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APPLIED MATERIAL

EASYPol Module 155

Risk Mitigation and Management for Agricultural Investment

Investment and Resource Mobilization



Risk Mitigation and Management for Agricultural Investment

Investment and Resource Mobilization¹

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for the

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¹ The author of this document draws extensively from the following sources: World Bank "Investment Sourcebook" Modules 8 and 11, USDA Risk Management Agency, and various FAO documents as found in the Bibliography.

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1. WHY INVESTMENT RISK IS IMPORTANT

The incidence of risk in agriculture is important to policy makers at national and international levels. Fluctuations in producer incomes, and particularly the threat of catastrophic loss, may present difficult welfare problems for these same producers, their governments, and the international community. Trading losses at the level of market intermediaries, such as traders and processors, negatively impact the development of sustainable trading and finance activities in the commodity sectors. In more extreme cases, international humanitarian assistance may be necessary, but that assistance may destabilize markets, create dependencies, or bias management via expectations of future disaster relief.

One of the basic functions of the financial sector is risk management. By combining many household savings, financial intermediaries can ensure that individuals can get their money back whenever they want. By investing in lots of financial activities intermediaries facilitate risk diversification which increases returns and encourages more savings, and hence investment. Also, by acquiring information about investment opportunities, the financial intermediaries can compare competing investment opportunities and thus help ensure that capital is invested efficiently.

2. KEY CHALLENGES FOR RURAL AND AGRICULTURAL FINANCIAL SERVICE PROVISION¹

Rural finance has been recognized as an important element and catalyst to rural development. Yet it has been fraught with disappointment, often due to the lack of capacity and structures to adequately deal with both the business and financial system risks. Millions of dollars have poured into rural finance, especially agricultural credit, in the past and yet rural communities have little to show for it. Donors, governments and bankers became disillusioned with the results. Today there is renewed interest to learn from the past and experiment for the future to meet the seemingly illusive goal of increasing rural farm and non-farm investment and assets through the ready access of appropriate and sustainable financial services to all households. In addition, rural finance has begun to be seen in a broader spectrum than agricultural and farm credit but is rightly now being defined as farm credit and non-farm credit, savings, insurance, transfers, clearing, equity finance, etc. and is not restricted to institutional lines of finance.

Twelve key challenges for achieving this goal are laid out below, as seen by rural finance specialists. Even so, these are challenges whose root causes go to the heart of agricultural production and marketing, agribusiness and rural development combined. The health of financial services in rural areas and congruent rural investment depend on the foundation of rural enterprises and rural income flows and opportunities.

Readers can follow links included in the text to other EASYPol modules or references². See also the list of EASYPol links included at the end of this module³.

² EASYPol hyperlinks are shown in blue, as follows:

a) training paths are shown in **underlined bold font**

2.1 Vulnerability Constraints

- a. **Systemic Risk** – rural incomes, especially among agriculturalists, are highly susceptible to similar risks at the same time. Of these highly inter-related covariate risks, weather is the most uncontrollable and often devastating risk but disease and plagues are similarly important production risks. Failures in agriculture affect not only the farmer households and the production and marketing linkages but also the rural non-farm economies that revolve around and depend upon those income flows. Even so, the most problematic is farm production credit risk.
- b. **Market Risk** – in all countries and especially in developing countries, there both cyclical and seasonal price fluctuations of agricultural products, not only due to local production variation but also affected by “outside forces.” These forces include prices fixed for political reasons, import or export restrictions, exchange controls, subsidies and globalization.
- c. **Credit Risk** – collateral, especially mortgage, is a missing element in most rural finance hence increasing the risk of the lender. The lack of usable collateral or substitutes due to often ill-defined property and land-use rights, costly or lengthy registration procedures, and social constraints to foreclosure are costly. Other support services and information networks such as credit bureaus are often not available to help lower the risk. For longer term lending, a financial gap risk between sources and uses of funds poses another risk constraint. For borrowers, social stigma risk of loss, as can be the case with peer lending, as well as financial capacity risk to be able to repay loans when losses occur are major constraints.

