Risk Assessment

Uganda

AGRICULTURAL RISK ASSESSMENT STUDY VALIDATION WORKSHOP

VOLUME II

PRESENTATIONS

29-30 June, 2015 | Kampala, Uganda

AGRICULTURAL RISK ASSESSMENT STUDY VALIDATION WORKSHOP

29-30 June, 2015 | Hotel Africana, Kampala

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UGANDA AGRICULTURE RISK ASSESSMENT STUDY
(UARAS) VALIDATIO N WORKSHOP
KAMPALA, UGANDA, 29-30 June 2015

PRESENTATION OUTLINE

- I. CAADP : MAPUTO TO MALABO
- II. GOING FOR RESULTS AND IMPACTS
- III. FLAGSHIP PROGRAM/AGRICULTURE AND FOOD INSECURITY RISK MANAGEMENT (AFIRM)

WHAT IS CAADP : FROM MAPUTO …

- **1) political act**
  - expression of Heads of States in 2003 to break the era of structural adjustment and usher the African renaissance through NEPAD
- **TRANSLATED INTO 2 MAJOR COMMITMENTS**
  - Dedication of 10% public budget to Agriculture sector
  - Achieve at least 6% increase in AG productivity and production

WHAT IS CAADP : from MAPUTO…(2)

CAADP is not a programme per se,

Rather an approach, a political act and a **FRAMEWORK**

2) INNOVATIVE WAY OF CONDUCTING BUSINESS IN AGRICULTURE

→ inclusive stakeholder consultation
for sharing a common vision and objectives, policy design and formulation
→ Consistent planning based on **EVIDENCE**
→ Coordination and alignment of technical and financial partners
→ Monitoring and accountability mechanisms
→ Standardizing the processes and setting benchmarks for countries and regions

CAADP IMPLEMENTATION AND ACHIEVEMENTS

African countries are at 80% engaged. Some countries even engaged in a second or third round (Rwanda, Ghana, Ethiopia, Uganda)

10 over 53 countries registered an annual growth rate in the agricultural sector of at least 6%

8 over 53 countries have reached or surpassed the 10% budgetary allocation target, while 9 are in the 5% - 10% range

Eleven (11) countries got funding from the GAFSP (totalling just over USD 300 million)

A LENGTHY PROCESS
Launch, Compact, Validation of National Agricultural Investment Plans, Quality Assurance, Business Meeting BEFORE IMPLEMENTATION

… TO MALABO 2014
A call for results beyond investment planning

MALABO :

African leadership: **translation of investment plans into concrete programs and projects**

- Recommitment to Investment Financing
- **Enhancing Resilience to CC variability and other shocks through Agriculture Risk Management**
- **Eradicating Hunger by 2025**
- **Halving Poverty by 2025**
- Inclusiveness in Job Creation, in particular for Women and Youth, Wealth creation and equitable distribution
- Boosting Intra-African Trade through Ext Common Tariff

MALABO and CAADP RESULTS FRAMEWORK (2014 – 2023)

Addressing the challenges/issues along three result areas:

➢ **QUALITY INVESTMENT (not just QUANTITY)**
- Linked to clearly set objectives and evidence based analysis
- Aligned to national development vision and priorities
- Financing through public-private partnerships

➢ **POLICY REFORMS AND DESIGN PROCESSES**
- Linking policy design processes to credible knowledge & info support including analytical capacity
- Inclusive participation of non-state players and actors (e.g. empowering grass root communities)

➢ **INSTITUTIONAL REFORMS AND ORGANISATIONAL DEVELOPMENT**
- Capacity development and strengthening local leadership on agriculture (ownership and responsibilities)
- Accountability mechanisms including tracking and data generations/analytical capacity

NEPAD Flagship Programmes for CAADP implementation support

Flagship Programmes- to catalyse, demonstrate a solution, leverage investments

Implementation Stage

- Climate Smart Agriculture (AU-NEPAD-iNGO Alliance for Scaling-Up Climate-Smart Agriculture in Africa) and Climate Change Fund
- Gender Climate Smart Agriculture
- Youth and Employment
- Agriculture Education
- **Agriculture and Food Insecurity Risk Management (AFIRM) Initiative** supported by FAO and PARM

Implications of agriculture and food insecurity risk for countries

- Challenge of facing risk aversion of smallholder farmers esp.
- Acts of desperation of farmers sowing low quality seed under any circumstances
- Inability to meet Maputo target of 6% growth in ag productivity
- Impact at meso and macro levels / food imports/slow econ growth …

Reducing variability/uncertainty while increasing ag investment and productivity with AFIRM tools, supporting policies and CD

- Strengthening Capacity of Farmers to make Informed choices about:
  - WHEN, WHERE, HOW to invest in Ag Production
  - WHEN, WHERE, HOW MUCH and AT WHICH PRICE to purchase inputs and sell their crops
  - Making plans for the future/ keeping children at school, investing in new technology, savings …

COMPLEMENTARY INTERVENTIONS TO AFIRM STRATEGIES

- **Addressing the constraints** : Infrastructure, Education, Health, Advisory Services, Crop Protection and Veterinary Services, ITC…
- **Building complex partnerships**
  - Private sector, research institutions, service providers, social enterprises, foundations, NGOs, Government, farmers associations
- **Knowledge, technology and skills**
- **AFIRM strategy = bridging the gap between short term and long term interventions** and building **RESILIENCE** of Smallholder rural producers

MAINSTREAMING AFIRM INTO AG POLICY AND STRATEGY DOCUMENTS

- Building ownership and leadership at country and regional level
- Ensure coherence, complementarity with on-going programs,
- Ensure internalisation in national budgeting, monitoring and accountability processes

PARTNERSHIP ARRANGEMENTS

- Supported by FAO and the European Commission since 2011 (first WS in 2012)
- Supported by PARM (G20 initiative created in 2011 under the French Presidency) and the EC, AFD, Government of Italy and IFAD

ASANTE

THANK YOU FOR YOUR KIND ATTENTION

Integrating Risk Management Into Agriculture Sector Strategic Plan: 2015-20

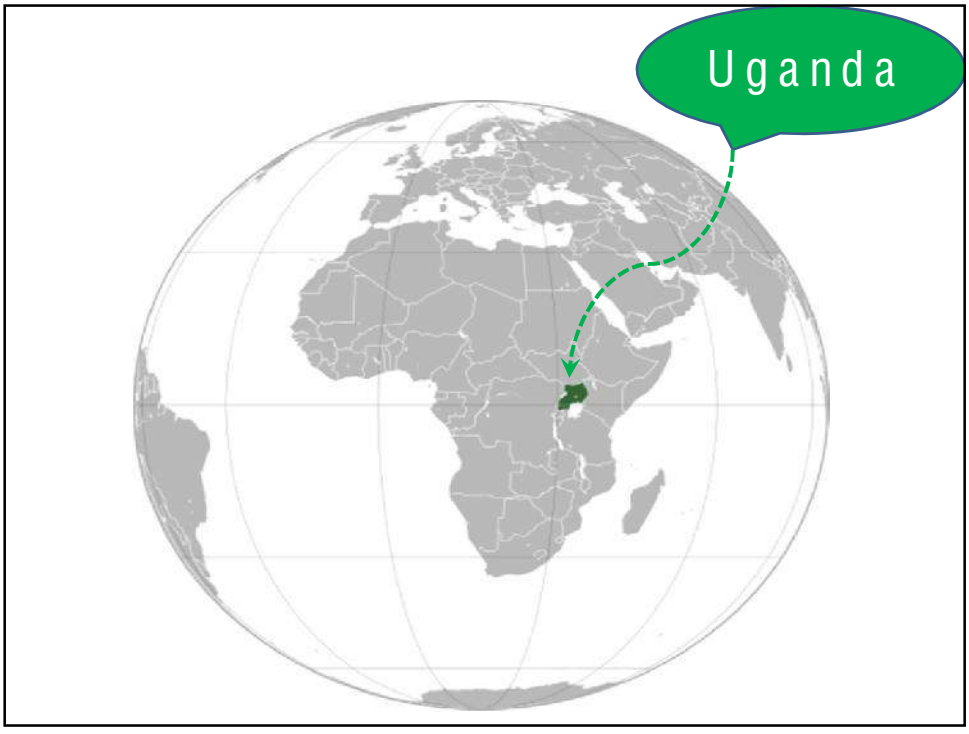
by

Tom K. Mugisa

PMA Secretariat

Ministry of Agriculture, Animal Industry and Fisheries

Validation Workshop on Risk Assessment June 29-30, 2015, Hotel Africana



Why agricultural risk management is important for Uganda?

- To build **confidence** among the producers (crops, livestock, fisheries) to increase their investments
- **To increase understanding of especially financial institutions of risk management and demonstrate available solutions for agricultural risk management , so their can invest more in agriculture**
- An agricultural sector whose risks are well managed is **resilient** with capacity to exploit productivity potential and key needs of the various actors such food, cash and raw materials

Challenges of agriculture -1

Production risks/constraints – e.g. :

- Losses due to **pests and diseases**: e.g. Rice blast, African Rice Gall Midge, stem-borer, *Bipolaris oryzae* and birds
- **Abiotic** constraints: drought stress, low fertility, disasters
- **Physiological** constraints such as grain shattering
- **High labour** demands

Site of a land slide

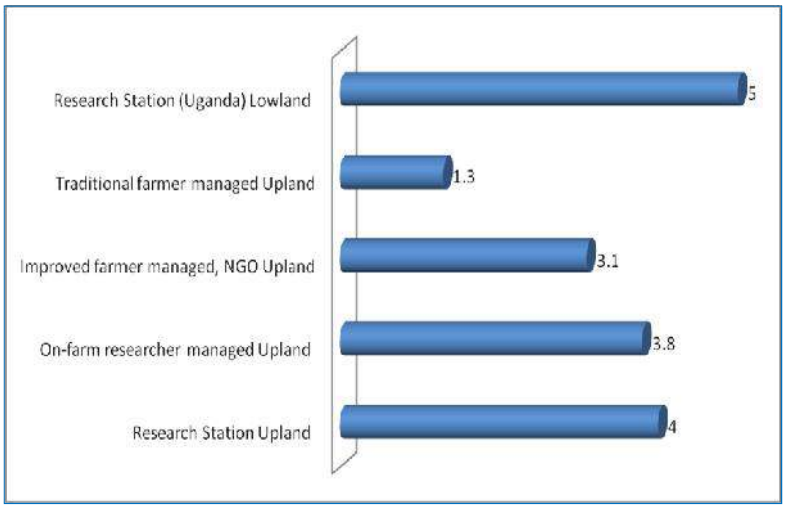
Challenges of agriculture - 2

Processing and value addition challenges/risks:

- Poor post harvest handling including inadequate drying **facilities** that lead to contamination
- Toxins such as the liver cancer causing aflatoxin

Contaminated maize

Challenges of agriculture - 3



Source: ***Ngambeki et al., 2010***

Integration process

National Development Plan (NDP) for 2015-20

- **Risk management highlighted including climate change**

Agriculture Sector Strategic Plan (ASSP) for 2015-20

- Thematic group created
- A framework implementation plan developed with matrix of interventions

Risk Interventions in ASSP

- **Policy Development**
- **Information System**
- **Capacity Development**
- **Institutional Development**
- **Agricultural risk management projects (sample next slide)**

Risk Management Projects

- Integrate Risk into the extension messages
- Increase the access to financial services for farmers, in particular agricultural insurance
- Reduce post-harvest losses through improved storage infrastructure
- Improve market information systems
- Reduce price risk and price volatility
- Reduce exposure of female & young farmers
- Strengthen social security for farmers

NEXT STEPS

- Launch the Agric Sector Strategic Plan
- Implement interventions
- Develop guidelines for Integration risk management in local governments plans
- Support local governments to implement
- Monitor and evaluate progress, upscale best practices

Thank you

ARM

A Holistic Approach to Agricultural Risk Management

Jesús Antón

Platform for Agricultural Risk Management **PARM** / IFAD

Addis Ababa, 11-13 November 2014

OUTLINE

1 Rationale & Goals of ARM

- Role and rational of ARM
- Risks, constraints and Opportunities

2 Why A Holistic approach to ARM?

- Linear vs. Holistic Approach
- Risk Assessment and Risk layering

3 (P)ARM approach & strategic challenges

- The PARM approach and strategy
- Challenges and opportunities

1

RATIONALE AND GOALS OF ARM

The Rationale of ARM

- Risk is crucial in Agriculture
  - Returns dramatically depend on climate and prices in the context of Climate Change
- Farmers need to manage risk
  - Welfare of the household & competitiveness of their farms
  - To uptake investment opportunities & access to credit
- Countries need to manage agriculture risk
  - Risks can threat food security
  - Risks can crowd out investment in the agro-food value chain
- Managing Risk ≠ Just reducing risks
  - ARM is a way of thinking and doing business

1

RATIONALE AND GOALS OF ARM

Agricultural Risks

- Risk: a combination of the likelihood of an occurrence of a hazardous event and the severity of injury or damage that can be caused.
- Agricultural risks: are those that significantly affect agriculture, with implications for farmers' livelihoods and local or national economy and food security
  - 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.

1

RATIONALE AND GOALS OF ARM

Risks: damage or opportunity?

