



Session 4: Disaster insurance and reinsurance solutions in the agriculture sector

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Session Outline

Situating Agricultural Insurance within Social Protection and DRF

Reinsurance driven agricultural insurance

Recommendations: Pakistan

Recommendations: Sri Lanka

Recommendations: Nepal

Recommendations: Fiji

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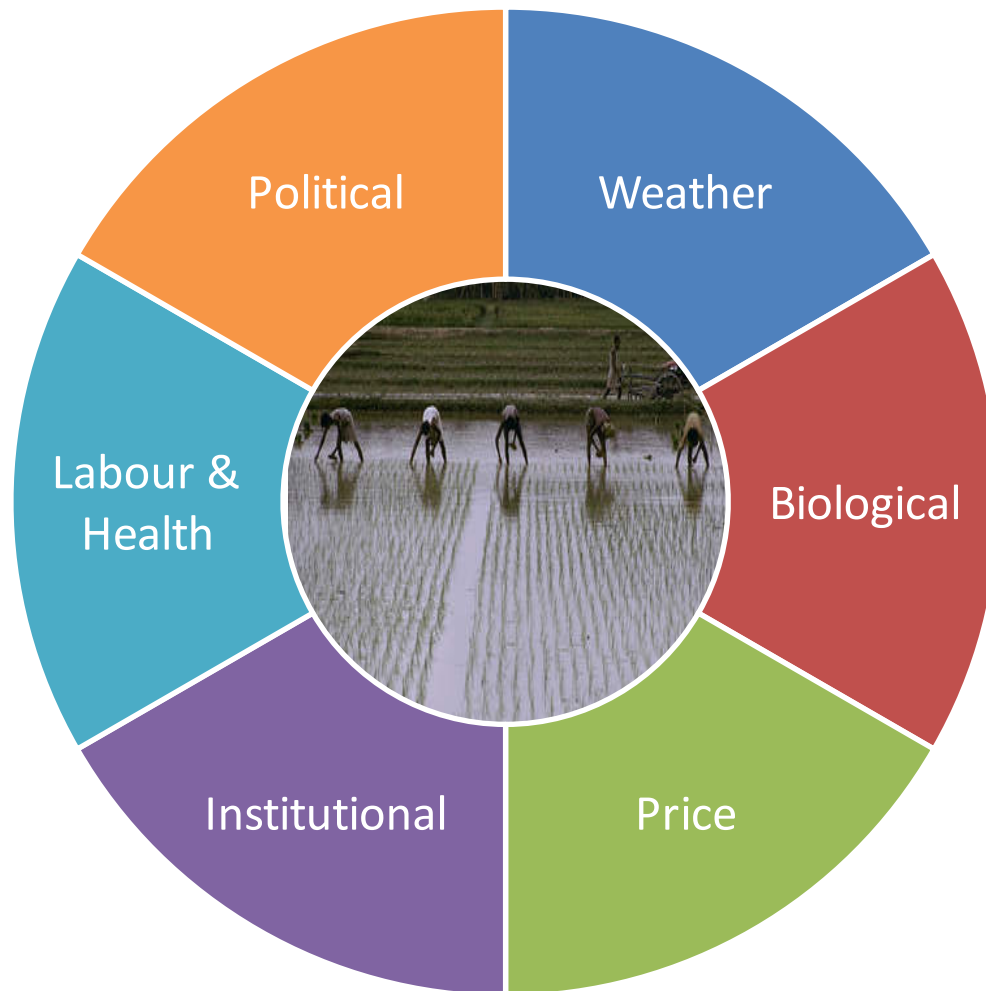
Situating Insurance within the DRF Framework

Disaster Risk Financing					
		Ex-ante		Ex-post	
Population Profile		Self	Government	Self	Government
	Vulnerable	<i>Micro Insurance for various risks e.g. health, assets</i>	<i>Social Insurance</i>	<i>Personal assets (limited)</i>	<i>Compensation and Relief</i>
	Resilient	<i>Conventional Insurance</i>	NA	<i>Personal assets (substantial)</i>	NA