2.2 Operational Constraints

- d. **Investment Returns and Capital Flows** – rural capital revolves slowly, with often one, or less frequently two, crops per year. For investment capital the returns are even slower and in spite of that are often faced with very low profit margins. Hence the margins for error are much less and risks higher than, for example, in commerce or most microfinance which tend to have high returns per unit of funds invested and higher profit levels. Equally problematic for lenders is the seasonality of agricultural production (crop production in particular) which leads to significant cash flow challenges and a lag between investment needs and expected revenues which can cause liquidity management difficulties.
- e. **Low Investment and Assets** – the relative poverty in rural areas causes common crises to become major crises due to the lack of asset “cushions.” Any loss of expected income through sickness or production losses causes a significant impact. In compensation, close

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- b) other EASYPol modules or complementary EASYPol materials are in ***[bold underlined italics](#)***;
 - c) links to the glossary are in **[bold](#)**; and
 - d) external links are in *[italics](#)*.

³ This module is part of the EASYPol Training Path: **[Policy Learning Programme, Module 3: Investment and Resource Mobilization, Session 5: Risk mitigation in agricultural investment](#)**.

linkage to traditional socio-economic and family networks and production risk minimization become more important than profit maximization. The small asset base also reduces savings and borrowing capacity, thus constraining economies of scale in the use or provision of services.

- f. **Geographical Dispersion** – rural areas are characterized by low density of population and high dispersion with often small sizes of individual transactions which leads to high costs of operation for both production and marketing. The remoteness and heterogeneity among communities and farms similarly creates high information/transaction costs for financial service providers who serve rural clients. This challenge of delivery of services and the difficult communications infrastructure also create the potential for moral hazard risks due to difficulties of follow-up, all of which limit access to finance and investment.

2.3 Capacity Constraints

- g. **Infrastructural Capacity** – poor communication, pitiful roads, unequipped schools and missing social and health services decrease efficiency of operations, discourage new services and increase the outflow of the most talented and resourceful persons and a reluctance of educated families to live in rural communities.
- h. **Technical Capacity and Training** – a relatively unskilled rural population reduces opportunity for ready access and adaptation to new technologies and employment. The lack of capacity affects not only the productivity and competitiveness in the changing marketplace but also the ability to find trained staff for service provision.
- i. **Social Exclusion** – cultural, linguistic, gender, racial, religious and educational constraints affect market and financial integration. Such barriers reduce production and marketing efficiencies. These are required in order to compete effectively in the marketplace and thereby generate income and levels of assets needed to reduce poverty and vulnerability. HIV/AIDS makes this even worse in many countries.
- j. **Institutional Capacity** – while there is an abundance of organizations in rural areas, their overall capacity and scope of services are lacking. This includes management and technical capacity, size/economies of scale, competitive viability, economic integration and often risk-bearing capacity. Even when urban based institutions have the capacity to reach into rural areas, there is little incentive to do so. An exception to the capacity constraint is at the micro level where the social fabric is strong and is sufficient for the level of operations undertaken and may also form linkages with intermediaries of higher institutional capacity.

2.4 Political and Regulatory Constraints

- k. **Political and Social Interference** – loans can be forgiven, savings can be withheld, interest rates can be capped, mortgages can be rendered useless and payments can be suspended due to arbitrary political decision. Even danger is not uncommon; hence uncertainty can become an insurmountable hurdle. In countries with a history of such

interference, the risk of reoccurrence raises the cost of finance and lessens the opportunities of investment, especially longer term investment.

1. **Regulatory Issues** – regulations and/or a lack of enforcement of them hinder rural as well as urban environments. Land tenure regulations, banking laws, exchange rate manipulation and tax considerations are examples of such constraints that destabilize and/or hinder viability of business and financial operations in rural areas.

3. UNDERSTANDING RISK MANAGEMENT 0

In risk management it is important to understand: a) risk event(s), b) risk exposure and c) the cause(s) of the risk. Then the risk mitigation strategies that can be taken are: a) accept the risk, b) avoid or eliminate the risk, c) transfer the risk to another party or d) control the risk. Risk that is not understood and/or properly assessed hinders or squanders an investment opportunity, which has been a weakness in rural investment.

Addressing problems of risk and vulnerability within an agricultural production and marketing system requires an understanding of the cross-cutting issues and of the multiple approaches to managing risk. These include market development and access, crop diversification, irrigation and intensification of farming, and development of financial and social capital. Changes in the agricultural system, including changes in risk management strategy, can have both beneficial and detrimental effects. Consolidating scattered plots of land may increase efficiencies, but it might make households more prone to loss if all their land is in one parcel. Thus, as is always the case, it is critical that interventions have clear goals, based on reliable information and sound analysis.

