



African Agriculture Risk Management Services

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Agricultural Risk Management Services: A Key to Increasing Financial Inclusion of Farmers Steve Hodges

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Agricultural enterprises, and farming in particular – by farming I mean the primary production of crops and animals as distinguished from processing and other activities of the agricultural value chain – tend to have two major drawbacks that discourage provision of financial services and in particular, lending. One is that the payback period for loans is usually longer than lenders prefer since the borrower must wait until harvest to have the money to pay back the loan. And the second drawback is that farming is an enterprise with many risks, more risks than most enterprises lenders are accustomed to serving.

The risk issues of farming are commonly classified under several categories

Production Risks. These can include, in no particular order:

- seed selection for pest and disease resistance, for drought/water resistance, for yield, for comparative advantage (unique crop to area, etc.)
- raising crops/livestock appropriate to the local soil/environment
- water availability and management, including erosion prevention
- basic farming best practices: timing, cultivation, disease & pest prevention, maintaining soil fertility
- diversification of farming operation including specialty crops, livestock
- storage: facility of good construction, well managed (drying, monitoring) to reduce loss during storage
- access to sufficient land of sufficient quality
- access to and cost of machinery and other technology: fuel, repair, parts, sharing, rental/ownership

In other words, farming is riskier unless good production choices are made about seeds, about better farming practices, about water usage, about diversification or specialization, about storage, machinery and technology, and so on.

Price and Marketing Risks. These can include:

- the farmer's lack of understanding of and lack of ability to analyze markets and pricing
- inability to do a breakeven analysis of each crop
- lack of access to group marketing
- lack of arrangement with a purchasing partner (e.g. a pre-production sales contract)

In other words, farming is riskier if there is not good understanding of markets and pricing, if good marketing practices are not implemented, and access to marketing arrangements are not available or not utilized

Financial and Credit Risks. These can include:

- not having adequate business/financial management planning of farm enterprise, including these planning elements:
 - overall financial analysis, including production costs
 - market analysis and pre-planning
 - strategic planning, including planning for crises
 - adequate record-keeping
 - asset accumulation, assessment and management, including land costs: rental, maintenance
 - analysis of credit and indebtedness including credit risk reduction planning
 - appropriate business organization
 - not having access to adequate and appropriate financing for farm enterprises
 - not having other income-producing enterprises besides farming enterprise
 - not having access to and use of savings groups, banks or other saving schemes, or not utilizing these savings opportunities

In other words, farming is riskier without adequate business planning, financial management, credit and asset management.

Human Risks. These can include:

- adequate personnel management
- adequate personnel skill/training opportunity
- damage/theft of equipment
- health of key operators of farm
- family issues: conflict, understanding of farming operation, ownership
- safety on farm

In other words, farming is riskier if there is not good personnel management, training of workers, safety practices on farm, health of key operators, and so on.

Legal Risks These can include:

- understanding of contracts and leases, or and access to legal review of contracts and leases
- contract default by other party
- business structure defined well or poorly
- bankruptcy
- liability for on-farm accidents, for safety of food sold, for contract default if cannot deliver as agreed
- tax issues

In other words, farming is riskier if there is not good understanding of or assistance with contracts and other legal matters

Policy Risks These might include:

- policy and programs of government agricultural extension on-farm and marketing advice and help
- price policies and subsidy programs
- trade policies
- government programs/subsidies for crop insurance including catastrophic insurance

In other words, farming is riskier if government policies don't help, or if government policies actually obstruct, farm success

To these categories already mentioned, I would add two categories that are worth special focus:

Catastrophic Risks This is mainly a recognition that weather risks place a very large part of

agricultural risks, especially with the increasing unpredictability of weather. These risks include:

- too little or too much rain or poorly timed rain, flood, wind
- access to adequate and sufficient weather prediction information
- access to on-farm extension assistance
- access to crop insurance, including weather indexed insurance

In other words, farming is riskier if there is not some on-farm preparation or insurance or other risk-sharing for catastrophes of weather, pests, disease, and so on

Value-Chain Risks: Even if everything goes well on the farm, that is, on the primary production level, if there are problems anywhere else in the whole chain of relationships necessary to put food on the table for consumers, it can affect the farmer. These risks include weakness at any point along the value chain, including:

- input cost/availability
- markets beyond the one the farmer sells to (downstream)
- transport constraints and costs, and other logistic risks including storage
- lack of communication or coordination at any point along the value chain

In other words, farming is riskier if any actors on the value chain from input providers to markets beyond the immediate buyer are weak in any way.

