SITUATIONAL ANALYSIS OF AGRICULTURE INSURANCE LANDSCAPE IN KENYA

August, 2016

AKI ASSOCIATION OF KENYA INSURERS

consumer options research & beyond

Research Objective

The **main objective** of the study is to **carry out a situational analysis** by holistically assessing the **agriculture insurance landscape in Kenya**, in order to identify gaps, select priority issues and suggest interventions / plan of actions that will lead to **increased agriculture insurance uptake**.

Guiding Research Objectives

Demand Side

- Analyze the agricultural risk profile, risk mitigation measures and experiences at a national level
- Assess agriculture insurance awareness levels
- Evaluate insurance needs and perceptions, willingness and ability to pay
- Feedback on lessons from recent customer experience with agriculture insurance products
- Provide a profile of potential clients and their geographical spread
- Provide a profile of institutions driving agriculture insurance demand, and the underlying motivations.

Supply Side

- Establish available products in the market and their features
- Establish mode of premium and claims payment
- Identify gaps in products and key success factors
- Establish underwriters marketing strategies to increase penetration
- Provide an assessment of commercial viability of agriculture insurance products
- Establish availability of reinsurers product
- A review of reasons why most insurance companies are not offering agriculture insurance

Distribution Channels

- Identify the main players and the effectiveness and challenges of the distribution channels
- Provide a detailed description of the existing and potential partnerships, including government subsidies/support

Regulatory Framework

- This will look at the existing regulations, how are they facilitating or impeding effectiveness of agriculture insurance and what in view of the market players needs to be done to promote growth?

Benchmarking

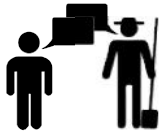
- Draw relevant lessons on best practices from other parts of the world to inform on study findings, with emphasis on supply, distribution channels/partnerships, demand and regulations

Research Design

Literature Review

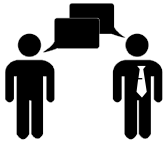
1. World Bank Publications
2. FSD Kenya (The 2016 FinAccess Household Survey)
3. Agricultural Sector Development Strategy 2010-2020
4. Economic Review of Agriculture 2015
5. National AgriBusiness Strategy
6. Strategic Plan for Agricultural & Rural Statistics 2015/22
7. Vision 2030 Sector Plan for Drought Risk Management and Ending Drought Emergencies

Quantitative, Face-to-Face Interviews



Farmers, Across 20 Counties

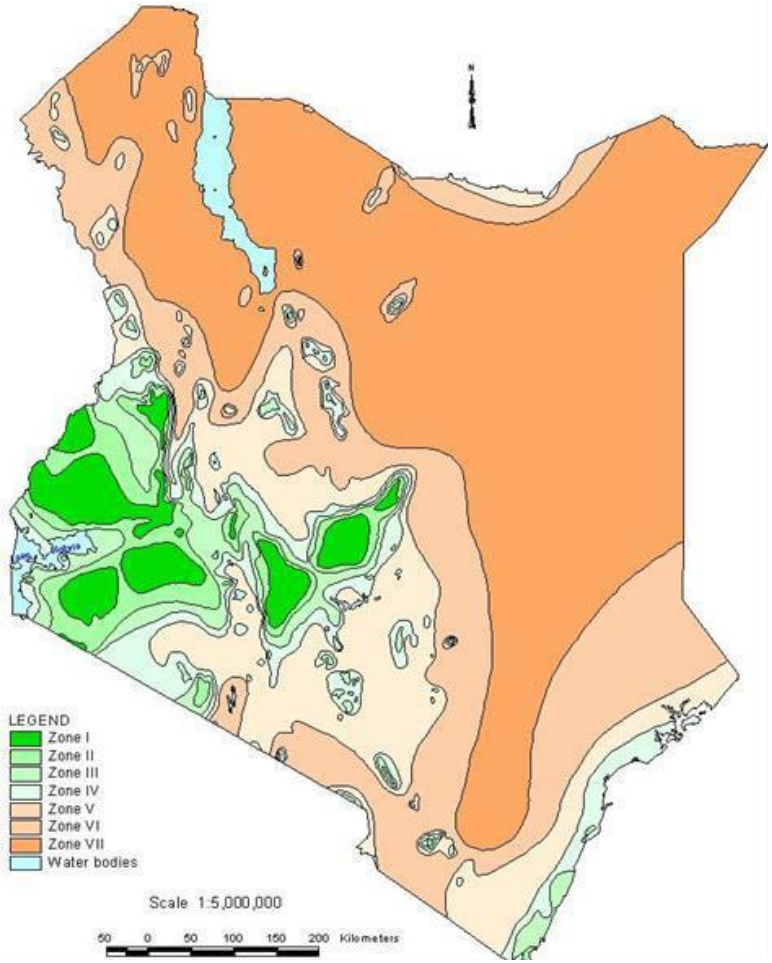
Qualitative, Face-to-Face Interviews



1. Insurance Underwriters
   - Agriculture Insurers
   - Not Currently Underwriting Agriculture
2. State Department of Agriculture
3. State Department of Livestock
4. County Government of Kiambu
5. Farmer Aggregator Organizations
6. Social Enterprises
7. IRA

Agro-ecological Zones

In absence of a national agricultural sampling frame, 23 counties were purposively selected and agreed by the research team to be a good representation of agro-ecological zones (AEZs) and agricultural production systems in Kenya.



Agro-ecological zoning (AEZ), as applied in FAO studies, defines zones on the basis of combinations of soil, landform and climatic characteristics.
When combined with an inventory of land use, expressed as land utilization types and their specific ecological requirements, zoning can then be used as the basis of a methodology for land resource appraisal.

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AEZ	Descriptive	Areas Around
Zone I	Confined to mountains and immediate surrounding	Mt. Kenya Mt. Elgon
Zone II	Generally restricted to the highlands of Kenya	Meru Embu Kirinyaga Muranga Nyeri Kericho Nyahururu Kitale Webuye
Zone III	Is the most significant for agricultural cultivation. It is also the most resettled by human	Nyanza Western Kenya Central Kenya Nandi Nakuru Bomet Eldoret Kitale
Zone IV	This zone occupies more or less the same elevation as Zone III	Naivasha Laikipia Machakos Central Coast Southern Coast
Zone V	This zone is much drier than Zone IV and occurs at lower elevations.	Northern Baringo Turkana Lower Makueni North Eastern Kenya
Zone VI	This zone is considered as semi-desert	Marsabit Turkana Mandera Wajir
Zone VII	This is represented by Chalbi Desert in Marsabit	Marsabit

Sampling Design

Agro-ecological zone	Counties	Sample Size
Central Highlands	Nyeri	46
Central Highlands	Muranga	61
Central Highlands	Embu	59
Coastal Lowlands	Kilifi	58
Coastal Lowlands	Kwale	59
Eastern Lowlands	Taita-Taveta	43
Eastern Lowlands	Machakos	40
Eastern Lowlands	Makueni	38
Eastern Lowlands	Kitui	40
High-Potential Maize Zone	Kakamega	92
High-Potential Maize Zone	Bungoma	41
High-Potential Maize Zone	Narok	40
High-Potential Maize Zone	Trans Nzoia	47
High-Potential Maize Zone	Uasin Gishu	62
High-Potential Maize Zone	Bomet	46
High-Potential Maize Zone	Nakuru	60
Marginal Rain Shadow	Turkana	39
Marginal Rain Shadow	Laikipia	39
Western Highlands	Kisii	65
Western Highlands	Vihiga	38

With the assumption that farming takes place at a household level, and that members of the household wouldn't farming individually, we drew our sample based on the number of households and overlay this with the agro-ecological zones

Agro-ecological zone	Sample Size
Central Highlands	166
Coastal Lowlands	117
Eastern Lowlands	161
High-Potential Maize Zone	388
Marginal Rain Shadow	78
Western Highlands	103
Total	**1013**

Amply robust sample size with an error margin of +/-3.08% at 95% confidence level

Important Points to Keep in Mind

Indicators of Farmers' Classification

There is no unique and unambiguous definition of a farmer; particularly, the smallholder farmer. Often scale, measured in terms of farm size is used to classify farmers. However, across countries, the distribution of farm sizes depends on a number of agro-ecological and demographic conditions and economic and technological factors. The Smallholder Data Portrait by FAO provides a better guideline of classifying farmers by taking into consideration a number of attributes.

Indicator Group		Indicators >>			
1	**Farm Size**	Average (Hectares)	Minimum, Maximum (Hectares)	Number of Holdings	
2	**Production**	Value of Crop Production	Value of Food Produced	Value of Crop Production per Hectare	
3	**Income, Pluri-activity and Poverty**	Household Income	Shares of Income from Different Sources	Poverty Headcount	
4	**Family Labor Days Supplied On-farm**	Hired Labor Days Supplied Over a Day	Family Labor Days Supplied Off-farm over a day		
5	**Capital and Inputs**	Livestock (Tropical Livestock Units)	Percent of Households using Motorized Equipment	Irrigation (Percent of Land)	Fertilizer and Seeds per Hectare
6	**Innovation and Technology**	Percent of Improved to Total Seeds	Percent of Households using Improved Seeds	Percent of Households Recipient of Extension Services	Percent of Households Owning a Telephone
7	**Access to Markets**	Percent of Agricultural Production Sold	Percent of Expenditure for Inputs on Value of Production	Credit and Credit Programmes (No. of Beneficiary Households)	Distance of Household from Road (Km)

Important Points to Keep in Mind

Farming Household Classifications used in Report

Marginal Farmer	A farmer with a bare subsistence level of income from own land, sometimes works as agricultural labor or runs a small business on the sidelines during his/her spare time. Keeps small stock animals mostly indigenous such as chicken, goats, sheep and rabbits. Farming is mostly for subsistence.
Small Farmer	A farmer who grows and sells between Kes.60,000 and Kes.200,000 per year in agricultural products, farm operators are either retired or report a major occupation other than farming.
Medium Sized Farmer	Farming is the major occupation, more than 50 percent of farm output is for market, they grow and sell between Kes.200,000 and 500,000 per year in agricultural products. Keeps large stock animals both/either indigenous or exotic breeds
Large Sized Farmer	Farming is a business enterprise, more than 50 percent of farm output is for market, they hold great revenue potential with per year sales of more than Kes.500,000 and some farms even up to Kes.20,0000,000. Keeps large stock animals both/either indigenous or exotic breeds.

Important Points to Keep in Mind

Sources of Income

Top 3 Sources of Income >> |On-farm Only |Off-farm Only |On & Off-farm

Result of 2 set of questions

Q> To what extent are you involved in making decisions on farm related activities such as type of crop/plant seeds to be planted, animals to be kept or hiring of farmhand, among others?

Q> What are your 3 top sources of income?

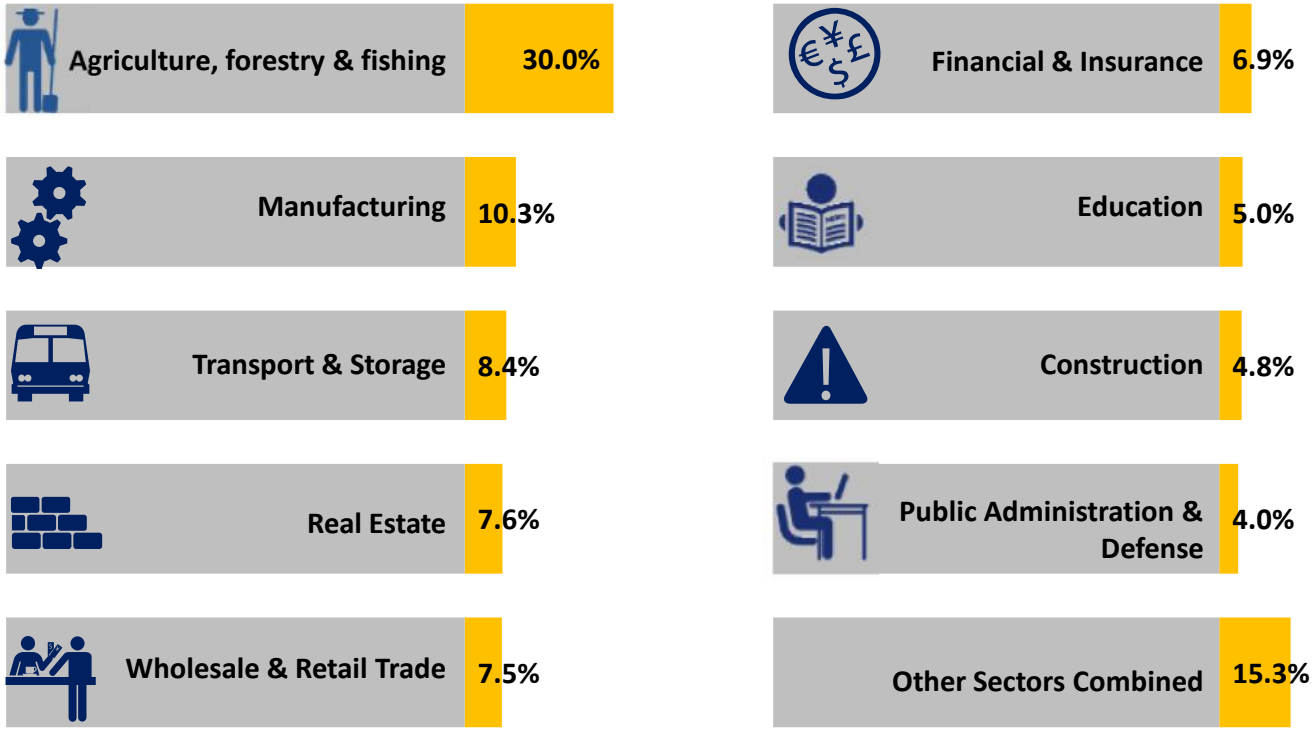
Depth of Involvement in Farm Decisions
I am the sole decision maker
I partially make decisions among other people i.e. parents, spouse or children
My spouse/partner/siblings and I make these decisions

Possible Sources of Income		
Sell own produce from your farm	On-farm Only	On & Off-farm
Sell own livestock from your farm		
Operate a tree/plants nursery		
Farmhand		
Subletting of land	Off-farm Only	
Run own business		
Temporary employment		
Permanent employment		
Pension		
Landlord/Subletting of houses & rooms		
Shylocking/Money lending/Loan Shark		
Donation from friends and family		
Support from my children		
House help		
Others (Specified)		

Agriculture Sector Overview

The agriculture sector is a mainstay of Kenya's economy.

