Managing risks to improve farmers’ livelihoods
Liberia

Agricultural Risk Management Capacity Development Seminar (CD1)

Volume II

PRESENTATIONS

20-21 April, 2017

In collaboration with:

Ministry of Agriculture
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General Concepts of Agricultural Risk Management

Presentation 1: Agriculture as a risky business  
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Presentation 1:
Agriculture as a risky business
Imaine Abada

AGRICULTURAL RISK MANAGEMENT CAPACITY DEVELOPMENT WORKSHOP
Monrovia | 20th April, 2017

Managing risks to improve farmers’ livelihoods

Platform
For Agricultural Risk Management
Managing risks
To improve farmers’ livelihoods

General Concepts of Agricultural Risk Management
Imaine Abada
PARM
ARM Country Technical Support
Agriculture as a risky business

- **DAMAGE**
  - Crops or livestock can be lost
  - Prices can fall
  - Livelihoods at risk

- **OPPORTUNITY**
  - Risk and higher returns as driving forces of good entrepreneurship and innovation

**Risk Has Two Sides**

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What is a risk? Definition

A risk is an **UNCERTAIN EVENT**, result of natural hazards or man-made activities, which lead to physical or monetary **LOSSES**

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Characteristics of the risk

Distinction between:

- Certainty
- Cycle
- Constraint

What is a risk? Key components

- **PROBABILITY**: the likelihood of experiencing any natural or human hazard at a location/region in a particular future time
- **ELEMENTS AT RISK**: identifying those elements which would be affected by the hazard if it occurred
- **POTENTIAL EFFECT/IMPACT**: expected losses from a hazard (severity) to a specific element at risk
Risk Causes and Effects

Characteristics of the risk

- Interlinked
  - Low production ⇒ High price
  - High/low prices for several commodities

- Individual/Systemic
  - Local risk in a farm (or limited area)
  - Systemic risk for all farms at same time

- Frequency/Severity
  - How often the hazard occurs
  - Size of losses associated with the occurrence of the hazard
**Type of risks at farmer level**

Risks faced by farmers are numerous and varied, and are specific to the country, climate, and local agricultural production systems.

**Sources?**

1. Weather-related risks
2. Biological and environmental risks
3. Market-related risks
4. Policy and political risks
5. Infrastructural risks
6. Management and operational risk
7. Human or personal risks

**Example of risk: Weather risk**

Observed drying and warming of Uganda’s climate

Potential EFFECT:
- Reduced maize and coffee production
- Exacerbated impact of drought
What is agricultural risk management?

Agricultural Risk Management (ARM) is the process that attains dealing with risks. It requires anticipating potential problems and planning solutions in advance to limit negative consequences. Assessing the risks, taking decisions on risk management tools to put in place, and monitor and evaluation effectiveness of tools and strategy in place are key elements of ARM.
**What is a holistic approach to risk?**

A holistic approach to agricultural risks implies that no risk is considered in isolation. All the elements and interactions of risks, including strategy and policy, are taken into account and the role of all the stakeholders involved identified.

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**Farming risk environment**

![Diagram showing relationships between nature, markets, politics, culture, farmer organization, and farmers.](image-url)
Stakeholders Level

MACRO LEVEL
Government
Donors
Regional Organizations

MESO LEVEL
Service companies
NGOs
Input Suppliers
Farmers’ Organisations

MICRO LEVEL
Financial Service Providers
Farmers
Small businesses

Group Discussion

- Which are the most likely agricultural risks in your area?
- Which are the categories (farmers, crops, etc.) most exposed to agricultural risks in your area during the past?
- Could you estimate the losses of one negative event happened in the past in your area?
- Which is the risk that you fear most and less on your plot?
- Which are the effects of the most feared risk on you plot and for your family?
Session Wrap up

