

Scoping study brief - State of Index-based Crop Insurance Services in East Africa

Introduction¹

This brief presents the findings of a scoping study on index-based crop insurance in East Africa, conducted as a requirement for the Climate Resilient Agribusiness for Tomorrow (CRAFT) Project, under Work Stream 3 on Enabling Environment for Climate-Smart Agriculture (CSA). The broad objective was to identify potential for index-based crop insurance, and gaps and barriers to roll-out in the current enabling environment for Kenya, Tanzania and Uganda, in order to inform the development of CRAFT's policy influencing and advocacy strategy. It was also meant to identify options to support the creation of an enabling policy environment that is more conducive to engagements and investments in index-based crop insurance.

Background Information

Rain-fed agriculture is a risky business, especially in East Africa. One of the main sources of risk is weather in the short term and climate in the long run. A combination of more erratic weather and harsher climate threatens to disrupt agricultural livelihoods and food security in Kenya, Tanzania and Uganda. Agricultural insurance is one of the instruments available for risk management against such climatic variations, but conventional (=traditional) "loss-assessment" based insurance is not viable for resource-poor smallholder farmers in remote areas. Index-based agricultural insurance, designed as an adaptation tool, can help agricultural value chain actors to strengthen resilience by cushioning the risk of losses and the risk of falling into bad debt.

Methodology

This scoping study was conducted to establish the status of index-based agricultural insurance in East Africa. The study was a blend of document review (policies and programmes), literature review (grey and peer-reviewed) and a quick survey using key informant interviews, focus group discussions and semi-structured questionnaires. Insurance initiatives and stakeholders in each country were used as entry points. Multi-Criteria Analysis (MCA) was used to prioritize the pipeline strategies listed for consideration, which included insurance – to get a sense of its potential to be addressed according to current priority level for the country. Key informants included people in academia, financial institutions, government ministries, departments and agencies, insurance companies, corporations, regulators, meteorology departments/agencies/authorities, NGOs/ CSOs/ CBOs/ farmer organizations, programmes and projects, research organizations/institutes/centres, UN agencies, bilateral organizations, multilateral organizations, special purpose entities, SME leaders and the private sector (social, commercial) service providers working with them.

Findings

In total 47 Key Informants were interviewed across the three countries – Kenya (16), Tanzania (17) and Uganda (14), and one FGD was conducted in Kenya with 33 participants in two groups.

Relevant Key Policies, Strategies, Frameworks and Plans

Kenya has developed an index insurance policy (Government of Kenya, 2015) and legislated an index-based insurance "regulation" to facilitate the development and scaling of index-based insurance in the country (Government of Kenya, 2019b). Tanzania has just developed an index insurance strategy in 2019 based on previous pilots and is ready to roll out from 2020 (Government of Tanzania, 2019). Uganda's Insurance Regulatory Authority (IRA) has introduced regulatory changes to officially shift from compliance-based supervision to risk-based supervision (Association of Kenya Insurers, 2018).

Potential Opportunities and Options

A summary of the findings on potential for index-based crop insurance in East Africa is provided in Box 1 below.

Box 1: Potential (opportunities and options) for index-based crop insurance in East Africa (Kenya, Tanzania and Uganda)

1. All the three countries have piloted many variants of index-based agricultural insurance and are ready to roll out scaling programs from lessons learnt. All the three countries have formally initiated index-based agricultural insurance scaling programs to help agricultural value chain actors de-risk production and investments. However, not many people interviewed in each country knew all this was happening in their country. So much is happening but so many people are not aware.
2. Kenya has piloted index insurance since 2006. The piloting picked up in 2009 and the Kenya government started a scaling program from 2015 (Government of Kenya (2014a, 2014b). Cover has been against drought, excess rain and storms (for maize, sorghum, coffee, sunflower, wheat, and potato). Premium for crops is often subsidized up to 50%, by development partners or government or both. Enrolment into the cover is through financial institutions, cooperatives or agro-input dealers (using mobile phone applications).
3. In Tanzania many variants of index insurance have been piloted but none has been scaled. More than 12 pilots and real projects have been undertaken on index since 2014-2015 in more than 10 regions for various crops – maize, beans, sunflower, sunflower, barley, paddy, cotton, and soon cassava across the country. However, Tanzania Insurance Regulatory Authority (TIRA), in conjunction with the Ministry of Agriculture and the National Insurance Corporation (NIC) of Tanzania, has developed an index-based insurance strategy for scaling (Government of Tanzania, 2019).
4. Uganda has done six seasons of evapotranspiration index scaling initiative since 2016 and the team is happy with the lessons so far, although they are facing some challenges, especially logistics around farmer profiling and product distribution and payout triggers failures. Product distribution is through FIs, aggregators, brokers/agents, and directly.
5. Production risks top the list of risks in agriculture, followed by financial risks and market risks (Figure 1).