1 DAMAGE

Crops or livestock can be lost, prices can fall, livelihoods at risk

Risk Has Two Sides

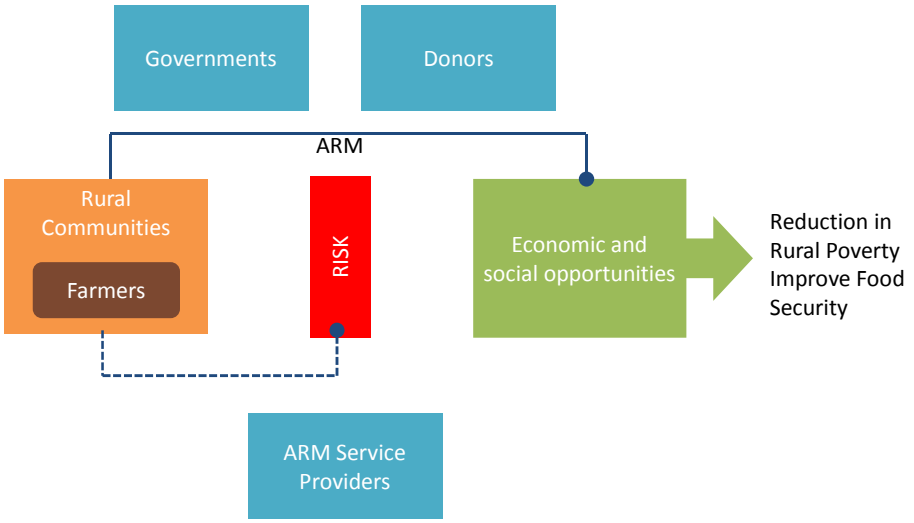
2 OPPORTUNITY

Risk and higher returns as driving forces of good entrepreneurship and innovation

1

RATIONALE AND GOALS OF ARM

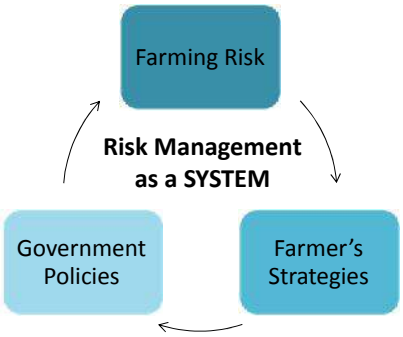
The role of ARM



2

WHY A HOLISTIC APPROACH TO ARM

Interaction of the Holistic Approach



A Holistic approach means the focus is on:

- the whole farm / farm household income
- all sources of risk and correlation
- the whole set of policies and strategies

2

WHY A HOLISTIC APPROACH TO ARM

Risk Assessment |Characteristics of Risks

Risk ≠ Uncertainty	• Known Risk vs Unknown (cognitive failure) • Farmers know what is in theirs farms (Asymmetric Information)
Correlation	• Low production ⇛ High price • High/low prices for several commodities
Idiosyncratic / Systemic	• Local risk in a farm (hail) • Systemic risk for all farms at same time
Catastrophic Risk	• Low frequency, High losses, Systemic • Vulnerability, ability to cope

2

WHY A HOLISTIC APPROACH TO ARM

Risk Assessment | Instruments and strategies

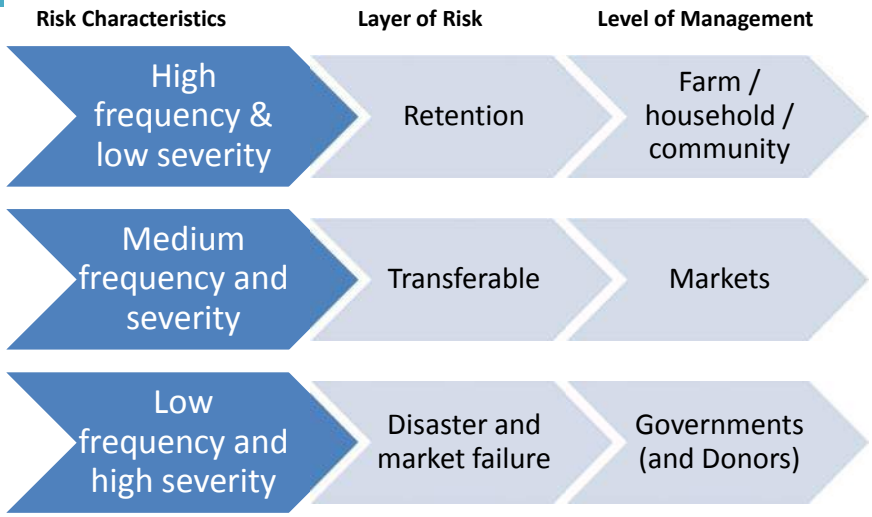
EX ANTE	Farm/ Household	Market	Community/ Informal	Government
Risk Reduction	• Avoiding risk • Household size • Income diversification • Low-risk, low-return cropping patterns • Production techniques • Climate-smart Agriculture	• Training on risk management	• Crop sharing	• Macroeconomic policy • Disaster prevention • Prevention of animal diseases
Risk Mitigation	• Diversification in production • Savings in the form of Liquid assets (crops) and buffer stocks • Crop diversification • Inter-cropping • Plot diversification • Borrowing from neighbours/family • Intra-cropping charity	• Futures and options • Insurance • Vertical integration • Production/marketing Contracts • Spread sales • Diversified financial Investment • Off-farm work • Warehouse Receipt systems	• Common property resource mgmt • Social reciprocity • Informal risk pooling • Rotating savings/credit	• Tax system income smoothing • Counter-cyclical programmes • Border and other measures in case of contagious disease outbreak
EX POST				
Risk Coping	• Safe of assets • Reallocation of labour • Reduce consumption • Borrowing from relatives • Migration	• Selling financial assets • Saving/borrowing from banks & MFI • Off-farm income	• Sale of assets • Transfers from mutual support networks	• Disaster relief • Social Protection • Cash transfers • Food Aid • Other agricultural support programmes

Source: OECD (2011)

2

WHY A HOLISTIC APPROACH TO ARM

Layers of risk and Levels of Management

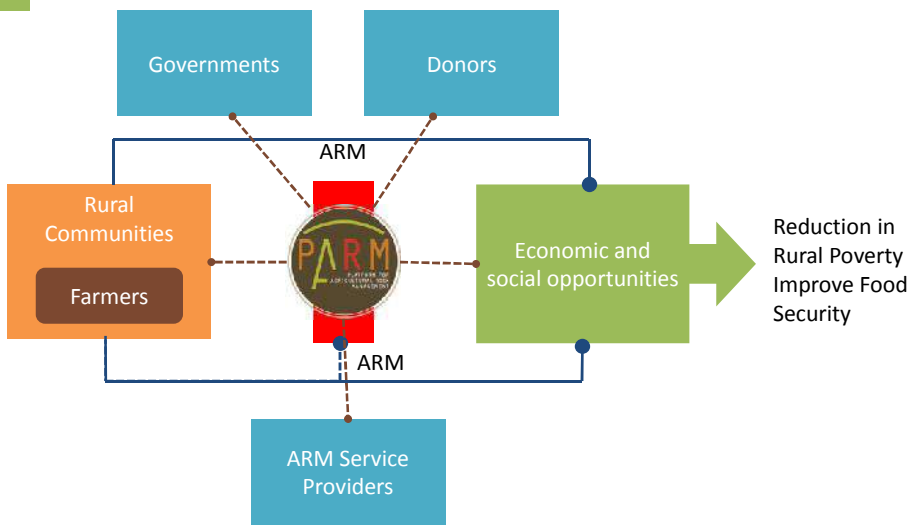


Source: OECD (2011)

3

(P)ARM APPROACH AND STRATEGIC CHALLENGES

The need for a neutral facilitator



3

(P)ARM APPROACH AND STRATEGIC CHALLENGES

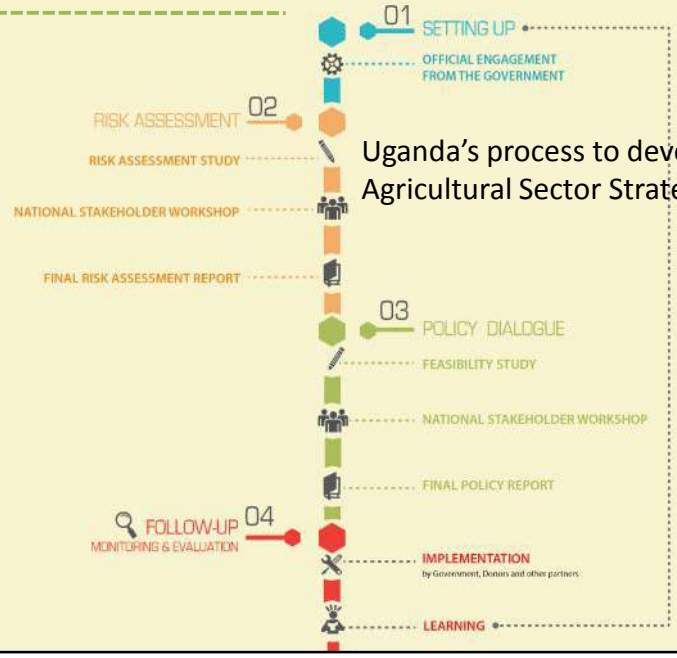
The (P)ARM Approach to ARM System

- Building on existing initiatives in the country
  - Working with the governments. NEPAD /CAADP
  - Engaging stakeholders in a holistic approach process
    - AU, World Bank and FARM-D, IFC, IFAD, FAO, WFP
    - Regional and bilateral donors and service providers and Private sector
- Holistic approach
  - Comprehensive view of risks, tools and strategies
  - Risk layering: defining Layers of risk and Levels of responsibility
- Demand driven and Evidence based
  - Tailored to the local needs / Avoiding crowding out of local strategies
  - Based on rigorous studies and empirical evidence
- Promoting a diverse set of tools
  - Diversification, technical innovations
  - Crop sharing, informal poling, rotating savings-credits
  - Insurance, contracts, futures
  - Policies: emergency reserves, disaster relief, social
- Enhancing ARM capacities and Information systems

3

(P)ARM APPROACH AND STRATEGIC CHALLENGES

PARM Process / CAADP process of NEPAD

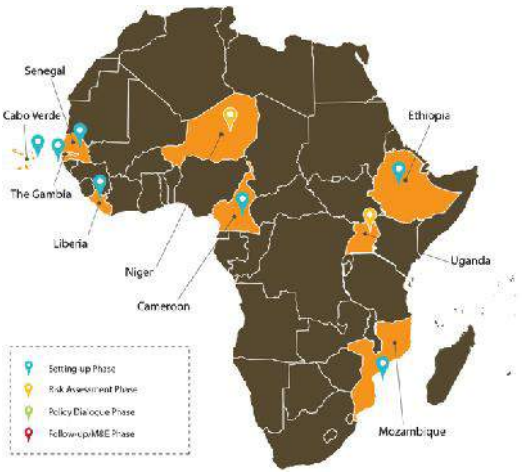


Uganda's process to develop the Agricultural Sector Strategic Plan

3

(P)ARM APPROACH AND STRATEGIC CHALLENGES

Where Do we Operate?



PARM is currently focusing on sub-Saharian Africa but may expand its geographical scope to other regions in the future.

The main selection criteria are based on:

- **Commitment** of the government to Agricultural Risk Management (ARM) and the status of the Comprehensive Africa Agriculture Development Programme (CAADP) implementation
- **Diversity** in agro-climatic zones, language blocks, and socio-economic standing.

The current selected countries are: Cabo Verde, Cameroon, Ethiopia, Liberia, Mozambique, Niger, Senegal, The Gambia and Uganda.

3

(P)ARM APPROACH AND STRATEGIC CHALLENGES

Challenges and Opportunities

Risk assessment and Prioritization

- Characteristics of production and market risk (size, correlation, seasonality…)
- Available risk management strategies at individual farm and community level
- Risk layering
- Priorities to feasibility studies

Defining and building a Risk Management System with shared views

- Policy choices
- Market instruments
- Farms / household empowerment: capacity and responsibility

Please share your knowledge and experience

THANK YOU

www.p4arm.org

parm@ifad.org

Managing agricultural risks in developing countries: Some country experiences and challenges

Mulat Demeke, FAO
Kampala, Uganda
29-30 June 2015

Outline of presentation

1. The problem
2. Approaches managing production, price and food security risks
   - Price stabilization and support policies
   - Input support measures
   - Agricultural insurance and disaster risk management
   - Agricultural financial provisions
   - Social protection measures
3. Conclusions

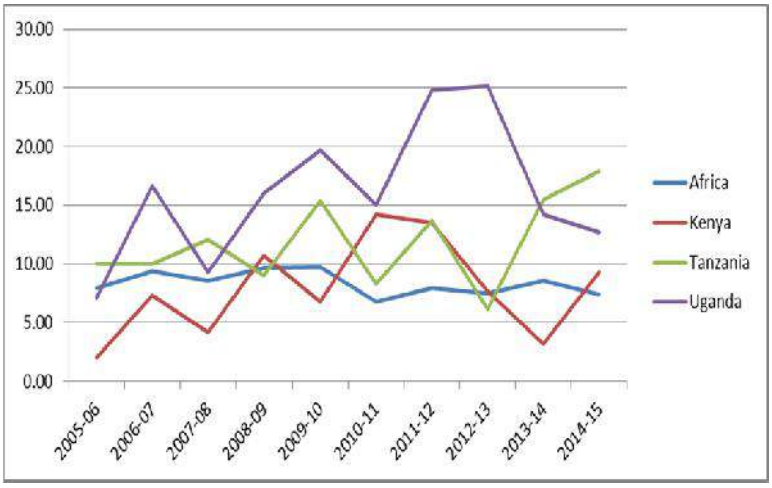
1. The problem

- The consequences of food and agricultural risks are high
  - Food and agricultural risks are among the major reasons for poverty traps and low growth rates
  - In the presence of risk, smallholders favor subsistence production with low-risks/ low-returns, not high-return farming enterprises
  - Unexpected weather and commodity price fluctuations make it risky for financial markets to provide services such as credit, savings accounts and insurance to rural households

1. The problem …

- Unmanaged risks can:
  - lead to a cycle of 'shock, (partial) recovery, shock', eroding capital and natural resources
  - significantly disrupt supply chains and prevent suppliers, processors, transporters, and marketing companies from expanding and improving their services.
- Shocks impacting the agricultural sector, can adversely impact national GDP with long-term consequences for the country's economic growth.
- Production and price shocks compromise food and nutrition security of poor consumers in urban and as well as rural areas.

Maize price volatility in Uganda



2. Approaches to managing production, price and food security risks

- No agricultural transformation without managing risks
- Lesson from other countries - **risk management strategies vary**
  - **i. Price stabilization and support policies**
    - In Asia, major agricultural economies maintain strategic grain reserve – price support increasing over time
      - China, India, Bangladesh, Indonesia, the Philippines, Thailand, etc.
      - India has been raising minimum support price (MSP)
      - The procured grains are used for distribution to poor consumers or for export at times of surplus.

2. Approaches to managing …

- In Latin America and Caribbean (RLC), price support schemes are less popular
  - But Brazil uses it national food reserves to stabilize prices of staple crops
  - Buys grain at guaranteed minimum prices from smallholders and family farms
  - The food purchased is often donated through local food-security related organizations
  - In LAC, commodity exchange systems as market-based price stabilization instruments are more developed than Asia or Africa – working for commercial farmers

2. Approaches to managing …

ii. **Input support measures**

- In Asia, input subsidies were a major part of the green revolution packages
- Input subsidies have retained or expanded their input subsidy programmes – manage input price risks
  - China, India, Indonesia and the Philippines have massive input subsidy programmes
- In LAC, input subsidy interventions are relatively small and ad-hoc
  - Chile is using special input subsidy schemes to support its indigenous communities

2. Approaches to managing …

iii. Agricultural insurance and disaster risk management

- The incidence of agricultural insurance and disaster risk management is higher in LAC
  - In LAC, state-owned agricultural insurance companies have gained popularity but operate alongside private insurance companies, offering special services such as
    - » Reinsurance or
    - » Insurance coverage to catastrophic risks

2. Approaches to managing …

- Brazil relies on public-private partnership that includes the government, private insurance sector, agro-industries and cooperatives
  - Market-based private insurers compete with public firms for underwriting agricultural insurance in LAC
  - Premium subsidies are also are widely applied and have attracted increased budgetary allocations in LAC
  - Government based post-disaster relief programmes are common in countries prone to disaster (e.g. Caribbean countries)

2. Approaches to managing …

- In Asia, reforms have led to the emergence of a combination of public, private, and public-private models of agricultural insurance along with government-based natural disaster risk management programmes.
  - India is administering the world's largest crop insurance programme – the National Agricultural Insurance Scheme annually insures approximately 18 million farmers
  - China relies on public agricultural insurance companies but has promoted private insurance companies

2. Approaches to managing …

iv. Agriculture finance provision

- Improving access to credit is considered as a major instrument to address the risk of market failure in agricultural finance
- Very popular in both LAC and Asia – nearly all countries have programmes to improve access to credit
- The major credit approaches adopted to support producers included:

(i) special programmes to increase the flow of credit to agriculture (e.g. lower interest rates),

(ii) measures to reduce the risk of agricultural credit (credit guarantee schemes, CGS), and

(iii) measures establishing or sustaining agricultural financial institutions.