Mechanisms to deal with catastrophic, covariate risks for large populations within a region must be created in ways that do not undermine the coping mechanisms that individual households use to deal with chronic day-to-day and year-to-year independent risks. Since the types and severity of the risks confronting farmers vary greatly with farming systems and physical, socioeconomic, and political environments, generic guidance for good and relevant investment activity in risk management interventions is scarce. Past failures by governments and donors illustrate both the many pitfalls to avoid and some opportunities to explore in efforts to help resource-poor farmers deal better with risk and become less vulnerable to shocks.

Risks in an agricultural business can be handled in one of five ways or combinations thereof:

- a. Retain – with no protection such as holding an unpriced commodity.
- b. Shift – a contractual agreement whereby someone else takes some of the negative risk, for a premium which depends on the amount of the risk assumed.
- c. Reduce – having good management, marketing practices and technology.

Risk is a [concept](#) that denotes a potential negative [impact](#) to an [asset](#) or some characteristic of [value](#) that may arise from some present [process](#) or future [event](#). In everyday usage, "risk" is often used synonymously with the [probability](#) of a loss or [threat](#). In professional risk assessments, risk combines the probability of an event occurring with the impact that event would have and with its different circumstances. *Wikipedia*

- d. Self insure – having adequate reserves.
- e. Avoid – maintaining low debt-asset ratios or healthy current account balances.ⁱⁱ

4. AGRIBUSINESS RISK MANAGEMENT TOOLS⁰

Selecting the right marketing tool to use at the right time will not only reduce risk, but can increase one's profit. Following are a basic overview of more commonly used pricing strategies and guidelines for determining when to use each.

4.1. Storage

Storage is a way of avoiding seasonally low prices even though it has no price risk safety. When prices are below the level anticipated in the marketing plan, storage may be justified, assuming that you have adequate financial resources. Storage may be warranted when there is a realistic expectation of a market price increase. Historical data indicate that the market price increases will most often more than pay one's storage costs. However, stored grain can go out of condition and is subject to theft.

4.2. Cash sale

When prices are favourable and at levels anticipated in the marketing plan, a direct cash sale is warranted.

4.3. Fixed price contract for deferred delivery

This contract allows producers to establish a price for later delivery. A fixed price contract, also known as a cash forward contract, may also allow you to schedule deliveries at times of the year that better fit with labor availability, grain quality, and logistics. Having an adequate amount of crop insurance allows you to comfortably contract the insured portion of your crop. These contracts often work well when crops are large, when storage is tight, or when the market price reaches the objective in your marketing plan.

4.4. Basis contract

Basis is the difference between the local cash price and a futures contract price. Basis is typically more stable and predictable than either the underlying futures contract or the local cash price. However, basis does change in response to local supply and demand factors. A basis contract allows you to fix the basis, but allows the final cash selling price to be determined at a later date by subtracting the fixed basis from the futures price. This strategy works well when the basis is strong (cash prices are high relative to futures) and there is some potential for an increase in futures prices.

4.5. Deferred or delayed price contract

A deferred or delayed price contract transfers title of a crop to the buyer at delivery, but allows the seller to set the price later. It is commonly used when storage is tight. At these

times, the local elevator wants to move more grain into the marketing channel, but the seller may not be satisfied with current prices.

4.6. Minimum price contract

A minimum price contract establishes a floor price for the duration of the contract. The floor price is typically several cents below the cash price at the beginning of the contract. A producer could net less with a minimum price contract than with a fixed price contract if prices fall, but will benefit from a rise in market prices. This contract eliminates much downside price risk.

4.7. Hedge-to-arrive (HTA) contract

This contract has risk management properties similar to a short futures market position. It is the opposite of a basis contract. It permits the seller to set the futures price level by the delivery date, but the basis is determined later. The seller is responsible for delivering the contracted amount on the delivery date.

4.8. Short futures hedge

Selling futures contracts to protect the value of grain or livestock in inventory or the value of expected production is a short futures hedge. A short futures hedge reduces downside price risk. On the other hand, it also reduces the ability to capture upside price movements.

4.9. Put option purchase

This tool is similar to a minimum price contract. It sets a floor on the crop or livestock price throughout the life of the contract. If prices rise during the period, the seller can capture upside price gains.