¹ This brief has been prepared by CGIAR Research Program on Climate Change, Agriculture and Food Security as a contribution to the CRAFT project

6. The importance of agricultural insurance as a risk management strategy in value chains ranks very low, and uptake is even lower (Figure 2a). This is attributed to limited understanding as a result of limited awareness. Limited awareness ranks very high as a constraint to uptake, followed by inadequate financial literacy and low demand for insurance. Low demand is due to limited awareness. Awareness campaign/sensitization ranks high among possible solutions to increase uptake, followed by increasing financial literacy and demand creation (=market development), with “supply increase” coming last (Figure 2-2b).
7. Insurance ranks high as one of the strategies the target countries are ready to address. Insurance ranks 4th out of 11 strategies analysed based on MCA methodology.
8. Financial capital where insurance falls (in the five capital assets) ranks very low under asset endowment ranking. This means financial capacity to undertake insurance initiatives is low.
9. Potential to improve access to insurance ranks 9 out of 15 strategies listed for scaling CSA under CRAFT. That may mean it has a lower potential than average but not so low. CCAFS, with farmers and partners, are testing index-based insurance in Climate-Smart Villages – CSVs (CCAFS, 2014; Greatrex et al., 2015).
10. Results show that the gaps problem is more on the demand side (limited awareness and limited understanding of index insurance) than on the supply side (product design). However, very few studies have been done on “demand versus supply” to help design a suitable model for scaling index-based crop insurance
11. Insurable risks, which fall within financial risks, rank second among the seven risk factors assessed. Farmers are the most exposed actors in a value chain out of 9 exposed entities assessed in terms of value chain risks, followed by processors and consumers. Aggregators and financial institutions are tied in 4th position.
12. Companies spearheading index-based insurance in each country are presented in Table 1.

Table 1: Companies spearheading index-based insurance in East Africa

Company	Country		
	Kenya	Tanzania	Uganda
1. APA Insurance Co. Ltd	✓		✓
2. AMACO Insurance Co. Ltd	✓		
3. CIC Insurance Co. Ltd	✓		✓
4. Heritage Insurance Co. Ltd	✓		
5. ICEA LION General Insurance Co. Ltd	✓		
6. Jubilee Insurance Co. Ltd	✓	✓	✓
7. Kenya Orient Insurance Co. Ltd	✓		
8. UAP Insurance Co. Ltd	✓	✓	✓
9. Tanzania National Insurance Corporation (NIC) Ltd		✓	
10. MJEN Insurance Co. Ltd		✓	
11. Gold Star Insurance Co. Ltd			✓
12. Lion Insurance Co. Ltd			✓
13. Phoenix Insurance Co. Ltd			✓
14. First Insurance Company (FICO) Ltd			✓
15. National Insurance Company (NIC) Ltd – Uganda			✓
16. Pax Insurance Co. Ltd			✓
17. Agriculture and Climate Risk Enterprise (ACRE Africa Ltd) ²	✓	✓	
18. Financial Sector Deepening (FSD) Trust	✓	✓	
19. One Acre Fund	✓	✓	✓
20. Ugandan Agro Insurance Consortium (AIC)			✓
21. Kenya Insurance Pool	✓		
22. EARS (& eLEAF) MUIIS Project			✓
Total	8	5	10

Source: Compiled from interviews and available literature

Gaps in Adaptation and Mitigation

The major gap is that there is a high promise of index insurance but a very low uptake (Carter et al., 2017).