Sector Contribution to GDP



Source: Economic Survey 2016

The **agriculture sector** is a **mainstay of Kenya's economy**. The sector contributes on average 26 percent of the country's GDP, with its economic significance growing in 2015.

The overall contribution of the agriculture sector to GDP is larger than this because sectors related to agriculture - forestry, fishing, and related activities; food, beverages, and tobacco products; textiles, and leather products; food service and drinking places - rely on agricultural inputs in order to contribute added value to the economy.

Agriculture sector is therefore the largest platform from which growth could be stimulated, and the good performance of this sector ensures good performance of the entire economy.

Agriculture sector contribution to the country's GDP has increased in the last the 3 years to 2015

Agriculture Sub Sector Performance

Growing of crops is the **single biggest contributor** to agriculture sector ever-increasing importance to **country's GDP**.

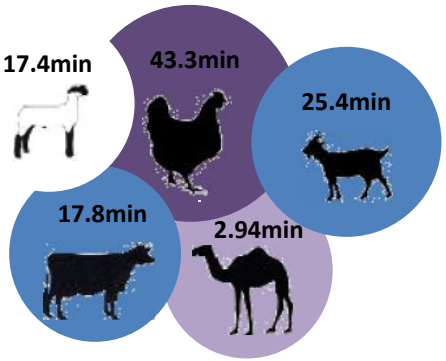
Percentage Contribution to GDP	2011	2012	2013	2014	2015
Agriculture, forestry and fishing	**26.3**	**26.3**	**26.3**	**27.3**	**30.0**
Growing of crops	18.4	18.0	18.4	19.6	22.4
Animal production	5.4	5.5	5.2	5.1	5.0
Support activities to agriculture	0.6	0.7	0.6	0.5	0.6
Forestry & logging	1.3	1.4	1.4	1.4	1.3
Fishing & aquaculture	0.6	0.7	0.7	0.7	0.7

Small-scale production, mostly on farms averaging 0.2-3 ha, **accounts for 75 per cent of the total agricultural output.**

Small-scale farmers produce over **70 per cent of maize**, **65 per cent of coffee**, **50 per cent of tea**, **80 per cent of milk, 85 per cent of fish**, and **70 per cent of beef** and related products.

110+ Million

Livestock Population



Approximately 80% of livestock excluding poultry is in the Arid and Semi Arid Regions.

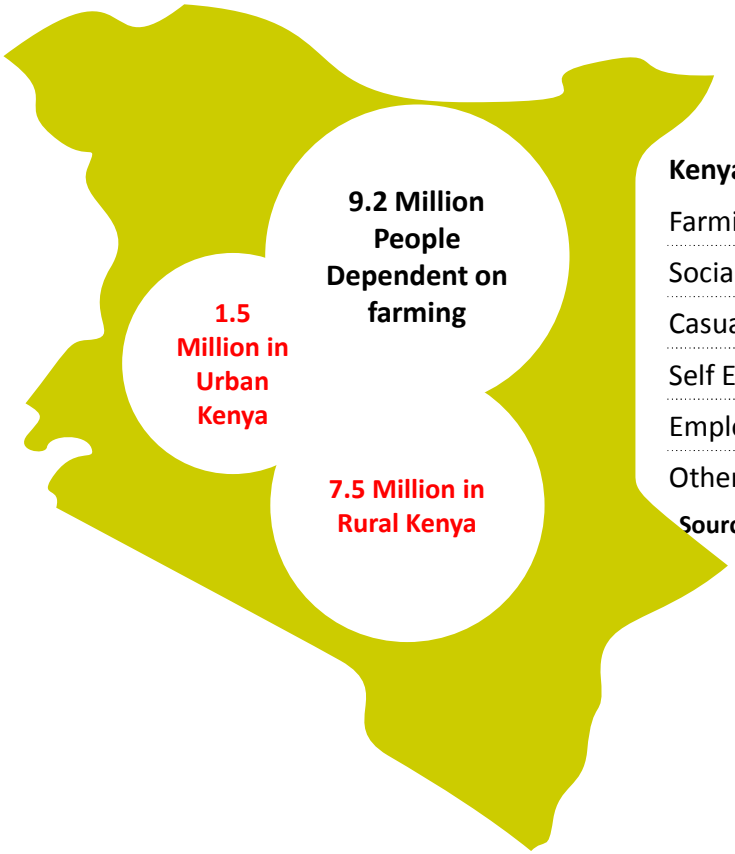
The livestock sub sector employs about 90% of the ASAL workforce, with 95% of ASAL household income coming from the sub sector.

Source:

1. Economic Survey 2016
2. Economic Review of Agriculture 2015
3. Agricultural Sector Development Strategy 2010-2020

Many farming households livelihoods, more so in rural Kenya, are entirely dependent on farming, both for income, generated by selling farm produce, and for feeding their families.

Sources of livelihood



32.2%
Kenyan adults report agriculture as their main source of livelihood

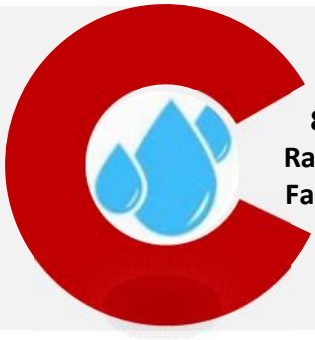
	National	Urban	Rural
Kenyan Adults (18+ years old)	**22,331,041**	**8,092,762**	**14,238,279**
Farming (Crops or Keeping Livestock)	41%	19%	53%
Social Assistance/Dependent/Pension	28%	32%	26%
Casual Work	27%	27%	27%
Self Employed/Running Own Business	23%	28%	21%
Employment	14%	24%	8%
Other	3%	4%	3%

Source: The 2016 FinAccess Household Survey

The Kenyan farmer is dependent on rain for farming.

Cultivation Patterns

Number of Farmers
1013 Surveyed Farmers

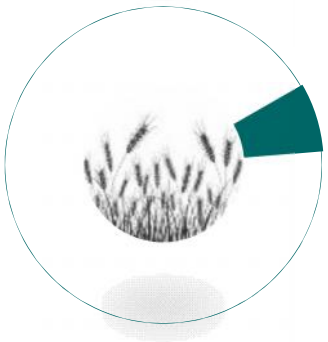


88%
Rain-fed Farming

16%
Irrigated Farming

Utilized Agricultural Area
5,072 Acres/12 Months

93%
Rain-fed Gross Cropped Area (Acres)



7%
Irrigated Gross Cropped Area (Acres)

Crop Production
5, 283 Metric Ton/12 Months

85%
Qty Harvested under Rain-fed Cropping

15%
Qty Harvested under Irrigated Cropping

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Source: AKI Survey

More than half of all farming output is for subsistence. Cereals such as maize, wheat and millet are the most common crops grown by majority of farmers. However, large sized farms tend to grow high value crops such as vegetables and fruits. For the case of marginal farmers who also grow vegetables, the motivation could be the shorter maturity periods hence quicker returns.

Average Characteristics of Farm Operations

Farm Size and Cropping Intensity

	Total Farm Holdings	Marginal Farmer	Small Sized Farm	Medium Sized Farm	Large Sized Farm	Proportion of Land under Crop	Multiple Cropping Index	Percent Farm Produce	
								Retained for Domestic Use	Sold
Base Sample	978	625	271	38	42				
Cereals	88%	94%	93%	95%	81%	68%	59%	71%	21%
Legumes	62%	69%	76%	76%	60%	60%	73%	77%	15%
Vegetables	47%	89%	79%	68%	90%	27%	25%	71%	22%
Fruits	33%	46%	66%	66%	81%	45%	47%	54%	37%
Tubers	12%	13%	15%	13%	12%	35%	28%	73%	21%
Nuts	6%	5%	10%	21%	10%	49%	48%	68%	29%
Herbs	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Cash Crops	14%	14%	10%	3%	7%	*	*	0%	100%

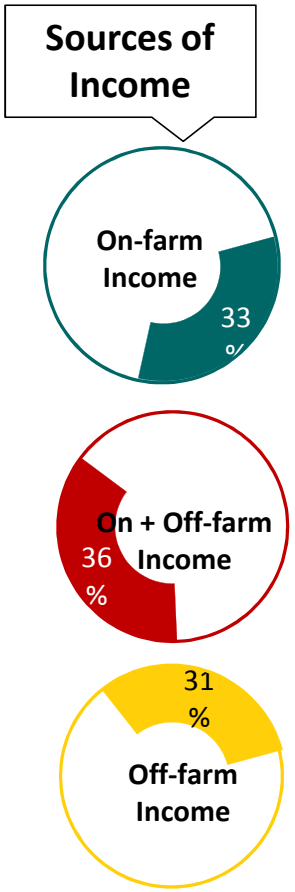
Base Sample: 1013 Farm Holdings
Source: AKI Survey

Income streams from farming related activities are spatially dispersed, causing uneven cash flow and strain on a backdrop of continuous consumption and spending requirements. As a result, farmers have adopted alternative income generating activities to cope with the seasonality of agricultural income

Timing of Cash Flows

Source of Income		Farming	Temporary Employment	Run own business	Permanent employment	Other
Wt	**Frequency of Payment**	**734**	**324**	**208**	**95**	**51**
[8]	Daily	14%	21%	60%	1%	2%
[7]	Weekly	22%	29%	19%	1%	0%
[6]	Monthly	20%	28%	9%	98%	63%
[5]	Every 2-4 Months	7%	7%	2%	0%	8%
[4]	Every 5-7 Months	4%	2%	0%	0%	10%
[3]	Every 8-10 Months	1%	2%	0%	0%	2%
[2]	Every 11-12 Months	4%	1%	0%	0%	6%
[1]	Irregularly	27%	10%	9%	0%	10%
	Mean	4.77	5.99	6.89	6.03	4.98
	STDev	2.67	2.06	2.03	0.22	1.77

Source: AKI Survey



And when cash inflows occur, payment to the majority of farming households (nearly 90%) is in cash; only 4% get paid through a bank account or mobile money account in spite of considerable majority currently having either of them.

Mode of Payment for Earned Income

Top 3 Sources of Income	Total Sample	Farming	Temporary Employment	Run own business	Permanent employment	Other
	1013	**734**	**324**	**208**	**95**	**51**
In Cash	84%	89%	88%	90%	31%	48%
In a Bank	10%	4%	6%	2%	68%	44%
Mobile Money Account	4%	4%	3%	6%	1%	7%
Goods in Kind	3%	3%	4%	2%	0%	0%
Source: AKI Survey						
*Currently have mobile money/micro finance/bank Acc	71%	69%	71%	84%	96%	67%

***Source: The 2016 FinAccess Household Survey**

Sell at your farm gate	59%
Sell yourself somewhere else other than your farm gate	31%
Sell to or through farmers' organization/Farm Producer Organization	9%

Source: AKI Survey

What we make out of this is that farmers are paid in cash immediately after their produce is sold, making them prone to impulsive spending hence saving less. This also makes it hard for them to secure loans if they choose to because of the inactive of the bank accounts they hold.

This calls for consideration of innovative ways of agriculture insurance products as well as ways of recovering premiums

Agricultural Risk Profile and Experiences: Farming Households' Perspective

When asked to list challenges that farmers face, the majority state pests and diseases, whether in crop or livestock.