- Farming activities often have uncertain outcomes. Dealing with risks means including them into farm business management practices.
- Dealing with risk can also imply having better farming income opportunities. When risks increase, it gets more difficult to take decisions, and Agricultural Risk Management (ARM) techniques are more needed.
- Agricultural Risk Management (ARM) is the process that attains dealing with risks. It requires anticipating potential problems and planning solutions in advance to limit their negative consequences at farm level. Assessing the risks, taking decisions on risk management tools to put in place, and monitor effectiveness of tools and strategy in place are key elements of ARM.
Presentation 2:
What have you learnt about agricultural risks?
Ilaria Tedesco

What we have learnt about agricultural risks (1)

- Every day, farmers face risks in running their activities and they need to take decisions that affect their business
- Risks are different, as well as solutions
- Solutions can be managed at (single) farm level, or in a more collective way
- No single solution can cover all risks
What we have learnt about agricultural risks

• Need for an **integrated approach**: development of a strategy to manage risks that include all stakeholders involved
• Good **information** are crucial
• All stakeholders have to **play a role** in the ARM:
  – Farmers need to anticipate, assess and elaborate strategy
  – Government needs to create an enabling environment
  – Private can help elaborating and providing solutions

Agricultural risk management cycle
Why is the ARM approach holistic?

- the focus is not on a single farm activity, but on the **whole farm** or farm-household system
- the focus is not on a single isolated risk, but encompass all the **interlinked risks** at stake
- the focus is not on a single tool, but on the **whole set of tools available** to deal with risks

Many are the stakeholders involved in different ways:
- **Micro level**: Farmers and small businesses
- **Intermediate level**: Farmers' organization, NGOs, input suppliers, financial service providers
- **Macro level**: Government, International Organization

Approach to agricultural risks

Dealing with risks means to include them into farm business practices.

Dealing with risk also implies better farming income opportunities. When risks increase, it gets more difficult to take decisions, and Agricultural Risk Management (ARM) techniques are more needed.

How to deal with risks:

- **Ex-ante measures (before the negative consequences of the risks emerge)**: crop diversification, irrigation, insurance, etc.
- **Ex-post measures (after the negative consequences of the risks emerge)**: credit, temporary employment, savings, etc.
Farmer's risk preferences (1)

Farmers' attitude to risk can classify them into:

- **risk-taker**, open-to-risk individual that prefers options that can bring more gains rather than adopting a protective behaviour

- **risk-averse**, more cautious individual that are less inclined to action that brings more uncertain consequence

- **risk neutral**, with a position that lie in between risk-taker and risk-averse

Farmer's risk preferences (2)

- household characteristics, e.g. number of household members, jobs of the household members;
- farm size/asset value, e.g. number of hectares, possession of equipment, etc.
- presence of other income sources, e.g. rents, savings, etc.
- production system, e.g. subsistence, commercial, etc.
- local context, e.g. job opportunities in the geographical area, climate, etc.
- past experience, e.g. having already dealt with risks, past shocks, etc.
Exercise

Farmer Tom needs to decide how many different crops to plant. He has 1 hectare of land.

He is not sure if planting only maize (1.5 tons) that fetched a very high price last year (18 LRD/kg) but it is prone to pest infestation or intercropping maize (0.5 hectare) with cocoa bean (0.5 hectare, 170 LRD/kg and 0.15 tons/ha) so that if one fails, he can always count on the other one.

1. How would you describe in terms of risk attitudes these two possibilities?
2. Now calculate the farm revenues in both cases.
3. Now take into account the costs and costs of the tools.