2. Approaches to managing …

- CGS are more widely available in LAC – important in expanding agricultural credit
- Specialized agricultural banks are more common in Asia
  - » India has several government schemes
  - » Also, the Reserve Bank of India's regulations make it mandatory for domestic commercial banks to direct 18% of their credit to agriculture and allied sectors

2. Approaches to managing …

v. Social protection measures

- Regular and predictable public investment in social protection programmes has elements of risk coping, risk transfer or risk mitigation mechanisms
- SP can help households smooth their food consumption and manage production risks better and to engage in more profitable livelihood and agricultural activities
- Cash-based transfer programmes have been implemented to support the poor in over 90 percent of the Asian or LAC countries surveyed
  - Cash-based transfer schemes have emerged as a preferred policy instrument against poverty and food insecurity in LAC (mainly as conditional cash transfers)

2. Approaches to managing …

- Among the major attractions of cash transfer schemes is their high cost-effectiveness due to the fact that transaction costs can be kept at a minimum and logistics are easier to manage.
- A growing number of countries are also institutionalizing cash transfers as well as cash-for-work programmes
- Linking social protection to developing productive capacity – e.g.
  - Productive Safety Net Programme of Ethiopia,
  - Conditional cash transfer in LAC – education and health to build the productive capacity of future generation .

3. Conclusions

- African countries need an integrated risk mitigation, transfer and coping mechanisms that foster synergy
- A coherent agricultural risk management policies & strategies critical to achieve national / CAADP targets.
- Need to develop programmes for effective protection against all idiosyncratic and many covariant risks.
  - Use best practices from LAC, Asia and other African countries – **PPP is central and holistic approach**
- Need to develop agricultural risk assessment and management **capacity**.
  - Partnership with academia and research organization
    - Training activities – at all levels
    - Research and analytical works – generate knowledge

THANK YOU

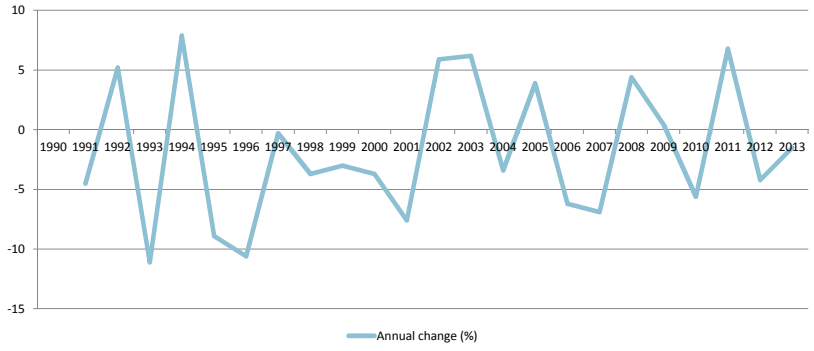
Risk Profiling of Ugandan Agriculture – Highlights from Agricultural Risk Assessment Study

Prof. Bernard Bashaasha
Assoc. Prof. Herbert Talwana
Ms. Josephine M. Muchwezi

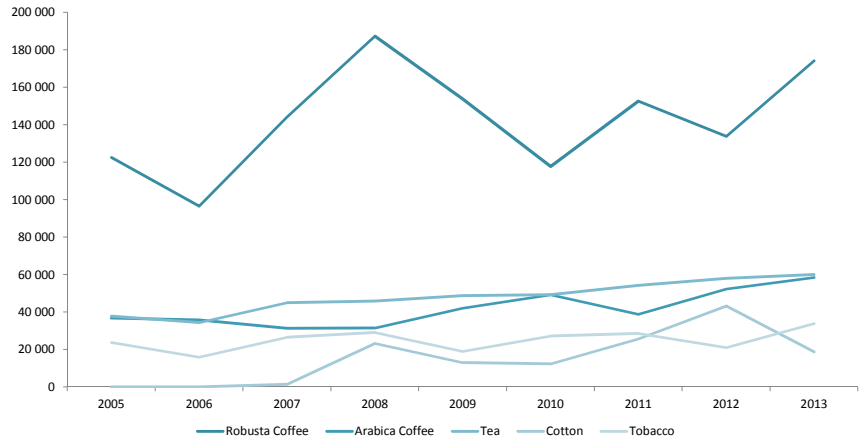
[PARM – Risk Assessment Study Team]

Agricultural profile: Percentage to GDP

- The agricultural sector's contribution to GDP has fluctuated over the years, from above 35% in the 1990s to 30 % in the 2000s and 26% in the 2010s
- Contributed ***22.2 %*** of GDP (2013/14) compared to ***22.5 %*** of GDP (2012/13)
- Agriculture sector growth was ***1.5 % (***2013/14) compared to ***1.3 % (***2012/13)

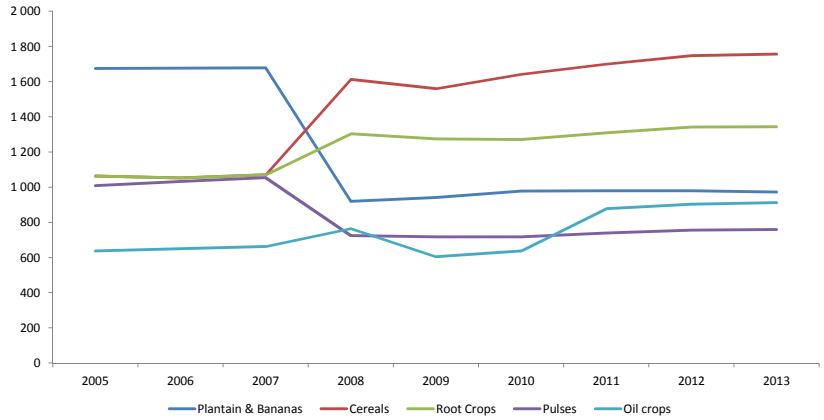


Cash Crops: main exports (MT)



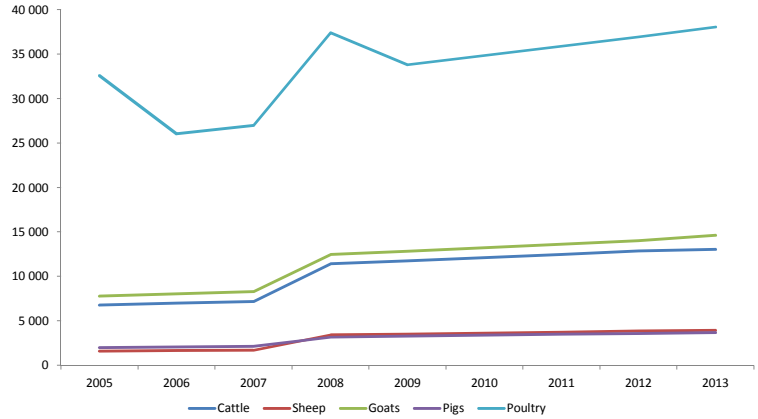
The major cash crops are namely, coffee, tea, cotton, tobacco and cocoa.
Others: sugar, cut flowers, fruits and vegetables

Food Crops: Area planted (000 Ha)



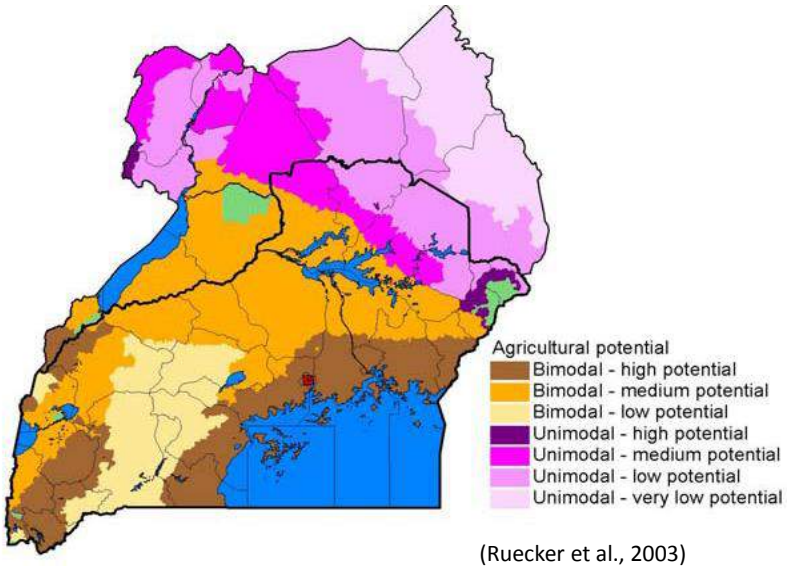
- Uganda grows about sixteen major food crops namely; Cereals (maize, millet, sorghum, rice); Root crops (cassava, sweet potatoes, Irish potatoes); Pulses (beans, cowpeas, field peas, pigeon peas); and Oil crops (groundnuts, soya beans, sesame), bananas, and plantains.

Livestock numbers (,000s)



- From 2005, the number of livestock and poultry has steadily increased over the year. This is attributed to the steady efforts to control animal diseases and improve livestock production systems by an increase in routine livestock production extension interventions.

Agriculture potential



(Ruecker et al., 2003)

Agriculture potential?

- The yields remain low as indicated by the existing yield gaps, e.g. (PMA report):
  - Maize – 91.52%
  - Beans – 88.07%
  - Groundnuts – 79.48%
  - Bananas – 58.40%
  - Coffee – 89.46%
  - ….

Uganda's Agricultural Profile in Risk Management Context

- Uganda's agriculture is predominantly small-scale farming; only 4% of total farms are 5 ha or more.
  - Access to extension services/information
  - Adoption and adaptation of agricultural technologies – production, processing, storage
  - Subsistence vs. commercialization
  - Access to credit

Access to Extension services

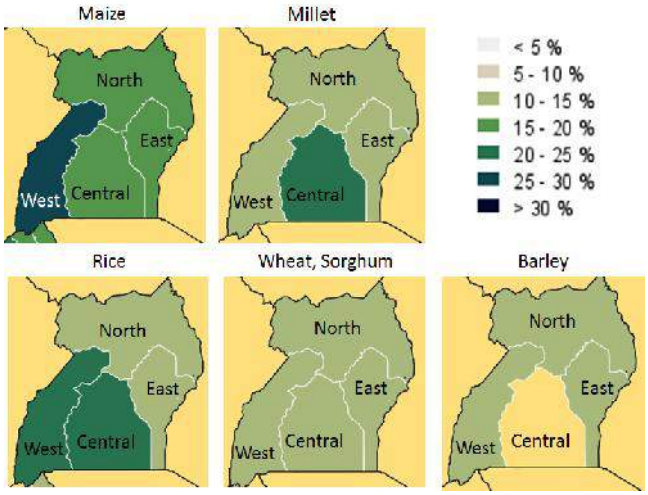
- About 20% of households are visited by extension staff
- Belonging to a farmer group improves access: 53% (cf. 14% if not in a group)
- Only 16 % of households belong to farmer groups
- Farmer-to-farmer sharing remains dominant source of information

[*Uganda Census of Agriculture* (UCA)]

Inadequate information….

- Affects decision making: adoption of technologies, marketing
  - Most farmers recycle seed
  - Fertilizer use is amongst the lowest in the world
    - 1kg/ha vs Mozambique: 4kg/ha; Tanzania: 6kg/ha; Malawi: 16kg/ha; Kenya: 32kg/ha; South Africa: 51kg/ha
    - Fertilizers in Kampala are 1.5 times more expensive than in Nairobi
    - Only 7.7% of the 3.6 million households reported to use inorganic fertilizer (Uganda Census of Agriculture)
    - Uganda has no Fertilizer targets to guide Fertilizer policy (SSA target is 50kg/ha)
  - Group marketing and contract farming very low

Post harvest losses in Uganda are high!!



May be up to 70% in presence of Larger grain borer!!

Fruits and perishables – up to 100% (lacking cold storage chain)

Postharvest losses …

- At National level, there is limited storage capacity:
  - < 20% of storage capacity of production
- At farm household level, low capital and low returns affect harvesting efficiency and storage:
  - Forced selling – only source of income, spare space in human dwellings
  - Declining impetus to invest in postharvest handling: the farmer prefers to kick the tin down the road
- If PHL are ignored, we cant achieve the 6% growth in agriculture as stipulated by CAADP

Access to Agricultural credit

- *Banking system is in hands of "foreigners"*
  - The number of farm households accessible to farm credit: 9% (of 3.5 million households)
  - Agricultural loan portfolio is 2.3% of total loans in Tier 1 – 3 Financial Institutions; MFIs and SACCOs require further development
  - De facto interest rates at farm level:
    - Financial institutions: 30% annual
    - Private money lenders: 25% monthly

Uganda's Agricultural Profile in Risk Management Context

- Agriculture is rain-fed; Potential irrigatable land estimated to be 220,000 ha of which only 14,418 (7%) is under formal irrigation
- Labour is the most expensive input (50% of total production costs) for most commodities
  - Hoe-drive agricultural system is losing battle to feed an increasing population

Other Contextual issues

- Poverty – reduced to 19.7% from 56% (1992). However,
  - 6.7 million people remain poor & disparities persist:
    - across geographic areas and household characteristics
    - across multiple deprivations – such as health, education, sanitation, and housing
  - Income inequality (measured by the Gini coefficient) reduced from 0.426 (2009/10) to 0.395 (2012/13)
    - higher in urban areas (0.41) compared to rural areas (0.34)
  - Average per capita farmer incomes nationwide: UgSHs 400,000

Institutional Issues

- Fragmentation of the agricultural sector, e.g.
  - Location of water for production
  - Location of agricultural marketing, processing and trade
  - Weak farmer organization in production processing and trade

Ugandan Agricultural is vulnerable to a number of risks

RISK	DESCRIPTION	EFFECTS
Weather	Rainfall or temperature variability or extreme events, such as storms, drought, floods	Lower yields, loss of productive assets or income
Natural disasters	Earth quakes, volcanic activity, mudslides	Loss of productive assets, lives and income
Biological	Pests, disease, contamination related to poor sanitation, human contamination, illnesses; contamination and degradation of natural resources, the environment and production and processing processes	Lower yields, loss of income
Market	Instability in market supply and demand both in quality and quantity affecting prices at local and international markets	Lower prices, loss of income
Logistical and infrastructural	Changes in transport, communication, energy costs; degraded and/or undependable transport, communication, energy infrastructure; and physical destruction, labour disputes affecting transport, communications, energy infrastructure and services	Loss of productivity, loss of income, increased costs
Management and operational	Poor decision making decisions in asset allocation and livelihood, use of inputs, quality control, forecast and planning, product processing and marketing. Breakdowns in farm or farm equipment; inability to adapt to changes in cash and labour flows	Loss of productivity, loss of income, increased costs
Labor and health	Illness, death, injury to farmer and farm workers	Loss of productivity, loss of income, increased costs
Policy and institutional	Changes and uncertainty in government (regulatory, legal, fiscal, tax, land, market and trade) policies and enforcement. Weak institutional capacity to implement regulatory mandates	Changes in costs uncertainty in costs, taxes, market access
Political	Political upheaval and unrest endangering to life and property in the country and neighbouring countries. Interruption of trade and disruption of markets. Nationalization and confiscation of assets especially for foreign investors	Changes in costs, taxes, market access