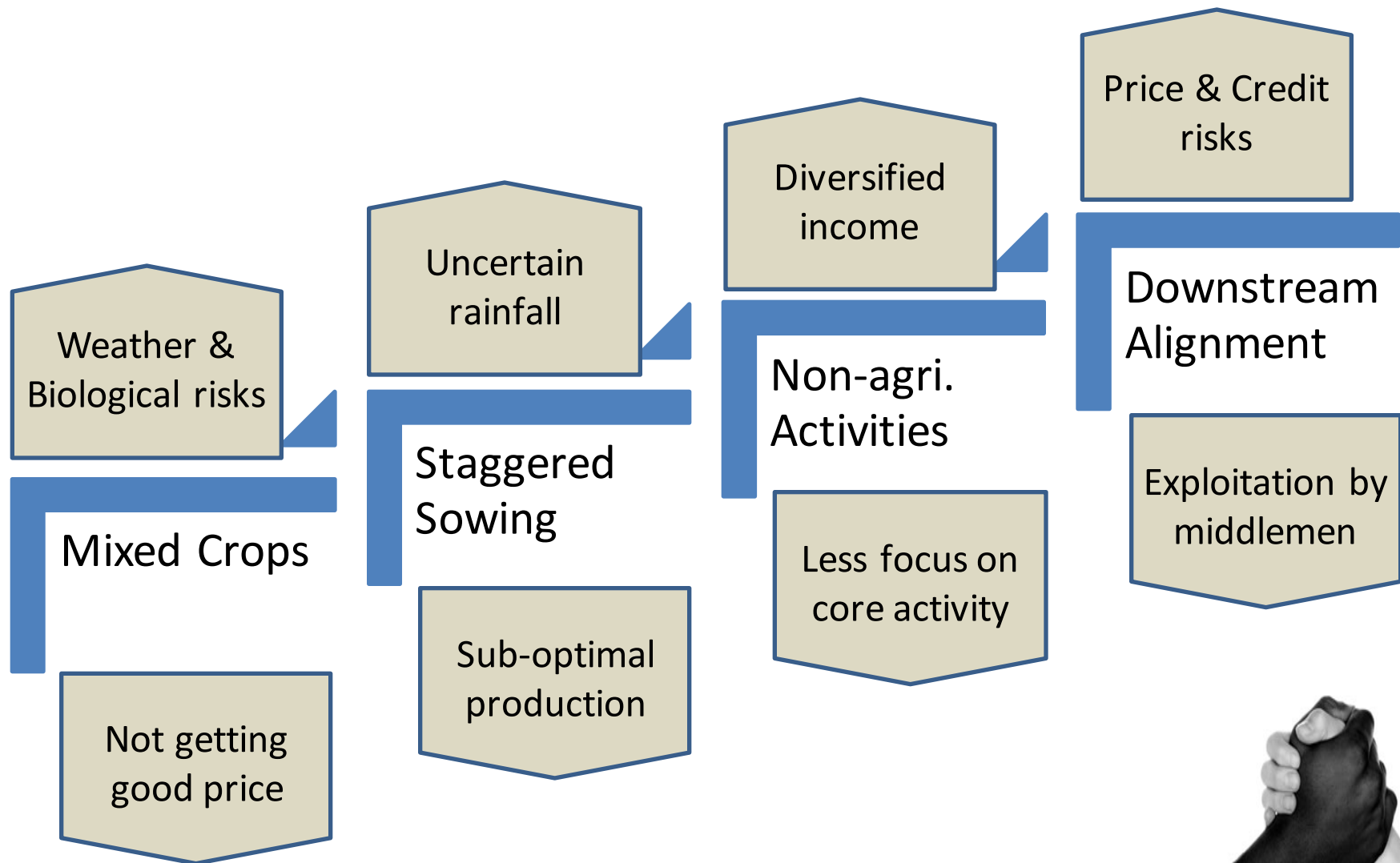
Source: Author's own (2016)