Mode of Payment for Earned Income

Base Sample	1013
Pests and Diseases	67%
Change in Climate/Weather Patterns	36%
Changes in the marketplace	25%
High cost of production	17%
Lack of resources to improve farm productivity	10%
Lack of enough foliage/animal feeds	5%
Insecurity/Theft	5%
Poor road infrastructure	4%
Low/Poor/Declining farm productivity	4%
Low quality/sub-standard quality of farm inputs	4%
Lack of support on good farming practices	4%
Shortage of reliable labor	4%
Inadequate farm land	4%

The majority of Kenyan households are most vulnerable to economic/financial risks, then production risks which are likely to impact on the amount and quality of food supply. However, production risks are the single most important risk for farming households.

Risks and Vulnerability

	Sources of Income			
	Total	On-farm Income Only	On & Off-farm Income	Off-Farm Income Only
Economic/Financial Risks	60%	46%	70%	65%
Production Risks	52%	67%	74%	41%
Political/Social Unrest Risks	12%	8%	15%	13%
Asset Risks	13%	6%	16%	14%
None	20%	19%	9%	19%
Refused to answer	1%	1%	0%	1%

Source: The 2016 FinAccess Household Survey

Production Risks	Factors affecting or resulting in variability of yields i.e. pests and diseases, drought/famine, floods, loss of crops/livestock, lack of adequate human labor or draft/draught power
Asset Risks	Risks about theft, fire and other damages or losses to property
Market Risks	Price reductions and fluctuations, and changes in quality standards that might put the prices below profitable level
Economic/Financial Risks	Associated with possible increase in interest of business loans and/or insufficient liquidity or loss of equity due to rising cost of production, cost of living, loss of an income earner, or circumstances such as death/illness exerting pressure to spend more money

Source: AKI Survey

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Farmers in the Coastal Lowlands and Eastern Lowlands regions have the lowest risk exposure/risk perception.

Risks and Vulnerability of Farming Households

# Mean Score	Total Sample	Agro-ecological Zones						Farm Classification			
		Central Highlands	Coastal Lowlands	Eastern Lowlands	High-Potential Maize Zone	Marginal Rain Shadow	Western Highlands	Marginal Farmer	Small Sized Farm	Medium Sized Farm	Large Sized Farm
Base Sample	**1013**	**166**	**117**	**161**	**388**	**78**	**103**	**625**	**271**	**38**	**42**
Production Risk	2.12	2.12	2.09	2.03	2.12	2.32	2.13	2.13	2.11	2.04	2.15
Economic Risk	2.05	2.04	2.07	1.89	2.06	2.21	2.15	2.06	2.03	2.00	2.09
Market Risk	2.02	2.04	1.94	1.93	2.05	2.17	2.02	2.02	2.03	1.99	2.05
Asset Risk	1.55	1.60	1.24	1.47	1.58	1.79	1.62	1.53	1.57	1.40	1.67
Overall Mean Score		2.02	1.95	1.91	2.03	2.20	2.05	2.02	2.01	1.94	2.06
STDev		0.74	0.71	0.69	0.66	0.75	0.73	0.72	0.66	0.66	0.67

Source: AKI Survey

Rating Scale: [1] Not at all [2] Sometimes [3] All the time

Most frequently worry about

Significant difference at 95% confidence level in group

Directionally superior relative to other risks in group but not statistically significant

Statistically significant at 90% confidence level in group

Source: AKI Survey

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Crop diseases and pests are the most significant risks facing farmers. These risks are prominent[22] in the Marginal Rain Shadow regions, and amongst marginal and small sized farms

Production Risks and Vulnerability

# Mean Score	Total Sample	Agro-ecological Zones						Farm Classification			
		Central Highlands	Coastal Lowlands	Eastern Lowlands	High-Potential Maize Zone	Marginal Rain Shadow	Western Highlands	Marginal Farmer	Small Sized Farm	Medium Sized Farm	Large Sized Farm
Base Sample	**1013**	**166**	**117**	**161**	**388**	**78**	**103**	**625**	**271**	**38**	**42**
Production Risk											
Crop diseases	**2.37**	2.34	2.29	2.37	2.38	2.58	2.31	2.38	2.36	2.29	2.31
Difficulties in finding labor/ Insufficient family labor to support farm activities	2.00	2.06	1.99	1.86	2.03	2.01	2.05	2.01	2.00	1.92	2.02
Frost	1.55	1.75	1.02	1.55	1.60	1.74	1.53	1.54	1.55	1.55	1.57
Insufficient machinery/tools	1.99	1.85	1.90	1.88	2.03	2.44	1.99	2.00	1.98	1.84	2.00
Lack of quality of seeds/cultivars	2.10	2.13	2.03	2.01	2.07	2.54	2.12	2.16	2.03	1.82	2.05
More variable climate conditions	2.24	2.17	2.48	2.13	2.20	2.40	2.25	2.22	2.27	2.16	2.29
Pests	2.44	2.36	2.35	2.42	2.48	2.62	2.37	2.41	2.52	2.34	2.36
Poor crop yields	2.31	2.28	2.39	2.29	2.28	2.55	2.25	2.33	2.29	2.13	2.29
Rising costs of farm inputs	2.31	2.33	2.50	2.19	2.26	2.41	2.35	2.31	2.26	2.39	2.43
Scarcity of farm inputs	2.07	2.11	2.21	1.87	2.07	2.24	2.03	2.07	2.06	2.08	2.24
Scarcity of land for farming	1.95	1.97	1.84	1.79	1.96	1.99	2.21	1.96	1.92	1.89	2.14

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Rating Scale: [1] Not at all [2] Sometimes [3] All the time

Source: AKI Survey

Farmer economic risks tend to be linked to the general performance of the economy, mostly short and mid-term inflation levels. In the event of poor economic performance, medium and large scale farmers are more likely to be affected.

Economic and Market Risks

# Mean Score	Total Sample	Agro-ecological Zones						Farm Classification			
		Central Highlands	Coastal Lowlands	Eastern Lowlands	High-Potential Maize Zone	Marginal Rain Shadow	Western Highlands	Marginal Farmer	Small Sized Farm	Medium Sized Farm	Large Sized Farm
Base Sample	**1013**	**166**	**117**	**161**	**388**	**78**	**103**	**625**	**271**	**38**	**42**
Economic Risk											
Conflict e.g. politically instigated, land disputes etc.	1.92	1.85	2.02	1.61	1.98	1.99	2.14	1.93	1.89	1.79	1.88
Rising food prices	2.35	2.31	2.44	2.30	2.30	2.58	2.40	2.39	2.25	2.18	2.31
Rising land prices	1.97	1.95	1.75	1.76	2.07	2.10	2.13	1.96	2.00	1.92	1.95
Rising loan interest rates	1.85	1.90	1.81	1.72	1.87	1.92	1.92	1.83	1.88	1.84	1.93
Worsening debt situation	1.88	1.90	1.94	1.68	1.91	2.08	1.84	1.88	1.88	1.82	1.95
Worsening economic situation	2.34	2.34	2.49	2.25	2.26	2.56	2.47	2.36	2.24	2.42	2.52
Market Risk											
Falling crop prices	2.24	2.33	2.28	2.29	2.19	2.27	2.10	2.23	2.23	2.32	2.33
Lack of buyers for farm produce	2.05	2.14	2.21	2.04	1.95	2.23	1.99	2.06	2.06	1.82	2.21
Lack of contract for growing crops	1.92	1.87	1.62	1.75	2.06	2.14	1.94	1.93	1.94	1.79	1.88
Lack of keeping farm records	1.88	1.83	1.64	1.65	1.99	2.05	2.05	1.86	1.90	2.05	1.79

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Rating Scale: [1] Not at all [2] Sometimes [3] All the time

Source: AKI Survey

3 out of 10 farms experience post crop harvest losses. However, this number varies depending on the type of crops grown by a farmer' - 5 out of 10 farms that grow cereal crops or vegetables state post-harvest losses of up to 14%

Post Harvest Risks

	Total Sample	Cereals	Legumes	Vegetables	Fruits	Tubers	Nuts
Base Sample: Number of farms growing crop	**978**	**858**	**607**	**461**	**322**	**117**	**58**
No. of Farmers Reporting Post Harvest Loss	34%	52%	44%	51%	37%	23%	33%
Degree of Post Harvest Loss	14%	14%	17%	13%	9%	13%	6%

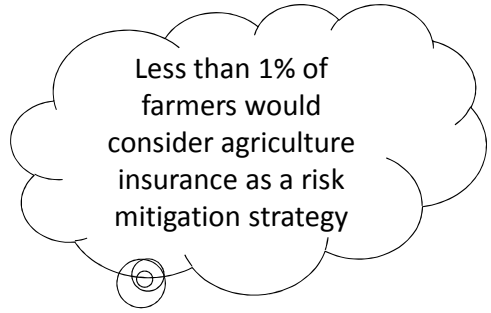
Source: AKI Survey

On-Farm and Pre-harvest Risk Mitigation Strategies

Agriculture insurance does not rank high in the farmers' risk mitigation strategies. Farmers manage their production risks by planting early at the onset of rainfall, input utilization strategies such as change of seed variety and crop rotation.

Base Sample	1013
I plant early at onset of rainfall	66%
Change the seed variety	26%
Change crop type/s in the next planting season	25%
I try to learn from neighboring farms which did better	20%
Incorporate mixed farming/Crop diversification	14%
Use of water and soil conservation techniques .i.e. contour trenching and terraces	12%
Lease/rent land in an area with more favorable weather/soil	7%
Keeping a smaller herd	6%
Migrate my livestock/Herd mobility	5%
Herd diversification (Keep different types of animals)	2%
Increase/improve soil fertility/quality using inorganic manure	2%
Increase/improve soil fertility/quality using organic manure	1%
Seek the help of an agronomist/agricultural extension officer	1%

Source: AKI Survey



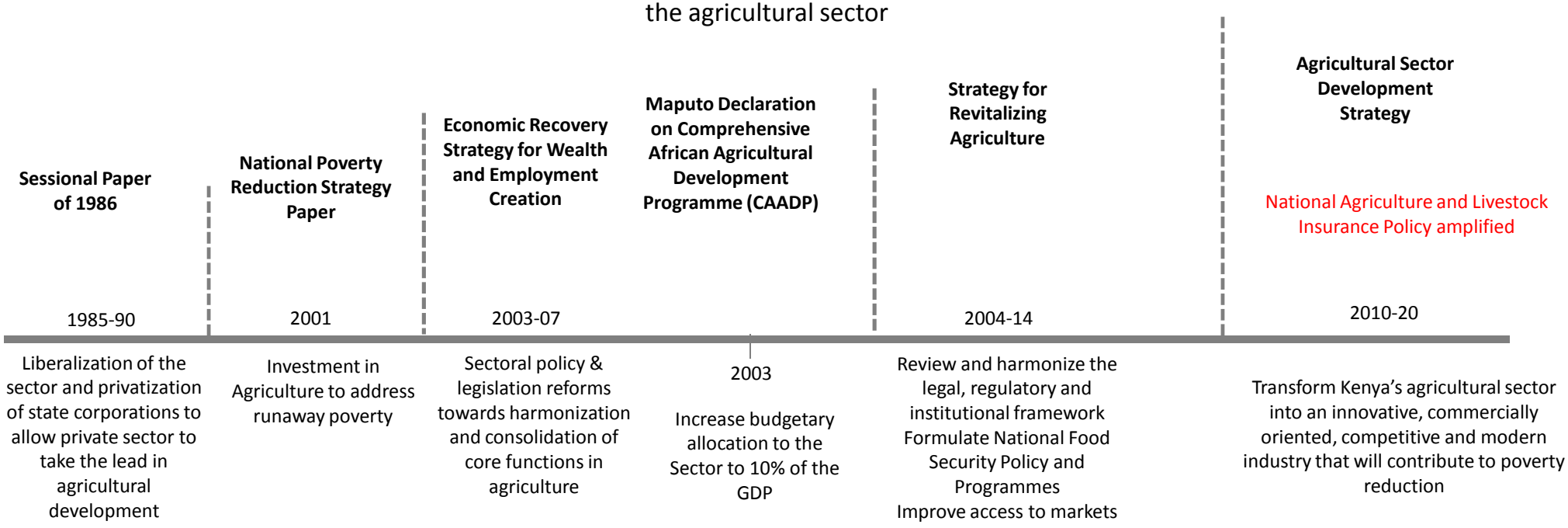
Agricultural Risk Profile and Experiences: National Level

National Strategies and Policies in Support of the Agricultural Sector Development

Despite the significant role that agriculture plays in the economy, the management of the sector has in the past been characterized by **incoherent, conflicting and inadequate pieces of policies and legislations**.