Effects of **natural disasters** in Uganda in the last 30 years

Disaster type	Sub-type	Events	Number of deaths	People affected
Drought		7	194	4,450,000
Flood	Riverine flood	14	267	1,041,945
Storm	Convective	1	23	47
Earthquake	Ground movement	4	7	52,000
Landslide		4	437	19,593
Epidemic	Bacterial disease	25	1,170	236,512
Epidemic	Viral disease	9	463	108,036
Epidemic	Others	9	29	31,024

Price Risk

Types of political losses

Risk	Examples
Bribery	- Forced hiring of 3rd-party consultants for contract bids, - Unforeseen border "taxes"
Capital Controls	- Limits on profit repatriation, - Administrative delays in approving capital transfers
Contract Default	- Politically-driven debt default, - Politically-driven failure to deliver on a contract
Expropriation/ Nationalization	- Confiscation of a plant due to "unpaid" taxes, - Forced sale of asset(s) to government buyer at below-market prices, - Politically-driven increase in state ownership of joint ventures
License Cancellation	- Change to organization's License to Operate ahead of an election, - Loss of Social License to Operate from lack or loss of local community support
Protests/Strikes	- Industrial action and work stoppages at key supplier(s), - Anti-government or anti-company protests and road-blocks
Regulatory Change	- Complex new environmental or labor standards, - Regulatory enforcement authority handed to a state-owned company
Taxation	- Windfall taxes levied over "excessively high" profits, - Duplicate tax claims by/between central and local governments
War and Terrorism	- Border and road closures due to interstate fighting, - Politically motivated terrorist attacks against foreign investors

ARM measures in Uganda: Risk Prevention & Mitigation

	Agricultural household/community	**Market**	**Government**
Risk Prevention	Technological choice	Training on risk management -	1. Macroeconomic policies 2. Disaster prevention (e.g. flood control) 3. Prevention of animal diseases -
Risk Mitigation	• Diversification in production • Crop sharing	1. Futures and options 2. Insurance 3. Vertical integration 4. Contracts in production or marketing 5. Spread sales - (over the year through warehousing) 6. Diversified financial investment 7. Off-farm work	1. Tax system income smoothing 2. Counter-cyclical programmes 3. Border and other measures in the case of contagious disease outbreak

ARM measures in Uganda: Risk Coping

	Agricultural household/community	**Market**	**Government**
Risk Coping	1. Borrowing from neighbours/family 2. Intra-community charity	1. Selling financial assets 2. Saving/borrowing from banks 3. Off-farm income	1. Disaster relief 2. Social assistance 3. Agricultural support programmes

Thank You

Prioritizing risk for agriculture in Uganda

29-30 June, 2015 | Kampala, Uganda

RISK **OVERVIEW**

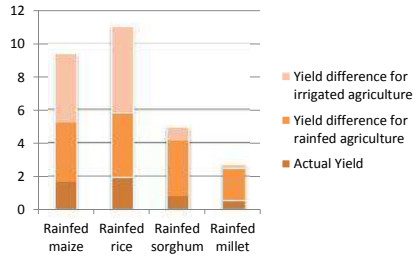
OVERVIEW. Uganda's agriculture is affected by a multitude of risks. Often, risks are inter-related and the impact is increased by the constraints that farmers face, in particular smallholders.

Input risk	Counterfeit inputs
Weather risk	Drought, flood, hail, thunderstorms, landslides, etc.
Biological risk	Pest & diseases for crop & livestock
Infrastructure risk	Post harvest revenue loss
Price risk	Price risk for food & cash crops
Security risk	Northern Uganda insurgency; Karamoja cattle raids

Farmers are also affected by risks to their health and life. Beside cost for hospitalization and medication, farmers also suffer significant income loss, if they are not able to work.

INPUT RISK

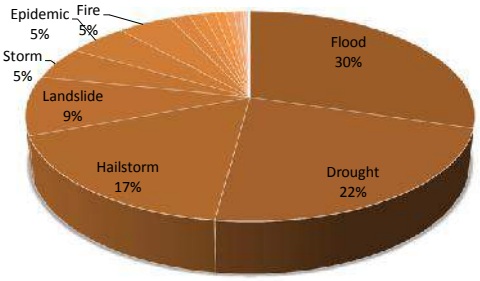
- Average yields in Uganda are well below their attainable potential.
- 90% of crops are grown using using home-saved seed and vegetatively propagated planting materials
- High reported incidence of counterfeit inputs
- Annually recurring problem
- Lab trials showed that 3 out of 10 seeds failed to germinate
- Estimated losses between USD 10.7 and USD 22.4 million annually due to counterfeit maize, herbicide and inorganic fertilizer sales

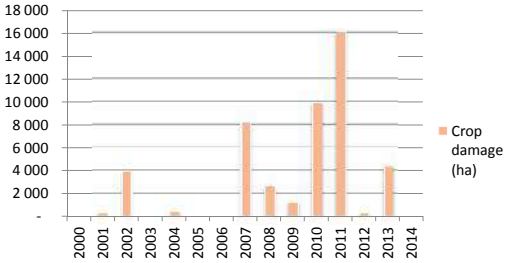


The actual cost of fake inputs is, likely, much higher than the figures reported here, as many farmers shy away from using improved seeds due to the many incidents of fake inputs, thus, lowering their revenue potential.

WEATHER RISK

TYPES OF WEATHER RISK. Uganda is affected by a range of weather events. The most common events are floods, droughts, hailstorms, landslides, and storms.



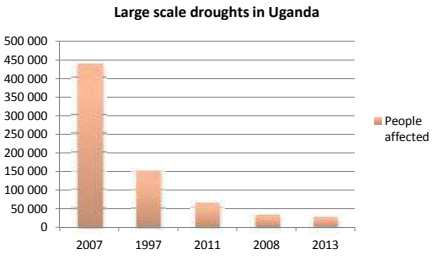


TRENDS. The database of OPM shows an increased number of events in the past ten years. However, a major reason for this trend is simply improved data collection and analysis

WEATHER RISK: **DROUGHT**

FREQUENCY. Droughts has been the natural risk with the most devastating and wide-spread impact in Uganda. Small-scale events (rainfall deficit) are reported on an annual basis.

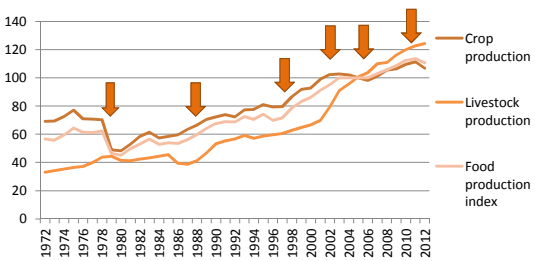
Large scale events (with more than 25,000 people affected) occurr on average every 5.5 years.



WEATHER RISK: **DROUGHT**

SEVERITY. The economic impact of recent droughts has been very substantial. In particular the 2010/11 drought has caused massive economic losses for food crops, cash crops, and livestock

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Food crops	0.07	0.24	0.22	0.00	0.00	151.60	121.57	0.00	0.00
Cash crops	17.99	16.62	2.62	0.00	0.00	37.90	30.39	0.00	0.00
Livestock	1.81	1.69	0.28	0.11	0.00	111.42	231.50	17.24	11.58
Total	**19.87**	**18.54**	**3.12**	**0.11**	**0.00**	**300.92**	**383.45**	**17.24**	**11.58**

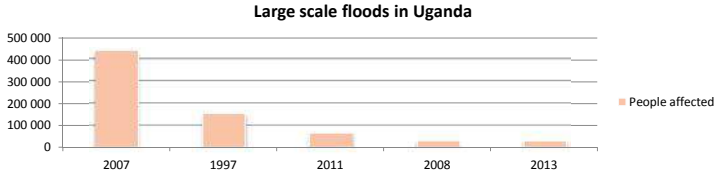


IMPACT ON FOOD SECURITY. Droughts are a threat to the livelihood of farmers but also cause macro-economic losses due to food insecurity and the lack of a healthy work force.

WEATHER RISK: **FLOODS**

FREQUENCY. The most frequent natural risk in Uganda is flooding. According to PMO a total of 771 flood events have been reported in Uganda for all years.

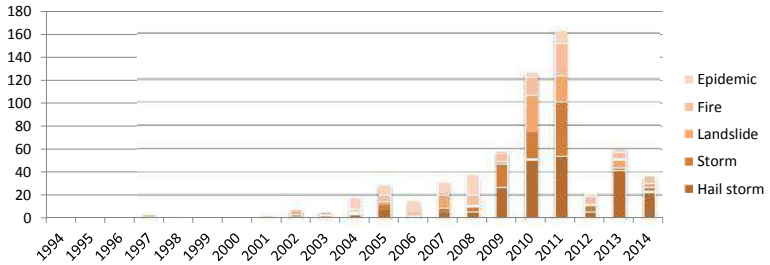
The return period for large scale floods is 4.1 years for the last 50 years; it has to be noted, however, that all major events occurred since 1997. The return period for floods that affected, at least, 5,000 people since 1997 is just 1.7 years.



SEVERITY. The average annual cost of floods is only USD 166,270 (based on PMO data). This figure might be too low: based on FAO/WFP the 2007 alone caused loss of production in Amuria and Katakwi districts of 48,583 ha (app. value of USD 4.6 mllion) compared to USD USD 597,211 based on PMO data.

WEATHER RISK: **OTHER NATURAL RISKS**

FREQUENCY. Of the 5 other major hazards (i.e. hailstorms, thunderstorms, landslides, fires, and epidemics), only hailstorms occur with a similar frequency as floods. The remaining four hazards are only half as frequent as floods and hailstorms.



SEVERITY. The severity of all other natural risks compared to droughts is much smaller: the average annual cost of droughts is more than USD 44 million, while the figure is only USD 68,377 for hailstorms, and USD 20,973 for thunderstorms.

PEST & DISEASE RISK: CROPS

FREQUENCY. Outbreaks of pests and diseases are part of agriculture.

Some pests and diseases have caused losses for many years already (for example wilt on coffee and bananas), while new diseases are emerging (e.g. MLND).

With the onset of climate change, which has extended warm temperatures to new regions, Uganda is bound to see pest-related problems spread to even wider areas since warmer temperatures are expected to both encourage the spread of pests into new areas as well as render some plants more susceptible to their effects

SEVERITY. The economic impact of pest and diseases does not only include the direct yield loss (or weight loss in case of post harvest losses) but also opportunity cost and expenditure incurred to control the pests and diseases.

Crop	Estimated Annual Loss
Bananas	USD 35 - 200 million
Cassava	USD60 - 80 million
Cotton	USD 10 million
Coffee	USD 8 million
Total	**USD 113-298 million**

PEST & DISEASE RISK: CROPS

Crop	Pest/Disease	Typical Loss Level
Banana	i. Black Sigatoka ii. Bacterial wilt iii. Fusarium wilt iv. Banana streak virus v. Banana weevil vi. Nematodes	i. 30-50% ii. up to 100% for affected field iii. up to 100% for susceptible varieties iv. 40% v. 60% in 4 years vi. 51% in 4 years
Coffee	Coffee wilt	Up to 100%
Cassava	i. Brown streak ii. Mosaic virus disease	i. 100% ii. 80%
Cereal and legume grains	Post-harvest losses due to insects, microbes, rodents and birds	5-15%
Roots and tuber crops	Post-harvest losses due to intrinsic, physiological and biochemical deterioration, and microbial decay	20-35%
Horticultural crops	Post-harvest losses due to intrinsic physiological deterioration, microbial decay	35-100%
Beans	i. Bean stem maggot: Ophiomyia spp. ii. Black bean aphid: Aphis fabae iii. Flower thrips: Megalurothrips sjostedti iv. Common bacterial blight: Xanthomonas campestris pv phaseoli var fuscans v. Angular leafspot: Phaeoisariopsis griseola	i. 53-74% ii. 10-58% iii.1-3 kg/ha iv. up to 60% on susceptible varieties v.40-55%

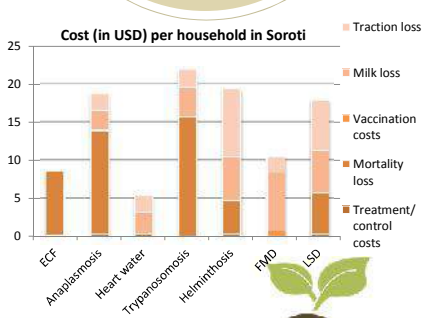
PEST & DISEASE RISK: LIVESTOCK

FREQUENCY. Livestock is always threatened by diseases. But the occurrence is often linked to other risk, such as droughts (which are more pronounced in the north).

SEVERITY. Livestock in all areas of Uganda is affected. But the cost per TLU varies per agro-climatic zone: USD 14.27 in semi-humid agro-pastoral system, USD 5.31 humid mixed crop-livestock system and USD 7.62 semi-arid pastoral system.

The economic cost for diseases in cattle can be quantified as USD 68.3 million p.a. for the agro-climatic zones of the Eastern, Central, and Western region. By including livestock from the Northern region, in particular the Karamoja sub-region, this loss figure is estimated to be as high as USD 91.6 million p.a.

The economic impact of diseases on farming households are diverse: farmers incur cost for disease control, treatment, and vaccination. Direct losses are associated with animal mortality, reduced milk production, and use of animal for traction.

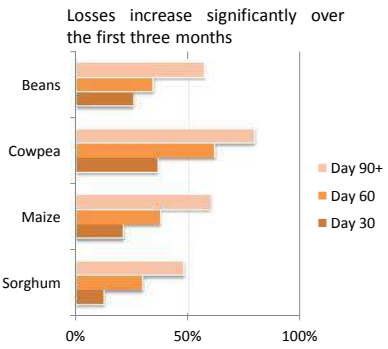


INFRASTRUCTURE RISK

RISK VS. CONSTRAINT. Lack of infrastructure is rather a constraint than a risk. However, these limitations are often closely correlated with other risk factors: for example, lack of storage leads to higher losses for farmers in seasons with wetter conditions during and after harvest as crops are rotting more easily.

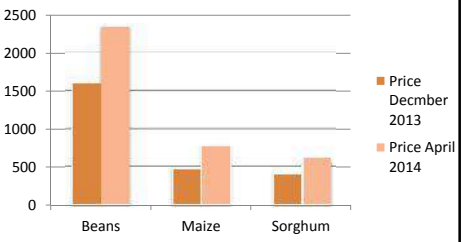
Lack of storage is a wide-spread issue in a ll regions of Uganda: in 2012, a total of 0.62 million tonnes (i.e. 18.3% of a total cereal production of app. 3.4 million tonnes) is estimated to have been lost. On average weight losses of wheat and barley was 12-13%, maize 17-25%, millet, rice, and sorghum 12-24% (APHLIS).