**Today's discussion
on agriculture
insurance**

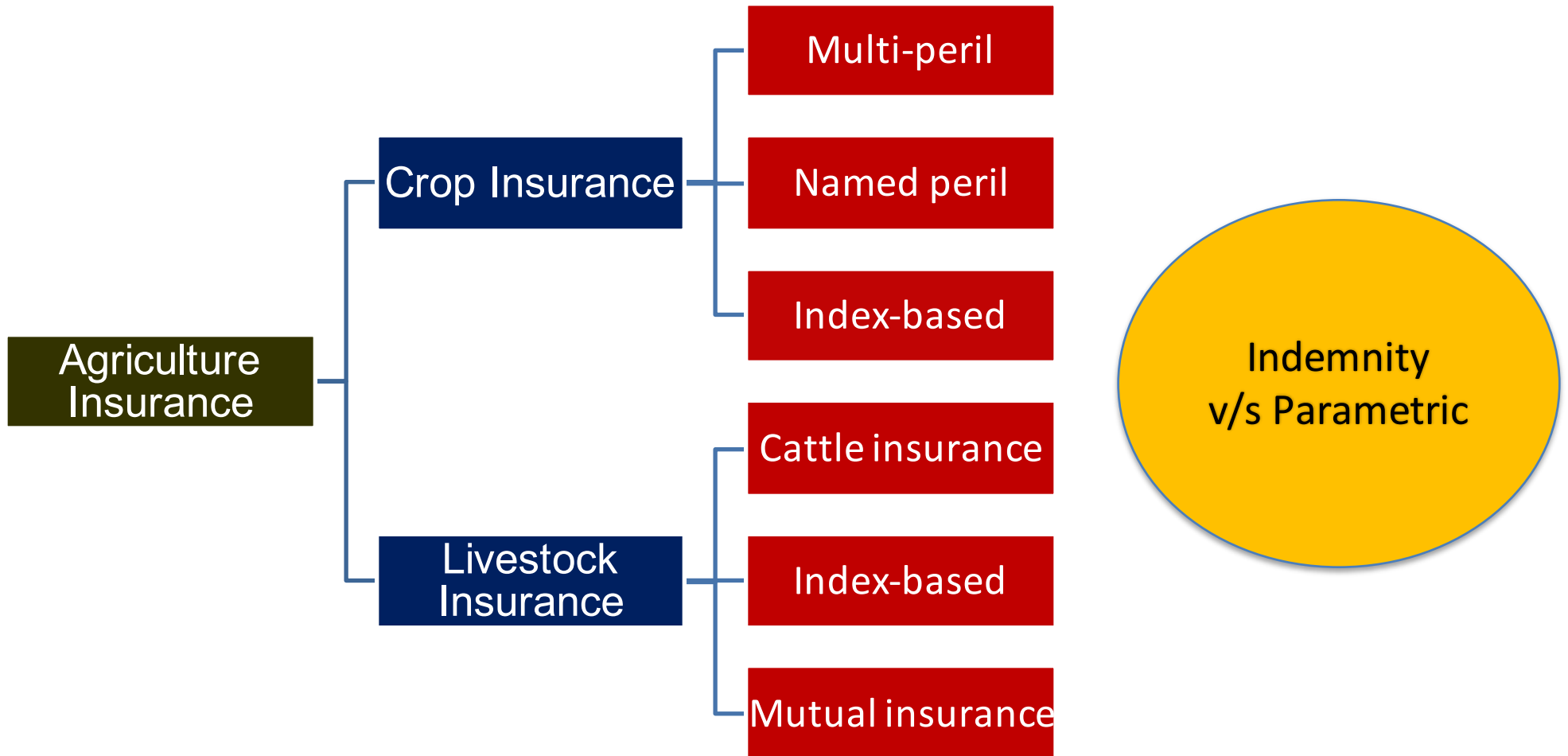
Risks in Agriculture



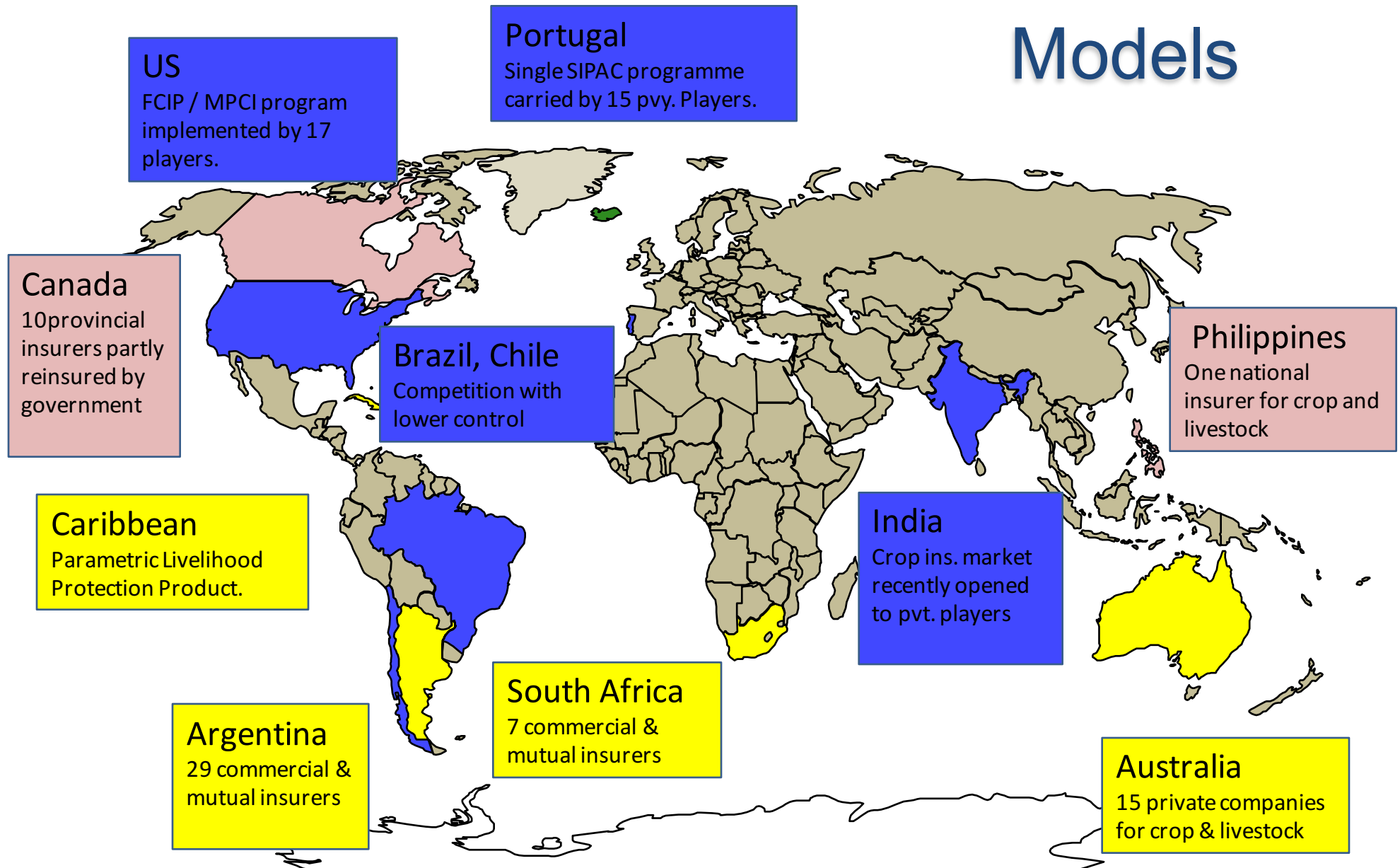
How Farmers Cope with Risks



Agricultural insurance products



Models



Source: Government Support to Agriculture Insurance, World Bank, 2010

Government Support

63%

- Countries providing premium subsidy

50%

- Countries having some form of crop insurance legislation

32%

- Countries providing financial support to crop reinsurance.

