



Photo credit: TVPCO, from Pixabay



Crisis and Disaster Risk Finance Executive Education Program

Disaster risk financing in the agricultural sector



THE WORLD BANK



WORLD BANK GROUP

Academy

Risks to Agriculture and Rural Livelihoods

Between 2005 and 2015 natural disasters cost US\$96 billion in damages to the agricultural and livestock sectors in developing countries



Production risks

Droughts, floods, hurricanes, storms, severe rain/hail or frost, extreme heat

Forest fires, lightning, earthquakes, volcanoes, landslides, etc.

Locust diseases and invasions



Market risks

Market price risk
(volatility of prices of agricultural inputs and outputs/products)



Institutional risks (favourable environment)

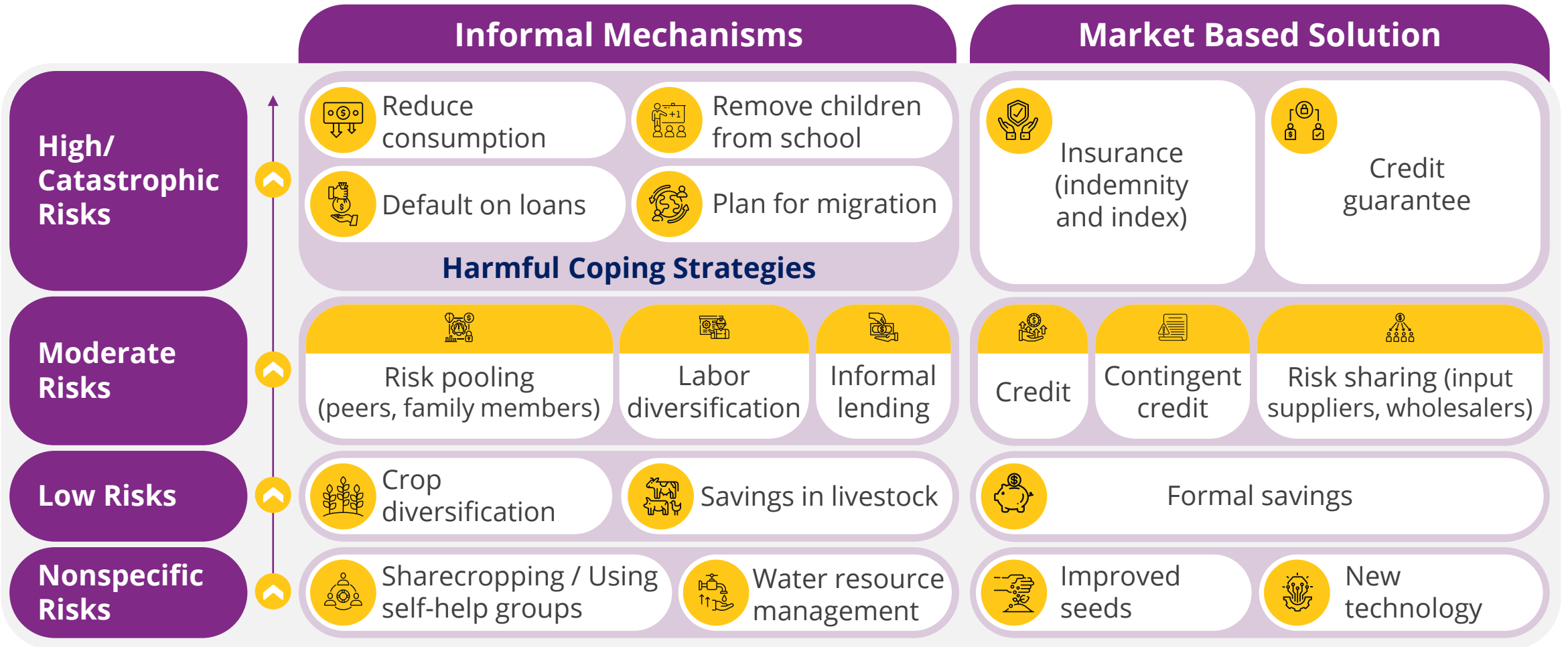
Conflicts,

Macroeconomic shocks,

Policy risks e.g. price caps

Managing Risk in Agriculture:

Market-based financial solutions complement informal mechanisms as part of a comprehensive risk management strategy.



Identifying the Potential Policy Role for Agricultural Insurance



Reduce the **risk exposure** of commercial farmers, **stabilizing incomes/production** so that they can invest with more confidence?



Protect loans and allow smallholders to use insurance **as collateral to access credit** from MFIs at better terms?