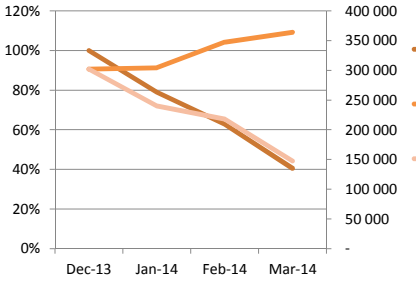
Losses are concentrated: e.g. only 21.5% of maize growers are affected (WB). The probability of losses increases with humidity and temperature and declines with better market access, post-primary education, higher seasonal price differences, and possibly improved storage practices.



INFRASTRUCTURE RISK

WEIGHT LOSS VS PRICE LOSS. In essence, the lack of storage forces farmers to decide to either sell shortly after harvest when prices are low or to sell at a later stage when prices are high but when some of their produce has been eaten or destroyed by insect and animal pests and fungi.





For example, maize farmers in the Winter season 2013/14 would have lost app. 60% of produce within first three months, but gained app. 20% in price. The weight loss is more pronounced than the price gain.

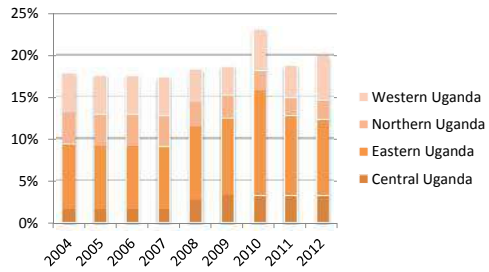
INFRASTRUCTURE RISK

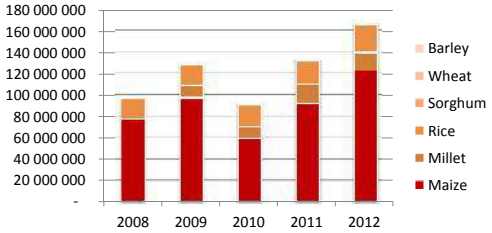
FREQUENCY. Losses are fairly constant over the years (in particular wheat and barley). In years with very wet conditions, the incidence of post harvest losses is app. 10% higher (8.3% probability for maize, 19.4% for millet , 35%for rice , and 16.6% for sorghum)

SEVERITY. The average annual revenue loss is USD 97,179,571.

The vast majority of losses derives from maize (72.34% on average).

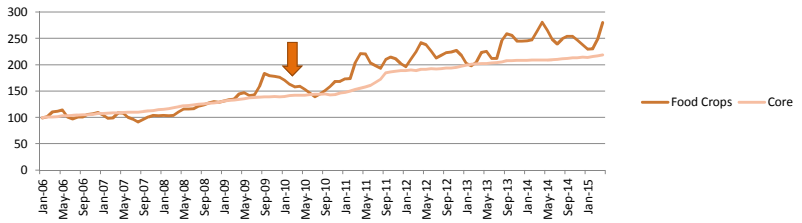
The overall effect of the infrastructure risk is hard to quantify (due to lack of sound data, the issue of price vs. weight).





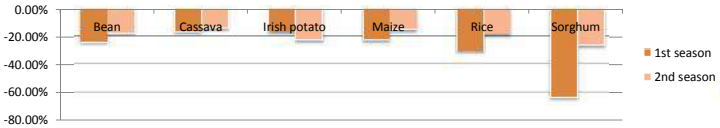
MARKET RISK

Volatility of agricultural prices is higher than other for other products or core inflation.



Farmers are affected by price volatility both as producers and consumers. Therefore, the net effect of price changes has to be looked at.

Agricultural production is very price-sensitive: a 10% drop of prices for some of the major food crops leads to over-proportional reductions in profit margins of farmers. For some crops, for example field pea and finger millet, a 10% reduction of market prices turn these farming activities into a loss-making business.



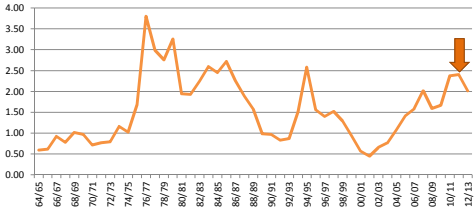
Reduced profitability due to 10% price loss

MARKET RISK

FREQUENCY. Price fluctuations occur on a yearly basis. The prices fluctuate depending on international and national demand, the overall production of the commodity (and its substitutes), etc.

Significant price drops (above 15%) for beans, maize, millet, rice, and sorghum have occurred frequently in recent years.

Coffee prices in USD/kg



SEVERITY. Farmers have no way of knowing what prices are offered at harvest,therefore, they incur a considerable investment risk: by the time of the harvest all their labor, input, and other cost are sunk cost.

For example, in 2010 market prices for all major food crops dropped considerably: as production cost increased with inflation, farmers lost USD 21.97/ha for beans, USD 40.44/ha for maize, and USD 31.61/ha for cassava. Also in subsequent years farmers lost millions due to unexpected price movements after bumper harvest, etc.

Prices for other crops, e.g. coffee, increased during the same period. Therefore, the losses to farmers of the price shock in 2012/13 was compensated by price increases in other years

SECURITY RISK

FREQUENCY. The risk of a return of the LRA on large scale is contained for the time being.

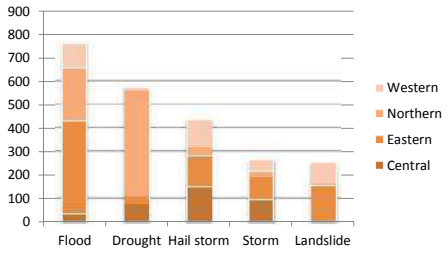
The security situation in Karamoja has improved significantly due to the disarmament and a strong development effort. Still, the situation remains fragile and cattle raids still occur.

SEVERITY. The cost of the LRA insurgency for the years 1986-2005 is estimated at USD 1.7 billion, or USD 85 million annually.

In Karamoja, from 2003 to 2010 2,054 incidents took place that claimed 3,027 lives and resulted in 133,111 cattle raided. Losses to pastoralist range from USD 1.9 million to 3.1 million p.a.

REGIONAL DISTRIBUTION OF RISK

RISK ZONES. A number of risks a **spread evenly across the country**, for example, all farmers are affected by market price risk or input risk.
Other risks, such as pest and diseases, are present all over Uganda but **vary according to crops grown, and climatic and production conditions**. For example, Maize Lethal Necrosis Disease (MLND) is so far concentrated in the East.
Natural risks are sometimes **concentrated in certains regions**, for example droughts a more likely in the North, while flooding is a mostly confined to the East and North.
Lastly, some risksare **confined in specific locations**, such as cattle raiding in the Karamoja region.

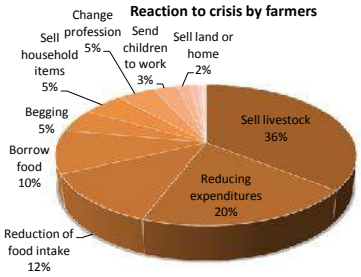


Risk prioritization and risk management strategies may look different for the various regions of Uganda depending on the occurrence of risks in those regions

IMPACT OF RISK

IMPACT ON FARMERS. (Smallholder) farmers face severe consequences from risks. Farmers are, for example, forced to reduce food consumption

The impact of shocks often permanently damages the farmers' capacity to generate income: for example, the sale of livestock and land means reduced income sources for the future..



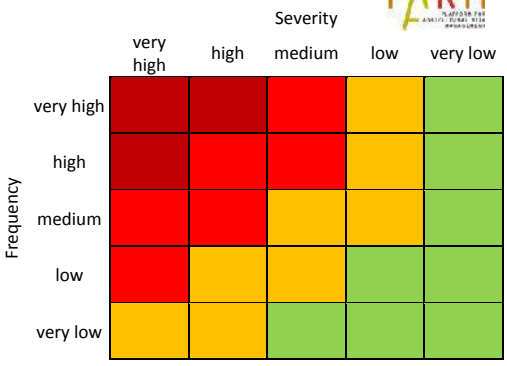
IMPACT ON GOVERNMENT. The government is hit by shocks in two ways: reduced income (from taxes) and increased expenditure for emergencies.

The drought 2010/11 reduced GDP by 1.8% in 2010 and 1.7% in 2011, and the Government of Uganda estimates that the government deficit in 2010 would have been 7.5% lower and the expected surplus for 2011 would have been 7.1% higher if the rainfall deficit had not occurred.

PRIORITIZING RISK

Uncertainty is one of the main characteristics of risk: uncertainty on when something will happen (frequency) and how severe the impact will be (severity).

A risk matrix can help to prioritize different risks faced by farmers in Uganda .



RISK **SEVERITY & FREQUENCY**

Overview on risk frequency and severity for Uganda

Risk	Frequency	AAL	PML
Counterfeit inputs	Annual with constant probability	16,550,000	22,400,000
Droughts	5.5 year return period for large events, smaller events on an (almost) annual basis	44,402,581	383,454,390
Floods	3.3 year return period for large events, smaller events on an annual basis	166,271	1,307,554
Hailstorms	Small scale events on an annual basis	68,377	497,322
Thunderstorms	Small scale events on an annual basis	20,974	284,996
All other natural risks	Small scale events on an annual basis	9,296	107,515
Crop pest & diseases	Annual with fluctuating probability	205,500,000	298,000,000
Livestock pest & diseases	Annual with fluctuating probability	91,600,000	91,600,000
Post harvest revenue loss	Constant losses with a probability of 8.3% to 35% of increased losses (10% points higher than average)	97,179,571	167,951,914
Price risk food & cash crops	4 year return period for major crops	100,122,503	165,197,781
Northern Uganda insurgency	Low probability of occurrence in the future	0	85,000,000
Karamoja cattle raids	Annual with slightly declining tendency	2,542,196	3,177,784

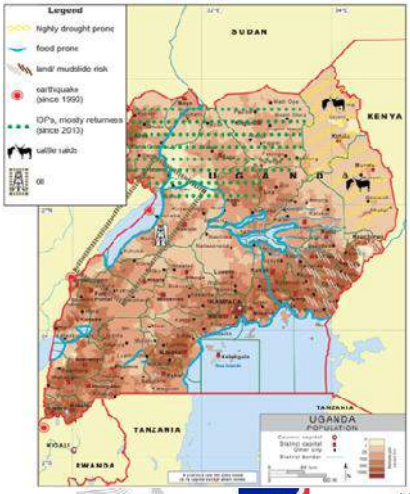
RISK **MAPPING**

Risk matrix for Uganda

Risk Category	Risk	Severity Scale	Frequency Scale
Input risk	Counterfeit inputs	medium	very high
Weather risk	Droughts	medium	medium
	Floods	very low	high
	Hailstorms	very low	very high
	Thunderstorms	very low	very high
	All other natural risks	very low	very high
Biological risk	Crop pest & diseases	very high	very high
	Livestock pest & diseases	high	very high
Infrastructure risk	Post harvest revenue loss	high	high
Price risk	Price risk food & cash crops	very high	high
Securityrisk	Northern Uganda insurgency	very low	very low
	Karamoja cattle raids	low	high

	very high	high	medium	low	very low
Severity	> USD 100,000,000	USD 50 m to 100 m	USD 5 m to 50 m	USD 1 m to 5 m	< USD 1,000,000
Frequency	annual	2 yrs to 5 yrs RP	6 yrs to 10 yrs RP	11 yrs to 25 yrs RP	< 5 yrs RP

GEOGRAPHICAL & VALUE CHAIN DIMENSION



Risks do not affect all regions and all farmers in the same way.

Risk Category	Risk	Food crops	Cash crops	Livestock	Fish-eries
Input risk	Counterfeit inputs				
Weather risk	Droughts				
	Floods				
	Hailstorms				
	Thunderstorms				
	All other natural risks				
Biological risk	Crop pest & diseases				
	Livestock pest & diseases				
Infrastructure risk	Post harvest revenue loss				
Price risk	Price risk food & cash crops				
Conflict risk	Northern Uganda insurgency				
	Karamoja cattle raids				

PARM
PLATFORM FOR AGRICULTURAL RISK MANAGEMENT

THANK YOU

Linking risk prioritization to ARM tools

30 June, 2015 | Kampala, Uganda

RISK **PRIORITIZATION**

Risk Rank	Risk	Average annual losses
Very High	Crop pest & diseases	205,500,000
	Livestock pest & diseases	91,600,000
	Price Risk	100,122,503
High	Input risk	16,550,000
	Droughts	44,402,581
	Post harvest losses	97,179,571

Additional risks to consider:
- Political risk
- Institutional risk
- Land-/Mudslides
- Population pressure
- Market access
- Soil degradation

RISK MANAGEMENT **OVERVIEW**

What is Risk Management? Risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities.

Challenges & Opportunities in Uganda

Farmers are usually **affected by a broad range of risks**, thus, one single activity or tool is not enough. A more holistic approach is needed.

Risk are often **interrelated**: e.g. input risk increases impact of weather risk. Therefore, different dimensions of risk have to be addressed at the same time and in a coordinated manner.

Financial resources for risk management are limited. A focussed and lean risk management strategy has to be developed.

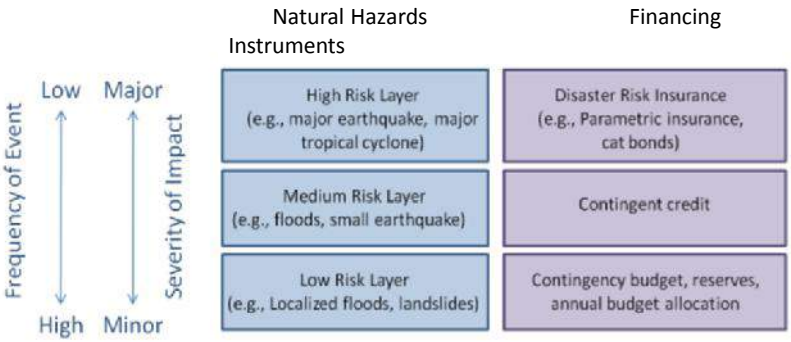
ELEMENTS OF RISK MANAGEMENT

RISK AVOIDANCE. Losses can also be managed by avoiding risky activities. This, however, is often not possible for farmers as all agriculture is somewhat risky and farmers do not have sufficient other sources of income

1. **Risk Reduction** (mitigating risk): This can be done by increasing precautions or risky activities. Investments in information are a way of mitigating risk because you are better informed, thus reducing the uncertainty. Other ways are changes in production techniques, investments in infrastructure, etc.
2. **Risk Transfer** (insuring against risk): Most commonly, this is to buy an insurance policy. In this case the financial risk is transferred to a third-party (the insurance market). Risk transfer is possible on the individual or group level, the institutional level, and the national level.
3. **Risk Coping** (accepting risk): Risk retention simply involves accepting the risk. Even if the risk is mitigated, if it is not avoided or transferred, it is retained. Quite often, the government intervenes through support/social safety programs.

RISK LAYERING

RISK LAYERS. For the same risk, various risk layers may be exist with different frequencies: for example, recurrent localized droughts and rare nation-wide droughts. Different tools are needed for the different layers.