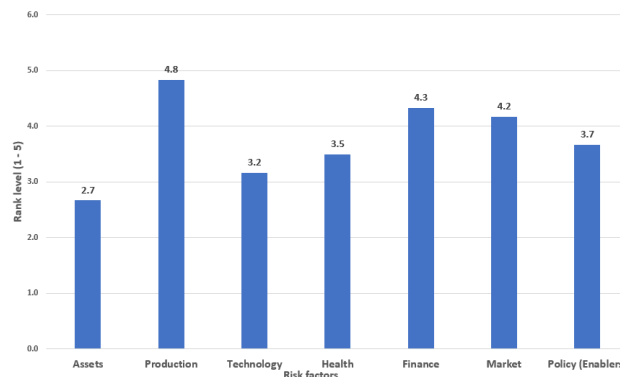


Figure 1: Ranking of various aspects of agro-climatic/weather hazard risks in agriculture. From Minor (1) to very serious (5)

Current ranking of agriculture insurance and possible solutions to low uptake of weather insurance

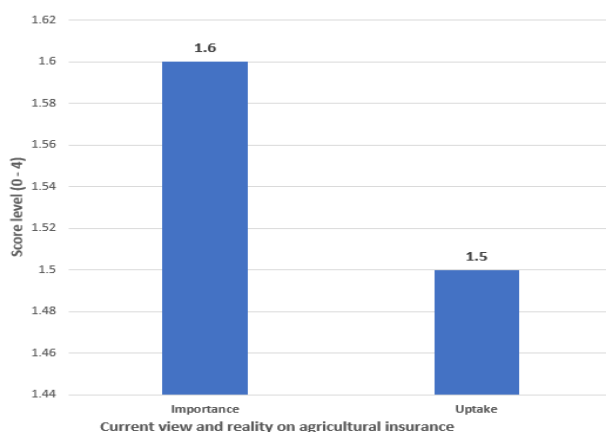


Figure 2a: Current ranking of agriculture insurance as risk management/mitigation measure, and the current uptake of agricultural insurance: from not a priority (0) to very high priority (4).

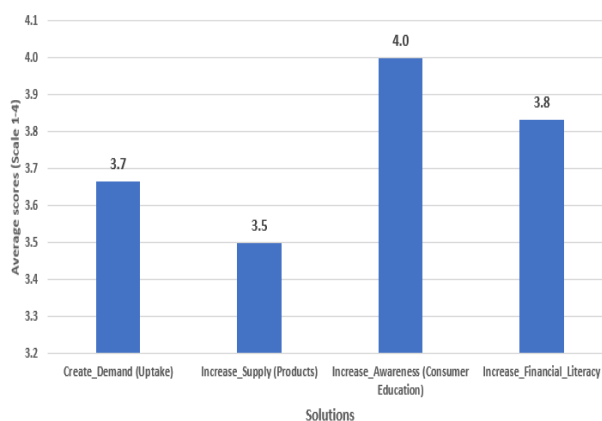


Figure 2b: Possible solutions to the constraints to uptake weather insurance, on a scale of (1) Strongly not recommend to (4) Strongly recommend

Barriers to Scaling Index-based Crop Insurance

Results show that index-based crop insurance uptake is very low due to inadequate awareness and low financial literacy, and that the need for index insurance in agriculture, even though it is a felt need, is not well understood by farmers.

Other barriers include unattractive product designs (like very high trigger levels), weakness of financial products, quality and availability of weather data (and agricultural data), weak coordination capacity of institutions and low expertise of stakeholders (farmer, insurer, and

regulator), low commitment by partners to subsidize the premiums in the transition period, unreliable service delivery (or sparse distribution) channels, tariff (tax incentives) and non-tariff (administrative expenses) barriers, and inadequate flow of information, leading to index insurance market failure. Insurers also lack the necessary capacity and skills (both actuary and agronomy as a skill set) to develop and underwrite the products and process the claims.