Organizational Capacity Risks: Many farmers are part of farmer groups that provide vital services, particularly in helping small-holder farmers find and reach markets necessary for scaling up their farm operation toward commercial scale. If these farmer organizations are not functioning well, it impairs this ability. The capacity risks of these organizations include:

- inadequate governance, including lack of democratic and inclusive decision-making
- infrequent meetings and poor communication
- inadequate strategic thinking and planning
- inadequate core competencies
- poorly functioning operational, human resource, information, record-keeping and reporting systems
- lack of sufficient commitment or systems to provide accountability
- poor or no collaboration with other organizations and value-chain actors
- poorly functioning financial management systems
- not having a market-based source of income (besides a donor or NGO subsidy)

In other words, farming is riskier if the group to which the farmer belongs is not functioning well

Basic Criteria for Evaluating and Managing Risks

Within the internationally recognized field of agricultural risk assessment and management, all of these risks of these many categories can be evaluated according to three basic criteria

1. Impact: In other words, how severe will the risk event be if it actually happens? Some risks can destroy the whole year's farm income and even destroy assets; other risks are milder in impact.

2. Likelihood How likely is this risk to come about? Some risks are rare and unpredictable, others are more likely to happen.

3. Manageability Independent of how severe or how likely a risk is, some risks are out of the control of the farmer, others can be handled to a large or small degree. It makes sense to prioritize scarce resources on risks which can actually be managed

In the actual process of prioritization, these criteria are combined to evaluate various risks in order

to focus a risk management plan strategically. For example, in rural Uganda and South Sudan, fires set by neighbors to burn brush can threaten to destroy some or all crops planted. In some places, the likelihood of this happening is very high, and the severity of impact on loss of crops can also be high. But this risk is easily reduced by clearing a sufficiently large area around the field. So this risk ranks high in likelihood, severity, and manageability and thus would be a key part of a risk management plan. Likewise, if the farmer does not understand how markets work and how prices change, the risk of getting a disastrously low price for his or her crops or livestock, may also be likely and severe. However, this risk too is manageable if the farmer receives training in understanding markets and prices and in careful planning to reach markets at the right time that give the best price. Other risks, like unpredictable rainfall, may also be a risk of severe impact but of limited manageability; yet taking some action to mitigate this risk with conservation farming methods that retain water in the soil, or in irrigation schemes, or in production methods that can drain the excess water from too much rainfall may be worth including in a risk management plan depending on the cost of implementing them.

In the field of agricultural risk management, there are three basic approaches to managing risk:

1. Mitigation Most agricultural risk management will happen by mitigating risks, that is, reducing the likelihood or impact of risk before it happens through practices by the individual farmer

2. Transfer This reduces the impact of the risk if it happens by sharing risks with others. Until farmers have access to crop insurance of some kind, most transfer of risk will be by sharing it with other farmers such as in group transport and marketing schemes.

3. Coping Farmers can cope with risks when they materialized, if they have the capacity to survive financially the impact of the risk because of savings, other sources of income such as other businesses, and so on. This can also mean they have the capacity to pay back agricultural loans using non-agricultural income.

Assessing Agricultural Risks

In order to develop an effective plan for agricultural risk management, including risk management education, the best possible assessment of risks should be done. Since few tools – much less quantitative tools – are available to assess these risks, until such tools are developed I suggest using something like the following process in the context of agriculture in Uganda and South Sudan to do agricultural risk assessment which is as comprehensive as possible.

1. Define clearly the target farmer population, or other agricultural related enterprise (ARE) population, which is the focus of the risk assessment process.

2. Decide for the sake of the risk assessment process what “failure” of agricultural activity means. For example, from the lender's perspective “failure” may be inability to repay a loan; from the farmer/ARE perspective “failure” may be a sufficiently poor result to their agricultural effort so that it discourages them from continuing agricultural activity. For the purpose of this risk assessment process it may end up being some combination of these and others factors, determined in part by the goals of the assessment as set by the party(s) sponsoring it. It may also be partly determined and quantified by the responses of actors surveyed during the comprehensive agricultural risk assessment – for example, from the farmer/ARE perspective, how bad must a poor agricultural result be before the farmer/ARE operator is discouraged from further agricultural activity?