4.10. Crop insurance

The management of yield or price risk through the purchase of crop insurance transfers risk from you to others for a price which is stated as an insurance premium. Crop insurance is an example of a risk management tool that not only protects against losses but also offers the opportunity for more consistent gains. When used with a sound marketing program, crop insurance can stabilize revenues and potentially increase average annual profits. Crop insurance provides two important benefits. It ensures a reliable level of cash flow and allows more flexibility in your marketing plans; if you can insure some part of your expected production, that level of production can be forward-priced with greater certainty, creating a more predictable level of revenue.

4.11. Contract farming

Contract production is normally associated with vertical integration, where an agribusiness firm coordinates all or many aspects of a product from production to the consumer's table. Through production contracts, the agribusiness firm commits the producer to deliver a specific quality and quantity of final product. The producer must comply with the firm's quality specifications and must manage yield risk with sound management practices and often insurance. Consideration of the tradeoffs is important. From a risk perspective, a major advantage for the producer is that a market for the output and an acceptable price and hence

predictable cash flow is guaranteed. A disadvantage is that the producer loses the opportunity of benefiting from upside price potential since the sale of the product is fixed by the conditions of the contract.

5. RISK MANAGEMENT IN RURAL FINANCIAL INSTITUTIONS

5.1. Financial risk management

Financial risk has three basic components: 1) the cost and availability of debt capital, 2) the ability to meet cash flow needs in a timely manner, and 3) the ability to maintain and grow equity. Sustainable financial institutions with continuous sources of renewable capital (ie. not politically linked development banks) such as savings can best address these issues. Links to capital markets and global financial systems can also assist in meeting the cash flow requirements of a financial intermediary and its clients.

Cash flow management is especially risk-prone for agricultural lenders due both to seasonality and unpredictability of harvests and commodity prices. Seasonality is mitigated through investing in and financing non-agriculture as well as agriculture and ensuring heterogeneity of portfolio investments and geographical diversity and scope. Financing of agribusiness and the use of syndicated finance for joint financing are other options for reducing the cash flow management risks inherent with agricultural producers and market traders.

5.2. Country, currency and interest rate risk

Country risk is a major deterrent for investment. Country risk ratings help determine the cost of capital and also the willingness or not of private investment.

Currency risk makes investors very uneasy. However, while this depends largely on the governmental macro-economic policies fiscal and trade policies, capital market instruments can also be used to hedge against foreign exchange risk. These include:

- Currency forward contracts and futures – agreements to exchange or sell foreign currency at an agreed price in the future (such as at the due date of foreign currency loans)
- Swaps – agreements to simultaneously exchange or sell an amount of foreign currency now and resell or repurchase that currency in the future
- Options – instruments that provide the option but not the obligation to buy or sell foreign currency in the future once the value of that currency reaches a previously agreed price.

5.3. More than agricultural finance

As indicated above, a singular focus on rural and especially agricultural finance is fraught with risk and costs that lead to instability and disillusionment of its lenders. Hence, a financial

systems approach in which financing for agriculture is part of a comprehensive rural finance strategy is required to meet these challenges.

6. PUBLIC RISK MITIGATION APPROACHES

6.1 Investment in public goods

Public investments that address risk reduction in farming have been considerable, but they are seldom designed explicitly to target this risk. Irrigation investments are one such case: the explicit intention has been to boost the productivity of land and water resources and increase rural employment and food self-sufficiency. Indeed, such investment together with the development of improved crop varieties formed the core of the green revolution in South Asia and elsewhere in the 1960s. But this investment also considerably reduced the inherent variability resulting from dependence on rainfall. Investments in plant breeding have targeted vulnerability to pests, diseases, droughts, and floods, and as such targeted some of the more risky conditions facing farmers. These risk-reduction features (along with the corresponding productivity gains) are largely public goods produced by investment in public research agencies. Public investments with collateral benefits affecting risk reduction include range management, veterinary and human vaccine development, HIV/AIDS, rural banking, and early warning systems for conflict and weather.

6.2 Reducing risk by investing in capacity building

Development of strong rural finance institutions, competitive businesses and educated clientele is a foundation for risk mitigation.