Table 2: Programs for scaling index-based crop insurance in Kenya, Tanzania and Uganda, based on lessons from pilots

Country	Initiative and start date	Index of Measure	Crops covered	Implementor	Coverage area	Premium rate and payment	#Farmers covered since launch	Incentive
Kenya	Kenya Agricultural Insurance Program (KAIP) – Crop Insurance Sub-Program (K-CIP): 2015	Area Yield	Started with Maize, Pulses and Potato	National ² govt and County govts + Agric Insurance Pool of Insurers, with support from Kenya's Insurance Regulatory Authority (IRA)	33 Counties out of 47: Counties apply to be included in the program, based on their crop of choice (Government of Kenya, 2019a)	Premium is ≈10% of input cost or 10% of output value, whichever is applicable (range is 4% to 18% without subsidy). Govt pays subsidy 50% and farmer pays 50%.	880,900 out of 8.6 million farmers (10.24%), from 2015 to 2019 (only for index insurance for farmers with ¼ - 20 acres).	Subsidy; and regulatory exemptions.
Tanzania	Tanzania Agriculture Insurance Program: Yet to start, likely 2020	Weather Area Yield Hybrid	Starts with cotton (pilots included beans, sunflower)	ASDP Program, Ministry of Agriculture	To start with one district	No subsidy mentioned in the product document, no rate mentioned	Yet to start	Govt plans to waive some levies (e.g. VAT, etc.).
Uganda	Uganda Agriculture Insurance Scheme – (UAIS) – a PPP: 2016	Evapotranspiration ³ ; Area Yield ⁴ (World Bank 2019)	Priority crops: e.g. Coffee; tea; cotton; maize; beans; rice; bananas; potato; oil crops; etc.	Agro Insurance Consortium	Countrywide	Govt pays 50 % (smallholders), 30 % (large scale) and 80% (higher risk areas) ⁵ . Insurers charge 5≤10% depending on the locality ⁶ and the risks ⁷ - but now averaging 2.5% after subsidy	Disaggregated data not available. What is available is for all insurance	Subsidy ⁸ . VAT exempt on insurance premiums.

Implications of the Findings for Index-based Crop Insurance Policy

Index-based agricultural insurance is gaining increasing attention in East Africa as a promising tool for adapting smallholder agriculture to climate risk. Features common to the success of all the pilots studied are comprehensive sensitization/awareness creation, building local capacity, integrating insurance in other interventions, and participatory designing products. The models used in the cases are index insurance bundling with agricultural credit and/ or farm inputs, coupled with government support through policies and subsidies in public-private partnerships (Table 3).

Table 3: Reasons for a public-private partnership approach, as explained by respondents

Public sector	Private sector
Public sector is less aggressive and less innovative than the private sector, but have a well-established structure and systems that reaches grassroots, and can support subsidy	Private sector is more aggressive and more innovative than the public sector but is lean on the ground, and may not adequately consider social dimensions of initiatives

Note: This calls for the need to enter into public-private partnerships for any initiative that is in the pipeline.

Critical success factors are 1) products that address felt needs; 2) innovations that make processes more efficient and more cost-effective, and 3) coordination. However, despite efforts to promote index insurance, uptake is still low. The identified “high-potential-low-uptake” gap calls for a “bottom-up” product design, based on increased availability of high-quality agro-climate data (Figure 3). Since single line index

² The Ministry works with counties to identify target crops to be insured and beneficiaries. Counties. Insured farmers are grouped in Unit Areas of Insurance (UAI), with similar historical yield averages for each selected crop. The designed product must be approved by IRA and endorsed by the Ministry. The Govt works with insurers to undertake consumer education, and facilitates loss assessment, through yield estimation using crop cuts. Yield loss is calculated from the differences between estimated yields and a guaranteed/ declared/ insured yield per acre per UAI. The guaranteed yield is determined by the insurers based on the long-term average yield (≈10 years) per crop per UAI. The value of the guaranteed yield (declared value, based on expected price) forms the basis of sum assured, from which premium cost per acre per UAI is derived.

³ The main Uganda (UAIS) smallholder crop insurance cover is the Relative Evapotranspiration Index (REI) designed by EARS. It is considered a much more suitable indicator of agricultural drought than rainfall index. However, still it does not cover pests and diseases, which are identified as the most serious cause of loss in Ugandan agriculture (World Bank 2019), and the its designed threshold is considered too high to trigger their losses.

⁴ Area Yield Index is being piloted in Uganda with One Acre Fund (partner in UAIS) as a multi-peril crop yield index that provides a more comprehensive cover, including for pests and diseases, etc.

⁵ Uganda Agro Insurance Consortium ensures that standardized premium rate cover & procedure for approval & settlement of subsidy & farmer claims.

