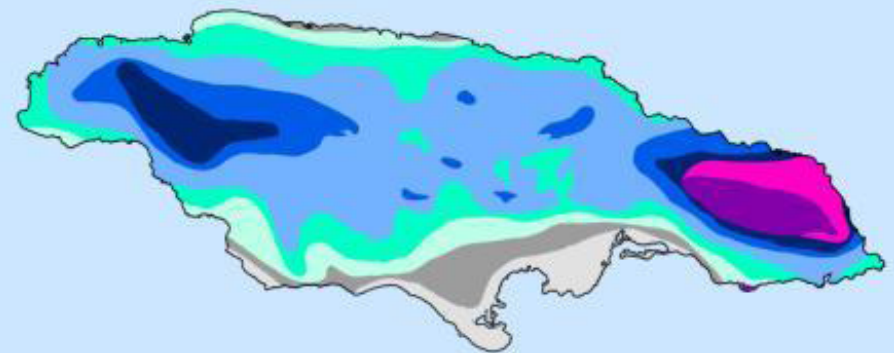
Jamaica, Hydrobasins and elevation bands



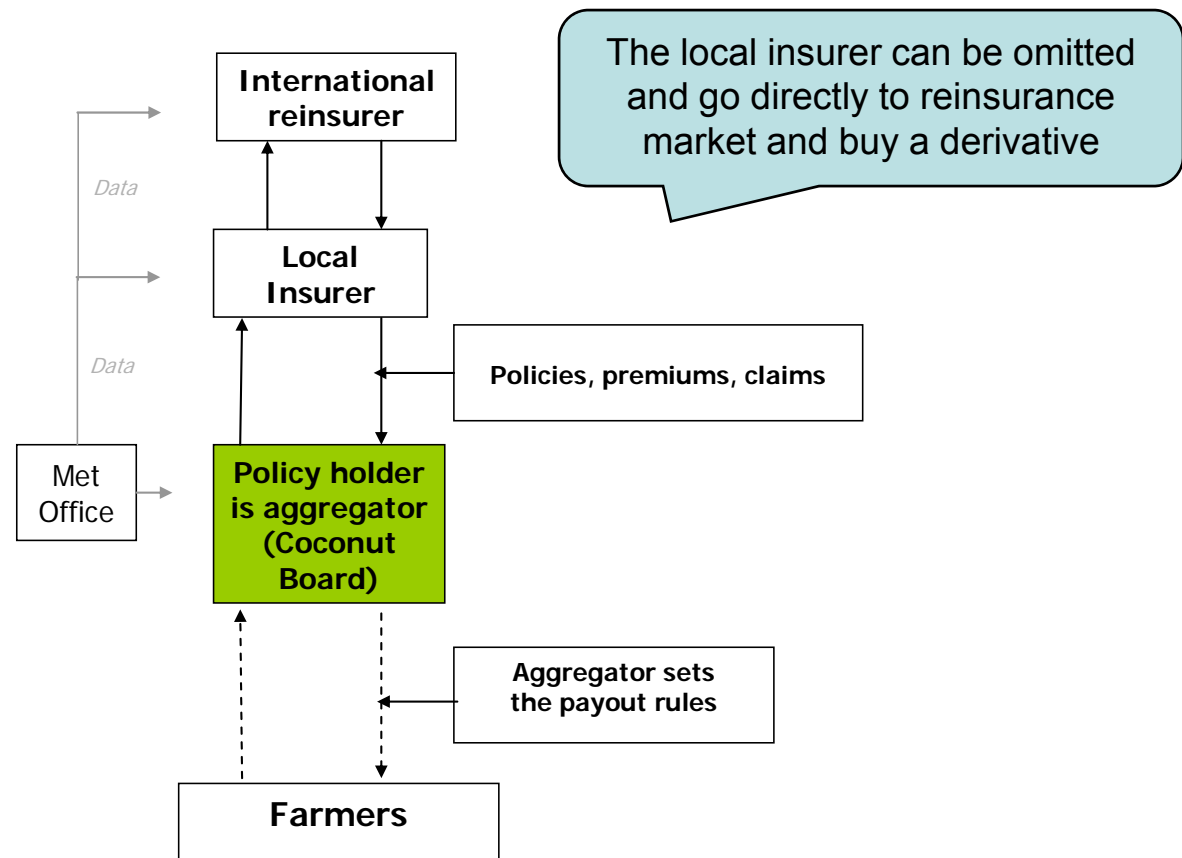
Jamaica - Agro-Climatic Zones

**Legend**  
Moisture Availability

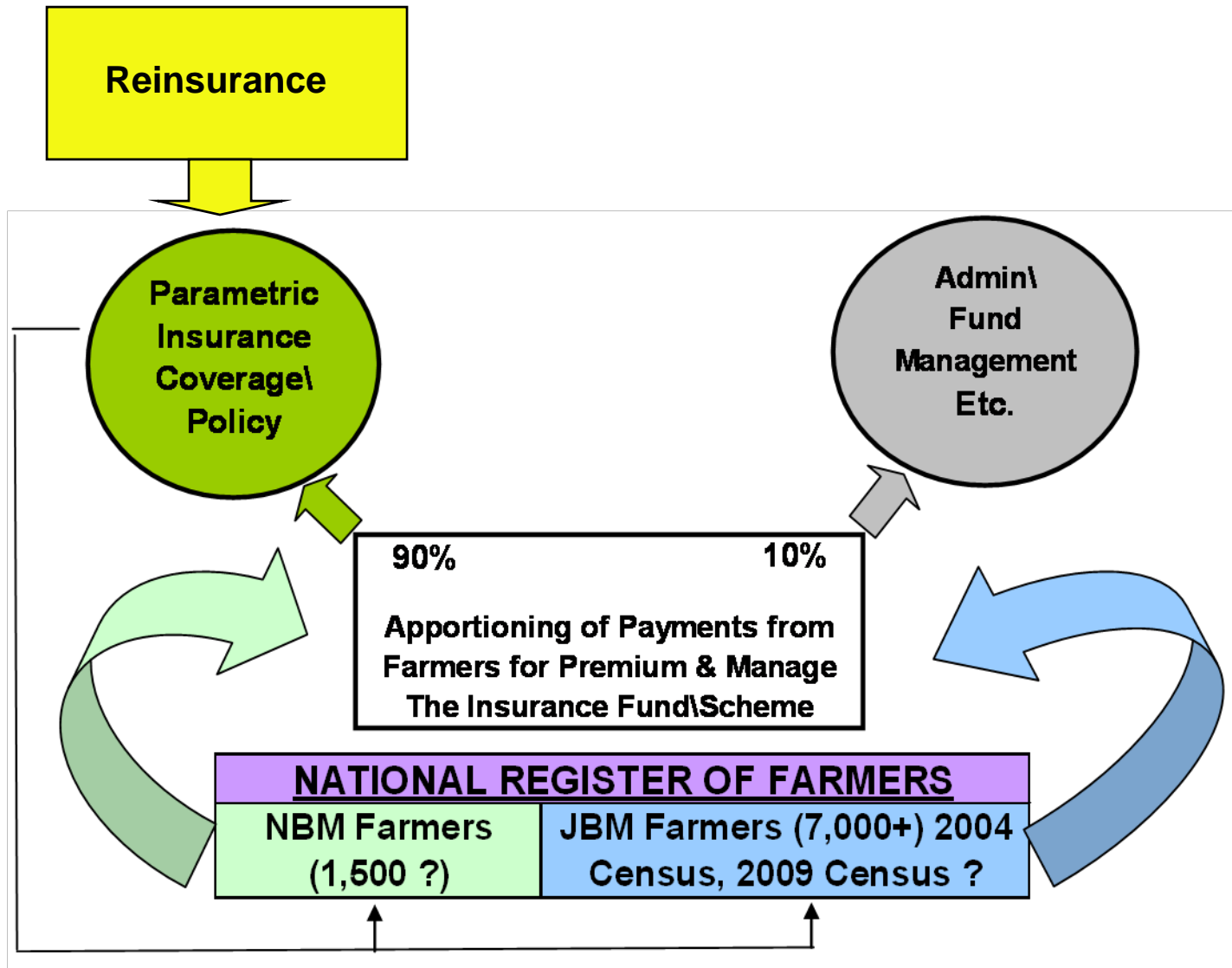
- Dry - D1
- Dry - D2
- Intermediate - I1
- Intermediate - I2
- Wet - W1
- Wet - W2
- Very Wet - V1
- Very Wet - V2
- Very Wet - V3



# Index-based Commercial Insurance for the Coconut Board: An aggregate index trigger to secure reinsurance



# index-based commercial insurance for coffee / Policy Holder: individual farmers



# For Public and Commercial insurance to happen, it needs **Public Investments**

<b>Jamaica: Calendar of Activities for Public Support in Developing Weather Risk Instruments</b>					
<b>for Agriculture</b>					
<b>Activities</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Catastrophic weather risk index-insurance (small farmers)</b>	xxxx	xxxx	xxxx		
<b>Public Investments</b>	xxxx	xxxx	xxxx	xxxx	xxxx
- Training and capacity transfer to stakeholders	xxxx	xxxx	xxxx		
- Modernizing weather stations		xxxx	xxxx		
- Improving JMS capacity and efficiency			xxxx		
- Improving farmers information system		xxxx	xxxx		
<b>Integrating ag insurance with other risk management tools</b>	xxxx	xxxx	xxxx	xxxx	xxxx
<b>Commercial index-insurance for coffee</b>		xxxx	xxxx		
<b>Commercial index-insurance for coconut</b>			xxxx	xxxx	
<b>Commercial index-insurance for other commodities</b>				xxxx	xxxx



# For Public and Commercial insurance to happen, it needs **Public Investments**

Some examples of concrete steps to be taken in the short term:

1. Recover Pre-1992 Weather data.
2. Clean existing data series.
3. Invest in expanding the density of weather stations to agriculture production areas.
4. Review the regulatory framework for agriculture insurance.
5. Make available the 2006 agricultural census data.
6. Improve agricultural yield statistics at the local level.
7. Mediate an Agreement between insurers and JMS for access to weather data and contract monitoring.

# Final Remarks

1. Jamaica has the opportunity to support a more transparent and efficient financing of natural disaster response to the agricultural sector, both for commercial and small farmers.
2. The presence of large number of small farmers with multi-cropping systems and/or subsistence agriculture, calls for strong public sector intervention in securing some type of weather protection.
3. A communication strategy will be needed to facilitate the understanding and introduction of any new mechanism for weather risk management.

# Next Steps

Design and structure a public-private partnership under an agreed detailed work plan to develop the different products and delivery channels for transferring weather risks out of agriculture.