Up to 2012, the sector was controlled by over **100 pieces of legislations** spread over in **different government departments/ministries** with partial or total autonomy with **no hierarchical coordination.**

As a result a new strategy was needed to guide public and private sector efforts in addressing major development challenges facing the agricultural sector



Source: Various Government Ministries and State Departments

Kenya remains vulnerable to frequent and extremely expensive natural disasters. The country is exposed to high frequency of flooding, almost every year, and drought in every 2-4 years.

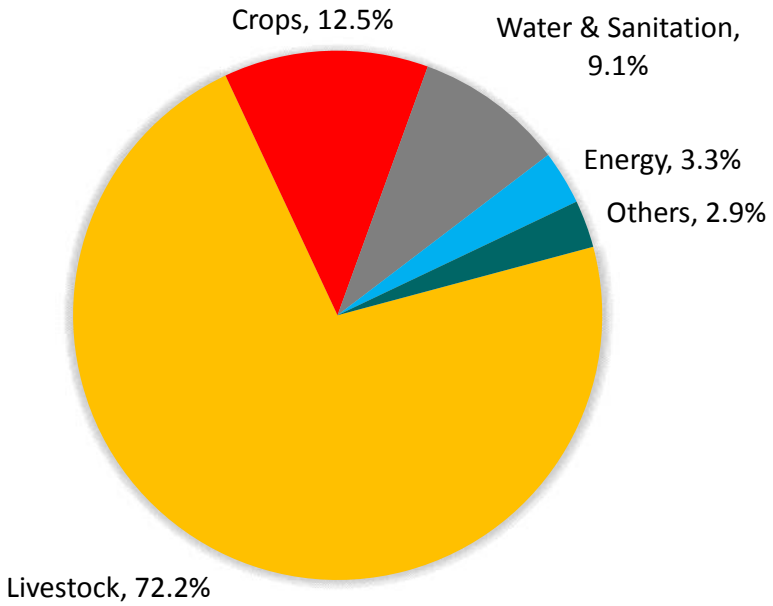
Risk Exposure and Vulnerability

Kenya's agriculture is mainly rain-fed	About 84 percent of the country is semi-arid and arid, and is entirely dependent on the bimodal rainfall. The performance of rain-fed agriculture varies due to the diverse agro-climatic zones, and on the backdrop of global climate change. Droughts are a national concern and affect the whole of Kenya. They have a direct impact on the economy, and affect the linkages between different sub-economies, ecologies and communities.
Unsustainable land use systems	In the humid high altitude areas, productivity as well as predictability of a good crop is high. However, the population density in these areas has increased and changing patterns of human settlement has seen land subdivided into such small sizes that it is becoming uneconomical for farm enterprises.
Low productivity	Kenya's agriculture is predominantly by smallholder farmers, mainly in the high potential areas. Adoption of improved inputs such as hybrid seed, concentrate feeds, fertilizer, safe use of pesticides and machinery by smallholder farmers is relatively low, and this results to low productivity.
Less diverse agricultural production	The agricultural sector is not adequately diversified. There has been over reliance on maize and beans production, with over 60 percent of cropped area under maize and beans; 2.1 million hectares under maize and 1.1 million hectares under beans. A single disaster, uncontrollable pest or disease could cause a major disturbance to food system and the entire agribusiness value chain.

Source: Agricultural Sector Development Strategy 2010-2020 | Vision 2030 Sector Plan for Drought Risk Management and Ending Drought Emergencies

Drought has for decades been the single most disastrous natural hazard in Kenya. The country lost Sh1.2 trillion between 2008 and 2011 due to drought.

Impact of Drought on Key Sectors of the Economy



2008 - 2011: 4 consecutive years of drought

- Total value damages and losses US$ 12.1 billion
  - » US$ 1.51 billion (12.5%) linked to agriculture
  - » US$ 8.74 billion (72.2%) linked to livestock
  - » 9% national livestock herd died, mostly cattle
- Food Insecurity due to drought:
  - » 2009 = 3.8 million people
  - » 2011 = 4.5 million people affected
- 2000 – 2011: Government of Kenya spent on average KES 4.2 billion on post-disaster relief per year

Source: Agricultural Sector Development Strategy 2010-2020 | Vision 2030 Sector Plan for Drought Risk Management and Ending Drought Emergencies

Agriculture Sector Key Strategic Challenge

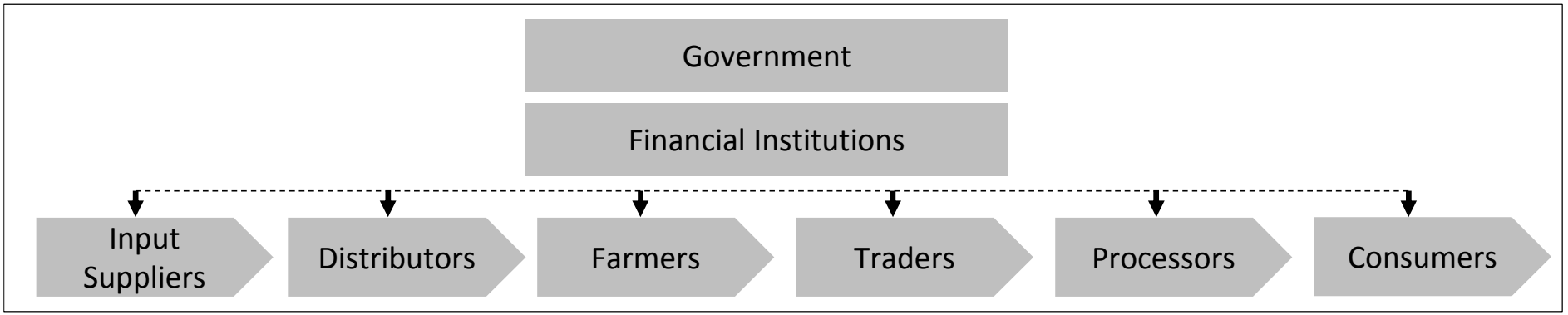
Make efforts in agriculture worthwhile by raising the sectors profitability

Transformation of smallholder agriculture from subsistence to an innovative, commercially oriented and modern agricultural sector

Agriculture insurance combined with other measures like farmer education and good and timely market information can greatly reduce the immediate difficulties and long-term development setbacks evidenced in the sector while at the same time minimizing losses along the agribusiness value chain.

Agricultural risks not only affect farmers, they also affect the whole agribusiness value chain by generating negative impact for a variety of stakeholders.

Agribusiness Value Chain and Risk Exposure



Government

Economic Risk /Social Stability: Contingent liabilities arising from agriculture production shocks (post disaster assistance)

Financial Institutions

Credit Risk: Non-performing agribusiness loans and Constraints to expansion of agribusiness loans to farmers

Input Suppliers

Financial & Product Enhancement: Decline in sales volume and investment in R & D

Processors

Production| Business Interruption

Production|Revenue| Food Security Most vulnerable populations

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Agriculture Insurance Levels of Intervention

Agriculture insurance can be introduced at diverse levels, in various implementation models

	Target	Potential Benefit
Macro Level	▪ County Government	▪ Government receives early liquidity following disasters - Government is reinsured
Meso Level	▪ Contract Farming Organizations ▪ Farmers Associations ▪ Social Enterprises ▪ Community Based Organizations ▪ Agri-processors ▪ Agri-input suppliers ▪ Financial Service Provides	▪ Helps recover cost of production ▪ Helps manage mass defaults caused by weather shocks ▪ Makes investment in R & D increasingly worthwhile
Micro Level	▪ Farming Households ▪ Farming Enterprises .i.e. Medium and large farms	▪ Encourage investment in higher quality inputs ▪ Facilitate access to credit ▪ Allow farmer to avoid defaulting credit, and restart planting ▪ Compensate for additional farm feed costs ▪ Supplement other sources of income that may be disrupted

Source: Weather Index Based Insurance in Agricultural Development, a Technical Guide

Agriculture Insurance Awareness

Agricultural Insurance Awareness

3 out of 10 farmers have heard or have some knowledge about agricultural insurance, which is relatively strong for this target group; thus awareness is not a major cause for farmers not to list agriculture insurance as a risk mitigation measure.

Not Aware I have never heard of agriculture insurance	**67%**
Aware I have heard about agriculture insurance but I do not know much about it	**31%**
Familiar I am well aware of the agriculture insurance provisions and benefits	**3%**
Total Awareness	**34%**

Base Sample: 1013

Source: AKI Survey

Information Seeking Patterns of Farmers

Radio is the greatest source of information on agriculture related activities to farmers. Accordingly, it is the biggest source of awareness on agriculture insurance.

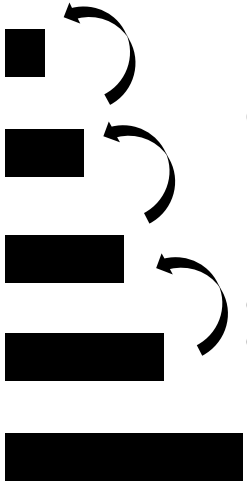
	General Source of Information on Agriculture	Most Credible Source of Information on Agriculture	Source of Awareness on Agricultural Insurance
Base Sample	**1013**	**1013**	**337**
Radio	83%	47%	59%
Neighbors/friends/relatives	41%	9%	13%
TV	29%	6%	8%
Personal knowledge of the market	21%	7%	0%
Information boards at local agricultural offices	16%	8%	11%
Newspaper	16%	0%	3%
Public Baraza	16%	6%	2%
Farmers' organization/Group Association	16%	7%	7%
Agro Shop	13%	4%	4%
Extension workers	9%	3%	3%
SMS system/mobile phone	3%	0%	0%
Insurance company	0%	0%	1%

Source: AKI Survey

The Customer Buying Cycle

The purchase process model posits 4 sequentially linked steps

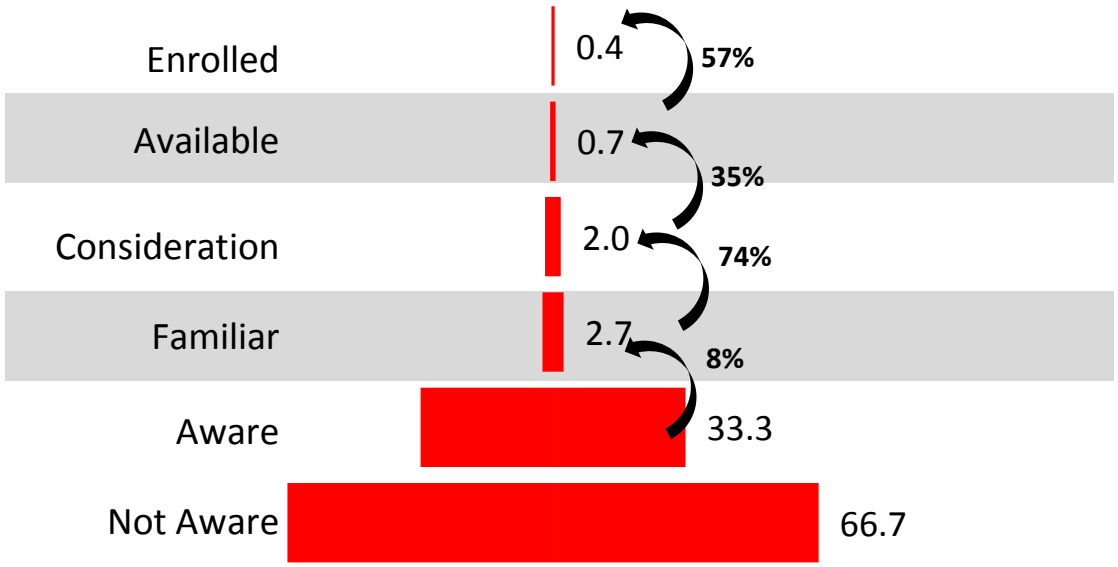
4. Enrolled	Have an active agricultural insurance policy; first time or repeat purchase Validate product perception and product promise. Choose to continue because the product delivers the expected value
3. Available	Have an active/expired agricultural insurance policy Product attributes and benefits match requirements
2. Consideration	Had/Have the opportunity buy policy When a customer starts evaluating solutions to their need
1. Aware/Familiar	Heard and have some knowledge about agriculture insurance. Or could also refer to the point where a customer first becomes aware of a need that they want to fulfill.
Not Aware	Not aware about agricultural insurance



Conversion ratios measure the proportional movement of potential customers at each step of the purchase cycle

Agricultural Insurance Traction in the Purchase Process

Very few farmers are open/willing to take up agriculture insurance; a key challenge to attaining critical mass in agriculture insurance. In order to unlock consideration, there is need to address the perceptual gap that exist amongst farmers on value for agriculture insurance on basis of scope of cover and pricing as well as clarity of implementation.



Data as percentage of total sample

Base Sample: 1013

Source: AKI Survey

Reason for Low Ranking of Agriculture Insurance as Risk Mitigation Measure

Lack of knowledge about the mechanism of agriculture insurance is the single biggest hindrance to considering agriculture insurance as a risk mitigation measure amongst farmers.