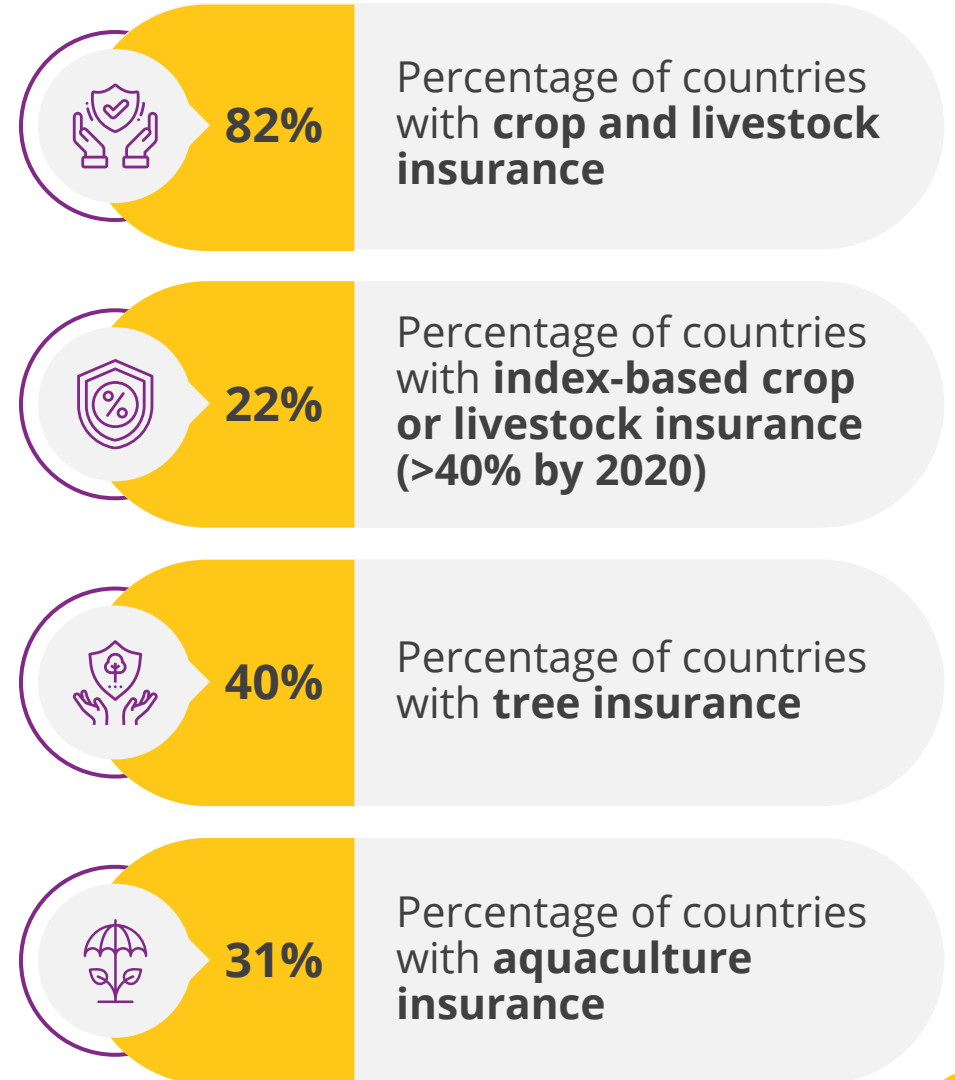
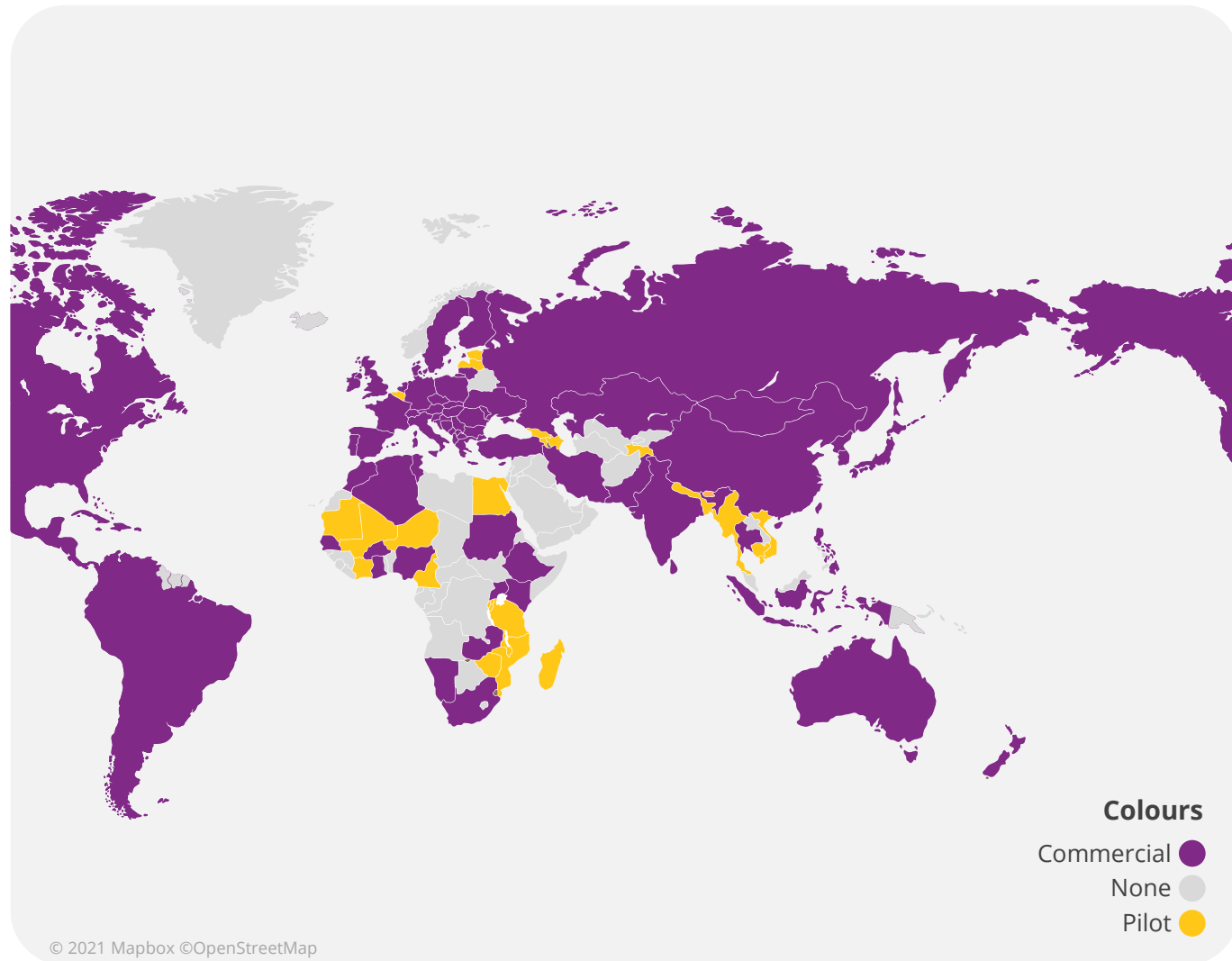
Reduce the need for **ad-hoc ex-post relief** intervention following shocks, rationalizing public expenditure and a more efficient response? Transfer part of that responsibility to the farmer/private sector?