6.2.1 Financial institutional capacity

Investment in financing for agriculture has long since moved away from channelling production credit through subsidized public-sector agricultural banks. It now recognizes the importance of building sustainable financial institutions that can provide longer-term access to financial services in rural areas. Funds for on-lending are of little beneficial use if the financial institution receiving them cannot use them effectively. Key areas for institutional capacity building include:

- Investment in information systems that provide timely and accurate data to management.
- Training for staff, management, and board members.
- Strengthening internal controls and external monitoring, and improving the transparency and quality of external reporting.
- Assistance in designing and marketing a range of financial products and services.
- One-off grants to support innovations (for example, introducing new technology or a new loan product) or expansion into more marginalized rural areas.
- Building on existing infrastructure (such as post offices, state banks, retail stores, and traders) to provide a range of financial services at low cost and at scale.ⁱⁱⁱ

Capacity building needs are high. For intermediaries lacking basic business skills, the benefit of education about price risk management instruments will be marginal. Additionally,

attempts to build risk management capacity in organizations that have more critical problems – such as poor communications infrastructure, institutional instability, underdeveloped marketing/financial skills, and weak managerial authority – are likely to be ineffective and inefficient. Of the prerequisites for successful change, the most fundamental is that the institution involved must have a strong commercial incentive to improve risk management practices.

6.2.2 Producer and Agribusiness Client Capacity

Ask any serious lending organization how they analyze risk and they will begin with the client. Rural finance and investment has and/or must move beyond collateral based lending to focus on the risk and the potential of the client and the business. This risk and potential depend on the capacity of the person and management to not only understand the technical aspects of the business but to manage for the future, to manage business risk, to manage personnel, to invest prudently based upon solid business planning, etc.

6.2.3 Commodity exchange capacity

Well-functioning commodity exchanges – systems of price discovery – improve marketing efficiency for agricultural products, and open up new production and marketing opportunities to producers. They reduce price risk (faced by both producers and buyers) by improving overall market liquidity, enhancing stability of local trading networks, and providing farmers with more certainty (through better information) of expected future prices (upon which they can make better managerial decisions). Commodity exchanges require effective regulatory oversight to ensure market surveillance, supervision, and compliance with quality standards. These exchanges can provide a platform for future development of a wider range of services for market participants – both buyers and sellers. The key to development of successful commodity exchanges is commercial interest from all market participants: buyers, sellers, and banks involved in lending to the sector.

6.2.4 Inventory credit facilities or warehouse receipt systems

Cash forward markets, such as warehouse receipt systems, offer some advantages of a commodity exchange and can offer performance guarantees, improve credit accessibility, and reduce price risks. Warehouse receipt systems can enable farmers to store their products in a reliable warehouse until prices increase, using the product as loan collateral and accessing funds before the product is sold. Such systems lower client loan risk and improve access to credit and can help farmers avoid the problem of having to sell immediately at harvest when market prices are often lowest. However, warehouse receipts can only function where there is the secure infrastructure capacity, strict financial and quality control systems and a governmental regulation that permits it to function properly and ensures abidance of contracts.

6.2.5 Grades and standards

Grades and standards that are understood and practiced are critical not only for warehouse receipt systems but for agriculture and agribusiness as a whole. Mitigation of risk of any commodity or product begins with the quality assurance and compliance not only of today's standards but those arising in the near future.

7. KEY POLICY ISSUES

7.1 Financial systems development

In response to the deficiencies of past approaches to financing for agriculture, new thinking has emerged that embraces the financial systems approach, while recognizing the specific challenges of the agricultural sector and the rural setting. Financing for agriculture too often has been seen in isolation from wider financial systems development, and it has overemphasized credit as opposed to savings and other financial services. One symptom (and cause) of this situation is that the ministry of agriculture, rather than the ministry of finance, is often the partner ministry in a borrowing country for agricultural loans. Within a financial systems approach, financing for agriculture is viewed as part of the wider rural finance market. Underpinning this approach is the fact that institutions adhering to commercial principles are most likely to achieve outreach and sustainability, and that the role of the public sector should be focused on ensuring that the environment is conducive to the emergence and growth of such institutions.

The financial systems approach recognizes that rural and agricultural clients need a full range of financial services, including savings, short- and long- term finance, insurance, money transfers for remittances, and leasing. To meet these demands, financial products must be designed to meet client needs (by using client and market research), and delivery mechanisms must be adapted to provide low-cost, convenient access.

This approach also recognizes that the financial system comprises a number of institutions (formal, semiformal and informal) and individuals. In certain cases, these institutions will be in place, with infrastructure and networks in agricultural communities that can be the basis for improving provision of financial services. The challenge for governments and donors is to identify and work with those institutions that are viable financial service providers, and, where such institutions are absent, to create the incentives and environment for them to emerge.