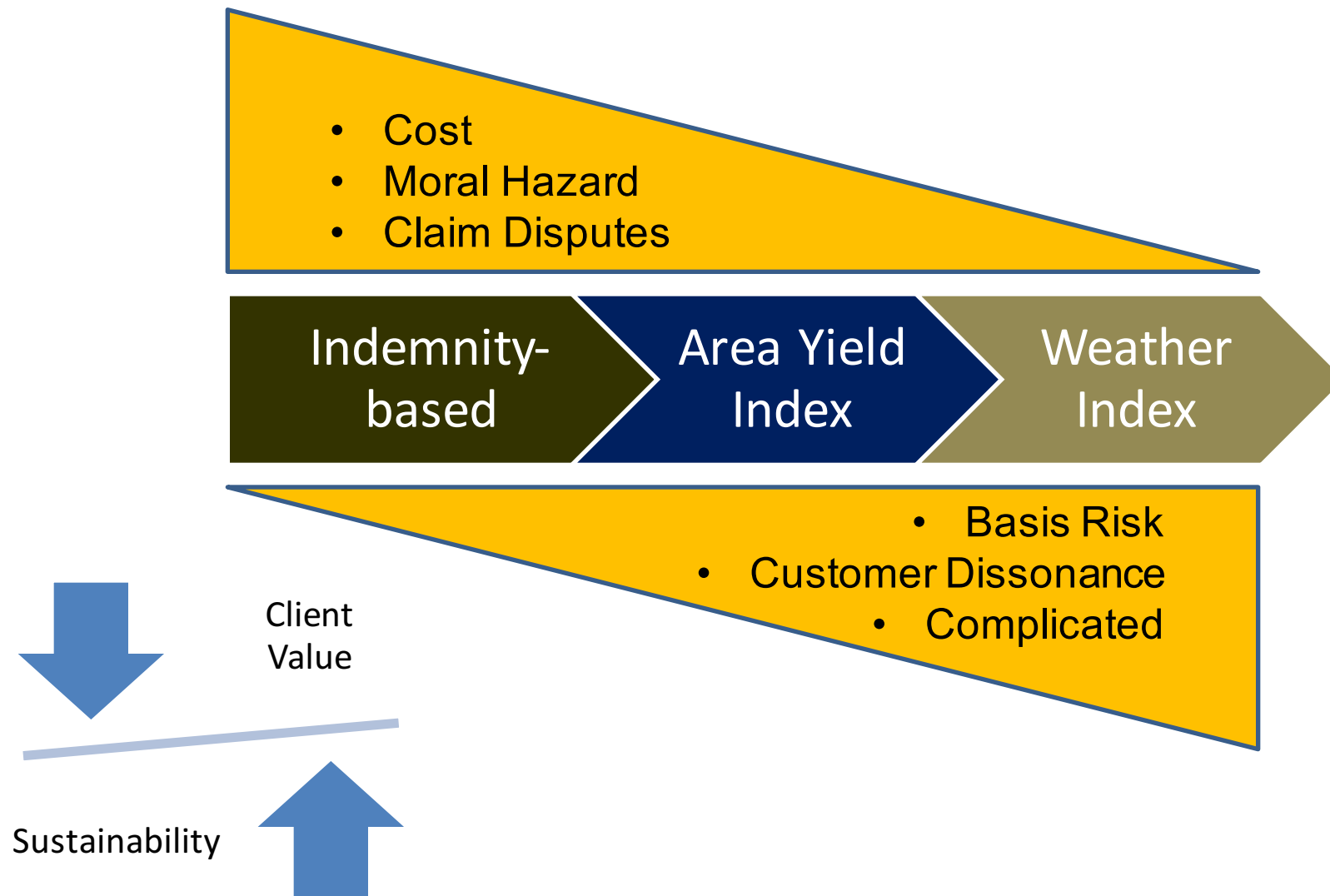
16%

- Countries supporting administration and operations cost.

US\$ 6.6 bn

- Cost to governments on agriculture insurance (44% of total global premium).

The product enigma of agricultural insurance



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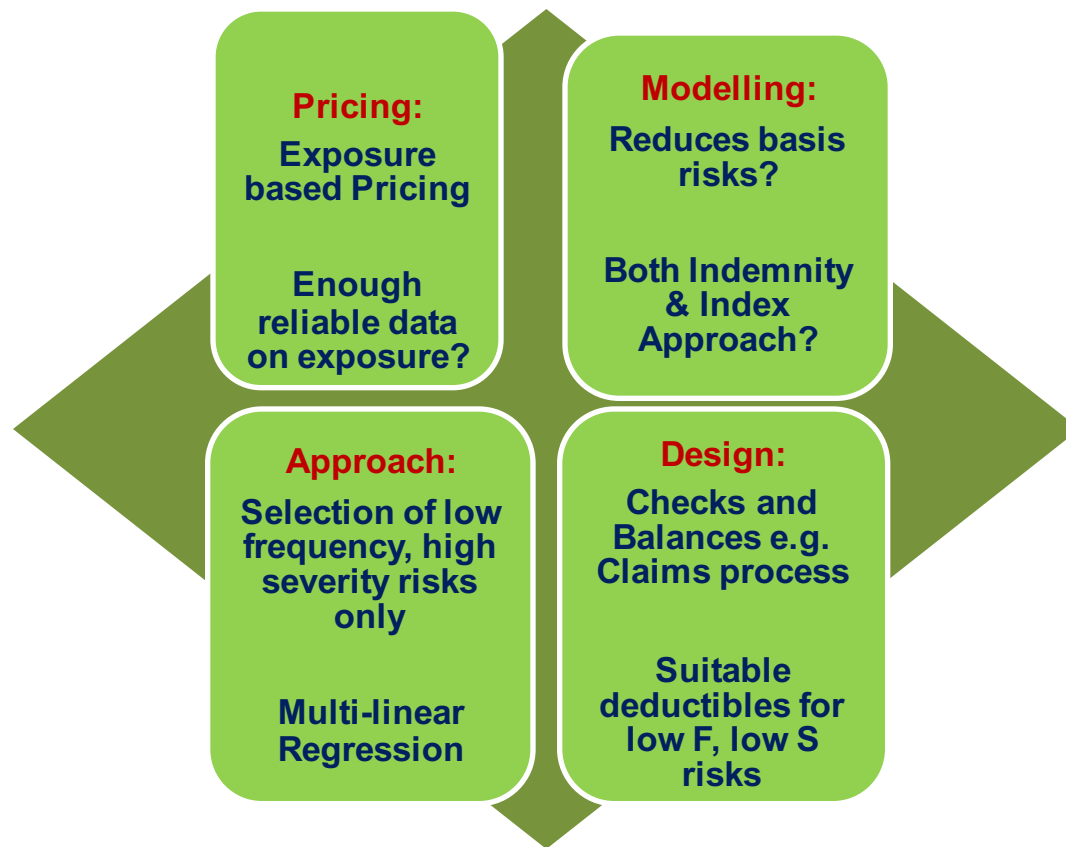
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Why is agricultural insurance mostly reinsurance driven?