THANK YOU

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Liberia Risk Profile

Agricultural risks in Liberia : Presentation 3
Ilaria Tedesco

Presentation 4: Agricultural risks and consequences at the farmer level
Ilaria Tedesco

Presentation 5: Identification of risk management tools
Ilaria Tedesco & Jallah Kennedy
Presentaiton 3:
Agricultural risks in Liberia
Ilaria Tedesco

Agricultural Risk in Liberia

Risks for Agricultural Sector in Liberia

Background of the agricultural sector

Two farming systems:
1. Upland
2. Lowland
Risks for Agricultural Sector in Liberia

- Land is slash and burn
- Rice seeds either broadcast or transplanted
- At least 80 percent of farm families carry out upland farming

Risks associated with farming systems:

I. Production risks (livestock/crops)
   - Poor quality seeds / low yielding varieties (uncertified)
   - Crop pests and disease infestation (pre and post-harvest)
   - Windstorm
   - Seasonal variation in rainfall (farming calendar / climate change)
   - Illness
   - Poor quality livestock breeds (phytosanitary procedures)
   - Poor quality advisory services (lack of accurate information)
Risks for Agricultural Sector in Liberia

- Access to finance (ability to meet labor requirements)
- Timing of inputs delivery
- Poor quality tools and implements
- Poor quality livestock breeds (largely free-range + scavengers-coccidiosis, gonboro, new castle, foot and mouth disease, etc.)

II. Management and Operation
- Poor management decisions (access to relevant information)
- Poor quality control
- Forecasting and planning errors (limited access to relevant information)
- Inability to adopt to changes

Risks for Agricultural Sector in Liberia

- III. Market Risks
- Erratic Price changes (commodity price fluctuations)
- Changes in quantity/quality supply and demand
- Bad roads (restraining movement of producers to markets)
- Timing of product delivery
- Changes in transportation, energy, infrastructure and communication (warehousing) costs
- Changes in tariffs at local market facilities
- Changes in market information
Risks for Agricultural Sector in Liberia

Iv. Policy and Institutional Risks

- Uncertainty of regulatory policies and enforcement
- (Pricing, land tenure systems, trade, markets, etc.)

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Presentation 4:
Agricultural risks and consequences at the farmer level
Ilaria Tedesco

Risk Assessment and Prioritization at farm level

Agricultural risk and consequences at farm level (1)

If agricultural risks catch farmers unexpectedly (without any tools or strategy in place), possible responses to risk are:

- selling livestock, land and/or home;
- reducing expenditures;
- Search for other jobs;
- sending children to work;
- Borrow food and money;
- migrating, etc.
Agricultural risk and consequences at farm level (2)

To avoid disruption of farming activities and the deterioration of livelihood, it is important to manage the risks ex-ante, i.e. anticipating risks and potential consequences, and planning solutions in advance to limit negative impacts on farming activities.

You can also manage risks ex-post, but it is preferable to anticipate risks and potential consequences – whenever possible.

Information needs and types (1)

To assess and plan actions to manage risks, farmers need to be informed. Information is a key component (or input) to run successfully any farming activities.

Information may be more or less accurate, more or less accessible, and more or less costly depending on different risks, sources and farmers’ characteristics.
Information needs and types (2)

Information is related to:

- Production (i.e. yields)
- Weather and climate (i.e. rainfall, temperature)
- Input (i.e. seed, fertilizers)
- Prices (i.e. of crops in different markets and of inputs)
- Pest and disease (i.e. outbreaks)
- Access to credit (i.e. current interest rate for lending money)

Information needs and types (3)

Information can be generated from farming activity or can be obtained from other sources other than farm. In particular:

- On farm information are gathered at own farm level. A good practice is keeping records of production and prices for crop and livestock at farm level in different times of the year.
- Off-farm information include various types and sources of information, and external help, such as:
  - Neighbour farmers/Farmers’ organizations, Extension service
  - Government newsletters
  - Newspapers/Radio
  - SMS or other mobile phone applications
Information needs and types (4)

On-farm and off-farm information to assess agricultural risks can have some limitations such as:

- Information is often not presented in the form of indicators of frequency and severity of events
- Translating data/numbers into usable information can be difficult
- Unavailability of info
- Information access may be difficult and expensive to access for key stakeholders (especially farmers)
- Information access can be asymmetric between different stakeholders, leading to unbalance bargaining power and relationship

Basic element to assess risks (1)

A risk can be assessed determining two elements:

- **FREQUENCY** (or probability) that refers to how often an event or a hazard occurs;
- **SEVERITY** that is related with the size of losses associated with the occurrence of event or hazard. It is often taken into account the worst case scenario.