7.1.1 Institutions and individuals in the rural finance system

- *Agricultural banks*: Whether privatized or state-owned, these banks have a rural network that provides financial services specifically for the agricultural sector.
- *Postal and savings banks*: These banks often act as the principal source of deposit and money transfer services in rural areas. Traditionally owned by the state, they have been commercial banks in some countries.

Promoting investment while mitigating risk

Enable unsecured loan portfolios: Change laws to permit unsecured loan portfolios to serve as collateral for accessing loans from the formal sector for refinancing.

Reform borrower status and the law: Reform laws relating to the status of borrowers with regard to age of majority, homestead, literacy, and civil registration. Facilitate the poor, illiterate, and young heads of households in legally conducting business with the formal sector, such as the signing of contracts, opening businesses, and borrowing.

Simplify bankruptcy procedures: Simplify and reduce the cost of bankruptcy procedures to have a simple and cheap exit mechanism for paying unsecured debt, recuperating lender funds, and returning remaining funds to the borrower.

Expand collateral use: Broaden the concept of security interest for immovable property, for example from land titles to land use rights. This effort requires recording economically important land use rights and employing legal mechanisms for transferring such rights.

Write public and commercial freehold and title registrations Create governing legislation for registration for property rights, including for movable assets. Credit registry and credit information bureaus should also be created. (Fleisig and de la Peña, 2003)¹

- *Membership-based financial organizations (MBFOs):* Membership-based organizations can include financial cooperatives or credit unions, and savings and credit associations. Members of these organizations usually have a common bond such as community, geography, or activity.
- *Processors and traders:* A wide variety of businesses and entrepreneurs that participate in the agricultural market system and principally engage in agricultural activities (such as processing, marketing, input provision, storage) also provide credit as part of transactions.
- *Microfinance institutions (MFIs):* Specialized institutions that can provide microfinance products targeted at the poor and low-income populations, including small-scale farmers.
- *Informal financial intermediaries:* These intermediaries consist of group-based models such as Rotating Savings and Credit Associations (ROSCAs), moneylenders, retail stores offering goods on credit, informal deposit collectors, and others.

7.1.2 Addressing risks of distinct financial service providers

Each type of financial service delivery has its inherent risks which must be dealt with in its own manner. However, the most important overall risk for all is due to inadequate systems of supervision. For example, banks may be closely supervised in a country but have little outreach into rural areas. Savings and credit organizations (SACCOS) on the other hand may have extensive presence in a rural region and their clients may highly benefit from increased investment but neither private nor public investment is directed to them due to the inherent and/or perceived risks due to their lack of adequate supervision and commonly lack of reliable information systems as well as the lack of qualified management.

8. IMPROVING THE LEGAL ENVIRONMENT FOR RURAL FINANCE FOR AGRICULTURE

8.1 Developing an appropriate policy framework

The public sector plays a vital role in creating suitable conditions for financial market development. Specifically, the public sector must provide the policy environment for rural finance for agriculture to flourish, including the conditions for macroeconomic growth and stability and appropriate policies for the agricultural and financial sectors. Agricultural policy reform may be necessary to remove historical biases against agriculture, to help the sector become profitable, and thereby to encourage investment. Financial sector policy needs to promote the development of financial organizations that are transparent and accountable. This effort must be supported by a strong legal and regulatory framework, including the provision of a legal basis for secure property rights, financial transactions, and savings mobilization.

8.2 Future directions for risk mitigation in lending

The range of interventions being discussed by the development community includes attention to both chronic independent risk and large-scale covariate risk. Future interventions must be designed specifically to avoid reducing incentives for farmers to adopt effective preventive measures. Dependency on relief efforts must be avoided, and relief initiatives must not undermine broader development efforts or incentives for private-sector involvement.