Lack of knowledge and information	99.7%
Limitations on scope of cover	21.4%
Unfavorable pricing of insurance	16.3%
Untrustworthiness or mistrust of insurance	8.9%
Disinterest/Inaction	4.7%
Base Sample (Aware or Familiar but do not have Agriculture Insurance)	**330**

These objections account for 30% of the reason for low uptake, and have to be overcome

Source: AKI Survey

Reason for Low Agricultural Insurance Uptake

1	**Lack of knowledge and Information**	**67%**
It was not clear to me how agriculture insurance works		40.1%
I do not know where to get one from		24.4%
I have never developed much interest in agriculture insurance		0.6%
I do not know what it entails to get insurance		0.4%
I do not know if smallholder farmers would qualify for agriculture insurance		0.2%
I do not know what agriculture insurance is there for my livestock		0.2%
It is not clear how I should pay premiums		0.2%
2	**Limitations on scope of cover**	**14.1**
Crop insurance is not important for me because my yield per acre is already low		9.4%
Agriculture insurance does not always cover the whole loss		3.5%
There is a restriction to the type of crops and varieties that a farmer can insure		1.2%

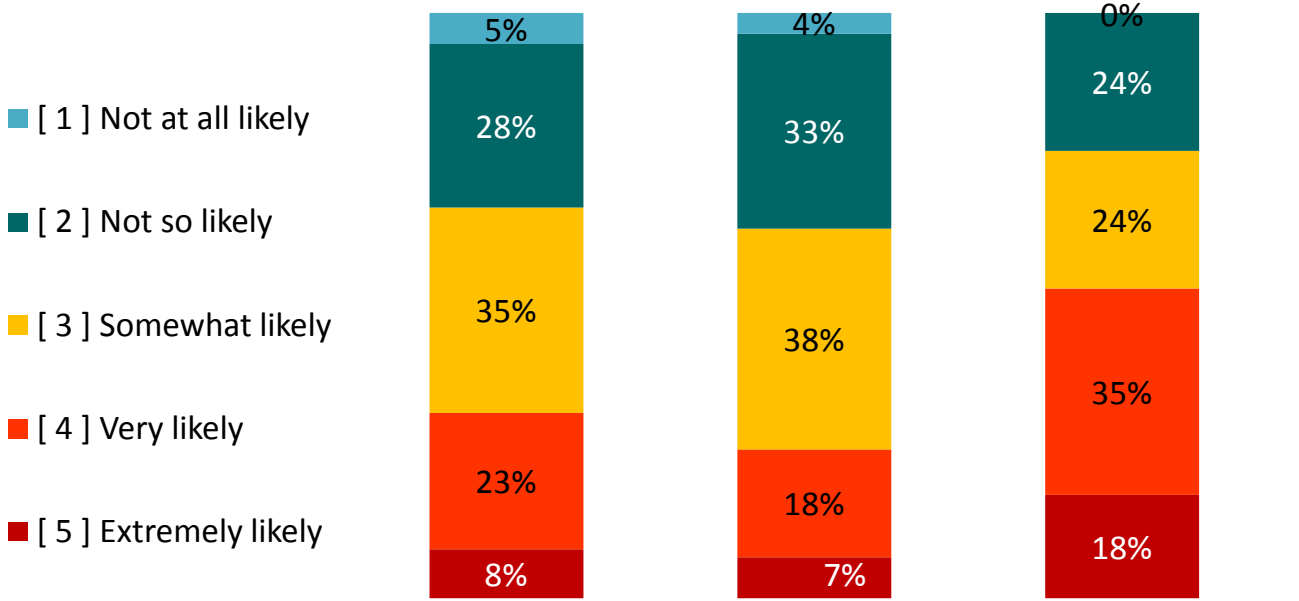
Source: AKI Survey

Reason for Low Agricultural Insurance Uptake

3	**Unfavorable pricing of insurance**	**10.8%**
	Insurance premiums are too high and beyond my purchasing ability	10.2%
	The insurance is bundled with a full pack of farm inputs such as seeds but I buy in small portions	0.6%
4	**Untrustworthiness**	**5.9%**
	Insurance companies and agents are dishonest	3.7%
	The payout is little compared to the actual losses suffered	1.8%
	I have not heard of positive commendation of insurance providers	0.2%
	Insurance is closely controlled by cartels	0.2%
5	**Disinterest/Inaction**	**3.1%**
	I do not need insurance because I save for emergencies	2.2%
	I have not made up my mind on agriculture insurance	0.6%
	I have never had the time to shop for one	0.2%
	The government is always there to help	0.2%

Source: AKI Survey

Likelihood of Agricultural Insurance Purchase



	Total Sample	Small Scale Farmer	Medium + Large Scale Farmer
Mean	3.02	2.92	3.47
Standard Deviation	1.03	0.97	1.05
Net Uptake	**26%**	**22%**	**53%**

Base Sample: 337, Aware or Familiar Agriculture Insurance

Net Uptake = Extremely + Very likely – Not at all likely

Source: AKI Survey

Medium and large scale farms would be a priority segment in accelerating agriculture insurance uptake, owing to strong likelihood of agricultural insurance purchase

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Farmers' Attitude Toward Agriculture Insurance

There is strong perceived value of agriculture insurance, and this could further be reinforced by how the product benefits are articulated at point of sale.

Attitude Statements	5 Strongly Agree	4	3	2	1 Strongly Disagree	Mean Score
Agricultural insurance is good value for money	56%	25%	16%	1%	1%	**4.33**
Agriculture insurance is just another way to get qualified for getting access to resources such as loan, input supplies etc.	27%	29%	32%	5%	6%	3.66
I would only choose an insurance cover with the lowest cost of premiums	25%	32%	27%	9%	6%	3.61
I would consider several different providers and choose the one with the best level of cover/benefits	41%	40%	16%	3%	1%	**4.16**
Per acre premium costs are very important to my crop insurance decision	28%	42%	23%	6%	3%	3.86
I prefer/ed to see/hear about other farmers experience before buying insurance	26%	48%	20%	3%	3%	3.92
I would only consider an agriculture insurance cover from a reputable insurance company	37%	38%	18%	3%	4%	4.03
Insurance companies and agents are dishonest	8%	14%	39%	18%	21%	2.70
Agriculture insurance is just a policy instrument for paying damages	28%	25%	29%	8%	9%	3.55

Base Sample: 337, Aware or Familiar of Agriculture Insurance

Source: AKI Survey


In Summary…….

Opportunities and Challenges

- **9.2 million potentially addressable market**
  - » 9.2 million Kenyan adults are dependent on farming as a source of livelihood; 7 million of these people, or slightly more than 30 percent of 22, 333, 041 Kenyan adults, state that they are greatly dependent of farming as their major source of livelihood.
- **Likelihood for purchase is highest with medium and large scale farmers.** There is equally big market potential with small scale farmers; however the formula for growth with this segment is high volumes as profit margins are bound to be low
- **Fairly good level of agriculture insurance awareness, but low uptake**
  - » There is fairly good level of awareness of agriculture insurance amongst farmers. However, this does not translate to purchase due to lack of knowledge on how agriculture insurance works, how and where to buy insurance. There are uncaptured distribution opportunities along the agribusiness value chain that would boost agriculture insurance access to farmers .i.e. cooperative societies, community based organizations as well as agro-dealers
- **Low levels of agriculture insurance policy renewal** in a small market partly because;
  - » Farmers do not comprehend the need for agriculture insurance; existing informal systems of managing risks such as income diversification, multi-cropping, and scaling down on production in seasons perceived to be unfavorable for farming seem to work. Furthermore, because no cash back scheme provisions are made, in case a farmer makes no, claim the long term perceived benefit fades away.
  - » Farmers already exposed to agriculture insurance have failed to experience the proposition of real value of cover, especially where no claim has been made in successive seasons.

Opportunities and Challenges

- **Prevalence of multi-cropping**
  - » Farmers grow multiple crops, each with varying maturity periods, and also intercrop heavily, particularly for cereal and legume crops. Since the per acre premium costs is important in a farmer's insurance purchase decision, a generic agriculture insurance product that covers all crops or that allows a farmer to choose which crops to include in a cover may be more appealing.
- **Farming households are liquidity constrained**
  - » More than 90 percent of agricultural productions are rain-fed hence by nature seasonal. This means that income from farm related activities are spatially dispersed while still there is continuous household consumption and spending requirements before the next cash inflow. Moreover, payment of marketed farm produce is by cash; meaning that money is spent immediately it is earned. This calls for consideration of innovative ways of recovering premiums.
- **Familiarity and Trust**
  - » Trust in the insurance product; A cause for concern are reports that insurance companies are designing and pricing products based on historical weather data but then adjusting the length of the sales window based on up-to-date weather forecasts for the season, with shorter sales windows where payouts are expected and longer sales windows where payouts are not expected.
  - » Trust in the external agent or organization selling the insurance product; At present, awareness and knowledge has been through secondary sources such as radio and information boards at local agricultural offices and word of mouth that do not offer the farmers a platform to interrogate the quality of information provided.

Recommendations

- **Distribution**
  - » Graft onto existing, efficient delivery channels to farmers such as community based organizations and self-help groups, cooperative societies, farmer producer organizations, agro-dealers. As insurers have limited distribution network and no offices in rural areas, distribution is best organized through a party with existing links to farmers or farmer groups.
  - » Identify and partner with key stakeholder linkages for product training
- **Create need for agriculture insurance**
  - » Create need for agriculture insurance through sensitization campaigns and a strong proposition of real value to the insured, by focusing on farmers' vulnerabilities and risk exposure. Marketing and education ought to focus on reminding farmers that they are vulnerable to weather risks and that they are likely to be worse off unless the risks are properly managed
- **Product packaging**
  - » Offer insurance as part of a wider package of services, possibly by combining agriculture insurance with agricultural extension services, financial literacy training, medical or personal accident or occupational hazard cover
- **Premium Payment**
  - » Explore innovative ways of recovering premium, possibly by small monthly installments with room for top up at onset of planting season, bundling insurance with farm inputs or partnering with distribution channels willing to pre-finance in whole or part of the premiums. Commodity bulking facilities and other farmer aggregator organizations such as contract farming would be potential for pre-financing of premiums.

Recommendations

- **Develop extensive marketing and education programs** for farmers and intermediaries, and make effort to integrate these with seasonal activities like regional agricultural shows, agricultural field days or training programs that banks and SACCOs provide to borrowers.
  - » Marketing and education should be run throughout the year, with focus on different themes, to build knowledge and value for agriculture insurance. Many farmers, particularly rural farmers, are not familiar with insurance practices. They need to be exposed to the basic concepts of insurance transactions and features in order to understand aspects such as the claims process and to hold realistic expectations regarding payouts.
  - » Marketing and education sessions conducted in the local villages, preferably be carried out by local trained staff in local languages, would be most effective as this makes farmers feel more comfortable and increases understanding.
  - » It is not uncommon that the target clients will have negative preconceptions about insurance. This may be related to previous experience with agricultural or other types of insurance. It is important to anticipate these reactions from clients and prepare to address them effectively.
  - » Identify champions in the local communities to help carryout education initiatives and mobilize others.
- Agriculture insurance underwriters need to **build the capacity and ownership of implementation of agriculture insurance**.

Analysis of Supply

Agriculture Insurance Underwriting Landscape

50
Registered Insurance Companies

General Insurers	24
Composite Insurers	12
Long Term Insurers	14

36
Insurance companies would potentially underwrite Agriculture Insurance

10
Insurance Companies Underwrite Agriculture Insurance

Gross Premium Contribution	**Kes.173.79 Billion**	**Kes.363 Million**

Less than 1%
of total insurance gross premium

8%
of total miscellaneous gross premium

Source: Association of Kenya Insurers, Insurance Industry Annual Report 2015

Agriculture Insurance is classified under Miscellaneous, which recorded gross written premium of Kes.3.2 billion in 2014 and accounted for 21.5% of the gross premium.