- Govt. policy drives volumes
- Often credit-linked and (area yield) index-linked
- Covariate risks
- Crop concentration, esp. in small countries



Capacity building

- Design technicalities
- Modeling
- Execution at right cost
- Regulator's understanding of risks and capital

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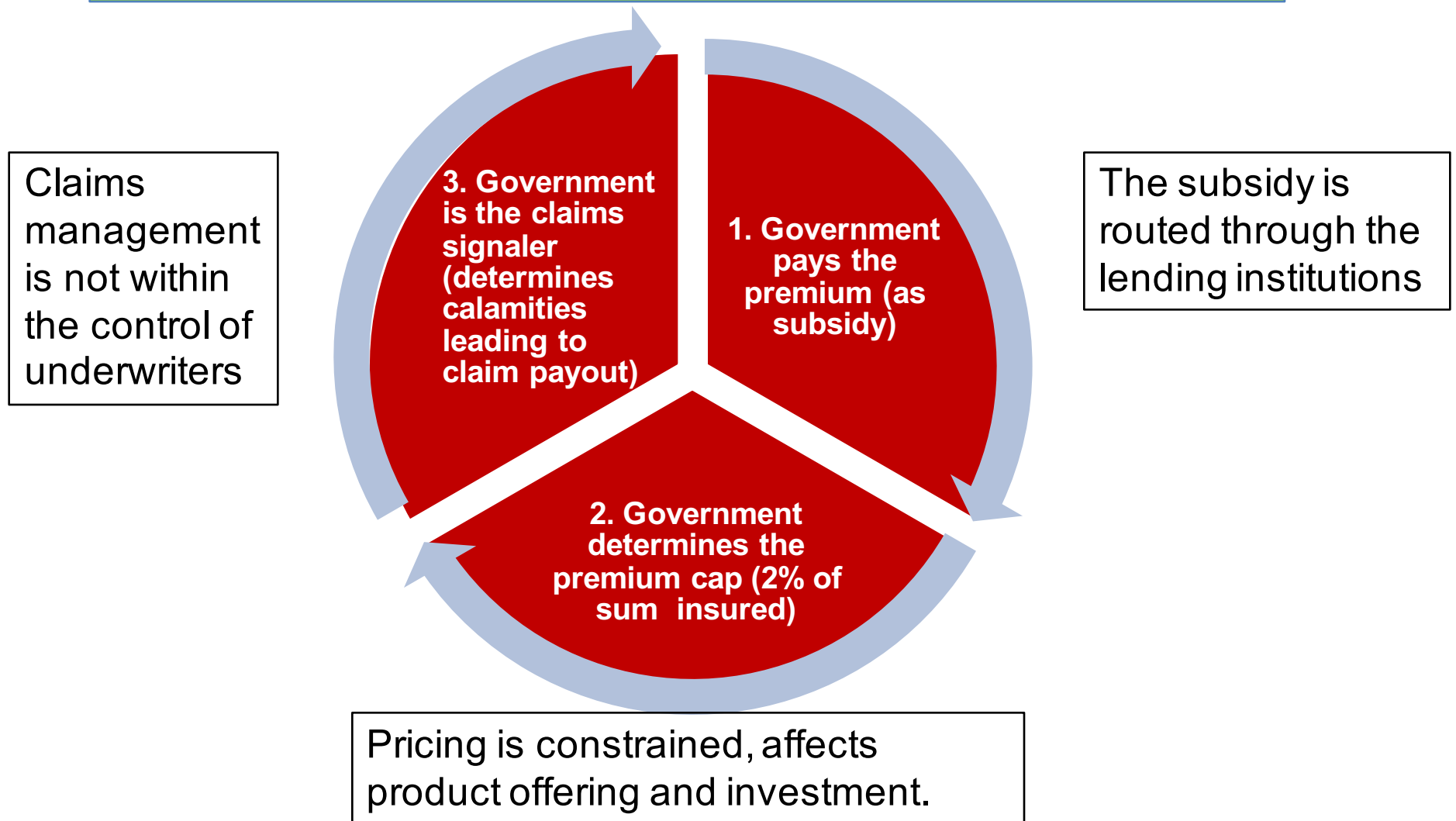
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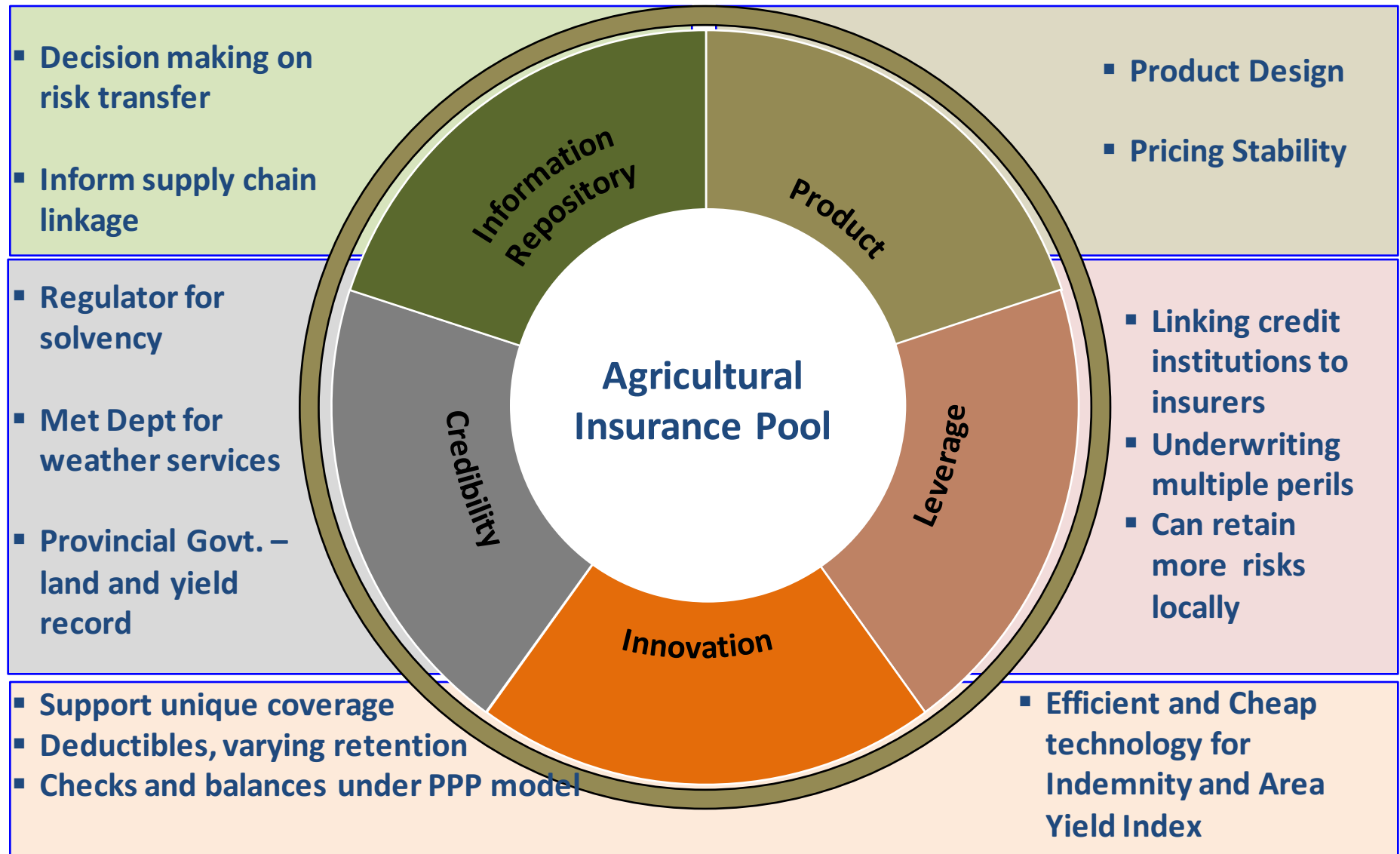
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The design of the Government Crop Insurance Program