LEVELS OF RISK MANAGEMENT

Holistic risk management tackles risk at different intervention levels and throug a mix of tools. Some tools may be applied at different levels of the system:

	Farm/household/ community	Market	Government
Risk Reduction	Technological choice Diversification in production Crop sharing On-farm investment (storage)	Warehouse systems Contract farming Input markets Information systems	Macroeconomic policies Disaster prevention (flood control, irrigation systems) Prevention of animal diseases, border control, etc.
Risk Transfer	Agricultural insurance	Meso-level agricultural insurance Commodity exchange	Macro-level agricultural insurance Price stabilization mechanisms
Risk Coping	Borrowing from neighbors/family Intra-community charity Off-farm income Selling financial assets	Saving/borrowing from banks	Disaster relief Social safety/ assistance

RISK TOOLS: **OPTIONS**

Risk	Risk management option
Crop pest & diseases	Information systems & early warning; Improved varieties; Improved inputs markets; (Agricultural insurance);
Livestock pest & diseases	Early warning systems; Improved vet services (Agricultural insurance)
Price risk	Commodity exchange; Government sponsored price stabilization; Strategic reserves;

RISK TOOLS: **OPTIONS**

Risk	Risk management option
Input risk	Information systems; Improved input markets; Farmer awareness & training;
Droughts	Information systems & early warning; Adaptive agriculture; Improved water management; Agricultural insurance; Social safety nets;
Post harvest losses	Warehouse & storage facilities; Warehouse receipt systems; Market information systems;

RISK **REDUCTION**

1. **Farmer Awareness**: understanding and analzying risk is a complex task. Farmers are surely aware that they are threatened by risk but do not have the means and tools to actively protect themselves. Integrating risk management into extension messages and farmer trainings is required.

2. **On-farm risk management**: through improved farm management practices a portion of the risk can be avoided at household level, for example through risk diversification, etc.

3. **Technology adoption**: adoption of low-cost technology for risk management has huge potential in Uganda. For example, trials on low-cost storage improvement have shown high returns on investment for farmers in terms of risk reduction.

RISK **REDUCTION** cont'd

4. **Information systems**: understanding and analyzing risk is also required at the government level. Data collection on risk related issues is still weak and requires improved information system at various levels (i.e. local, regional, and national). Provision of timely information (e.g. on prices) to farmers is important to contain e.g. price risk.

5. **Early warning**: some risks, e.g. droughts or other climatic events, can be predicted with a fair degree of certainty. Translating these informations into policy actions and providing farmers with timely information to allow them to take necessary precautions is one important risk management element.

RISK **REDUCTION** cont'd

6. **Improved input markets**: the widespread use of counterfeit inputs can only be addressed by joint public-private efforts. Establishing user hotlines, enforcing quality standards in the value chain, and educating farmers are important elements of an improved input sector. Working with the input suppy chain and increasing quality assurance is equally important.

7. **Improved pest & disease management**: early detection of disease outbreaks is the starting point for improved pest management; improved input markets also contribute to lower risk exposure. Swifter action by the respective government entities, commodity associations is essential to combat diseases at early stages.

RISK **REDUCTION** cont'd

8. **Improved infrastructure**: besides low-cost solutions for storage at farm-gate level, the infrastructure of value chains has to be upgraded to allow for increased commercialization of sectors. Finding sustainable mechanisms for storage, quality assurance, and price stabilization at aggregate level through warehouse systems can help to overcome some of the price and storage risks farmers are facing.

9. **Price stabilization**: the reasons for price volatility fluctuate between commodities (e.g. tea and coffee vs. maize). Designing price stabilization mechanisms through e.g. the commodity exchange, vertical integration, etc. are potential answers to this issue.

RISK **TRANSFER**

1. **Agricultural insurance**: completely eliminating risk from agriculture is not feasible. For those elements of risk that can not be managed on the individual's level (e.g. through risk reduction & diversification), tailor made insurance is required. Current efforts by the insurance industry require support to further increase outreach. Increasing farmer awareness, providing sufficient data to develop new products, and financial support to the insurance sector are potential actions for the future.

   In addition, developing insurance system on aggregate levels, e.g. regional or national might be beneficial for the government to lessen the financial burden of emergencies to the budget.

RISK **COPING**

1. **Transfer systems**: despite risk reduction and transfer, farmers will still be negatively affected by risks. In order to avoid that farmers have to reduce food intake, etc. the government is needed to lessen some of the negative impact to its citizens. The design of transparent security mechanisms (e.g. through voucher systems, cash/food for work programs, etc.) is needed to avoid inefficiencies in the system and to ensure that markets are not disrupted.

THANK YOU

MAPPING OF Agriculture Risk Management Information Systems in Uganda

AGNES ATYANG

AGRICULTURE RISK MANAGEMENT WORKSHOP
AFRICANA, UGANDA

29 – 30 June 2015

Introduction

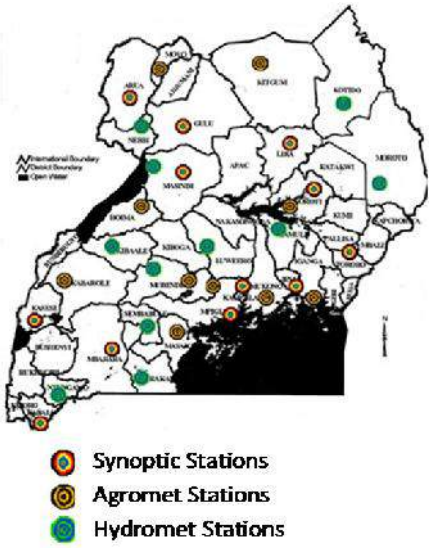
- Risk management in agriculture is an interaction between the sources of risk, farmers' strategies and government policies
- Sources of risk in agriculture include;
  - availability of genuine agricultural inputs,
  - volatility of prices of agro- inputs and products,
  - weather related hazards particularly droughts, floods and climate variability;
  - pests and diseases;

- Information systems - are knowledge infrastructures which facilitate the dissemination of information for risk awareness and mitigation, market decisions, and policy decision-making.
- IS in agriculture generally categorised as:
  - Market Information Systems (MIS), and
  - Weather forecast and EWS on a hazard- usually combined with MIS, crop production, and vegetation conditions, etc.

1. Weather and climate info

- Meteorological and climate information
  - Agriculture production in Uganda is rain-fed i.e. dependent on weather and climate
  - Weather influences farmers' decisions e.g. choice of agric. enterprise to engage in, crops to grow, when to plant, etc.
  - Main source of information is UNMA. Others FEWS NET and web-based totoagriculture.org

Data collection



- Sparse distribution of weather stations
- spatial variability of the different meteorological zones not covered
- Operation affected by vandalism and insufficient maintenance of equipment
- Data is from weather stations, satellite, Regional & Global Met. Centres.

Status of Met. stations

Station type	Existing (No.)	Fully operational (No.)
Synoptic	12	0
Agro-meteorological	17	7
Hydro-meteorological	15	5
Rainfall stations	150-300	60
Automatic Weather Stations	33	1
Radar	1	0
Upper Air	0	0
Pilot Sounding	0	0
Satellite receiving stations	1	1

Aspects of Met. data/info

Quality

Moderate; limited by poor infrastructure (spatial coverage, status) and technology

Availabilitv

- Time series data available at a fee (cost recovery)
- Some stations since 1800s
- Gaps in data depending on status of stations.

Timeliness

- Daily, 3-day forecasts
- Monthly reviews and updates
- Seasonal forecasts at start of season (MAM, JJA, SOND)
- Usually provided in timely manner

Information Access

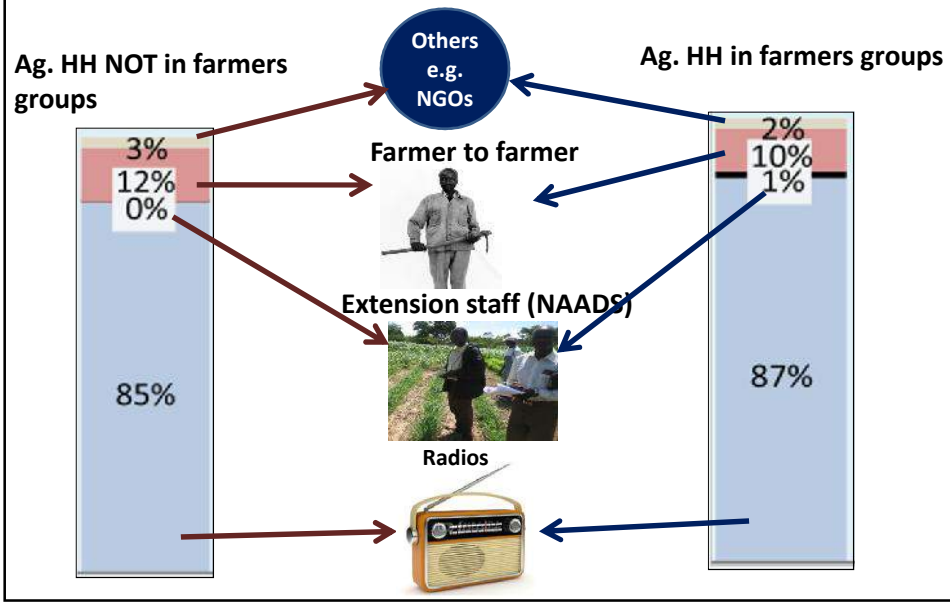
Radios

Internet

Mailing list

Bulletins & press releases

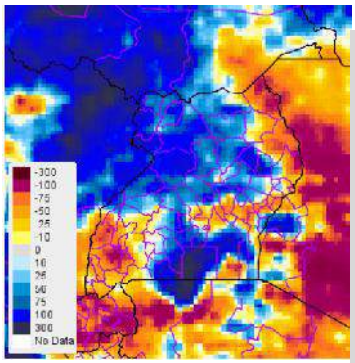
SH access to weather info



2. Satellite info

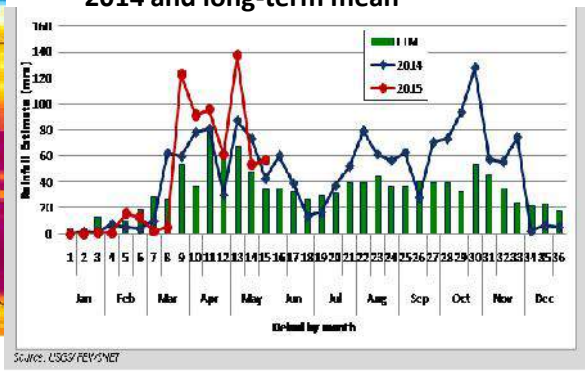
Satellite data helps to fill the gaps in weather data/info.

Rainfall anomalies for March-May 2014 from 2001-2013 mean (mm)



Source: USGS/FEWSNET

Extracted rainfall estimates for Gulu District, showing 2015 rainfall against 2014 and long-term mean



Aspects of satellite info

Quality

Moderate
Only 30% of required information and data transmitted internationally and used to calibrate satellite products

Availability

- Time series data available at no cost
- current up to last dekad
- At district or lower admin level

http://early warning.usgs .gov/fews

Timeliness

- Every dekad, very current

Information Access

Internet

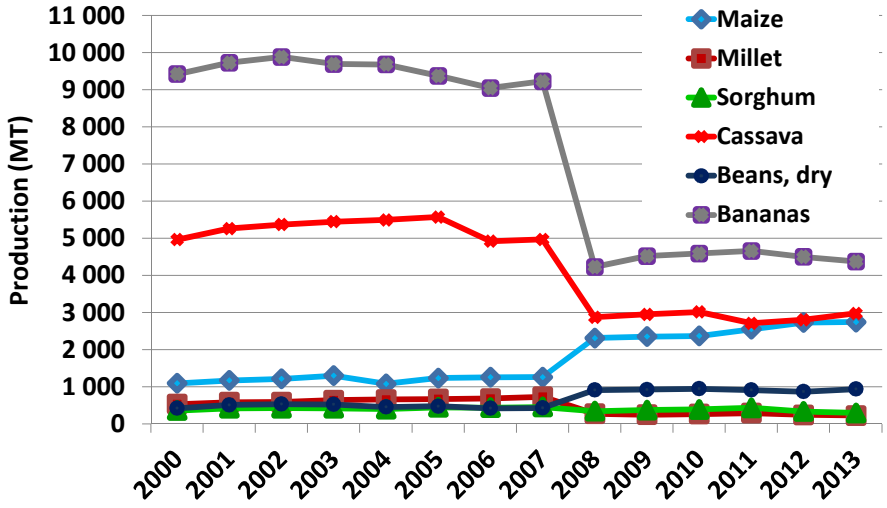
http://earlywarning.usgs.gov/fews

NOT accessible by smallholder farmers, only policy makers

3. Production and yield info

- Collaborative effort of UBoS & MAAIF
- Few annual stats collected to low capacity to collect and process data; information published annually is generated by imputation.
- Production data available for 15 selected crops aggregated at national level, for the period since 1980 to 2014
- Downloadable from http://countrystat.org/

National Crop Production Trends (2000 - 2013)



Aspects of prod. data/info

Quality

Moderate;
- Limited by capacity to collect & analyse at MAAIF

Availability

- Production at national level
- 15 primary crops covered
- Since 1980 to current (2014)
- Disaggregated data not available
- Yields not available

Timeliness

- Annual, by mid year

Information Access

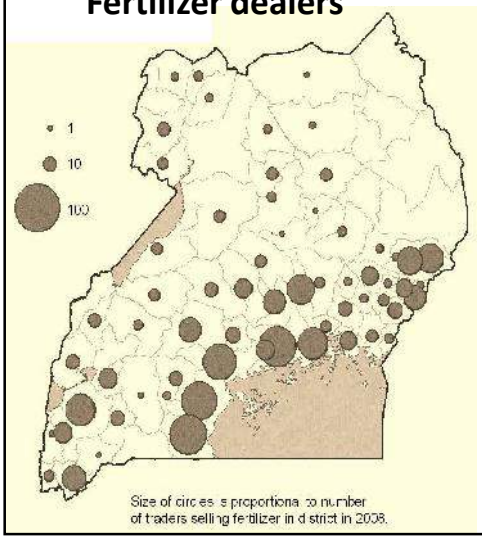
- Web based http://countrystat.org/home.aspx?c=UGA.
- UBOS Annual Statistical Abstracts
- Access by policy makers only.