Agriculture Insurance Products Currently Offered

Indemnity-based Insurance Products (Damage-Based Products)	
Indemnity-based insurance products determine **claim payment based on the actual loss** incurred by the policy holder; if an insured event occurs, **an assessment of the loss and a determination of the indemnity** are made at the individual or herder level	
Crop Insurance Products	
Named Peril/ Damaged Based Insurance Products	Payout: % of Damage
Yield Based Crop Insurance - include MCPI yield shortfall cover	Payout: Yield Loss
Livestock Insurance Products	
Named-peril accident & mortality insurance	Payout: Full Payment

Index-based Insurance Products (Damage-Based Products)	
Index based agricultural insurance products are **non-indemnity** and **parametric**; that is, **pay out based on the value of an "index"**, which is assumed to be proxy to actual losses	
Crop Insurance Products	
Area Yield Based Index Insurance	Payout: Area Yield Loss
Weather Index Based Insurance	Weather Index Payout Scale
Livestock Insurance Products	
Normalized Deviation Vegetation Index Insurance	Payout: NDVI Payout Scale

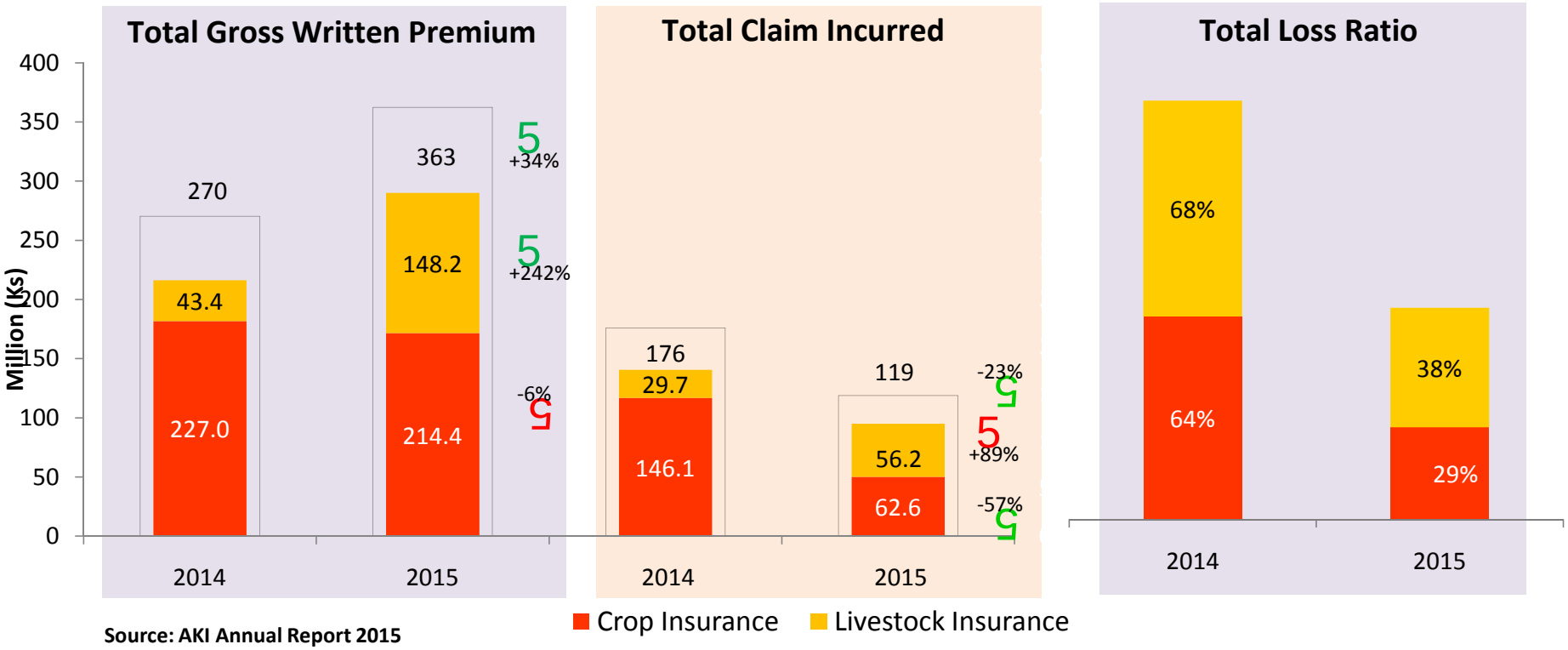
Agriculture Insurance Underwriters

	UAP	CIC Insurance Group Ltd	APA Insurance	Kenya Orient Insurance Limited	Heritage Insurance Company	Jubilee Insurance	ICEA Lion	Takaful Insurance of Africa	AMACO	Madison Group
Livestock Insurance	●	●	●	●	●	●	●	●	●	●
Crop Insurance	●	●	●	●	●	●	●			
Indemnity & Index Based Cover	Yes, Livestock & Crop	Yes, Livestock & Crop	Yes, Livestock & Crop	No, Indemnity Livestock & Crop	Yes, Livestock & Crop	Yes, Livestock & Crop	Yes, Livestock & Crop	No, Index based only	No, Indemnity only	No, Indemnity only

Farm assets policy would mostly be tied or provided as an add on/extension of either livestock insurance or crop insurance

Agriculture Insurance Underwriting Business Outlook

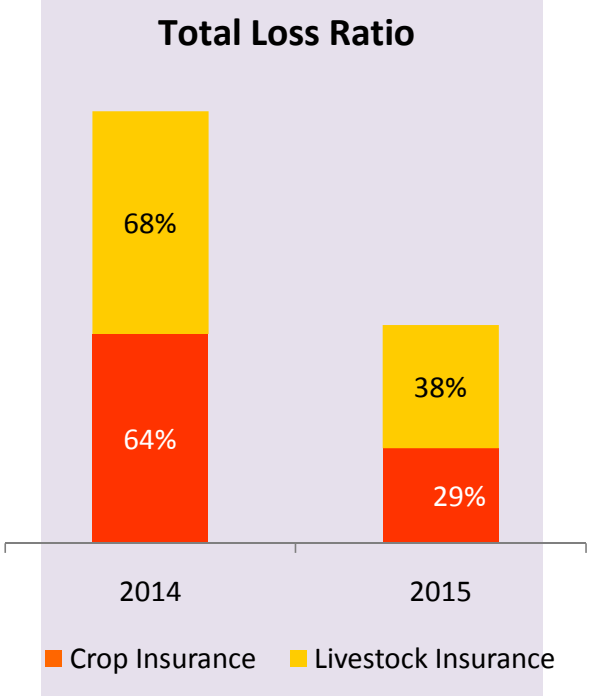
Two major events define the positive performance of agriculture insurance business in 2015; government subsidy programme resulting to an increase in the number of farms and tropical livestock units covered hence the growth in gross written premium. And, good weather and abundant rainfall across most parts of the country in 2015 resulting to a good crop harvest hence fewer claims.



Source: AKI Annual Report 2015

Agriculture Insurance Underwriting Business Outlook

Insurance companies decide on what is acceptable loss ratio, depending on a company's business and marketing objectives. However, the huge variance and volatility in loss ratio could be an indicator of some underlying issues that need remedial.



Source: AKI Annual Report 2015

Loss Ratio

	2014	2015
Top 2 Low Underwriters	8%	7%
	12%	12%
Top 2 High Underwriters	114%	58%
	130%	166%

Possible causes of variability:

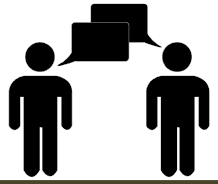
1. Lack of adequate tools and indicators to monitor and evaluate agricultural risks
2. Poor loss experience as a result of underlying loss composition
3. Inadequate premiums/premium pricing model
4. Inadequate information and experience sharing amongst insurers

With only two years of matched premium and claim payment data it is not possible to make strong statements about the loss ratio, the ratio of claim payments to commercial premium since it is challenging to differentiate between favorable weather experience and expensive products, particularly in indemnity based insurance. This may also not be representative of the future average loss ratio.

Current Scenarios of Farmer Enrolment

Indemnity Insurance

Loaned Farmer



Non-loaned Farmer

Whenever farmer availing crop loan or loan is sanctioned to him/her from bank, insurance is automatic on compulsory basis

Bank shall automatically insure such crop loans, deduct premium and furnish all these details and premium to insurance company

Insurance company processes the details submitted by the banks

Claims, if any, will be automatically processed

Claim amount, if payable, will be sent to bank with details

In the case of partial drought, the insurance payout as calculated from the schedule will be paid to the lending institution with the balance to be paid off by the farmer

Weather data providers submit weather data as per agreed period intervals, crop cutting research agencies submit yield data as per cut off dates

Insurer provides claims share, if any as per policy provisions

Farmer submits prescribed proposal to insurance company or authorized insurance agent or intermediaries within prescribed date with premium and relevant proposal documents

Authorized insurance agent or intermediaries submits the proposals received from farmers to insurance company with premium

Insurance company processes the proposals; possible outcomes, reject or accept

Claims, if any, will be automatically processed

Claim amount, if payable, will be credited to farmer's bank or mobile money account

Insurance should be proposed before the planting season/window

Premiums should be paid before or around planting period

Cover period corresponds to the growing season of the proposed crop

Current Scenarios of Farmer Enrolment

Index Insurance

Scenario I: Agro-input bundling

Implementing Agencies:
Kilimo Salama + UAP + Safaricom + SeedCo

At the start of crop season farmer purchases a bag of insured seeds

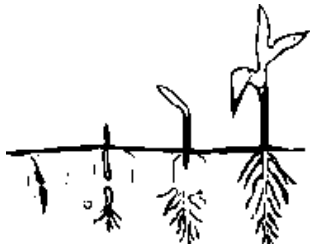
Farmer validates authenticity of certified seeds purchased by sending unique SMS Code from own phone to Short Code

Opens bag during planting, finds insurance registration card inside. Sends unique SMS Code to Short Code.

=

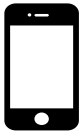
Cost of premium equals cost of input (bag of insured seeds or fertilizer plus SMS).

The Insurance Provider gets farmer location from location based service system and monitors satellite image for that location



Weather data providers submit weather data as per agreed period intervals

The germination fails after 21 days without rain



Compensation sent to farmer via mobile money if no sufficient rainfall in location

Farmer can purchase seeds, replant, and harvest in the same season

Adapted from GSMA, Micro-Insurance in Mobile Agriculture


In Summary…….

Opportunities and Challenges for Agriculture Insurance Products

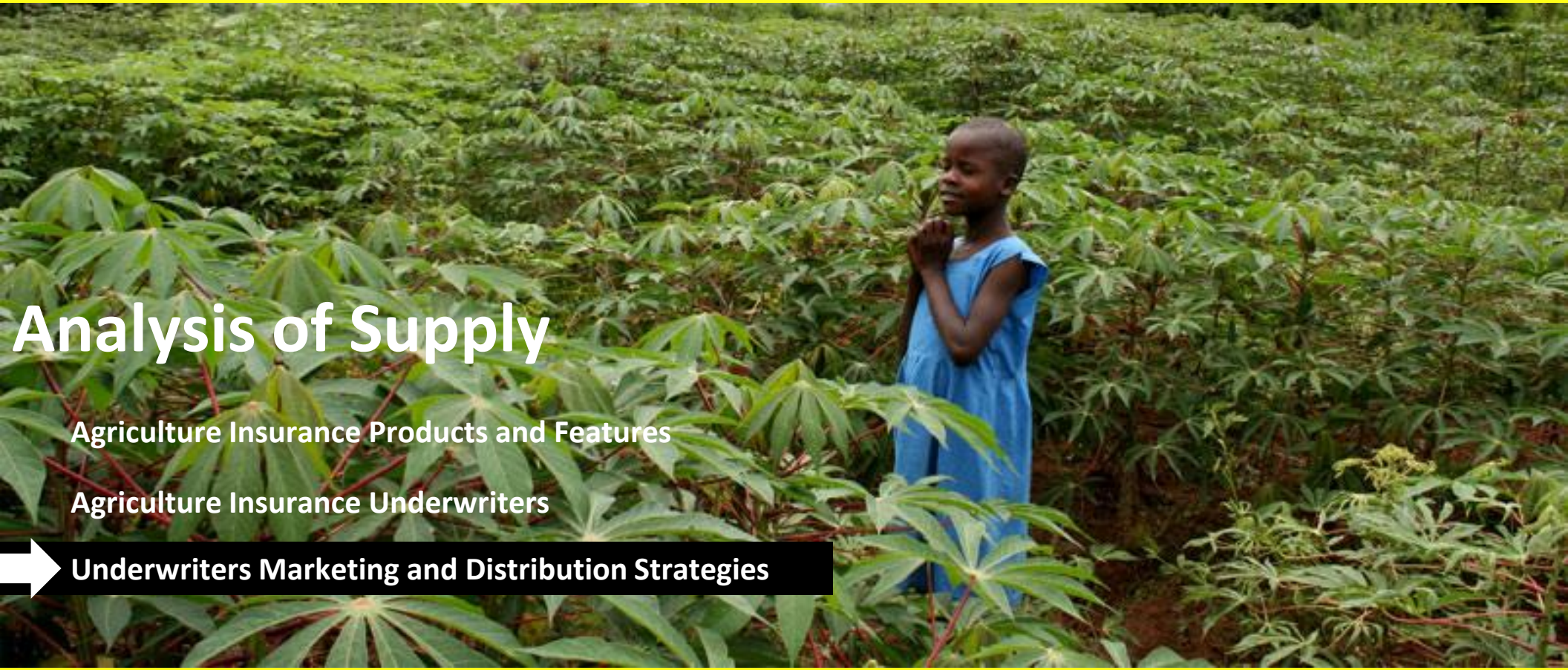
- **Traditional indemnity based agriculture insurance versus index based agriculture insurance**
  - » Majority of farmers in Kenya farm individually and on small sizes of land. Farming, more so growing of crops, is not consistent throughout the year as some farmers reduce area under production during short rain seasons. This makes traditional multi-crop insurance difficult and costly to implement. Furthermore, traditional programs determine payouts through loss assessments by visiting individual farms to evaluate the damage of a weather event. This may require enormous amount of resources to implement when you consider the size of potential addressable market. Index-based insurance products for agriculture represent an attractive alternative for managing weather risks with individual marginal and small scale farmers, and some medium sized farms.
- **Product development**
  - » Current multiple-phase rainfall index designed for cereal crops, particularly maize, does not capture the conditional impact of rainfall in different phases on yields. For instance, heavy and continuous rainfall within a short period has the potential to cause severe physiological damage to crops, particularly during the maturity and the harvest phases when excess rainfall makes many crops highly susceptible to attacks by pestilence and disease.

