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Agricultural Insurance for Developing Countries
The Role of Governments

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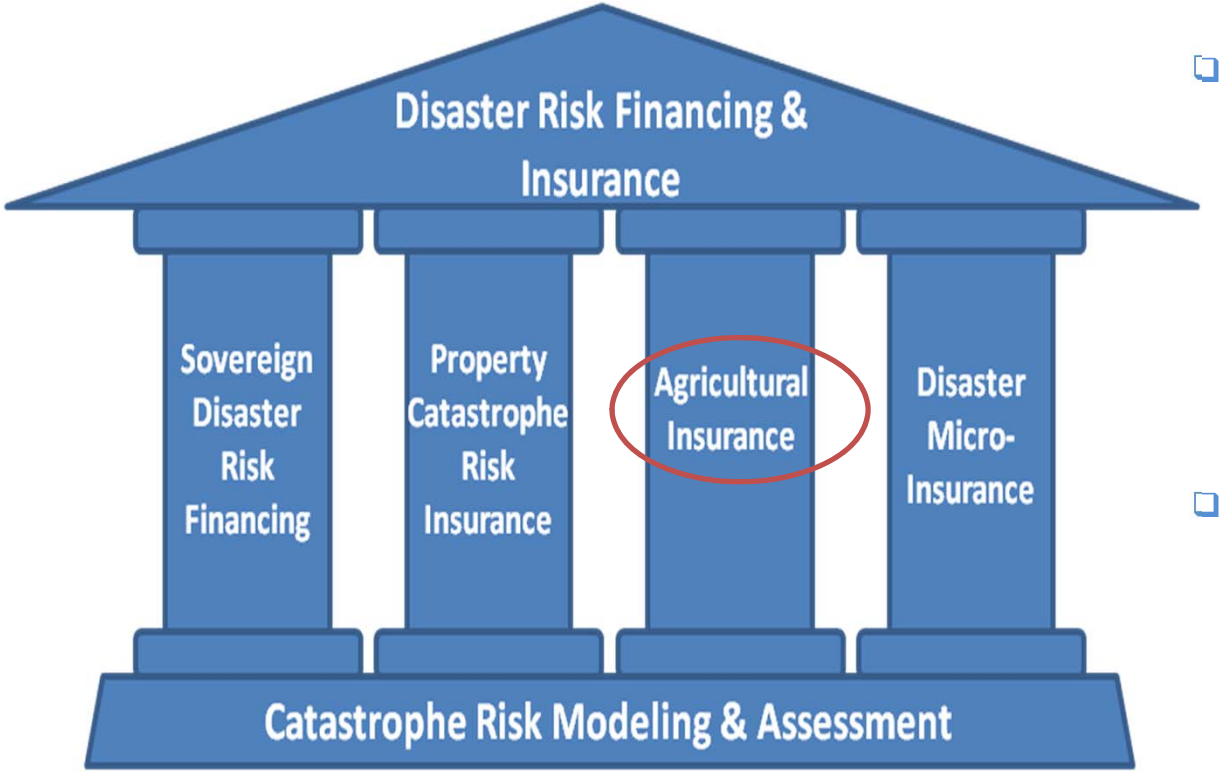
Disaster Risk Financing and Insurance Program