4. Inputs information system

- Provided by Agricultural Input Market Information and Transparency System (AMITSA) – aims to improve access to market and technical information on agric. inputs within COMESA and EAC Region.
- Monthly prices of fertilizers, seeds (maize and bean), pesticides and herbicides in 11 markets collected from members
- Prices available from 2010, albeit with some gaps for specific commodities
- http://www.amitsa.org/

Distribution of Input Dealers

Fertilizer dealers



AMITSA members

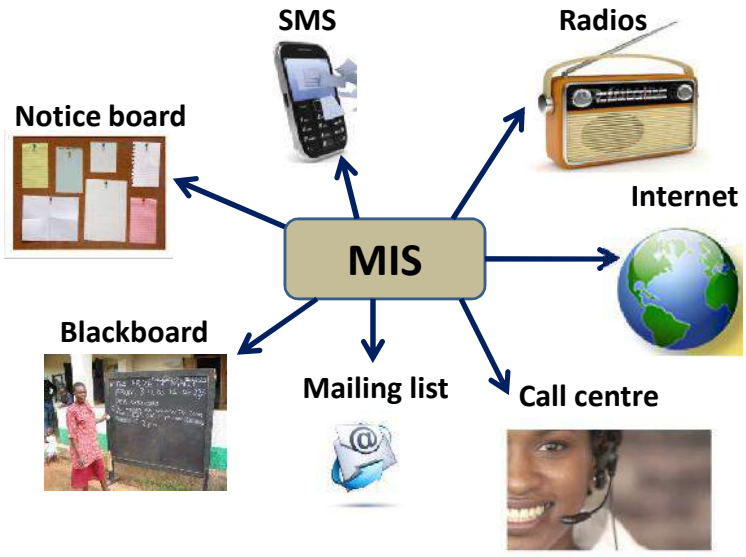
Accessibility by smallholders

- AMITSA provides contact of dealers in genuine inputs (members)
- Price of fertilizers from AMITSA available monthly to Infotrade subscribers and online
- Dealers offer advice to farmers on the use of fertilizer and other inputs
- Information on availability of genuine inputs or prices **not** accessible to majority of smallholders.

5. Market info (food commodities)

- Primary providers are Infotrade and Farmgain, redistributed by Grameen
  - Infotrade - 35 markets, 47 commodities
  - Farmgain - 18 markets, 37 commodities
  - Wholesale and retail prices
- Available thrice a week/weekly from main district markets
- Bulk data (historical) available for trend analysis at a fee, up to 20 years

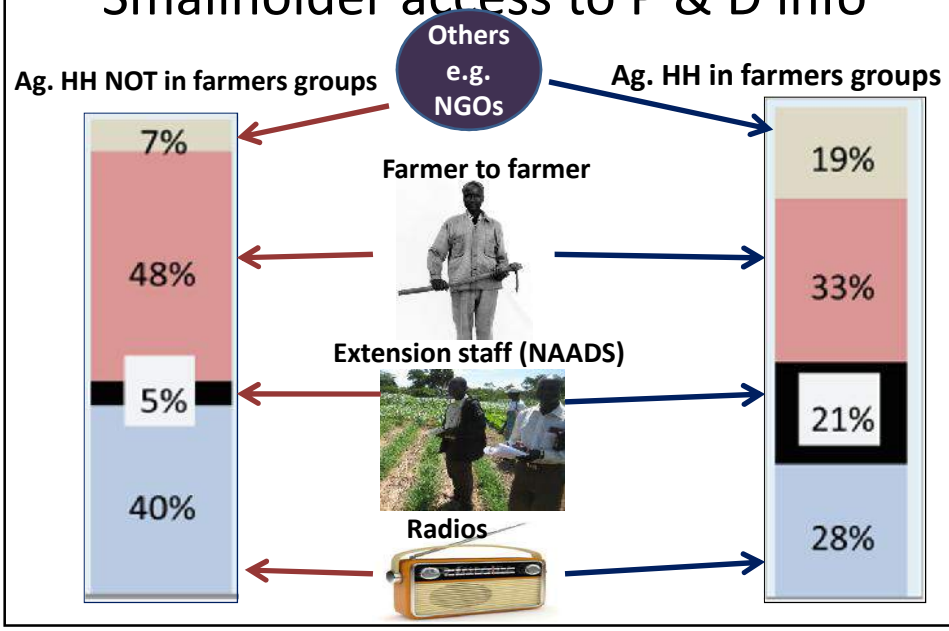
Access to market info



6. Pests and diseases info

- Information needed on:
  - location of outbreaks to avoid getting infected materials, spreading
  - Appropriate control methods
- Farmers report outbreaks to extension staff, who relay to MAAIF as appropriate.
- Information on control is provided during extension visits, radio and farmer-to-farmer sharing

Smallholder access to P & D info



7. Integrated IS

- FEWS NET – weather forecasts, market prices pests and diseases, livelihoods, satellite rainfall estimates **(policy makers)**
- Karamoja DEWS – community based data collection and information dissemination on drought and impacts, pests & diseases, market prices, livelihoods and mitigation measures **(all levels)**
- Infotrade – market prices, weather **(all levels)**
- Grameen – weather, crop & livestock husbandry market prices of seeds and food commodities **(smallholders in few areas)**
- MAAIF (EW & IPC) – weather, pests and diseases, prices **(all levels)**.
- NEWS (OPM) – aims to integrate all EWS; establishment in process **(all levels)**

Summary of IS

IS	Availability	Timeliness	Quality	Accessibility
Weather	Time series available Daily, 3-day, seasonal forecasts Regional, district	Start of season	Moderate	Radio, farmer to farmer, extension agents
Production/ yield	Time series since 1980 (selected) Annual production at National level	Mid year	Moderate	Annual statistics abstracts, countrystat.org/
Inputs	Time series (2010) Weekly/Monthly	On demand	Good	Limited SMS (Infotrade), web Majority no access
Market prices	Time series limited (a few since 2000) District level Weekly	On demand (current)	Good	SMS, radio, blackboard, notice board, mail, web
Pests and diseases	No systematic collection, outbreaks reported	Varied	Moderate	Radio, farmer to farmer, extension agents

What differentiates IS for ARM

- Presents specific indicators on the variability of agricultural related variable such as rainfall, market prices, production, the frequency and severity of shocks
- Includes historical data with time series that allow to calculate indicators of variability or frequency or severity of shocks

- Provides early warning about risks
- Provides forecasts of upcoming events
- Provides information at micro level as well to estimate the risks of farmers and households

Weakness of the Ugandan IS

- Information is not presented in the form of indicators of variability or frequency / severity of events
- Time series not easily available
- Household level (micro) data not available (national)
- No integration between the different systems

Conclusion

- Most information systems don't reach the majority of smallholder farmers in Uganda.
  - Awareness
  - ICT (phone)
  - Costs (SMS, subscription, etc)
  - Coverage/level-perception of relevance

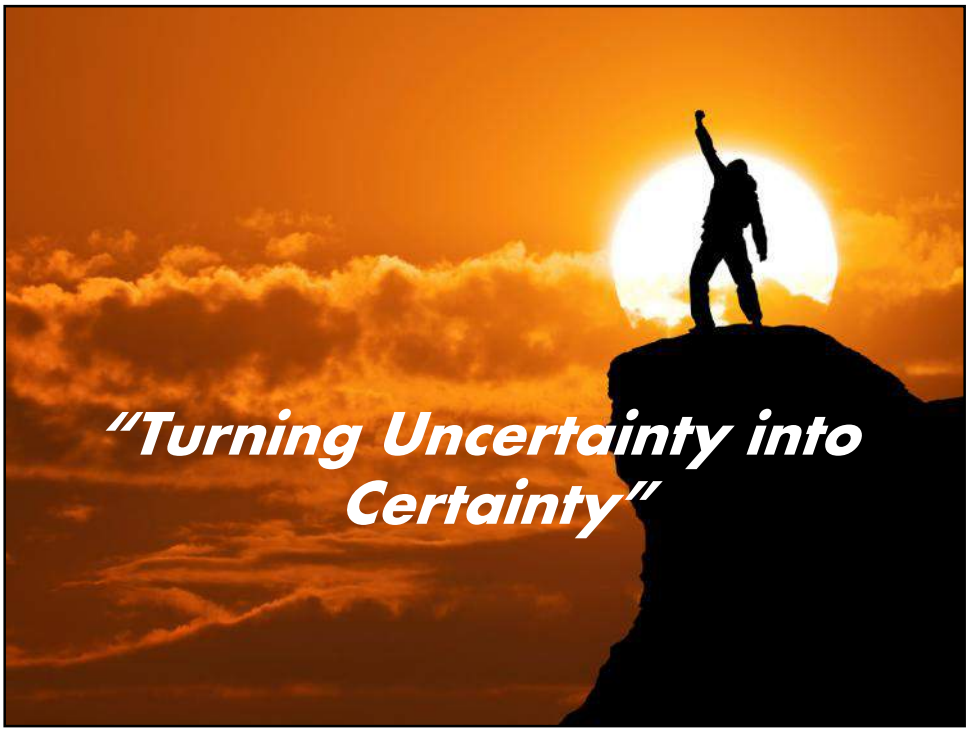
THANK YOU

Kungula Agri-Insurance Product Overview
(All Risk Mortality (ARM) Livestock & Weather Based Index (Crop & Livestock) Insurance

Background

Kungula Agri-Insurance:

- Product development support provided by ABI-TRUST
- Kungula is derived from the luganda word to mean Harvest.
- The product proposition; for any farmer or financial institution is assured of a return i.e. the harvest will be made.
- The product is support by a consortium of Insurers all members of UIA & Licensed by IRA. Re-insurance partners – Swiss Re-Insurance.
- Support in Weather Monitoring by EARS from Netherlands i.e. verification is also required by UMAT.



All Risk Mortality (ARM) Livestock Insurance

What is Covered?

- Death of animal in consequence of; fire, Lightning, Flood, Rainstorm, Windstorm, Hailstorm, Snow, Drought, Hurricane, Earthquake, Landslip, Diseases, Surgical Operation and impact accidental damage by animals, trees or vehicles, aircraft or motorized machinery.

Livestock	Age Limits	Duration of Cover
Cattle	3 Months – 7 years	12 months
Goat	3 Months – 5 years	12 months
Sheep	3 months – 5 years	12 months
Pigs	2 months – 5 years	12 months
Poultry (Layers)	1 day – 18 months	5 – 18 Months
Poultry (Broilers)	1 day – Slaughter time	2 – 3 Months

All Risk Mortality (ARM) Livestock Insurance

How it works:

- Identification of insured Animals (Tagging (Kungula Agri-insurance tags) except poultry is done after verification)
- **Verification:** Vaccination certificate, farm inspection, premium must be paid before the contract phase starts.

Basis of Cover:

- Adults- market value of animals at issue of policy/100% of the loan
- Sub-Adults- expected market value at end of contract

Basis of Claim Settlement

- Claims will be paid out after the identification of the carcass and a post mortem report from a qualified veterinary surgeon.

All Risk Mortality (ARM) Livestock Insurance

Farmer Requirements:

- Completed proposal form
- Completed vaccination certificate
- Payment of premium

Exclusions:

- Death of animal due to pre-existing conditions
- Treatment and Vaccination costs
- Theft or unaccounted disappearance of insure animal
- Losses arising from War, tribal clashes, insurgence, terrorism, due to radio-activity and/or nuclear radiation.

Weather Based Index Insurance

- Index insurance is a simplified form of insurance, where payments are made based on an index, rather than measurement of crop loss in the field.
- The index is selected to represent, as closely as possible, the crop yield loss likely to be experienced by the farmer.

Weather Based Indexed Insurance(WII)

Why WII

- Constantly changing weather patterns
- Traditional Agric insurance not ideal for smallholder farmers
- Advanced in technology making it possible to monitor up to a pixel
- Availability of 32 years plus meteosat data
- Development agency assistance in product development

2

Livestock Drought Indexed Insurance

What is Covered? Drought on grazing areas

How it works:

- Remote sensing and climate service provider with satellites that measure the Relative Evapotranspiration (RE) of grass in the grassing areas.
- RE factors; related to growth of grass, used as an index (marker) to determine changes in growth when drought occurs anywhere in Uganda

Drought Effects:

- Reduces animal food source, affects weight & milk production hence fall in market value.

Claims Settlement; Insurance compensates automatically after every 3 months for a 12 months contract.

Crop Indexed Insurance

What is Covered? Drought & Excessive Rainfall

How it works:

- Remote sensing and climate service provider with satellites that measure the Relative Evapotranspiration (RE) of crops.
- RE factors; directly related to yield and is used as an index (marker) to determine changes in yield related weather hazards such drought & excessive rainfall in a every county in Uganda.

Basis of Cover:

- Expected or pre-agreed value of harvest
- 100% cover of loan for crop production

Requirements; Planting season timing, location & size of farm.

Malawi case (source gfdrr.org)

Crop	Groundnut
Participants	**NASFAM members**
Peril Covered	**Drought**
Proxy for Peril	**Rainfall Deficiency**
Term	**One crop cycle (three stages)**
Trigger	**60 mm (in establishment and vegetative growth stage)** **160 mm (in flowering and pod formation stage)** **100 mm (in pod filling and maturity phase)**
Maximum Payout	**Loan given by bank**

5

Highlights

- In 2005, 892 groundnut farmers purchased weather based crop insurance policies for a total premium of US$36,600.
- As the crop insurance contracts mitigated the weather risk associated with lending, local banks came forward to offer loans to insured farmers.
- The farmers used these loans to purchase certified groundnut seed. This arrangement — lending coupled with crop insurance.

Cont.

- Credit, in turn, allowed them to invest in higher yield, higher return activities.
- By 2008, the number of participants had increased significantly, with 2,600 farmers buying policies worth US$2.5 million.

Conclusion

- Index-based weather insurance is not a universal remedy.
- It is necessary to raise awareness of the limited role that weather based insurance has in managing the larger spectrum of risks farmers face and to control these risks as much as possible within the program.
- The two pilot phases in Malawi illustrated that problems related to production, marketing, and sale of crops can undermine credit repayment.

(source World bank report)

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Cont.

- Insurance programs must be integrated into supply chains so that other risks related to agricultural production can be managed.
- Effective index-based weather insurance contracts require reliable, timely, and high quality data weather station networks.

Cont.

- A committed meteorological services authority is essential to ensure adherence to strict quality requirements and an independent source of data for verification.
- A long, clean, and internally consistent historical record to allow for a proper actuarial analysis of the weather risks involved.

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Cont.

- An enabling legal and regulatory framework is necessary for the expansion of the program.
- Client/stakeholder education and outreach is essential to establish successful micro-level insurance programs. Lack of understanding of insurance can lead to dissatisfaction with the program and resistance to insurance purchase

THANK YOU

How WII works

- Traditional crop insurance is difficult to deliver in smallholder economies as
- it involves costly individual loss assessments and
- is prone to moral hazard and adverse selection.

Types of hazards covered by WII:

•The most important hazard for which weather index insurance has been developed is for drought (rainfall deficit).

•Index insurance is particularly promising for slow-onset hazards (such as drought), as opposed to a sudden-event hazards

Use of weather station measurements for weather index insurance

- The simplest form of weather index insurance uses primary weather parameters (principally rainfall), measured at specific weather stations, to form the index

Financial institution Lending Challenges

- ❖ fear of risk of non performance of loans if there were a drought.
- ❖ Without access to loans, farmers could not purchase high quality inputs that would increase productivity.

How smallholder farmers adapt to risk

- Assets depletion(challenges Restoring farm productive capacity is a slow process, because farmers face a buyers' market in the disaster year and a seller's market in the post-disaster year

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Risk Transfer using WII

Help farmers manage weather (drought) risk;

- ❖ Facilitate farmers' access to agricultural credit by reducing the risk of smallholder loan default;
- ❖ Allow banks to expand their lending portfolio to the agriculture sector without increasing default risk.