- ***Improving information systems*** – a critical component of most agricultural risk management strategies is access to information, which requires investments to improve the generation and dissemination of agricultural information. Market price information systems have positive effects on the marketing cycles for crops and livestock, helping producers to optimize prices obtained and better regulate the timing of sales throughout the year. Weather information systems help farmers make critical production and marketing decisions relating to input and output combinations given their resource constraints. Farmers facing a high likelihood of drought may plant more stress-tolerant varieties of crops. Herders facing drought may sell early to improve sale prices and reduce pressure on drought-stressed rangelands. Donors have a critical role to play in convincing governments that market and weather information systems are appropriate policy interventions and in supporting the establishment of efficient and sustainable information systems and education and training programs to accompany them.
- ***Strengthening rural financial services*** – in principle, having a financial system serving rural areas in a flexible manner is the best and single most important approach for enabling effective risk management. Access to reliable local savings institutions may allow producers to sell when the price is highest and buy when it is lowest. For example, pastoralists sell animals regularly, at periods when prices are better, only when they have access to secure savings institutions and no longer have to store their

wealth “on the hoof.” Farmers able to bank small excess profits are less likely to “bank” this excess in informal insurance or gift-giving.

- ***Testing new approaches to agricultural insurance*** – with traditional all-risk crop insurance schemes largely discredited as unsustainable and costly, there are no easy answers to the problem of providing insurance for smallholder agriculture. While any approach must distinguish between the government’s role of addressing systemic catastrophic risks and the private sector’s role in provision of insurance tools for more frequent events, some new products being developed warrant close monitoring and further testing. Area-based index insurance is one new approach.⁴ Instead of insuring a farmer’s crop and its performance, insurance is issued for some more readily measured, objectively verifiable index (for example, area rainfall), which substantially reduces problems of moral hazard and adverse selection. However, implementation issues (such as the availability and reliability of long-term rainfall and yield data for specific regions) need to be resolved. Further, if data are available, strong correlations between typical on-farm yields and rainfall levels are required for this mechanism to be effective. The potential to provide effective insurance for rural producers is promising, however, and despite hurdles it seems likely that new insurance products may eventually become widely available and handled routinely by the private insurance industry. In the meantime, further field testing should be continued to assist the industry to develop and market insurance products valuable to poor farmers.
- ***Promoting market-based price risk management*** – various mechanisms, such as buffer stocks and price bands, used to pursue price stabilization objectives have met with varying degrees of success and many failures. Recent initiatives such as trading in futures and options contracts are not intended to stabilize market prices but rather to insulate producers and market actors from short-term price volatility. While the government’s role in the functioning of these markets is regulatory, governments may need to adopt an active role in facilitating initial development of derivative markets, overcoming technical complexities, and ensuring that the concerns of the poor are adequately addressed. As for agricultural insurance, a key policy issue is if and to what extent poorer countries should (or can afford to) subsidize privately provided, market-based, risk management mechanisms.
- ***Targeting use of cash transfers and safety net programs*** – the recognition that the poorest farmers might not be able to repay loans but do require external assistance has led to increased interest in cash (or other resource) transfer programs. Such programs fall into two categories – *poverty safety nets* to ensure survival or reduce poverty, and *transitional support programs* that help producers adjust to new market realities or production constraints. Safety nets have an important role in helping rural households cope with risk and chronic poverty, providing assistance to households to meet short-run basic needs, and possibly also to increase future income. These safety net programs target especially the temporarily poor (households that experience sudden and unexpected drops in household income causing them to fall temporarily into poverty). Transitional support programs target both poor and non-poor households that are vulnerable to short-term fluctuations in income, and poverty due to structural changes in the agricultural economy. Cash transfer programs can yield significant development benefits through income multipliers, stemming from increased household

investment. Safety nets are especially useful for reducing the risk associated with increased food prices.

- ***Emphasizing disaster planning rather than relief*** – the policies, or sometimes lack of them, governing disaster relief and planning at both national and international levels are critical areas in need of analysis and reform. Disaster is usually treated separately as a “humanitarian problem” and not the development and political problem that it usually is. Often as a result of public pressure, governments and donors intervene in ways that in the long run actually work to increase the likelihood of a subsequent disaster by discouraging private risk mitigation measures paid for by local populations. The public interventions, in hindsight, are often demonstrably ineffective and distort individual incentives to plan more carefully for what are often normal and recurrent events. Current debate within the area of rural finance centers on this critical and difficult issue. If governments bail farmers out of the effects of otherwise-insurable or manageable natural disaster risks whenever there is political pressure to do so, development of commercial insurance markets will be compromised and the workings of various indigenous (non-commercial) forms of risk-management practice will be affected. Innovative interventions to address specific disaster needs without compromising disaster risk-management practices either have not been developed or have been designed poorly. These interventions need to be informed by sound technical analysis of how they can be better targeted, implemented, and evaluated as to their impact and sustainability