Agricultural insurance can contribute to growth and poverty reduction

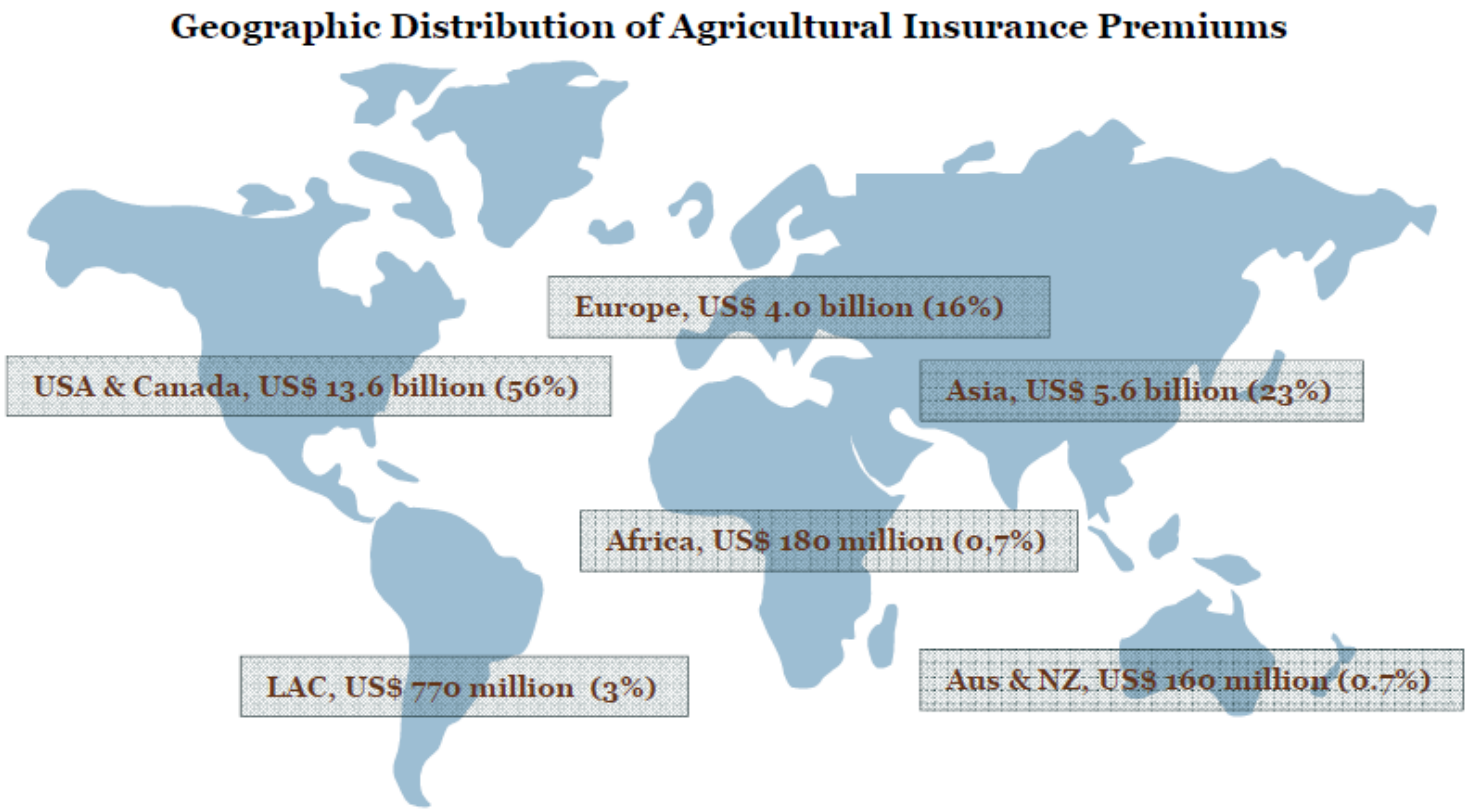
- Agriculture is an uncertain business, and improvements in risk mitigation, transfer or coping can bring about large benefits to vulnerable rural households
- Agricultural insurance can reduce farmer and herder risk and increase average productivity
- Agricultural insurance can increase access to credit
- However, agricultural insurance is only effective when combined with other agricultural risk management measures