Agricultural insurance premium at PKR 0.5 billion is less than 1% of the non-life insurance premium.

The idea of an Agricultural Insurance Pool



“Open Questions” Agricultural Insurance Pool

Governance Structure & Core Principles

- Who will govern? How? Reporting to? How often to review?

Direct Underwriter or Indirect?

- Public-private partnerships for checks & balances
- Risk Transfer – With Reinsurers/ Cat Bonds

Which Public Goods will be created?

- Data repository (exposure, claims, risk accumulation statistics)
- Collaboration with Met and Extension Services
- Input for policy action on subsidy

Timeframe and Unwinding?

- Define the trigger to unwind (e.g. parameters achieved on sector capacity)
- Transform into an agricultural insurer

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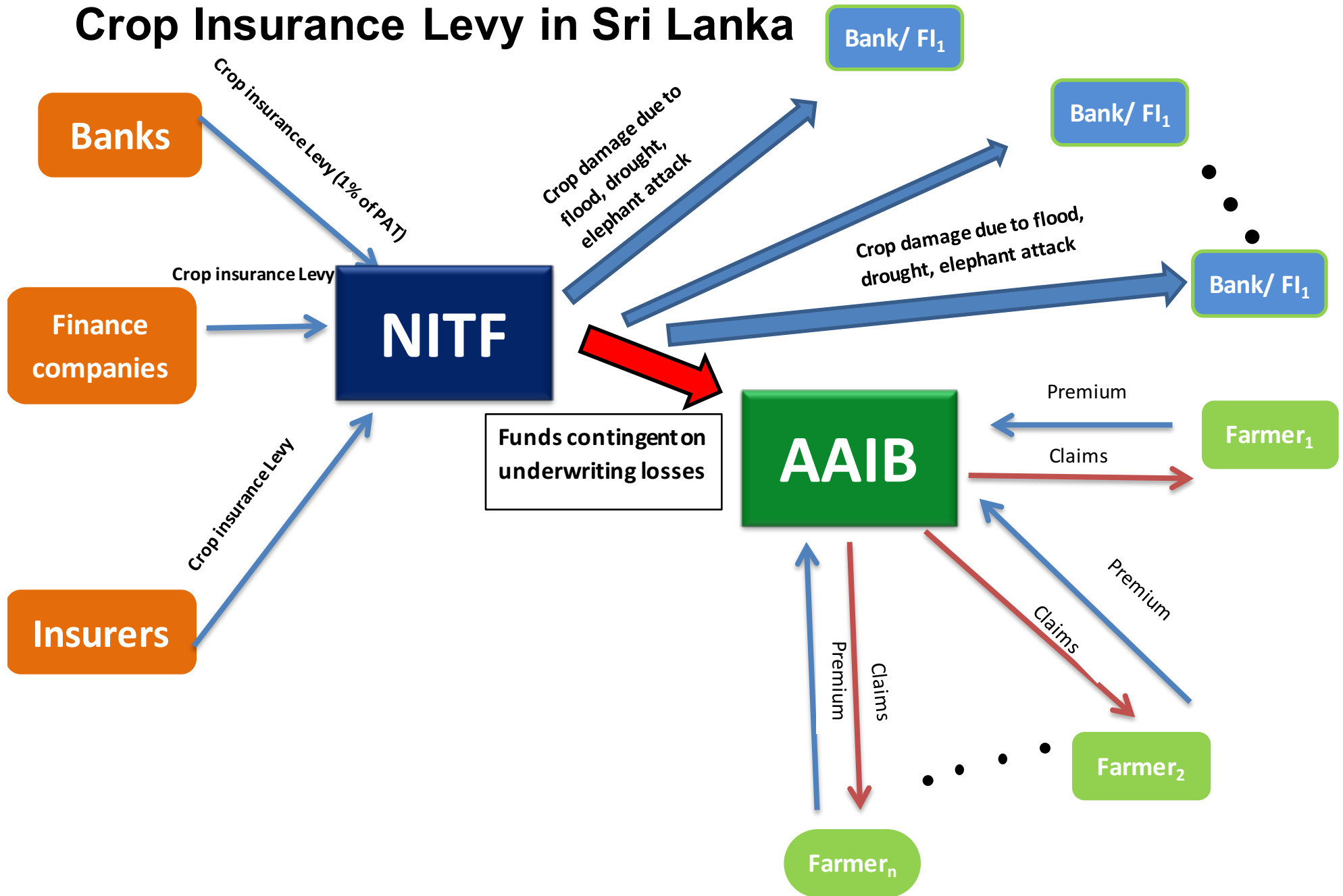
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Crop Insurance Levy in Sri Lanka



CROP INSURANCE LEVY AND DELIVERY OF SUBSIDIES

1. How should the farmer's coupon credit complement the crop insurance levy?
2. Does the crop insurance levy distort the market by providing contingent funds only to AAIB?
3. Could the crop insurance levy be otherwise used to overcome market inefficiencies e.g.
 1. by investing in crop information systems on area yield and other agricultural information;
 2. by improving infrastructure and technology support for ratemaking e.g. weather station, satellite networks;
 3. by strengthening insurance literacy of farmers; and/or
 4. by building technical capacity on early warning systems and claims assessment?
4. If the crop insurance levy is inadequate, could GoSL contribute more to this important aspect of disaster resilience of the agricultural sector?

How could agricultural insurance draw support?

Regulation and Supervision

- Common platform of the regulator for all providers
- AAIB an underwriter of agricultural insurance, is not regulated by IBSL

Capacity and information infrastructure

- Create knowledge around rice and tea insurance (they contribute 50% of agricultural production)
- Information infrastructure (area yields, weather data) to improve
- Technological capacity for loss assessment

AAIB's pension business

- Pension liabilities not computed for ~ 10 yr
- Pension and agricultural insurance operated in the same entity
- Can't measure solvency, performance, etc

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Agriculture in Nepal



Source of food, income and employment for 65% of Nepalese population.



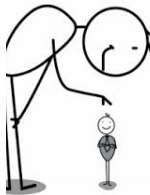
Largest sector in the economy with 33.1% share in total GDP (2014-15)



Average growth rate of just 2.9% (2005-2015) with sharp fluctuations



Growth driven by higher relative prices and good monsoons rather than increased productivity.



Almost 60% of farmers are smallholders resulting in dominance of subsistence farming.



Per capita water availability and forest cover is more than twice the South Asia average.



