Managing risks to improve farmers' livelihoods

A Joint PARM and FARM-D WEBINAR: “LEARNING ABOUT ARM TOOLS”

By Kisan Gunjal, International Consultant, supported by Jesús Antón, IFAD/PARM Senior Programme Manager, and Mulat Demeke, FAO Senior Economist, as discussant

1 June 2016
This course covers **Module 3 of the FAO/IFAD e-learning course** currently under development which has the following structure:

- **Module 1**: Understanding the Risk Environment in Agriculture
- **Module 2**: Assessing Risk in Agriculture
- **Module 3**: Agricultural Risk Management Tools
- **Module 4**: Risk Assessment & Management Strategy, Policy and Mainstreaming

**A holistic approach** to find ARM solutions considering **nature of various risks, their correlation** with each other, farmers’ strategies and government policies (OECD).

Application of ARM tools is an integral part of the below mentioned sequential **a comprehensive risk management strategy** (World Bank).

- Risk Monitoring,
- Risk Assessment/Reevaluation,
- Solutions Assessment,
- Operationalizing & Mainstreaming Risk management, and
- Implementation

PARM is engaged with other partners and agencies to develop a holistic commonly accepted **curriculum on agricultural risk management**.
OUTLINE

- Objectives, target audience and scope of the module
- Content of the course module
- Overview of the lessons
- Brief elaboration of a selected tool from each lesson
- Concluding remarks
- Q & A, feedback
OBJECTIVES, TARGET AUDIENCE AND SCOPE OF THE MODULE

Objective: To familiarize the learner with a vast array of tools potentially applicable for agricultural risk management by providing the basic knowledge.

Target Audience:
• Policy Group - policy makers and planners and other government officials
• Farm Group - farmers, farm advisors, farm and community organizations,
• Services Group – service/input providers, intermediaries dealing with ARM products and services,

Scope: creating a basic understanding of various management tools available in different risk situations. It is intended to be the first step towards being an expert practitioner. It’s not a “how-to” practical guide on their application.
CONTENT OF THIS COURSE MODULE

- ARM tools can be grouped into three categories based on the objectives to deal with disasters – prevention/reduction, mitigation and adaptation/coping.

- Holistic ARM strategies are not limited to disaster risk management.

- Hence, the ARM tools covered in this module are categorized on the basis of their operational modalities, into the following four domains:
  - LESSON 1  On-Farm and Community Level Risk Management Tools
  - LESSON 2  Finance Related Risk Management Tools
  - LESSON 3  Market Related Risk Management Tools
  - LESSON 4  Government-based Agricultural Risk Management Tools
LESSON 1: ON-FARM AND COMMUNITY LEVEL TOOLS

Focus on farm level activities...Farmers need to be empowered to take responsibility of risk management; also involvement of the community and interventions by government policy makers.

• Tool 1  Climate-smart agriculture

• Tool 2  Agricultural diversification

• Tool 3  Assets and Income based strategies
TOOL 2: Agricultural Diversification

Concepts and characteristics

• Agricultural diversification is an allocation of productive resources into various activities to reduce risk, generating additional income.

• The basic principle is the portfolio theory which leads to an inclusion of activities whose earnings are negatively or weakly positively correlated.

• Farm plan to maximize the expected net income (E) for a given level of variance (V) (or converse) can produce an efficient portfolio of activities.

• Based on the risk preferences of the farmer (risk averse or risk neutral) the optimal plan can be chosen.
Advantages:

- It reduces farm income variability (risk), potentially ensuring adequate cash flow, debt obligations and family livelihood.
- It can exploit the potential *symbiotic/synergetic relationship* between different production activities such as crops, livestock, fisheries, ..
- With the introduction of various niche and specialty products, there could be more *diversified produce in the market*.

Disadvantages:

- Diversification may result in increased capital requirements for additional enterprises.
- May increase risk as a result of the need for managing new enterprises.
- Adding new niche crops/products may carry additional risks due to their requirements.
CASE STUDY

Diversification into dairy—India’s milk revolution

- This tool shows how diversification strategy of adding dairy farming, even with 1 or 2 cows, to the usual crop production system can help manage risk in agriculture effectively at the farm, community and national level.

- Successful implementation on a large scale led to diversification, especially for farmers with a risk profile - subsistence farming, small land holding, low income, no ability to diversify production and marketing on their own.

- The strategy included village level cooperatives and central level federations which are run democratically.

- Participants are now better informed about the technologies and efficiency; most own highly productive cows and buffaloes and earn a steady income.
Modern solutions to commodity problems aim for market orientation and reliance on financial solutions by public and private sectors.

- Tool 4 Agricultural insurance
- Tool 5 Weather index insurance
- Tool 6 Agricultural finance and microfinance
TOOL 5: Weather index insurance

*Concepts and characteristics*

- **Index-based agricultural insurance** includes Area-yield index insurance, Weather index insurance, Index-based mortality insurance for livestock.

- WII is an **alternative to traditional crop insurance** as it can be used by small holders and in the absence of a lack of financial products.

- **Indemnity payments are based on index values** that serve as a proxy for losses by all farmers.
TOOL 5: Weather index insurance

Concepts and characteristics (continued)

Advantages

- Transparency
- No on-farm loss adjustment
- Lack of adverse selection
- Lack of moral hazard
- Addresses correlated risks
- Low operational and transaction costs
- Rapid payout

Disadvantages

- Basis risk
- Limited perils
- Replication
- Technical capacity and expertise are required
- Lack of weather data
- The evidence so far has been mixed results with some promises for upscaling and wider use as well as some cases of failure.
CASE STUDY

Index-based insurance in Burkina Faso (FARMAF)

- This scheme was launched in 2011 with 194 maize producers while in 2013/14 2,072 producers were insured; with an average size of slightly more than 1 ha.