- Given recent experience in India, Public Private Partnerships are required in order to increase penetration and be cost efficient

World Bank Disaster Risk Financing & Insurance (DRFI) Program



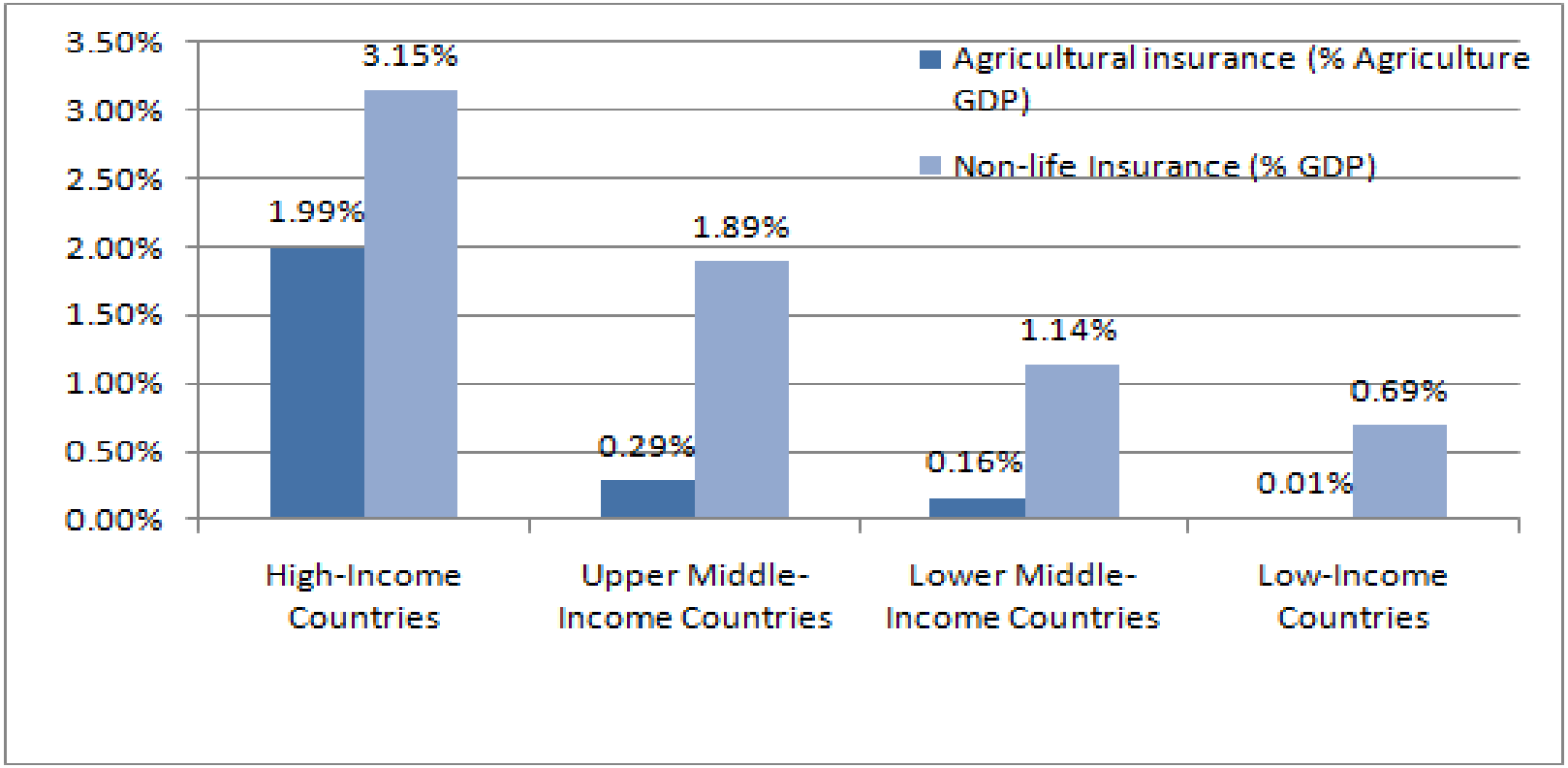
- **Increase the financial resilience of developing countries to natural disasters**
  - Knowledge management and advisory services
  - Product Development
  - Technical assistance and operations
- **Partnerships**
  - Academic partners: Wharton School, NTU Singapore
  - Practitioners: Willis Research Network, Geneva Association, brokers, reinsurers
  - Regional development banks: IADB, ADB, AfDB