*Evaluating frequency and severity is not an easy task. Sometimes farmers need external help to understand how the agricultural risks may affect their business.*
Basic element to assess risks (2)

Types of **losses** are:

- Lower yields;
- Income and assets losses;
- Livestock losses;
- Human life losses.

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### Agricultural Risk Calculation

**Basic formula:**

\[ \text{Frequency} \times \text{Severity} = \text{Risk} \]

**Example:**

50% probable that event will happen \( \times 10 \text{mln} \text{ LRD} \) impact if event happens = Risk of 5mln LRD

\[ 0.5 \times 10,000,000 = 5,000,000 \text{ LRD} \]
Basic element to assess risks (3)

*Uncertainty* is one of the main characteristics of risk. The uncertainty relates to WHEN something will happen (frequency) and HOW severe the impact will be (severity).

Financial resources or efforts often cannot address all the risks at the same time.

Therefore, it is needed to set *priority* on which risks to handle first to damage at least possible farming activities.

Risk prioritization matrix
How to use the Risk Prioritization Matrix

- List all the risks that can potentially harm farming activities;
- Rank each risk by severity from very low to very high, assigning if needed a value or a range of values for each degree;
- Rank each risk by frequency from very low to very high, assigning if needed a value or a range of values for each degree;
- Fill the matrix with the risks based on the combination severity/frequency;
- Prioritize and manage actions to risks starting from the risks that fall into dark-red cells to green cells.

Example for Uganda

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Risk</th>
<th>Food crops</th>
<th>Cash crops</th>
<th>Livestock</th>
<th>Fisheries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input risk</td>
<td>Low quality inputs</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Weather risk</td>
<td>Droughts</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Floods</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Hailstorms</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Thunderstorms</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>All other natural risks</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Biological risk</td>
<td>Crop pest &amp; diseases</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Livestock pest &amp; diseases</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Infrastructure risk</td>
<td>Post-harvest revenue loss</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Price risk</td>
<td>Price risk food &amp; cash crops</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Political risk</td>
<td>Northern Uganda insurgency</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Karamoja cattle raids</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: RAS Uganda
Exercise

### Frequency and severity of the agricultural risks in Sunnyland

<table>
<thead>
<tr>
<th>Risk</th>
<th>Frequency</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop pests and disease</td>
<td>Annual</td>
<td>100,000</td>
</tr>
<tr>
<td>Livestock pests and disease</td>
<td>Annual</td>
<td>15,000</td>
</tr>
<tr>
<td>Input</td>
<td>Biannual</td>
<td>3,000</td>
</tr>
<tr>
<td>Drought</td>
<td>Every 5 years</td>
<td>350,000</td>
</tr>
<tr>
<td>Flood</td>
<td>Every 10 years</td>
<td>750,000</td>
</tr>
<tr>
<td>Price</td>
<td>Every 3 years</td>
<td>75,000</td>
</tr>
<tr>
<td>Post-Harvest</td>
<td>Every 3 months</td>
<td>5,000</td>
</tr>
</tbody>
</table>

### Risk Prioritization Matrix for Sunnyland

- **Red**: High Frequency and High Severity
- **Orange**: High Frequency and Medium Severity
- **Yellow**: Low Frequency and High Severity
- **Green**: Low Frequency and Low Severity

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**Thank you**

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Identification of risk management tools

How to deal with risks

Agricultural risks can be handled through different measures, such as:

- Minimize the negative impacts at farm level, i.e. risk mitigation;
- Transfer uncertainty of outcome to other counterparts, i.e. risk transfer;
- Accept the negative consequence of the risks, i.e. risk coping;
- Completely avoid any risks, i.e. risk avoidance.