⁶ The average premium rates charged under UAIS (2.35% for all programs) are considerably lower than the published premium rates (World Bank 2019)

⁷ The value of crop to be insured is based on the size of the land under cultivation, pre-agreed nominated value of the harvested crop and the Long Term Average (LTA) Yield: Value of Crop = Planted Area (ha) X Long Term Average Yield (t/ha) X Pre-Agreed Value (\$/sh/ton)

⁸ Subsidy: smallholder farmers 50%, Large scale farmers 30 %, Farmers in higher risk areas 80%

product is seen to be less satisfactory and payout decisions are often controversial, it would be appropriate to opt for hybrid products and to agree that data⁹ **approved** by government through the PPP Model becomes the basis for consideration during payout. Although the promise of positive outcomes is backed by evidence in several contexts, there are key barriers that must be addressed to realize its potential at scale. Stakeholders opine that the most serious barrier is in knowledge, information and distribution, not on the product. Product design can be shaped by consumer understanding, which is a function of efficient information flow¹⁰ and cost-effective product distribution to improve market behaviour. The market will always fail to work, by mismatching the 'demand ⇌ supply' feedback, if actors (producers and consumers) are misinformed about the products.



This market failure is what needs to be addressed as a priority, and the best way to address it is to work with the consumers in a transparent manner. Index insurance product development to be based on specific needs of farmers instead of generic products as insurers currently do. This finding calls for consumer education on insurance and training on financial literacy as a priority to increase demand for insurance¹¹. This process should begin with sensitisation of key policy makers and value chain actors to enlist their buy-in for awareness campaigns. **From the awareness campaigns issues will arise which will need to be raised upwards with the relevant authorities.** Such awareness creation strategy can help actors to see insurance as an adaptation tool that can minimize their risks in farming and value chains. Mass communication campaign can run in parallel with the targeted and focused sensitization activities. For SMEs, Cooperatives and farmer organisations, the strategy will be to sensitise them to raise the profile of insurable climate risk (including its risk on credit) to the level of core business risk, so that they factor climate risk into their planning to unlock the insurance logjam. These aggregators and their insurers and financiers should explore more efficient and more cost-effective ways to offer insurance bundled with access to credit or with input purchase (e.g. the Village Agents Model), based on determined consumer demand and the policy environment

Figure 1: Addressing index insurance market failure (distortion; imperfection) caused by inadequate information and poor distribution

Acknowledgments

The information contained in this brief was contributed by, among others, Erastus Ndege (Africa Re-Insurance Corporation); Stella Ndirangu & Muthithi Kinyanjui (ACRE Africa Ltd); James Kiguru & Leonard Ndaka (UAP Old Mutual Kenya); Robert Kuloba (IRA Kenya); Allan Asiimwe & Samuel Otara (HAMWE Ltd); Saimon Mbaga (Ministry of Agriculture, Tanzania); Dr. Emmanuel Lupilya (TIRA Tanzania); Saimon Mbaga (MoA Tanzania); Christopher Mazali (ACRE Africa-Tanzania Ltd); Hamisi Msami (National Insurance Corporation, Tanzania); Mwombeki (Financial Sector Deepening Trust - FSDT); Munyaradzi Daka (Agric Insurance Consortium, Uganda).

Project information:

The Climate Resilient Agribusiness for Tomorrow (CRAFT) project (2018 - 2023), funded by the Ministry of Foreign Affairs of the Netherlands, will increase the availability of climate smart foods for the growing population in Kenya, Tanzania and Uganda. The CRAFT project is implemented by SNV (lead) in partnership with Wageningen University and Research (WUR), CGIAR's Research Program on Climate Change, Agriculture and Food Security (CCAFS), Agriterria, and Rabo Partnerships in Kenya, Tanzania and Uganda

For more information:

Contact the CRAFT project craft-info@snv.org

⁹ Transparent provision of relevant rainfall measurements and thresholds needed, to increase farmers' confidence and willingness-to-pay for index insurance.

¹⁰ Insurers tend not to provide enough information because, during a market transaction, it may not be in their interests to provide full information to the clients

¹¹ For index insurance to work successfully, farmers must know, understand and practice good agricultural practices, which should always be appended to insurance and credit contracts. Since it is expected that crop insurance reduces risks to financial institutions when they lend to farmers, the FIs should also consider reducing the cost of loans to insured farmers. There is also need for insurers and FIs to consider sourcing or training more experts who can combine both actuary and agronomy in insurance initiatives