Agricultural insurance worldwide



Source: World Bank (2011)

Agricultural insurance is under-developed in developing countries

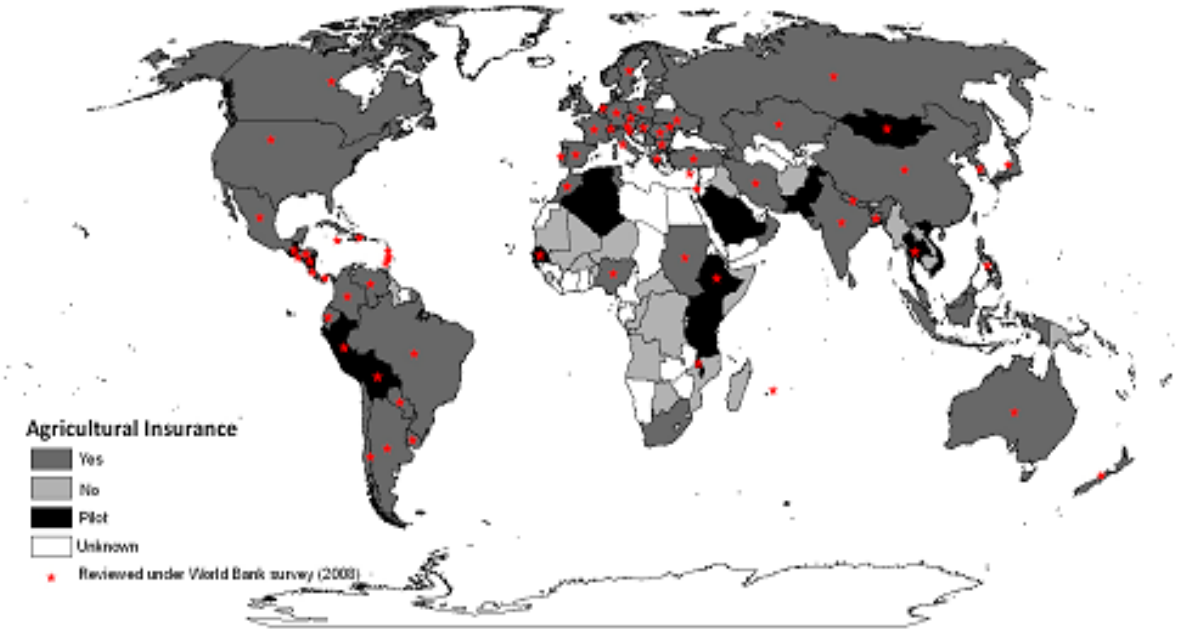


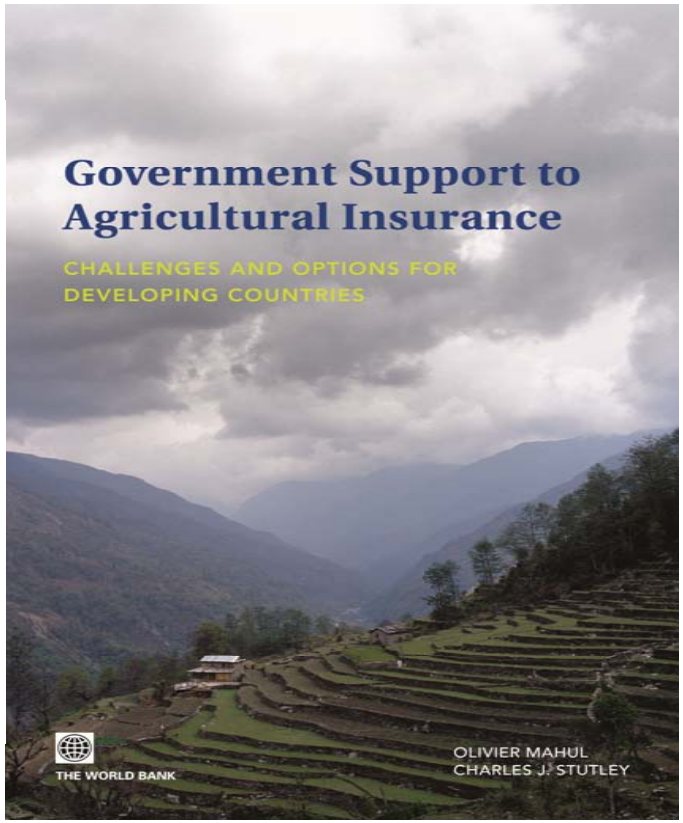
Source: Mahul and Stutley (2010)

Disaster Risk Financing and Insurance Program

Agricultural Insurance Review (2010)

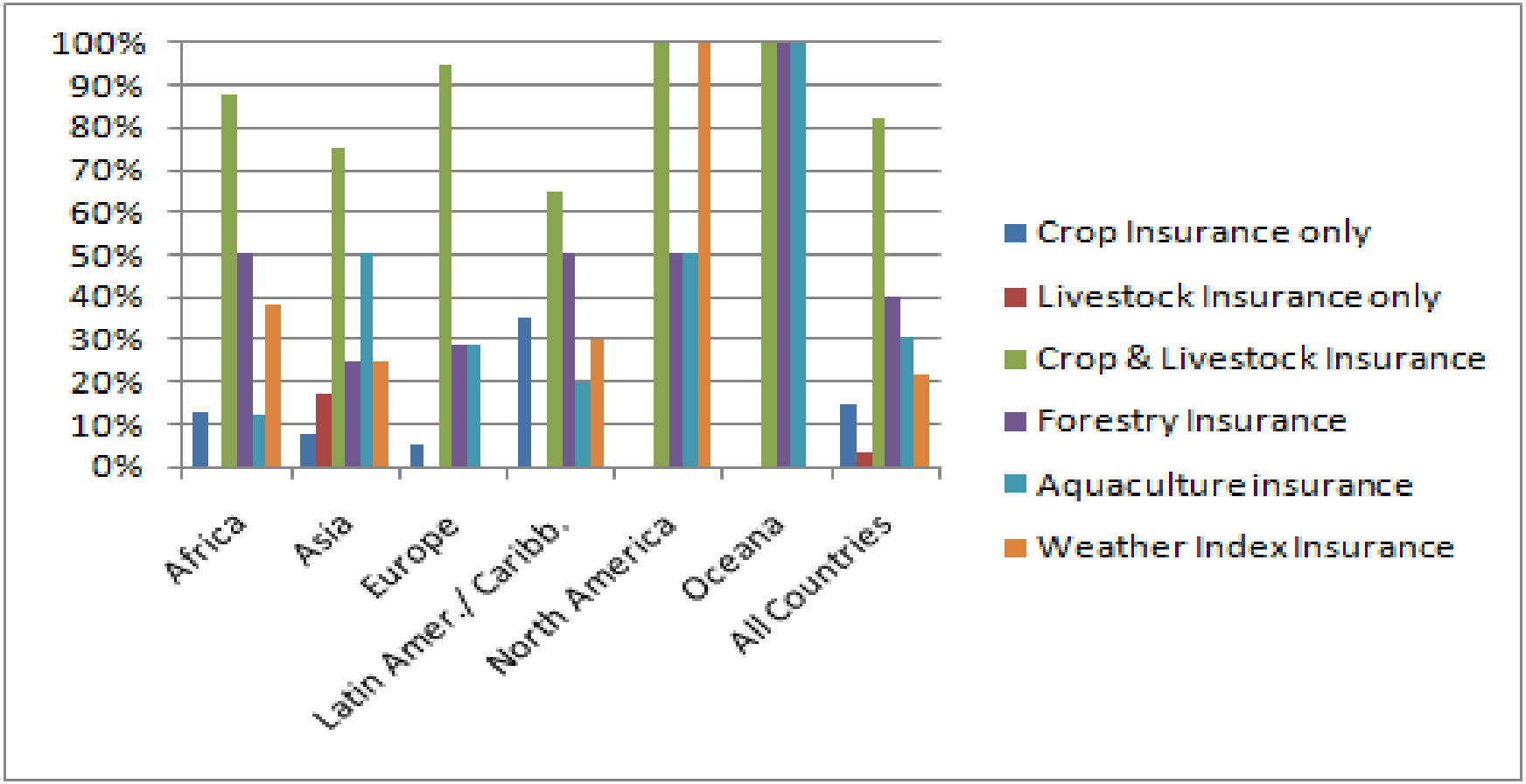
Review of agricultural insurance programs in 70 countries