Opportunities and Challenges for Agriculture Insurance Products

- **Product development**
  - » Current weather index insurance product has been designed for rainfall deficit, which is not necessarily the most serious risk exposure by farmers; farm losses often result from a complex interaction of perils. Nearly 6 out of 10 farmers report post-harvest crop losses or deterioration of quality of crop harvest, partly as result of pests and partly as a result of re-wetting of grain by either moisture migration or rain during storage, mold and contamination from the farm. A simple weather index insurance product is not suitable for this and thus would need to consist of more than one index rolled into a single product or would require the farmer to take out a different type of insurance product for the other risks.
  - » Farmers grow multiple crops, each with varying maturity periods, and also intercrop heavily. Current multiple-phase rainfall index which is tied to specific crops which is limiting uptake. A generic contract for 3-4 phases of growth for a broad array of crops for specific rainfall thresholds could unlock uptake.
  - » 50 percent of farming households, a majority of whom are smallholder farmers, grow vegetables. Common vegetables grown by households include kale, tomatoes, potatoes and African leafy vegetables which have an average maturity period between 80 days and 120 days. Current agriculture insurance product portfolio includes cover for a few selected crops of economic value and mostly these covers are available to medium and large scale farmers, and for crops such as wheat and maize with maturity periods of at least 210 days.

Recommendations

- **Post-harvest Loss Cover**
  - » Consider including a post-harvest loss benefit into the basic crop insurance product or as an added endorsement for additional premium; but keeping in mind the duration to be covered after crop maturity.
- **Group-based Agriculture Insurance**
  - » According to the FinAccess 2016 Household Survey, slightly more than 4 out 10 adults belong to a social welfare group, mostly a savings group. These self-help groups could serve as a good platform for group-based agriculture insurance products. Group-based agriculture insurance products have the potential to ease both informational and liquidity constraints which might help increase take-up rates. The group buys insurance together instead of insurance being sold to individuals. However, key consideration will be how payouts will be distributed; either in proportion to premium contribution or increased risk sharing by distributing the payouts to those in the group who were worst affected by the weather event.
- **Vegetable and Cash Crops Cover**
  - » Consider introducing a vegetable cover, initially as a bundled product with every purchase of a pack of certified seeds. Because a pack of vegetable seeds may cater for a small plot of an area, which may not be economically viable for insurance, you may consider a threshold of purchase that would make one eligible for cover. For instance, if you purchase 10 – 20 50gm sachets of Kale from a participating seed merchant you automatically qualify for insurance.



Analysis of Supply

Agriculture Insurance Products and Features

Agriculture Insurance Underwriters

Underwriters Marketing and Distribution Strategies

Underwriters Marketing Strategies

Currently

Agriculture insurance underwriting companies have been **quite traditional and not aggressive in marketing**. There has been a lot of marketing investment in promoting other general insurance products with little on agriculture insurance.

The most significant marketing strategy adopted by agriculture insurance has been **participation in field days, trade shows and, exhibitions** on agri-business related activities, mostly by invitation of event hosts.

Advertising in **regional radio stations** has been adopted, but on a small scale

Proposed

Banner advertisements in the internet and on websites of companies with shared interest

Radio and TV programmes co/sponsorship

Advertisement in targeted regional radio stations

Co-advertising

Current Agriculture Insurance Distribution Channels

Traditional established distribution channels, which would work well for mainstream insurance products but not with agriculture insurance.

- Individual agents
- Corporate agents (insurance brokers and bancassurance)
- Direct selling (walk-in clients)
- Participation in government and donor funded tenders

Current Agriculture Insurance Distribution Channel

Individual Agents: An analysis as a distribution channel

Strength

- An already established channel with a network of 5, 155 agents
  - » All insurance companies have an agency building distribution strategy under which they recruit, train, and supervise their agents.
- Agents have an in-depth knowledge of marketing of insurance products
  - » About 50 percent of insurance business is carried through insurance agents.
- Because of the personal contact and relationship established with their previous or current clients, agents would easily cross-sale agriculture insurance

Challenges

- Agriculture insurance as a product and the implementation process of agriculture insurance has not been well understood by agents
- Most agents are located and prefer to work in urban centers where there is a large pool of potential clients for mainstream insurance products, and infrastructure (transport and mobile network) is relatively well developed.
- Lack of enough agriculture insurance underwriting staff to efficiently handle the volumes generated by agents

Current Agriculture Insurance Distribution Channel

Bancassurance: An analysis as a distribution channel

Strength

- Banks could utilize their enormous customer database for targeted marketing and developing new products with agri-insurance component
- Banks have build a strong distribution network and e-commerce capability – physical branches, mobile platform and agency banking
- Embedding of agriculture insurance products on existing bank product portfolio is easy; moreover, agriculture insurance is compulsory for farmers or bank clients taking agribusiness loans
- Generally higher levels of trust in banks, compared to insurers, as result of longstanding account relationship and familiarity

Challenges

- Bank staff handling agriculture insurance sometimes don't know much about the product, as result
- There is lack of ownership at the bank and good will to push agriculture insurance
- Lack of clear partnership guidelines
- Banks may lead to rate cutting/undercutting by floating requests for quotation and only picking the lowest bidding underwriter
- Is ineffective where insurance staff are expected to support several branches, the agents are overly stretched

Current Agriculture Insurance Distribution Channel

Direct Marketing: An analysis as a distribution channel

Strength

- The underwriters and company owned sales team are very knowledgeable on agriculture insurance
- Experience in underwriting allows for good use of case studies which present realistic and contextually relevant situations that reinforce a customers need for agriculture insurance
- Timely and effective negotiations of insurance proposals – product tailoring, pricing and implementation
- Resident agronomists who serve as agricultural business consultants - assist farmers with information and advice on specific queries
- Offers a lot of room and flexibility for collaborative tendering for large agriculture insurance projects

Challenges

- Small physical network – 636 physical outlets, including head offices and regional branch offices
- Largely dependent on walk-in clients, mostly large and medium farm estates and farmers practicing intensive commercial farming
- Agriculture insurance teams and departments are under-resourced and stretched too thin
  - » Mostly, the agriculture insurance department is part of a large general business insurance department.
  - » The survey found out that the agriculture insurance department is run by 2 people; a senior resource and support resource
  - » Inadequate, and occasionally lack of, agronomy skills or resident agronomist who would be valuable in tailoring existing products and developing new ones
- Lack of enough agriculture insurance underwriting staff to efficiently handle the volumes generated by agents
- Lack of internal knowledge sharing programs that would allow skills transfer within the underwriting departments

Offering Agriculture Insurance Through More Relevant Channels

Social Enterprises and Agriculture Support Organizations

Social enterprises have good network and a wealth of experience in dealing with smallholder farmers and rural communities. They have earned trust through tangible positive programme outputs.

To keep in mind, if the insurers choose to partner with social enterprises and agriculture support organizations

- Social enterprises seek social and environmental impact as part of their core business.
- Top 4 rationales for social enterprise interventions are;
  - » Improved livelihoods and opportunities for the poor and marginalized groups
  - » Improved access for the poor and marginalized groups to specific benefits and services i.e. education, health care, finance, farm produce markets, improved farming technologies etc.
  - » Supporting women and other vulnerable or marginalized groups
  - » Increased quality of jobs and access to skills and training
- Social enterprises run term programmes through donor support, grants, and tripartite contracts
- Typical programme commitment periods are for fewer than 3 years, but mostly renewable.
- Social enterprises involved in agriculture have adopted a whole value chain approach which makes them attractive and relevant partners in communities they operate in.

  Assisting a farmer increase yields without assisting him/her in marketing the produce is counter productive; it is only useful to the farmer if the inputs are turned into cash – Farm Africa

Offering Agriculture Insurance Through More Relevant Channels

Social Enterprises and Agriculture Support Organizations

Name of SE/Support Organization	Legal Form	Date Established	Main Activities	Target Beneficiaries
AGMARK Agricultural Market Development Trust	Not for Profit	2006	Works to improve the input supply and output marketing distribution channels available to smallholder farmers in rural Kenya by expanding commercially viable network of rural retail enterprises.	1, 976 certified agro-dealers through a six-module business management training program on managing working capital, inventory, costing and pricing, selling and marketing, record keeping and , business relationship management. GIS based agro-dealer database of 5, 156 agro-dealers, representing 52% of an estimated 10, 000 agro-dealers in Kenya
Farm Africa	Not for Profit	1987	Provide the tools and expertise to enable smallholders in Eastern Africa to increase their harvests and the value of their farm produce, whether they farm crops, livestock, fish or forest.	150, 000 smallholder farmers, including women and youth will be directly supported in agricultural enterprise development in 2016
Palweco Programme for Agriculture & Livelihoods in Western	Not for Profit	2009	Focus on agricultural value chain by enhancing efficiency (bulking facilities, market linkages and value addition), and supporting farmers to better adapt to climate change	154, 225 farming households
KENAFF Kenya National Farmers' Federation	Not for Profit		Promotes the shared productivity and distribution of farmers' produce to maximize their revenue and iniate entrepreneurial activities in the farming communities. KENAFF is a key contributor and stakeholder in shaping Kenyan agricultural policy, representing the bulk of farmers and sitting on international bodies	2.2 million farming households through cooperative societies and community based organizations

Offering Agriculture Insurance Through More Relevant Channels

Social Enterprises and Agriculture Support Organizations

Name of SE/Support Organization	Legal Form	Date Established	Main Activities	Target Beneficiaries
ACRE Africa Agriculture and Climate Risk Enterprise Ltd	Company	2014	Undertakes risk assessment, product development and risk monitoring to facilitate access to insurance products for smallholders. With tailored micro insurance products, farmers can confidently invest in quality inputs, increase their productivity and access agricultural loans.	Impacted 800, 000 through Kilimo Salama (a project within Syngenta Foundation For Sustainable Agriculture)
One Acre Fund**	US Not for Profit; Private Company in Kenya	2006	Provides farm inputs on credit. Facilitates access to insurance and extension services. Provides training on post harvest practices	
Agrics East Africa	Not for Profit		Offers smallholder farmers the opportunity to buy farm inputs in product bundles on credit, which allows them to pay in installments spread over 6 months. The farm inputs include certified seeds, quality fertilizer, hybrid poultry, extension services, and hired tractor services	About 25, 000 smallholder farmers in Kenya and Tanzania
Sidai**	Not for Profit	2011	Offers support to franchisees to ensure business success and quality of services delivered to farmers. Services include veterinary services at farm gate and free extension services	Farmers and pastoralists located within Sidai's 480 stores (350 stockiest and 130 company-run stores)