3. Conduct a comprehensive agricultural risk assessment survey (CARAS) which includes key informants like the ones listed below, to assess risk at both the farmer/ARE level and the value-chain level. In order to assess risk at the farmer/ARE level, it is important to have information from those providing financial services – whether banks, SACCOs, microfinance institutions – on the

financial situation of the farmer/ARE including indebtedness, credit performance, and financial management capacity of the farmer/ARE. It is also important to have information from agricultural extension (NAADS), cooperatives or associations of farmers/AREs, and others on the agricultural production ability, capacity and situation of the farmer/ARE. In addition its important to have information from the target farmers themselves and their fellow farmers and neighbors; but good information from these latter sources will depend on building trust with farmers and their communities, so that the information gathered is as accurate and as complete as possible. It will never be possible to include all the informants listed below, but the best risk assessment resulting in the best risk management plan will include as many of these key informants as possible:

- a. farmers/operators of agriculture related enterprises
- b. officers/staff of groups of farmers/agriculture related enterprises
- c. neighbors of farmers/operators of agriculture related enterprises
- d. NAADS/extension staff
- e. bankers/SACCO staff/MFI staff
- f. traders, purchasing partners/companies, other buyers
- h. staff of CBOs, CSOs, national NGOs, international NGOs involved with the farmer/ARE

4. After the best possible comprehensive agricultural risk assessment survey is conducted, the information collected needs to be analyzed for accuracy, for truthfulness, for the perspective/bias of the informants, for gaps in information, and for gaps in understanding which key informants may have. In addition, there must be recognition of risks which have not been identified in the survey, for example weather/climate change risks. Also, in addition to market/prices risks, other value-chain risks that may not be mentioned in the survey should be identified and assessed by means of research, by observing market and price and other industry trends, by knowledge of potential or actual official policy developments, and by knowledge of potential or actual infrastructure developments. A value-chain analysis of the farm product(s) being produced by the target farmers will be one helpful way to organize this analysis.

6. Once all relevant risks have been assessed, for the purpose of developing a concrete risk management plan these risks should be prioritized according to three main considerations: the severity of the risks, the likelihood of risks, and the manageability of the risks. It may be possible to develop a quantitative rating of the priority of each relevant risk based on these considerations.

7. Once the relevant risks are prioritized, it is possible to identify the best responses to each of the prioritized risks, up to the limits of resources available for these responses. Clearly where risks can be mitigated by action taken prior to the risk becoming reality, there should be a plan to do that. Some risks can be transferred by sharing them with other farmers/AREs (e.g. marketing together with others), or by sharing them with insurance companies once crop insurance becomes available. And in some cases, the capacity of the farmer/ARE to cope with risks can be increased (e.g. by developing other income-generating activities or savings accounts) so that if the risks become reality they have more resources with which to cope. Some elements of this customized Risk Management Plan will inevitably include Risk Management Education (RME). RME could include, for example, education on improved production practices, education on markets and prices, and education on improved financial management practices. The Risk Management Plan could also include risk management responses other than education, such as increasing access to adequate storage. It is best if the Plan can be adjusted during the implementation period as the situation changes or becomes better understood.

Risk Management Education

Risk Management Education (RME) of farmers and other actors in agriculture-related enterprises plays the largest part of any risk management plan or strategy to mitigate, transfer, or increase the

capacity to cope with the risks of, agricultural enterprises. To give a few of many possible examples:

- Production risks related to drought and soil infertility can be mitigated through training farmers in conservation farming methods that retain more water in the soil and increase soil fertility gradually; or through training in use of mobile phone technology to access agricultural extension information and weather information
- Production, price and marketing risks can be transferred by educating them on the possibility of sharing risks with other farmers through shared transport or marketing schemes, or with insurance companies by participating in crop insurance
- The ability of farmers to cope with risks which actually take place can be increased by educating them on developing other non-farm enterprises or participation in savings schemes that they can rely on, in case of crop failure or other farming disasters

In summary, utilizing the agricultural risk management services of comprehensive assessment of risks, including analyzing and prioritizing risks; development of an agricultural risk management plan to address these priority risks; and risk management education as a primary strategy for implementing a risk management plan, provide a significant opportunity to increase the success of the farming operation. And if farming success is increased, so is the likelihood of farmers repaying loans and the corresponding likelihood of financial service providers being willing to provide more financial services to more farmers. This then could contribute not only to increasing financial inclusion among a segment of the population currently under-served by financial services, but also provide a market-driven solution to enabling more farmers to use increased financing and technical assistance to scale up their agricultural enterprises into commercial farming, thus accelerating the growth of a key sector of the economy of Uganda.

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