Disaster Risk Financing and Insurance Program

A wide range of crop, livestock, aquaculture and forestry and weather index covers are available internationally



Source: Mahul and Stutley (2010)

Indemnity vs index based insurance products

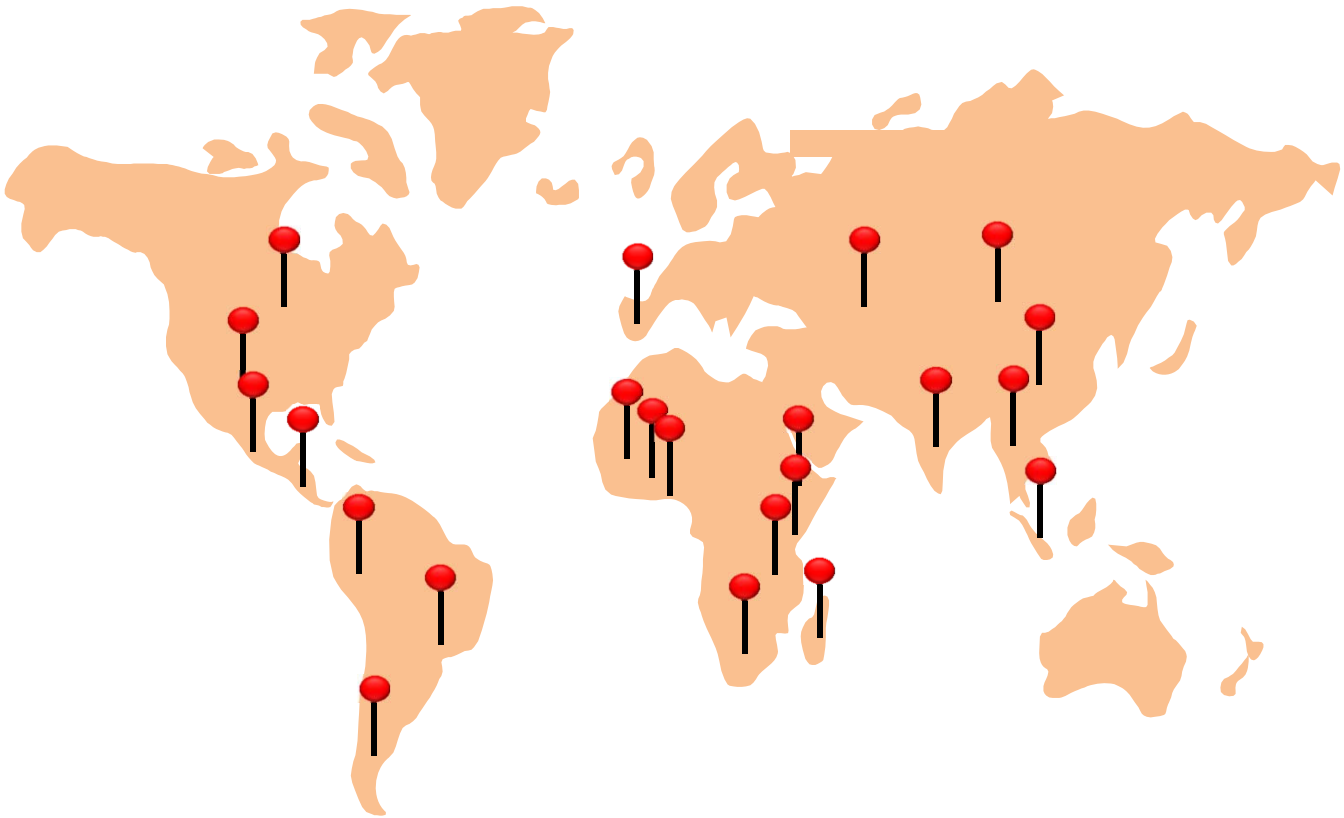
Indemnity-based Insurance Products	Index-based Insurance Products
Losses assessed at individual farmer or herder level	**Losses assessed using measure of an index that is assumed to proxy actual losses**
<u>Crop Insurance Products:</u> • Damage-based products – include hail and other named-peril insurance • Yield-based products – include MCPI yield shortfall cover and crop revenue insurance	**<u>Crop Insurance Products:</u>** • Area yield-based index insurance • Weather index-based insurance • Normalized difference vegetation index (NDVI) insurance
<u>Livestock Insurance Products:</u> • Named-peril accident and mortality insurance • Herd insurance • Epidemic disease insurance	**<u>Livestock Insurance Products:</u>** • Mortality risk insurance