- Protection to smallholder farmers facing potential crop damage due to drought to transfer their risk to the insurance providers. Covers maize and cotton with premium rates are around 10%.

- This insurance is issued by PlaNet Guarantee and implemented by Microfinance institutions in selected villages.

- The index value is determined by monitored evapotranspiration data over three stages of crop development (30, 20 and 40 days starting after seeding).

- This case provides an opportunity to analyse the impact and to see how the (successful) scheme can be adapted and replicated in other countries.
LESSON 3: MARKET RELATED TOOLS

Tools for getting the best possible prices, securing access to markets and minimizing market risks.

• **Tool 7** Contract farming - marketing contracts, production contract, out-grower scheme, collective marketing

• **Tool 8** Commodity exchanges and futures markets

• **Tool 9** Warehouse receipts system
TOOL 9: Warehouse receipts system

Concepts and characteristics

- WRS or electronic eWRS modern innovation... a formal agreement between a licensed storage facility operator and a depositor for a secured storage.

- There are mainly four types of warehousing services:
  - Community inventory credit – Madagascar, some countries of West Africa.
  - Lending against the security of current or future production – popular in Brazil.

- Besides obtaining credit using the warehouse receipt as a collateral instrument, it helps to make marketing decisions how and when to market.

- In some countries, WRSs are also tied to commodity exchanges as a physical deposit/delivery system.
TOOL 9: Warehouse receipts system

Concepts and characteristics

Advantages

- Smallholder farmers can benefit as it can provide credit to farmers and traders, solve collateral problem.

- Proper storage allows producers to take advantage of price fluctuations and sell when the market conditions become favourable.

- The system may also help to reduce marketing costs by enforced commodity standards.

Disadvantages

- Risk of inefficiency, mismanagement, fraud, failure of warehouse or the MFI.

- Poor state of MFIs, lack of suitable storage infrastructure and expertise; Absence of an enabling legal and regulatory framework and governing rules.

- Costs for storage facilities and related services can be prohibitive.
CASE STUDY

Empowering farmers in Tanzania through WRS (IFAD)

- This case study shows how a secure access to credit and storage facilities, under the IFAD-supported WRS is helping farmers to build their resilience to better cope with risks in farming.

- This tool covers risk profile of small farmers with marketable surplus but lack proper storage facilities.

- With rising food prices small farmers stand to benefit if they are able to use WRS. Hence the capacity of small farmers to manage market risk can be enhanced by this tool.

- WRS is being mainstreamed by the Government in Tanzania throughout the country.
LESSON 4: GOVERNMENT BASED TOOLS

Government has a key role to play for
- Correcting market failures, improving resource allocation, market efficiency and equity,
- Market creation, changing market incentives,
- Reduction, mitigation and coping with risk.

• **Tool 10** Public food grain reserves:
  Price stabilization reserves and emergency food security reserves

• **Tool 11** Disaster assistance programs:
  DRR and DRM

• **Tool 12** Social protection and productive safety nets
TOOL 12: Social protection and productive safety nets

Concepts and characteristics

• Social safety nets **growing**, large-scale programmes in Brazil, Ethiopia, India, Mexico.

• **Social protection** refers to a set of policies and programs aimed at supporting the poor and vulnerable.
  
  ▪ **Social assistance** - Unconditional transfers (cash/vouchers, in-kind assistance), Conditional transfers; Public works programmes,
  ▪ **Social insurance** - health insurance or unemployment insurance, etc.
  ▪ **Labour market interventions** - promote employment, the efficient operation of labour markets and protection of workers.

• PSNP for development...Recently a variety of **input support programs**, esp. fertilizer and seed subsidies, have become popular in many developing countries.
TOOL 12: Social protection and productive safety nets
Concepts and characteristics (continued)

Advantages

- Social protection and PSNP can help smallholder marginal farmers gain resilience, increase farm income, reduce variability and improve food security and social equity especially when combined with the farmer’s own risk management tools.

- Allow farmers to take risks in making necessary investments in productivity enhancing inputs and technology.

Disadvantages

- Certain forms, for example cash transfers, can be inflationary in local markets; some local cases cited in literature.

- In some cases, food aid as a social protection measure can have a dampening effect on local markets and act as a disincentive to farmers.

- The targeting can be difficult. Benefits may not always go to the intended. Farm subsidies may benefit large scale farmers more than the smallholders.
CASE STUDY

India's Mahatma Gandhi National Rural Employment Guarantee (FAO)

• This case study provides an overview of the guaranteed rural employment scheme in India.

• This is an example of public works programme of social assistance and social protection to those who need income to maintain their livelihood in India.

• It has been one of the longest running large scale social protection programs in the world with millions of people participating.

• It helps build resilience of those with a shortfall in their production & acts as a risk management strategy for smallholder, marginal farmers and landless labourers.
CONCLUDING REMARKS

• This is an attempt to **fill the knowledge gap** by providing a comprehensive (not exhaustive) list of ARM tools aimed at primary agriculture sector.

• Further, it aims to be **complementary** to various online courses/material available from WB/FARMD, IFAD/PARM, OECD and others.

• The knowledge the learner will get from this course is a **preparation** to become an expert **practitioner** in the application of such ARM tools.

• Now the way forward challenge is how to make this **reach farmers and other primary decision makers** ... perhaps through partnerships with local universities.
Thank You

Q&A/Feedback

k.gunjal@gmail.com
j.anton@ifad.org

www.p4arm.org