Linkage of index insurance to input supply and credit is effective:

- The experience of Malawi and other countries is that demand for weather-index insurance from farmers is high,
- where there is an integrated "package" approach to increasing farmer productivity,
- which addresses constraints such as access to quality seed, and credit, within the supply chain

IFDC Input scheme story

- The IFDC pilot scheme is targeting 5000 farmers in just 3 districts
- 10000 targeted in the next 2 years.
- Voucher System
- Agro input scheme

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INTEGRATION OF SP IN AGRICULTURE AND FOOD INSECURITY RISK MANAGEMENT (AFIRM) A NEPAD/CAADP PERSPECTIVE

UARAS VALIDATION WORKSHOP 29-30 JUNE 2015
KAMPALA, UGANDA

DEFINITION OF SOCIAL PROTECTION (ILO)

- Sets of policies and programs designed to reduce poverty and vulnerability by:
  - promoting efficient labour markets;
  - diminishing **people's exposure** to risks;
  - enhancing their capacity to manage economic and **social** risks, such as unemployment, exclusion, sickness, disability and old age.

AFRICAN UNION PERSPECTIVE

- In 2004 : Social Protection (SP) = key strategy for enhancing social development and **inclusive growth**.
- In 2008 : Ouagadougou Declaration and Plan of Action to strengthen SP schemes, **increase coverage and effectiveness for everyone,** especially the poorest, most vulnerable and excluded persons

Social protection in Agriculture around the world and in Africa

- **Social protection has been used in many developed countries :**
  - In General : to address constraints related to inequity in wealth distribution, poverty, malnutrition and lack of access to social, economic and financial resources.
  - In Agriculture : ALSO to protect ALL farmers against shocks and hazards, as an ex-post (disaster payments) and/or an ex-ante measure (subsidies) as well.
- **In Africa, the situation is different:**
  - it has been used for decades to face risks related to shocks and hazards, meaning mainly as an ex-post crisis management intervention, **but mainly as a ad hoc type of intervention**.
  - Results and impacts of such interventions are not quite tangible, and this tool has not reduced the recurrence of food and agriculture crises on the continent.

VULNERABILITY AND RISK

- Smallholder farmers = 80% of African farmers

- Recurrent crises =➔ **erosion of assets and low capacity to deal with hunger season**➔ low incentive to invest

POTENTIAL COMPLEMENTARITIES

Assessing risk factors of rural smallholders

- Access to food during the cropping season
- Crop/seed failure and labor shortage
- Market performance and price volatility
- Death and disease

COMPENSATION in case of trade-offs between

- On farm **VS** off-farm labour (hungry season
- Consumption **VS** Investment
- Selling at low price AT HARVEST TIME **VS** storing in order to sell at higher price LATER

PRESERVING SOCIAL AND HUMAN CAPITAL IN SOUTHERN AFRICA

- Combination of Anti Retroviral Treatment and SP programs, cutting by 60 % the death toll in Botswana in 7 years- specific target (self) with specific objectives
- Expansion of social welfare grants in Namibia
- Child Grants Program in Lesotho
- Social Cash Transfer Program in Malawi

EXAMPLE OF MALAWI National Social Support Policy (MNSSP)

- Strengthening coherence and coordination between social support instruments aimed at:

- **Reaching the poorest families** with welfare interventions;
- **Protecting and building productive assets** of the ultra-poor families to help build their resilience in the event of shocks;
- **Supporting moderately poor and vulnerable households** to enhance their income-generation capacities (MEPD, 2012).

Lifting rural producers out of extreme poverty in Ethiopia…

❖ **PSNP Successful BUT**

- **Awareness that MORE NEEDS TO BE DONE in order** to **NOT ONLY PREVENT AND PROTECT, BUT ALSO TO PROMOTE AND TRANSFORM**
  - Now combined with other risk management tools : insurance (**bundled with subsidies**), WRS, Credit and saving schemes, price stabilisation, irrigation and **extension services**…
  - SHIFTING FROM **EXIT** STRATEGY PARADIGM TO ONE OF **GRADUATION** STRATEGY from ONE program to ANOTHER
  - BUILDING **LINKAGES TO MARKETS** AND
  - **CREATING INCENTIVES** for productivity increase **(avoiding trade-offs) allowing** a clearly informed decision making process
  - **Adopting a VALUE CHAIN Approach** to tackle downstream bottlenecks and risks === > **INVOLVEMENT OF VALUE CHAIN ACTORS**

MAIN CONCLUSIONS

- **SP MEASURES SHOULD**
  - **NOT BE A STAND ALONE POLICY MEASURE IN AFRICAN AGRICULTURE**
  - **BE EMBEDDED INTO/BUNDLED WITH OTHER RISK MANAGEMENT INSTRUMENTS**
  - **BE EXTENDED TO OTHER RURAL PRODUCERS ALONG THE VALUE CHAIN, BUT ADAPTED based upon a BLEND of MARKET AND NON MARKET MEASURES through a Graduation Strategy**
  - **NOT BE PRECEDING THE SUPPLY SIDE , AS IT WILL CREATE A DEMAND FOR NON EXISTENT goods and services. Hence the URGENCY to build soft and hard infrastructure in rural areas**

LINKING ASPA TO AFIRM…

THANK YOU FOR YOUR ATTENTION

Agriculture Adaptation to climate change – National Perspective(s)

29 - 30 June 2015 – Hotel Africana

Bob NATIFU – Senior Climate Change Officer CCD/MWE

Ministry of Water and Environment, Climate Change Department

- Introduction : National and International policy context
- Role of CCD/MWE
- Understanding risk
- Measures
- Challenges
- Discussion

Rationale: the convention

The Convention
- Adopted in 1992
- Provides a general framework for action

Kyoto Protocol
- Sets reduction targets for industrialized nations
- Covers the period 2008-2012 and 2012- 2020
- Established international market mechanisms

Bali Action Plan
- Covers the period 2012-2020
- Adopted of the 2C goal
- Brought into action Parties without "Kyoto targets"

- The new agreement should cover the period after 2020 and engage all countries

The CCD

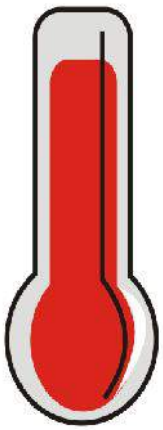
- Created in 2008 as a unit under a cabinet minute.
- Approved as a Department in 2014.
- Serving as the NFP to the UNFCCC.
- Provide policy and strategic advise on climate change issues.
- Ensuring integration of climate change concerns into overall national planning
- Monitoring the implementation of the CCP and its CIS

ItHE GLOBAL RISE IN TEMP

Global greenhouse gas emissions continue to rise.

Without additional action, they will increase hugely up to at least 2050

Under these circumstances, average temperatures will rise above 2C



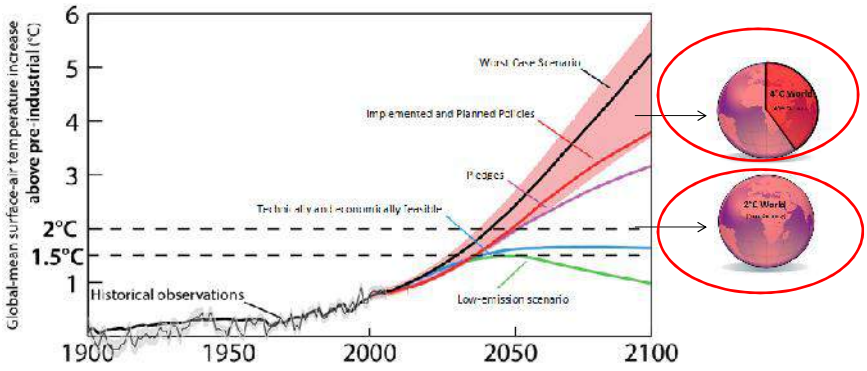
TOO LITTLE RAIN

TOO MUCH RAIN

NONE AT ALL

Understanding Risk

CO2 Concentrations and Temp rise



KEY ISSUES

- WHAT ARE THE CURRENT CLIMATE risks, hazards, and disasters in Uganda?
- WHAT CHALLENGES DO THEY HAVE ON DEVELOPMENT PLANS? (National, Sector or LG)
- WHAT ARE THE FUTURE CLIMATE CHANGE RISKS IN UGANDA?
- HAVE THESE BEEN INTERGRATED IN THE NEW PLANS?

Collective responsibility

Impacts of CC/ Major Sources of GHG - Agriculture Source and Sink of GHG

- Agriculture – Not only suffers impacts of cc, it contributes considerably to global GHG emissions, specific to Uganda EF and MM as significant emitters of methane.
- Need for radical changes – Moving away from BAU scenarios in order to curb emissions.
- Other key sources:
- Energy and Transport
- Industrial processes
- Waste

Challenges

- Traditional and Indigenous knowledge and historical observations to manage the effects of climate variability.
- Speed and intensity of change undermining their capacity to do so
- Capacity to absorb shocks
- Access to accurate weather and climate information

Minimising risk

- Innovative policies and investment programmes helps small holder farmers to anticipate, absorb and recover from climate shocks and stresses. They require:
- Access to climate resilient seeds.
- Sustainable management practices.
- Good infrastructure.
- Markets.
- Financial and Insurance products.
- Weather and climate services.

Measures – National Response

- NDP1 and 2
- Institutional Framework in Place – Unit to Department
- Prepared and submitted the Initial National Communication (INC) and SNC
- Has prepared its National Adaptation Programmes of Action (NAPA, 2007)
- Facilitating sectors to mainstream cc both Water and the Agriculture Sectors are being developed by their respective sectors.
- Currently preparing the TNC.
- Undertaking the NIE registration process.
- Participation in COP's

- INDC preparation
- Undertaking V$ A assessments.
- Have a national climate change policy and its costed IS.
- Developed Mainstreaming guidelines.
- Development of bankable projects
- Economic assessment of climate change- Study 2015

- Any Questions……?
- Comments……..….?
- Compliments……..…….?

WAREHOUSING AND COLLATERAL MANAGEMENT

Summary of the report from

J. Coulter Consulting LTD

UGANDA

2014

Countries targeted are Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Madagascar, Mozambique, Niger, Senegal and Uganda

WRS systems in Uganda

TYPE A: PRIVATE

Unregulated private warehouses. Conventional Collateral Management (CMA) agreements and a number of development pilots.

TYPE B: PUBLIC

Regulated public warehouses for grains, governed by the WRS Act of 2006 and the Uganda Commodity Exchange (UCE)

Type A

Private non-regulated

- Started in the 90s, but two serious fraud cases on coffee and wheat in the early 2000's caused losses for tens of millions USD.
- Account for most WRS in Uganda (despite the WRS Act prohibitions)
- Three main providers (ACE, Coronet and DCL):
  - Unknown market size
  - internal quality control
  - ≈35-45 CMAs for > USD 500 000.
  - 9 domestic banks interest rates ≈ 23%; loan/value ratio ≈ 65-80%
- Development projects and pilots on WRS:
  - Successful CFC (Common Fund for Commodities) regional pilot project on cotton managed by the Ministry of Trade (MTTI now MTIC) for Uganda - limited scope for expanding (tentative East-West Uganda failed as farmers already organized and high incomes)
  - Usaid: Igaanga - East Uganda (unsustainable as storage/marketing services subsidized – failure/fraud);
  - Kapchorwa East Uganda: WFP-buyer (maize – delay in bank lending - low uptake)

Type B

Regulated public warehouses (1)

- **Implemented through the WRS Act of 2006**
  - under the regulatory authority of the Uganda Commodity Exchange (UCE), created in 1998: licensing warehouses, ensuring compliance with standards, training, WRS central registry (eWRS), inspection, fees
  - with EU technical assistance project 2006-10 (after under GoU budget)
  - with CFC (Common Fund for Commodities) - UNOPS pilot project on cotton managed by the Ministry of Trade (MTTI now MTIC)
- **WFP as main market maker of grains (maize, beans)**
  - Uganda's leading buyer since 1990s (195.000T/y in 2005-08)
  - Commitment (2008) to buy 150 000 tons of grains and investing on storage facilities, access roads and capacity building. In reality 5% only was bought by WFP (the balance from domestic buyers) cause of low quality, no grading clarity (subject to interpretation), lengthy procurement and payment procedures
  - WFP tightens quality standards in 2010 and strictly apply them since 2013 (to align with EAC grading standards) – difficulties of suppliers to meet the new quality (44% contract rejected in 2013)

Type B
Regulated public warehouses (2)

- Different commodities can be licensed but maize accounts for almost the main deposits
- 950 depositors (from UCE) as coop. Prod. Organizations (POs), private enterprises, Uganda Grain Traders Coop. Union…
- Buyers mostly WFP, breweries, food processors and commodity exporters to Kenya and South Sudan
- Storage period: average of 3 months, up to 12 months
- Storage capacity: 7 (from UCE) licensed warehouses up to 32 000 t.
- Pest control system in place (from UCE)
- 4 Banks/Financial Institutions accounts for over 85% of lending – annual interest rates (23% and 11% for hard currency)
- Low risk of loan default for banks (50-60% loan/value ratio)
- Insurance (fire and burglary) for all WRS (all Risk Ins. additionally)

Constraints

- The regulatory authority (UCE) not fully operational
- Legal uncertainties about the security of the warehouse receipts.
- Non-compliance with quality standards
  - Most traded maize is of non standard quality
- Low uptake and low scale: high fixed costs
  - UCE charges 1% on transactions and needs 4% of market share to break even: very far from there
- Lack of coordination between WFP and project sponsors
  - No market maker available
- Field Warehousing is under the Law, but in practice is on unregulated basis
- Three different collateral registers exists

Conclusions

General

Double WRS system in Uganda: decision needs to be taken

UCE not sufficiently operational

WFP the main market maker and lack of coordination with donors

For unregulated collateral management (Type A):

- Potential larger market share
- Touched by frauds and so discouraging investors
- Absence of a regulatory regime
- Quality control insufficient and to be regulated

For regulated public WRS (Type B)

- The public system launched in 2006 was more focused on small farmers, but has not succeeded to be widespread
- Legal enforcement and uncertainty are big difficulties:
  - Security of transactions
  - Quality
  - Costs

Recommendations

For unregulated collateral management (Type A):

- Funding Agencies should make contact with the Capital Market Authority, and offer advice on legal and regulatory matters

For regulated public WRS (Type B)

- Bring order in grain quality and grading
- Clear decision/action of GoU: rigorous system regulation, link to market (VCs), ambitious view (large scale), streamline the receipt sales…
- Reforming the Ugandan Commodity Exchange
- Leverage from SA (AFGRI) investment to develop WRS
- Support from external partners upon developed a clear plan

THANK YOU

afd
AGENCE FRANÇAISE DE DÉVELOPPEMENT
IFAD
Investing in rural people
PARM
CTA

What is PARM?

The Platform for Agricultural Risk Management (PARM), an outcome of the G8 and G20 discussions on food security and agricultural growth, is a four year multi-donor partnership between the European Commission, the Agence Français de Development, the Italian Government, the International Fund for Agricultural Risk Management and the New Partnership for Africa's Development (NEPAD) with developing nations to make risk management an integral part of policy planning and implementation in the agricultural sector, within the Comprehensive Africa Agriculture Development Programme (CAADP).

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