Benefits and challenges of weather based insurance

Key advantages of weather based Insurance	Key challenges of weather based Insurance
• Objective and transparent • Quick payout • Reduces administrative costs • Lower final costs may help to augment more access to farmers • Facilitates access to international reinsurance	• Basis risk – the potential mismatch between losses and payouts • Single-risk protection • High inputs required during development phase • Local adaptation – slows scaling up

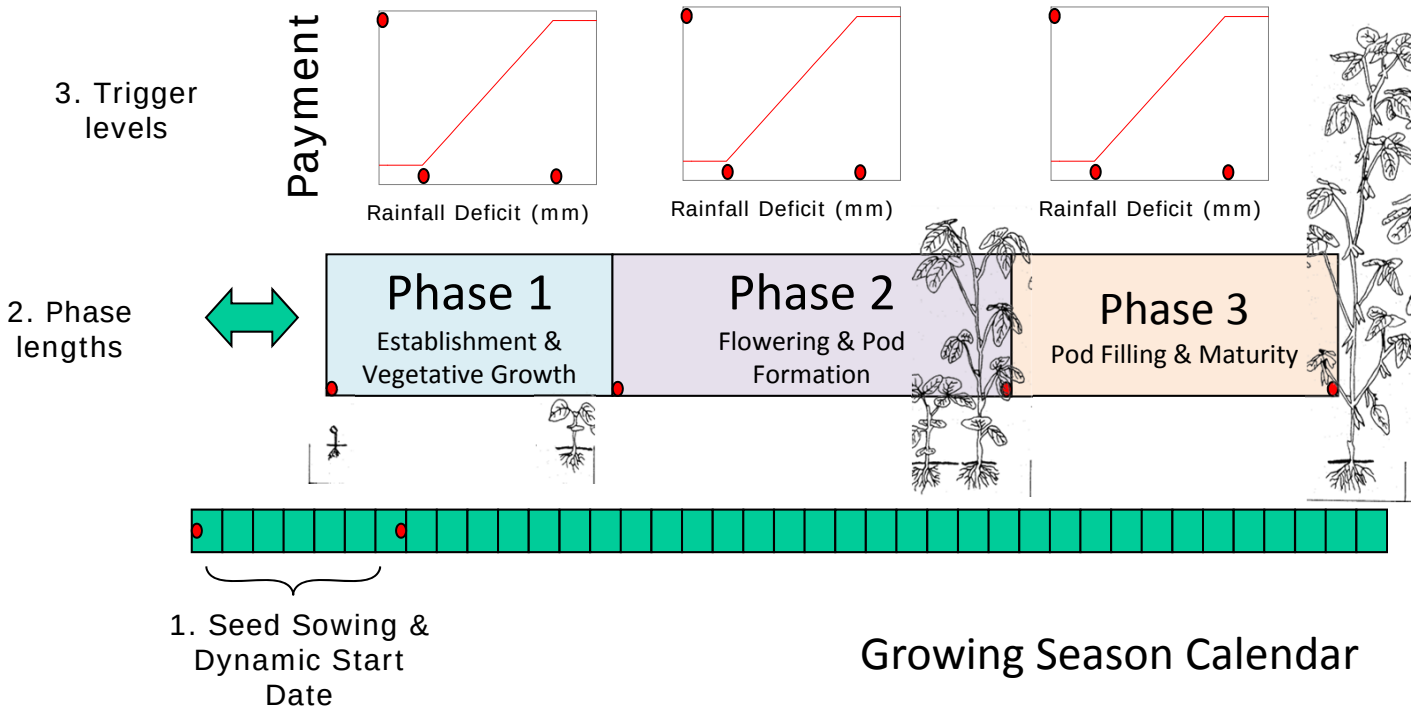
The market for index insurance keeps growing (with many small scale pilots) but is still marginal (except India and Mexico)

Index-based agricultural insurance programs (and pilots): Geographic Distribution