Use agricultural insurance as a tool to **replace other forms of support (e.g. direct transfers)?**

It is critical to clearly define the objective (or objectives) as different implementation strategies may be required

Agricultural Insurance has Extensive Global Coverage



Different Products for Different Farmers



**Multi-peril
crop
insurance**



Farm

- Payouts are determined through a farm-level loss assessment process
- Multi-Peril Crop Insurance (MPCI) is a traditional indemnity insurance product against all perils



**Area-yield
index
insurance**



Village

- Based on average losses at the regional level, rather than the farm
- It is often based on crop-cutting experiments
- More suited to small farmer conditions
- Must be carefully designed to minimize basis risk
- AY estimation is costly, time-consuming, and subject to moral hazard






**Weather
index
insurance**



Village

- Based on weather parameters (such as rainfall, temperature, or soil moisture) correlated with farm-level yields or revenue outcomes
- Doesn't cover Multiple-peril yield shortfall cover (e.g., against pests and diseases)

Comparison Between Indemnity and Index Insurance

	Set-up implementation	Operating costs	Transaction costs	Compensation deadlines	Moral hazard and adverse selection	Basic risk	Difficulty of actuarial modelling
 Multi-risk (indemnity)	Medium	High	High	Slow	High	Low	Low
 Agricultural yield (indexed)	Low	Medium	Medium	Medium	Low	Low-medium	Medium
 Weather conditions (index)	High	Low	Low	Fast	Low	High	High

Conclusions On Agriculture Insurance

Financial risk management solutions, such as **credit, savings, remittances and insurance**, can reduce risk and provide financial protection for farmers.



Agricultural insurance offers **cost-effective and rapid protection**, can lead to improved agricultural productivity and can benefit lending institutions but must be well designed.



On a global scale, **index insurance** is making rapid progress in a market with **digital technologies** supporting this.



Sustainable agriculture insurance programs require long-term **partnerships between the public and the private sector**.



Photo credit : Lvriam - No AI pictures in from Pixabay

A vibrant street market scene in India, featuring a bullock cart loaded with goods, people in traditional attire, and shops in the background. The image is overlaid with a purple and yellow geometric design.

Thank you