Risk management on the supply side of the value chain

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<th><strong>Risk Category</strong></th>
<th><strong>Description</strong></th>
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<tr>
<td><strong>Weather-related risks</strong></td>
<td>Periodic deficit and or excess rainfall or temperature, hail, storms</td>
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<td><strong>Natural disasters (including extreme weather events)</strong></td>
<td>Major floods and droughts, hurricanes, cyclones, typhoons, earthquakes and volcanic activity</td>
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<td><strong>Biological and environmental risks</strong></td>
<td>Crop and livestock pests and diseases, food contamination</td>
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<td><strong>Market-related risks</strong></td>
<td>Changes in supply/demand that impact domestic / international prices of inputs and/or outputs, changes in market demands for quantity and quality, changes in food safety requirements</td>
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<td><strong>Logistical and infrastructural risks</strong></td>
<td>Changes in transport, communication, energy costs, degraded and or undependable transport, or infrastructure, labor disputes</td>
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<td><strong>Management and operational risks</strong></td>
<td>Poor management decisions in asset allocation and livelihood/enterprise selection or input use, poor quality control, forecast and planning errors, breakdown of farm equipment, use of outdated seeds</td>
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<td><strong>Public policy and institutional risks</strong></td>
<td>Changing or uncertain monetary, fiscal, tax, financial policies, changing or uncertain regulatory, legal policies, trade and market policies, land policies. Governance related uncertainty, weak institutional capacity</td>
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<td><strong>Political risks</strong></td>
<td>Security-related risks and uncertainty with domestic or external politico-social instability, interruption of trade</td>
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Risk Management Instruments

- **Technology development and adoption** (R&D, postharvest technology, software development, IT, education programs)
- **Enterprise management practices** (e.g. farm diversification, certification, Just-in-time management, inventory control, food safety practices, logistics planning, early warning systems)
- **Financial instruments** (e.g. credit, insurance, warehouse financing)
- **Investment in infrastructure** (e.g. transport / communication, energy, informatics and knowledge transfer, storage and handling, processing facilities, weather stations)
- **Policy and public programs** (regulatory measures, agricultural policies, property rights, labor laws, disaster management, safety nets)
- **Private collective action** (action by cooperatives, industry associations)
### Financial risk management tools

#### Weather related risks
- Weather Derivatives
- Disaster insurance (CAT Bonds, Loss and Damage instruments)

#### Market related risks
- Price index insurance
- Area index insurance
- Warehouse receipt

#### Operational risks
- Guarantee banking, focused on SMEs in value chains can ease the process of acquiring mainstream credit
- Contract farming hedges price risks
- Traditional insurances (e.g. hail)
- Savings and credit
- Micro-insurance for life and endowment to focus on the risks of the producer
Global situation: growth potential for agricultural insurance

The top ten countries in terms of:

# : agricultural insurance premium as percent of agricultural GDP (PPP)

# : agricultural GDP as a percentage of total GDP (PPP)
Source: FAOSTAT, 2007

(GDP: Gross Domestic Product; PPP: Purchasing Power Parity)
Global situation: cost of delivering insurance in selected countries

- PHILIPPINES
- ARGENTINA
- VENEZUELA
- POLAND
- ROMANIA
- CHILE
- BRAZIL
- ECUADOR
- HONDURAS
- URUGUAY
- NICARAGUA
- DOMINICAN REPUBLIC
- UKRAINE
- PORTUGAL
- HUNGARY
- UNITED STATES
- AUSTRALIA
- NEW ZEALAND
- MEXICO
- FRANCE
- TURKEY
- SOUTH AFRICA
- MAURITIUS
- INDIA
- CANADA
- MOLDOVA
- JAMAICA

- Marketing & acquisition as % of OGP
- Admin. Costs as % of OGP
- Loss adjustment costs as % of OGP
- Insurance premium Taxes
Example of indices - rainfall, wind speed, temperature, regional yield, river levels etc.

- Low cost of loss assessment and administrative costs;
- “Presumably” no Adverse Selection and no Moral Hazard;
- Speed of loss assessment and indemnification
Problems

- Low participation
  - High basis risks
  - High costs
  - High ambiguity
- Systemic risks
- Problematic post disaster assistance programmes „samaritan‘s dilemma“
- Limited access to international reinsurance markets
- Limited agricultural risk market infrastructure
- Low risk awareness
- Lack of financial literacy and insurance culture
- Regulatory impediments
Holistic approach towards risk management;
Knowledge management as well as exchange of expertise internally and externally;
Key aspects are identification, quantification, and mitigation. This calls for research and dissemination as well as assimilation of existing knowledge;
Early Warning Systems and other Technical measures are integral part of effective risk management;
Remittance systems and off-farm activities are risk management measures;
Insurance tools such as weather derivatives should be consciously implemented where it is most effective, like hedging supply and demand side risks of renewable energy sector;
Building social infrastructure as local safety nets;
Enabling policy environment is necessary for effective risk management;
Investment in financial literacy;