Parametric weather based crop insurance product

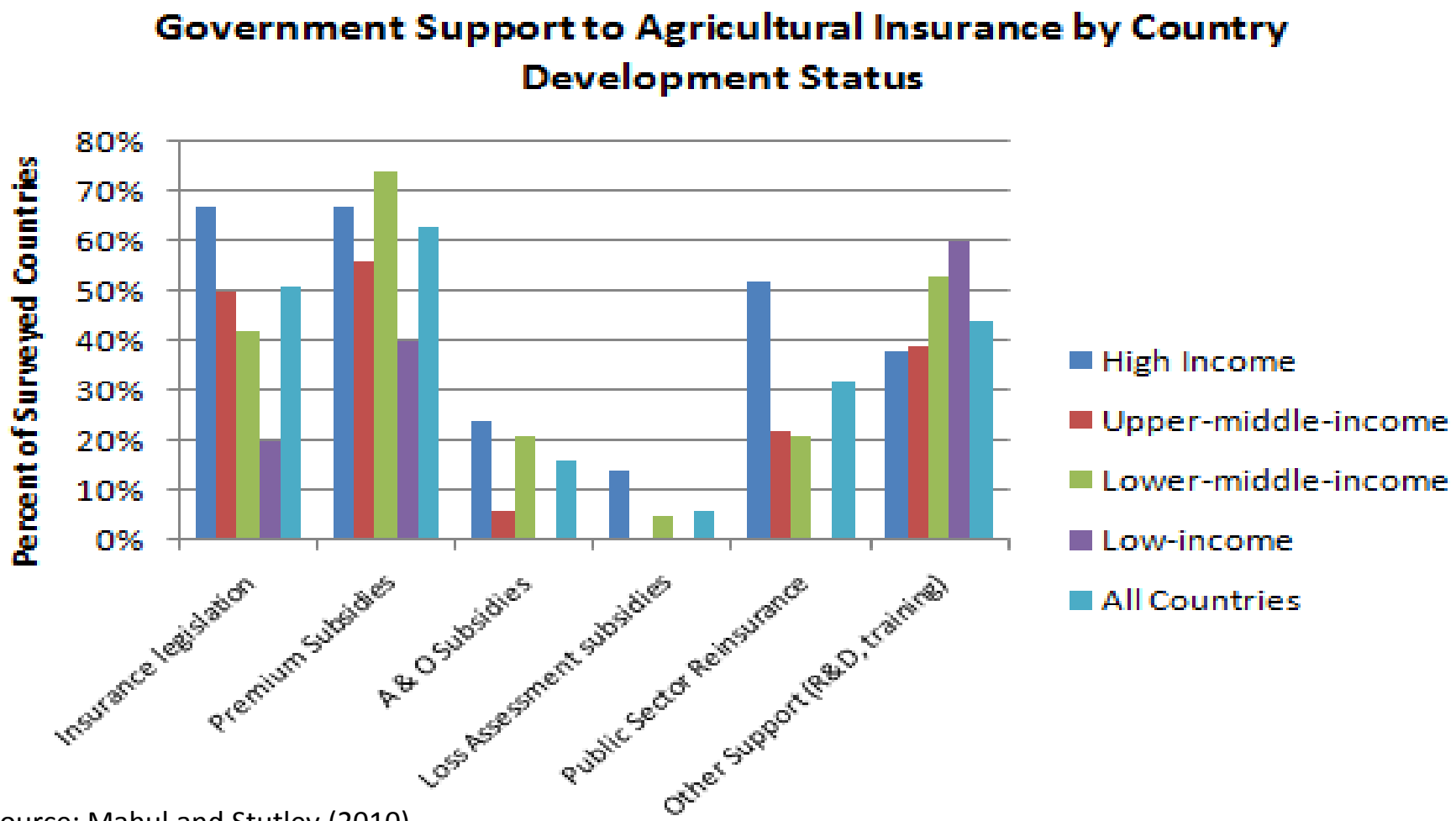
Illustrative three-phase rainfall insurance contract, indexed to a weather station



Indemnity = min (Max Payment, Phase 1 + 2 + 3 Payment)