Our approach does not consider risk avoidance a risk management measure.
Cross-cutting elements of risk management measures

- **Farmer Awareness**: Farmers need to know which tools exist and how they can actively protect farming activities against risks. Extension messages and farmer trainings can be helpful measures to raise awareness.

- **Information systems**: Understanding and assessing risks require access to information. Provision of timely information to farmers is a key component to contain negative effects of risks. Early warning is included as part of the information system.
Classification of the ARM measures

1. Risk mitigation
   - On-farm tools
   - Off-farm tools
   - Broader agricultural management tools
2. Risk transfer
   - Market based tools
   - Finance based tools
3. Risk coping
   - Savings
   - Government transfer tools
4. (Risk avoidance)

Part II, Jallah Kennedy

Risk Mitigation

Categories of Risk Mitigation tools for consideration:

- On-farm management tools
- Off-farm management tools
- Broader agricultural management tools
Risk Mitigation

**Intervention (on-farm management tools):**

I. Climate Smart Agriculture (farming practices put in place to response to negative effect of climate change on production)
   - Conservation agriculture: practice aim to increase soil fertility; erosion control to ease drought stress
   - Soil and Water conservation: (practice use to reduce or eliminate soil erosion/degradation increasing water use)
   - Improve livestock management practices

II. Conservation agriculture
   - Minimum tillage to reduce soil disturbance
   - Permanent crop residue mulching to manage soil temperature, reduce evapotranspiration, incidence of weeds
   - Crop rotations and intercropping of cereals, pulses, root and tubers to improve soil nutrients composition
   - Planting pits to mitigate risk of rainfall variability

III. Soil and Water Conservation
   - Use of farmyard manure
   - Terraces and bunds
   - Structures and systems to retain rain water
   - Use of water efficient irrigation systems and crop
Risk Mitigation

- Improved livestock management practices
- Improved livestock feed and manure management
- Switch to livestock breeds/species adoptable to water scarcity and resistant to disease and pests
- Pasture management
- Sustainable fisheries and aquaculture

Risk Mitigation

IV. Agricultural (On-farm diversification)
- Crop diversification (reduces single crop failure or loss due to adverse conditions - pests/disease attack, unfavorable mkt. conditions
- Farming enterprise diversification

V. Enterprise diversification
- Engaging in different businesses (contribute to offsetting farm losses)
- Farm-level processing
- Aquaculture
Risk Mitigation

V. Alternative farm risk-reducing choice

- Disease/drought tolerant seeds, irrigation techniques
- High valued crops or livestock

Risk Mitigation

II. Off-farm management tools (two main types):

- Assets diversification
- Income diversification
Risk Mitigation

Broader agricultural management tools:

- Technology adoption (low-cost technology emboldens farmers' resilience to risk and overall farm productivity)
- Improved inputs markets (encourage public-private partnership showcasing good quality products/crash training on new equipment or use of fertilizer and drugs for livestock)
- Improved pests and disease management (early identification pest and insects outbreaks to lower risk)
- Improved infrastructure (storage, quality assurance, price stabilization at aggregate levels)

Risk Mitigation
pros and cons of risk mitigation tools

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate smart agriculture practice can improve the sustainability and long-term resilience of agricultural practice to climate change</td>
<td>Climate smart agriculture practice can be not cost effective in the short run and not easily translated to higher yields</td>
</tr>
<tr>
<td>On-farm diversification allows quick changes of farming activities if conditions become adverse</td>
<td>On-farm diversification need a careful plan and different competences</td>
</tr>
<tr>
<td>Off-farm diversification can reduce income variability and make household livelihood less dependent from agricultural activities</td>
<td>Off-farm diversification may need capital and different competences and opportunities (not always available)</td>
</tr>
<tr>
<td>Farm risk reducing choice and adoption on new tools at farm level, such as irrigation technologies, lead to stable or higher yields and tends to be cost effective in the medium run</td>
<td>Farm risk reducing choice can reduce the income potential of farming activities</td>
</tr>
</tbody>
</table>
Part III, Ilaria Tedesco

Risk transfer

- **Market based tools:**
  - Contract farming
  - Commodity exchanges and futures markets
  - Warehouse Receipts Systems (WRS)

- **Finance based tools:**
  - Agricultural insurance
  - Weather index based insurance
  - Agricultural finance and microfinance

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Contract farming

Risks related to production and marketing can be shared between farmers and other firms (i.e. processors, traders) under various contractual arrangements.