9. READERS' NOTES

9.1. EASYPol links

This module belongs to a set of modules which are part of the EASYPol training path [Policy Learning Programme, Module 3: Investment and Resource Mobilization, Session 5: Risk mitigation in agricultural investment.](#)

Readers can follow other EASYPol documents under Module 3, which is structured as follows:

Module 3: Investment and Resource Mobilization

Session 1: Investment in agriculture & rural development

Session 2: Environment for private investment in agriculture & rural development

Session 3: Sources and uses of financial resources

Session 4: Strategies for increasing farm financing resources

Session 5: Risk mitigation in agricultural investment

Session 6: Sector-wide approaches (SWAs)

Session 7: Socio-economic & livelihood analysis

10. FURTHER READING

World Bank, *Agricultural Investment Sourcebook, Module 10: Managing Agricultural Risk, Vulnerability, and Disaster*, <http://www.worldbank.org/agsourcebook>

Kang, Myong Goo and Nayana Mahajan, 2007. An Introduction to Market-Based Instruments for Agricultural Price Risk Management,” FAO Agricultural Management, Marketing and Finance Working Document #12, 2007

Roberts, R.A.J., “Insurance of crops in developing countries,” FAO Agricultural Services Bulletin #159, 2005

Eaton, Charles and Andrew W. Shepherd, Contract farming: Partnerships for growth,” FAO Agricultural Services Bulletin #145, 2001

World Bank, *Agricultural Investment Sourcebook, Module 7 “Investments in Rural Finance for Agriculture,”* <http://www.worldbank.org/agsourcebook>

MODULE METADATA**1. EASYPol module** 155**2. Title in original language**

English	FAO Policy Learning Programme
French	Programme de formation aux politiques de la FAO
Spanish	Programa de aprendizaje sobre políticas de la FAO
Other language	

3. Subtitle in original language

English	Risk Mitigation and Management for Agricultural Investment: Investment and Resource Mobilization
French	Réduction et gestion du risque de l'investissement agricole Investissement et mobilisation des ressources
Spanish	Mitigación y gestión del riesgo en la inversión agrícola: Módulo: Inversión y movilización de recursos
Other language	

4. Summary

The incidence of risk in agriculture is important to policy makers at national and international levels. Fluctuations in producer incomes, and particularly the threat of catastrophic loss, may present difficult welfare problems for these same producers, their governments, and the international community. Trading losses at the level of market intermediaries, such as traders and processors, negatively impact the development of sustainable trading and finance activities in the commodity sectors. In more extreme cases, international humanitarian assistance may be necessary, but that assistance may destabilize markets, create dependencies, or bias management via expectations of future disaster relief.

One of the basic functions of the financial sector is risk management. By combining many household savings, financial intermediaries can ensure that individuals can get their money back whenever they want. By investing in lots of financial activities intermediaries facilitate risk diversification which increases returns and encourages more savings, and hence investment. Also, by acquiring information about investment opportunities, the financial intermediaries can compare competing investment opportunities and thus help ensure that capital is invested efficiently.

5. Date

January 2008

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7. Module type

- Thematic overview
- Conceptual and technical materials
- Analytical tools
- Applied materials

	<input type="checkbox"/> Complementary resources
8. Topics covered by the module	<input type="checkbox"/> Agriculture in the macroeconomic context <input type="checkbox"/> Agricultural and sub-sectoral policies <input type="checkbox"/> Agro-industry and food chain policies <input type="checkbox"/> Environment and sustainability <input type="checkbox"/> Institutional and organizational development <input checked="" type="checkbox"/> Investment planning and policies <input type="checkbox"/> Poverty and food security <input type="checkbox"/> Regional integration and international trade <input type="checkbox"/> Rural Development
9. Subtopics covered by the module	
10. Training path	<u>FAO Policy Learning Programme</u>
11. Keywords	risk management, farm, risk assessment

ⁱ FAO, “Twelve Key Challenges in Rural Finance,” paper by Calvin Miller, 2004

ⁱⁱ USDA Risk Management Agency, “Introduction to Risk Management,” Revised 1997

ⁱⁱⁱ World Bank Agricultural Investment Sourcebook, Module 7, “Investments in Rural Finance for Agriculture,” <http://www.worldbank.org/agsourcebook>

^{iv} World Bank, Agricultural Investment Sourcebook, Module 10, “Managing Agricultural Risk, Vulnerability, and Disaster