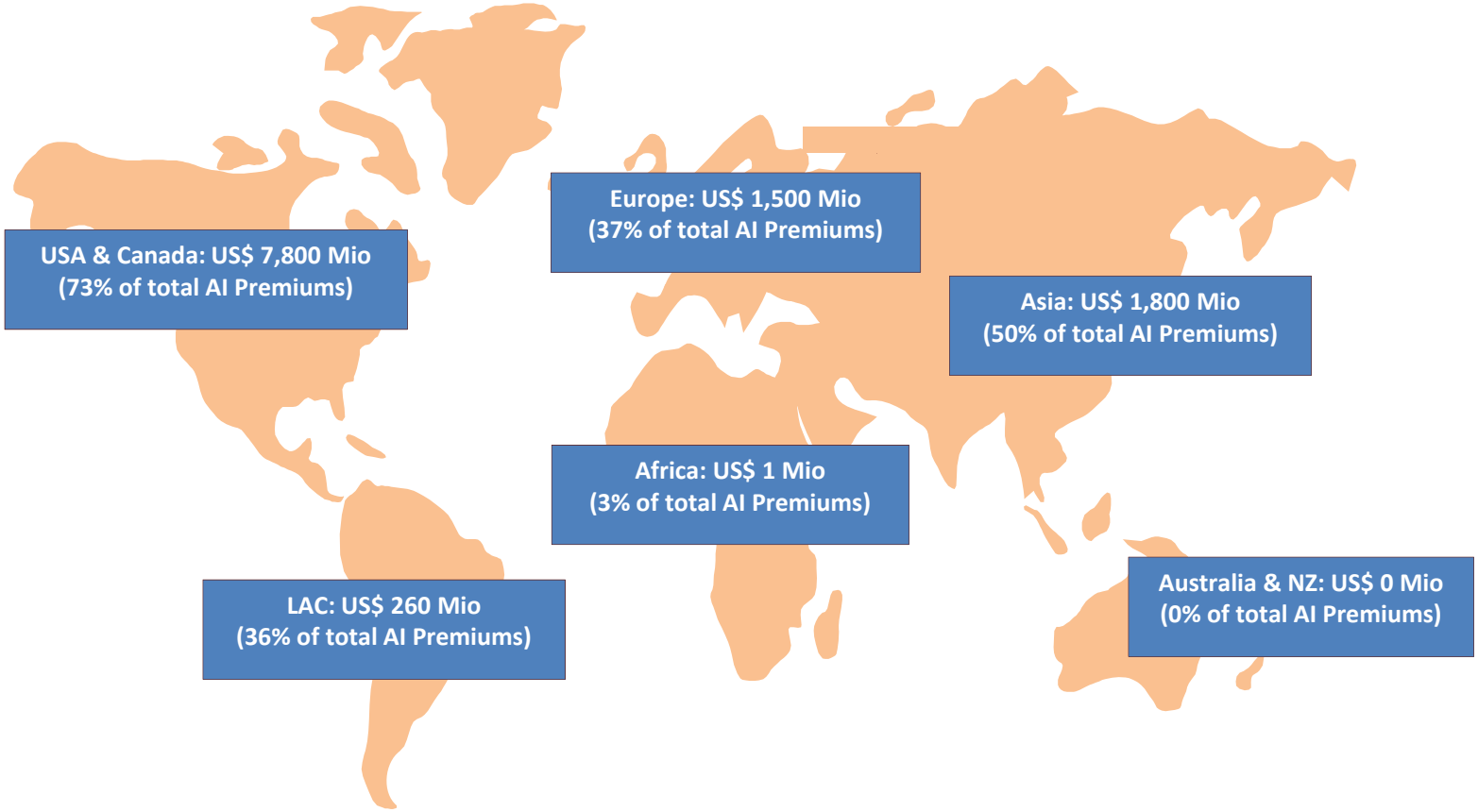
Disaster Risk Financing and Insurance Program

Government support to agricultural insurance can take several forms



Source: Mahul and Stutley (2010)

Government support to agricultural insurance exceeds 50% of agricultural insurance premium volume



Source: Mahul and Stutley (2010)

Example: Crop insurance in India

- Programs were piloted to scale up
  - Commitment to program over a long time period
  - Compulsory for borrowing farmers
  - Large subsidies
  - Coordinated long term investments in data market infrastructure
    - Crop cutting experiments
    - Weather station infrastructure
    - Remote sensing data
- Substantial involvement of private sector since 2007

⇒ Currently ~30m farmers insured

Key Lessons: Promote Public-Private Partnerships

1. Underwrite agricultural insurance through Private Commercial Insurers wherever possible
2. Important areas of government support:
   - Data infrastructure: speed, reliability/quality and transparency
   - Education, training and capacity building
   - Technical support on product design and rating
   - Creation of enabling legal & regulatory framework
3. Exercise caution with agricultural insurance premium subsidies
   - Smart subsidies to support well-defined social objectives
4. In some circumstances, government support as a reinsurer of last resort may be justified
5. Innovations in distribution channels and delivery mechanisms
6. Long-term effort that needs strong political commitment and strong technical counterparts

Scaling up agricultural insurance in developing countries: four main problems to solve

1. Lack of clarity over the respective roles of the public and private sector
2. Lack of the risk market infrastructure necessary to foster agricultural insurance
3. Domestic insurance providers and public decision makers often lack technical capacity
4. Lack of adequate tools and indicators to monitor and evaluate agricultural insurance programs (particularly index based insurance)

Disaster Risk Financing and Insurance Program

Agricultural risk assessment

Livestock insurance

Social safety net

Premium subsidies

Agricultural insurance pools

Remote sensing

IT solutions

Index based insurance

Role of donors

The Agricultural Insurance Development Program (AIDP) builds on World Bank experience working with agricultural insurance programs that have achieved scale

- Partnership: between DRFI Program, Agricultural Risk Management Team (ARMT) and Netherlands Ministry of Foreign Affairs

- Mission: To support countries in implementing sustainable, cost-effective public private partnerships in agricultural insurance that increase the financial resilience of rural households, as part of their broader agricultural risk management strategy.

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