The primary purpose of contract farming is to reduce or eliminate price and market risks for farmers (i.e. guaranteeing them a fix price and/or a certain amount of supply in advance) transferring the risks to the other contracting party which will eventually enjoy the extra profits.

<table>
<thead>
<tr>
<th>PROs</th>
<th>CONs</th>
</tr>
</thead>
<tbody>
<tr>
<td>It guarantees a certain cash flow for farmers and market access</td>
<td>Farmers sometimes cannot benefit from a premium price, there is lack of flexibility, high transaction costs can be experienced</td>
</tr>
</tbody>
</table>
Contract farming – Case study

Divine Chocolates, London and Kuapa Kokoo (“good cocoa growers”)

Fairtrade chocolate company which is 44% owned by cocoa farmers (over 80,000 from 1250 village societies)
Produces up to 5% of Ghana’s cocoa
Benefits:
- fixed prices
- fair-trade premium
- ownership dividends
- inputs, training, and extension services to farmers

Commodity exchange and future markets

- **Commodity exchange** is a “platform” where different groups of participants - buyers and sellers - trade agricultural commodities and commodity-linked contracts to transfer price risks, based on rules and procedures previously defined by the exchange;
- **Futures contracts** are agreements for a specific future time, transferring the risks to another business keen to accept them. In this case, the buyers and sellers trade a contract instead of a commodity.

<table>
<thead>
<tr>
<th>PROs</th>
<th>CONs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both offer a common place where sellers and buyers can meet</td>
<td>Both may lead to risk of contract non-compliance and opportunistic behaviour, and can be difficult to understand and implement</td>
</tr>
</tbody>
</table>
Warehouse receipt system (WRS)

A warehouse receipt system (WRS) is a formal agreement between a licensed storage facility and a named depositor on quantity and quality of a specified commodity held in a secure storage environment.

The steps for a WRS are:
1. A farmer deposits a storable agricultural commodity in a warehouse
2. The warehouse issues a receipt to the farmer
3. This receipt can then be used as collateral to obtain a loan or to market the agricultural commodity as desired.

<table>
<thead>
<tr>
<th>PROs</th>
<th>CONs</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRS can provide benefits for all the parties involved including farmers, traders, creditors and warehouses</td>
<td>WRS may risk inefficiency, mismanagement, fraud, failure</td>
</tr>
</tbody>
</table>

WRS – how does it work

[Diagram depicting the steps of a WRS system]
Agriculture and weather index based insurance

- **Agricultural insurance** can be used to cover losses for farming activities and is one of the best known ARM tools. It is an *ex-ante* measure to cope with farm production and/or revenue losses, for example a crop insurance aims to protect a farmer’s risk of unforeseen hazards in land, yield or production for this specific crop.

- **Weather index based insurance** compensates for damages or losses based on values obtained from an index on weather parameter (e.g. rainfall or temperature in a given area, or vegetation indexes from satellites) that conveys information for losses experienced by all farmers in the given area.

<table>
<thead>
<tr>
<th>PROs</th>
<th>CONs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both provide reliable cash flows to protect asset and production activities, and offset farming failures</td>
<td>Both are not very common especially in Africa, as costs are high and lack (or partial) information can put smallholders in a weak (bargaining) position</td>
</tr>
</tbody>
</table>

Agriculture finance and microfinance

Being able to borrow, save, invest help farmers take control of their lives and protect household against agricultural risk.

Microfinance Institutions offer basic financial services (typically loans and savings but some may offer personalized financial services) to individual clients or a group of clients.