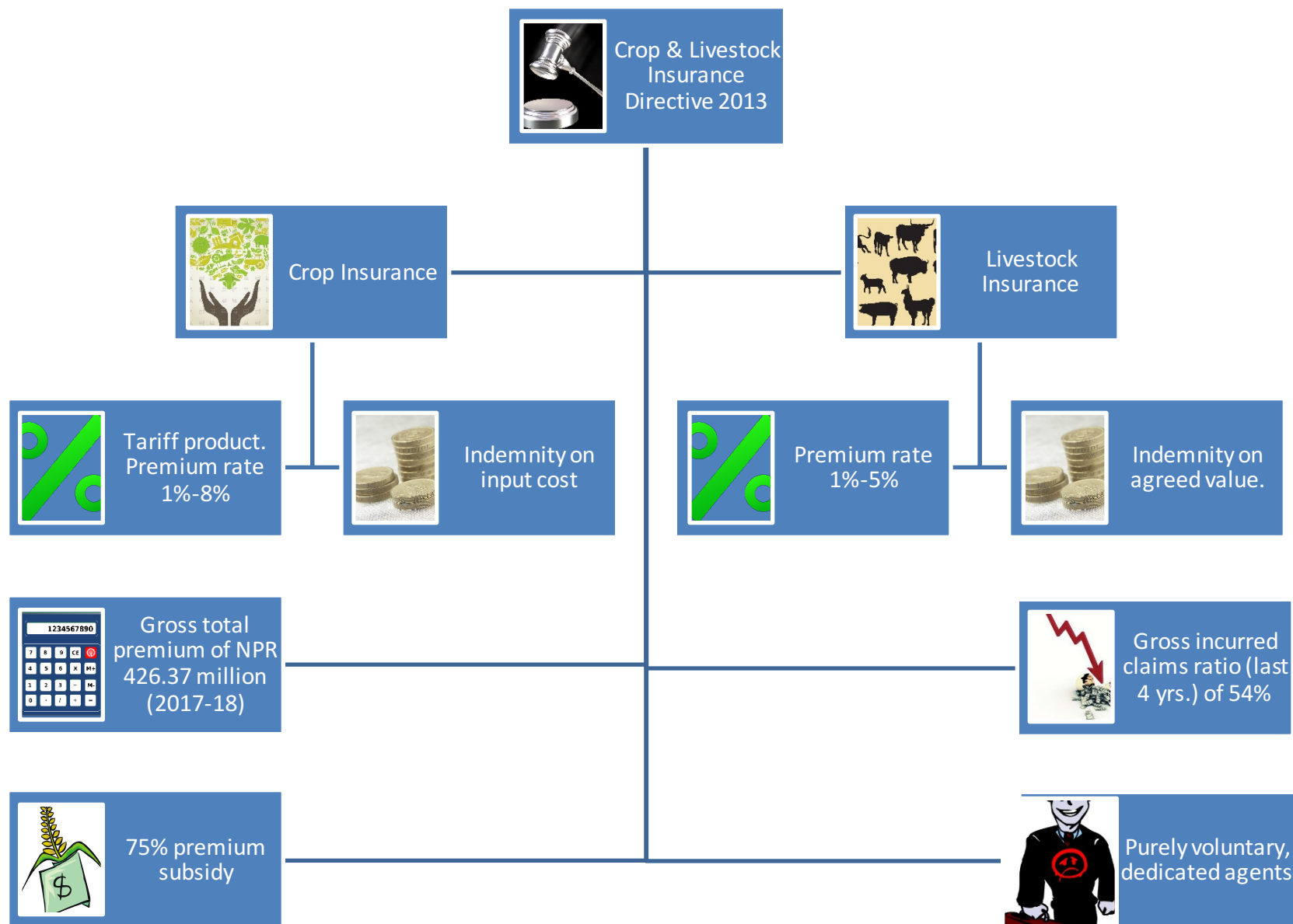
Agro-ecological diversity offers huge potential for high value crops.



Increasing feminization of agriculture. 26% of rural households are women-led and 70% of agricultural labour is contributed by women.



Agriculture Insurance in Nepal



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Agriculture in Fiji



Source of direct & indirect employment for 28% of Fijians.



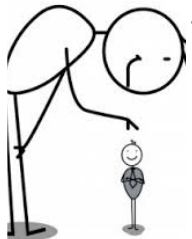
Share in overall GDP falling rapidly. Currently at 8.12% (2015).



Average growth rate of just 0.3% (1996-2012) with sharp fluctuations



Sugarcane production has declined from a peak of 4.4 million tons in 1996 to 1.8 million tons in 2015.



Almost 44% of farmers are smallholders resulting in sizable subsistence farming.



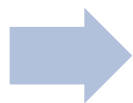
Cyclones and floods have caused losses worth at least FJD 791 million in the past 16 years



Agriculture Insurance in Fiji

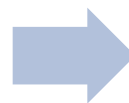
Fiji Crop & Livestock Council

- Formed in 2013
- Mobilise non-sugarcane farmers



Feasibility Study

- Supported by FAO
- Potential agriculture insurance product.



Recommendations

- Index-based product covering wind, floods and drought.
- High-level actuarial calculations.
- Tentative reinsurance arrangements.
- Full or substantial premium subsidy.



Recommendations – A Holistic Approach

- Interactive mobile application for each insured farmer.
- Incentives to use the app.
- Farm specific inputs/guidance
- Customized weather and market information.

- High triggers with one or two strikes only to cover catastrophic losses.
- Mutually-exclusive cover with area-yield portion.
- Reinsured in the international market for climate risks.

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Control
Risk Reduction Interventions

Transfer
Parametric Insurance Products
(Index-based)

**Holistic
Agriculture Risk
Management**

Retain
Community-based Risk Sharing

Transfer
Area-yield Insurance

Severity

- Idiosyncratic risks to be retained by farmers through cooperatives, SHGs or FPO
- Pool to be administered as per rules.
- Surplus, if any belongs to members.
- Deficit, if any, to be made good by members.
- Incentives for good management.

- Non-catastrophic risks beyond the capacity of risk-sharing.
- Assessment using a combination of mobile, drone and satellite imagery and CCEs.
- CCEs can be dispensed with once reliable models are developed



Recommendations – Building Blocks