<table>
<thead>
<tr>
<th>PROs</th>
<th>CONs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both are viable tools to enhance farming activities and protect them from risks.</td>
<td>Both encounter problems such as loan default and high transaction costs</td>
</tr>
</tbody>
</table>
Risk coping measures

- **Savings mobilization** helps farmers to provide household livelihood when a risk occurs and no other tools to mitigate or transfer risks are sufficient for this. Therefore, farmers have to build up a buffer through savings to prepare for harsh times.

- **Government transfer** tools are used to avoid that farmers have to reduce food intake, essential service access, due to occurrence of hazards, such as severe droughts, earthquakes, etc. Tools are for example public food grains reserves, disaster assistance programs, social protection and safety nets.

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Summary of the ARM tools

![ARM tools diagram](image-url)
THANK YOU

parm@ifad.org  www.p4arm.org  @parminfo
ARM Game

AGRICULTURAL RISK MANAGEMENT SEMINAR PARM/IFAD
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“IS THAT YOUR FINAL ANSWER?”

QUESTION 1

Differentiate between risk, constraint and trend:
RURAL ROAD LOW ACCESSIBILITY

A Risk

B Constraint

C Trend
QUESTION 1

Differentiate between risk, constraint and trend: CASSAVA DISEASE

A Risk
B Constraint
C Trend

QUESTION 1

Differentiate between risk, constraint and trend: CHRONICAL DROUGHTS

A Risk
B Constraint
C Trend
**Distinguishing Between Risks, Constraints & Trends**

**CONstraint**
Constraints are conditions that lead to suboptimal performance. The element of certainty is present.

**RIsk**
Risks are uncertain events that have the probability to cause losses. The element of uncertainty is present.
- The occurrence of a risk event is in many cases the result of an underlying constraint.
- The presence of risk often constitutes a constraint, or aggravates an existing one.

**Trend**
Trends are longer-term changes on “chronic” patterns (reversible or irreversible) that provide context.

**QUESTION 2**

What are the major risks that can affect agricultural activities?

- **A** Climate-related risks only (droughts and floods), as the others are manageable
- **B** Droughts/floods + post-harvest losses + market access
- **C** Price risk at the local, national and international levels
- **D** All these risks and many more
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QUESTION 3

What are the key elements to consider when assessing agricultural risks?

A. Information on yields and rainfall trend only
B. Frequency and severity-impact/cost
C. Misfortune and luck
D. Price information available
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QUESTION 4

Who is responsible for managing agricultural risks?

A. Governments, as farmers pay taxes!!!
B. Farmers only, as agriculture is their main income generating activity
C. UN agencies, and particularly IFAD
D. It depends on the risk
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**QUESTION 5**

Are risks correlated?

A. No, for ex. droughts & diseases come from completely different causes
B. No, for ex. price is coming from markets & is not related with farmer’s production
C. Yes, because droughts and diseases can be correlated
D. Yes, because price and yields can be inversely correlated
QUESTION 5

Are risks correlated?

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QUESTION 6

How to prioritize agricultural risks?

A. Based on their frequency: if it happens every 5 years is probably not a so serious risk, I can manage it
B. Based on the losses caused by the risk: if I lose 100% of my production it is a real risk
C. Before answering I need the information on their frequency and severity and most important the impact/cost on my income
D. Based only on the number of people affected by each risk
**QUESTION 6**

How to prioritize agricultural risks?

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D. Based only on the number of people affected by each risk.

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**CONCLUSION**

1. ARM is a way of thinking

2. Different layers of role and responsibility to manage Agricultural Risks

3. Information is crucial in ARM

4. Knowledge of ARM concepts is fundamental

5. ARM methodology can be used by all the stakeholders
CONGRATULATIONS
YOU ARE NOW ARM-AWARE!

Managing risks to improve farmers' livelihoods

www.p4arm.org | @parminfo
i.tedesco@ifad.org
i.abada@ifad.org

Thank you