AGRICS East Africa

Case Study

Impact Objectives

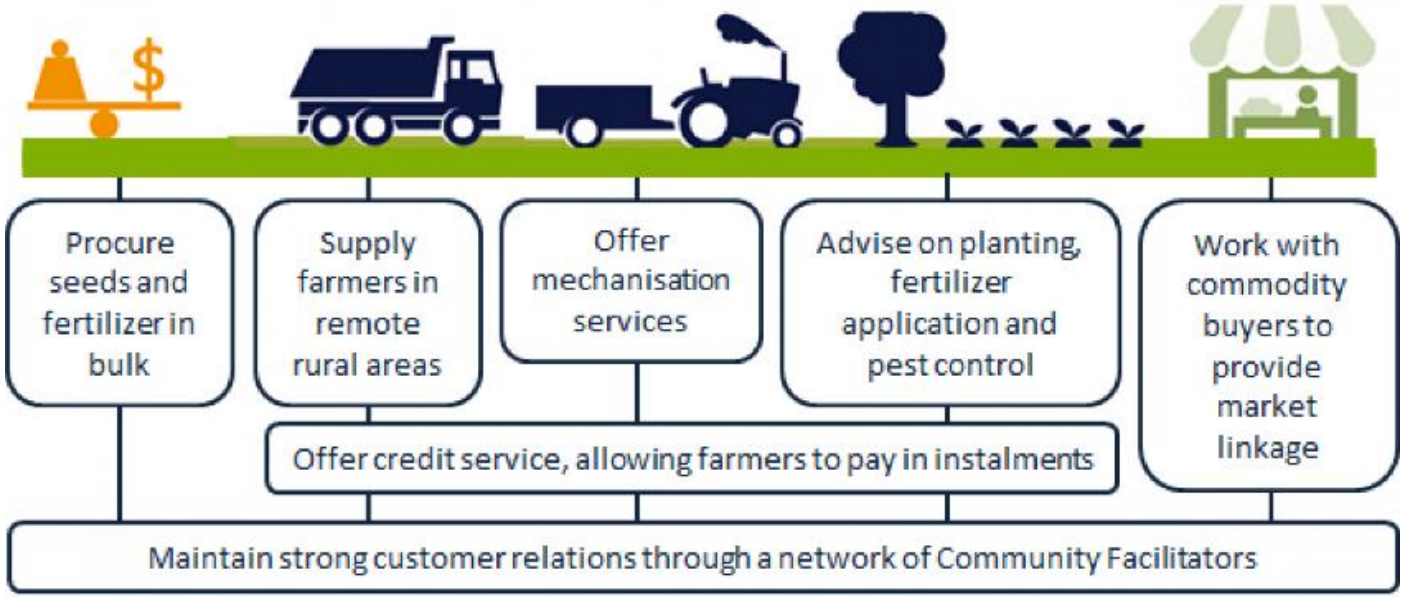
- Increasing household food security
- Enhancing family incomes

Source: AGRICS East Africa, www.agrics.org

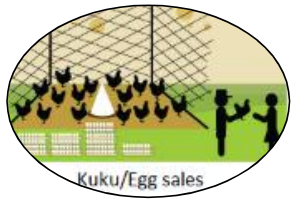
AGRICS East Africa

Case Study

Delivering Strategy: Whole Value Chain Approach



Diversified Products and services



Source: AGRICS East Africa, www.agrics.org

AGRICS East Africa

Case Study

Delivering Strategy: Whole Value Chain Approach

Long Rains Season

- Maize Seeds
- Planting Fertilizer
- Bead Seeds
- Local Vegetable Varieties

Short Rains Season

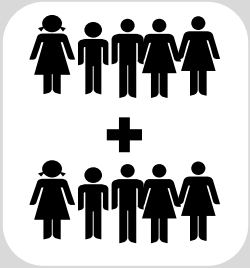
- Soya Seeds
- Sunflower Seeds
- Groundnut Seeds

Year	# Farmers	Repayment Level
2012	1,200	65%
2013	2,600	78%
2014	4,200	95%
2015	12,000	90%
2016	20,000	

Source:
AGRICS East Africa, www.agrics.org
Scaling Social Business in East Africa Symposium, 2015

Kenya Cereal Enhancement Programme (KCEP) Case Study

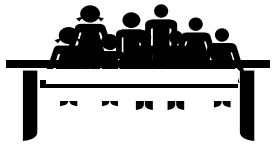
Whole Value Chain Approach



1

Farmer Enrollment at Sub County Level

Selected farmers are grouped in small peer pressure groups of 5-6 members, to ensure first level self-monitoring. These groups are later combined to form bigger and registered groups of ~25 members for programme support related to aggregation and market access



2

Farmer Training at Farmer Group Level

Farming practice

Financial literacy

Group guarantees individual members as per the programme policy

3

Equity Bank Ltd

PCU submits details of scheme members

Farmers open a bank account, and are issued with a debit card cum farm inputs e-voucher

90% of Ks.20,000 farm inputs pre-financed. 10% to be topped up by farmer as an activation of e-voucher

4

Bulk Procurement of Inputs

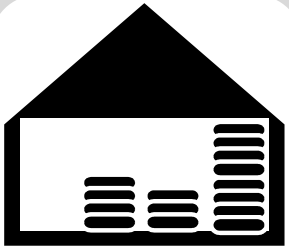
Price negotiations involving representatives of the agro-dealers and input suppliers, a uniform price being set up for the season

5

Agro-dealer

Farmer expenses e-voucher for farm kit at a participating agro-dealer

Agro-dealer receives direct payment to own account immediately



6

Link to Commodity Buyers/Bulk Storage

Implementing Partners

1. State Department of Agriculture, Ministry of Agriculture, Livestock & Fisheries
2. National Treasury
3. Equity Bank Ltd
4. Equity Group Foundation
5. Kenya Agriculture & Livestock Research Organization (KALRO)
6. Agricultural Market Development Trust (AGMARK)
7. Cereal Growers Association
8. Eastern Africa Grain Council

KCEP Details

April, 2016	Start Date
December, 2017	Output Impact
June, 2018	Financial Support Completion
Target	60,000 smallholder farmers

First Phase	> March – August, 2016, Western Region
Second Phase	> August – December, Eastern Region

PCU = Programme Coordination Unit

Agricultural Marketing Cooperatives

With a membership size of 200 to 500 farmers, the agricultural marketing cooperative enterprise presents an important channel through which insurance can be distributed. It has the potential to reach many farmers, and quickly.

The distribution channel can pre-finance premium and recover at end of season. It also presents the opportunity to innovate in premium payments, particularly in dairy, beef and hay cooperatives i.e. weekly/monthly insurance premium instalments linked to delivery of farm produce

Number of Societies and Unions by Type

Type of Society	2011	2012	2013	2014	2015
Coffee	586	594	597	600	602
Cotton	60	60	60	60	61
Pyrethrum	146	146	146	146	146
Sugar	179	191	191	191	192
Dairy	313	343	376	412	427
Multi-Purpose	1,974	2,019	2,068	2,118	2,169
Farm Purchase	114	116	116	116	117
Fisheries	76	80	86	92	94
Other Agricultural	1,398	1,436	1,518	1,605	1,643
Sub Total	**4,846**	**4,985**	**5,158**	**5,340**	**5,451**

Agro Input Suppliers

Kenya Seeds Industry

Registered Seed Merchants	Registered Seed Companies	Member of Seed Trade Association of Kenya
112	93	23

Agro-input suppliers, particularly of certified seeds, present multiple opportunities for increasing agriculture insurance uptake. Potential for;

- Contracted seed grower insurance
- Freight/Goods in Transit Insurance
- Bundling of agriculture insurance with seeds purchase
- Direct selling of agriculture insurance through their network of close 10,000 stockists

Top 3 Seed Companies in Kenya (Cereals and Legumes)

1. Kenya Seed Company
2. Pannar (K) Ltd
3. Monsato (K) Ltd
3. SeedCo

The top 3 seed production companies control 80% - 90% of the certified seeds market for cereals and legumes

2,000 – 10,000 farmers
Contracted Seed Growers

10,000+ Hectares
Cropped Area (Maize)

Risk Exposure

1. Drought
2. Pests and Diseases
3. Farmer Diversion of Crop Harvest
4. Floods

Risk Mitigation

1. Contracting farmers who could grow under irrigation
2. Engage registered commercial farms
3. Operate small seed company multiplication fields

Certified Seed Distribution Channels

Distribution Channel	Percent of Total Seed Distributed
Agents/Stockists	80%
Seed Company Outlets	10%
NGO/Social Enterprises	5%
Government Programmes	5%

Risk Exposure

1. Pilferaging
2. Theft
3. Loss of cargo in-transit due to road accidents

Risk Mitigation

1. Use dedicated licensed couriers
2. Delivery by company vans

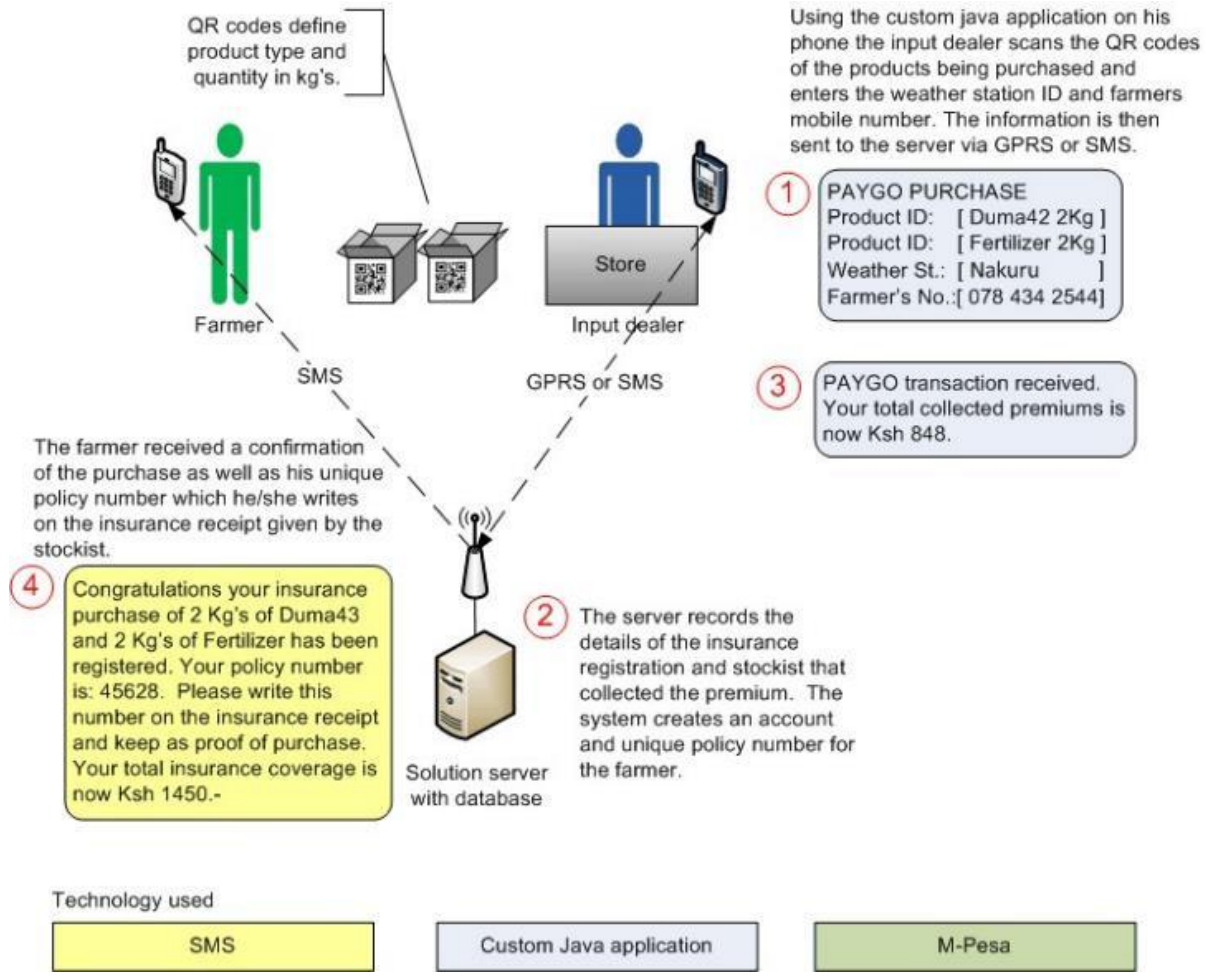
Kilimo Salama

Case Study

Project Status: Closed for this pilot model

In order to ensure that agriculture insurance reaches to as many farmers as possible, one of the distribution strategies devised was the use of stockiest.

As part of the product development, a mobile application was developed that was installed on managed phones and distributed to the stockiest contracted. Each stockiest paid a deposit of Kes.5000 for such a managed phone.



Osho Chemical Industries Ltd | Equity Bank Case Study

Period: 2012 - 2015

Creating synergies and building capacities for the small scale farmer in order to obtain a win-win situation for all the value chain members.

Issues Identified at Support Organizations Level

Farmer

1. Farmers lack of finances to purchase agricultural chemicals and fertilizers
2. Farmers lack of technical knowledge on best farming practices

Stockiest

1. Need to enhance business management skills in tandem to changing business landscape
2. Technical support services with agro-input products
3. Access to finance to meet/support business expansion and demand for products

Agro-dealers played a critical link between Osho Chemicals Ltd, Equity Bank Ltd and the Farmers

Some Solutions Provided through Partnership with Value Chain Members

Farmer

1. Field days and demonstration farmer fields to address emerging farmer needs and challenges
2. Training on the best farming practices
3. Free financial literacy programs
4. Subsidized, and facilitation for financing, for agricultural chemicals and fertilizers

Stockiest

1. Customized technical support to stockiest and distributors
2. Loans from Equity Bank Ltd on a customized basis
3. Avail customized technical materials
4. Loyalty scheme benefits

Government Support to Agricultural Insurance

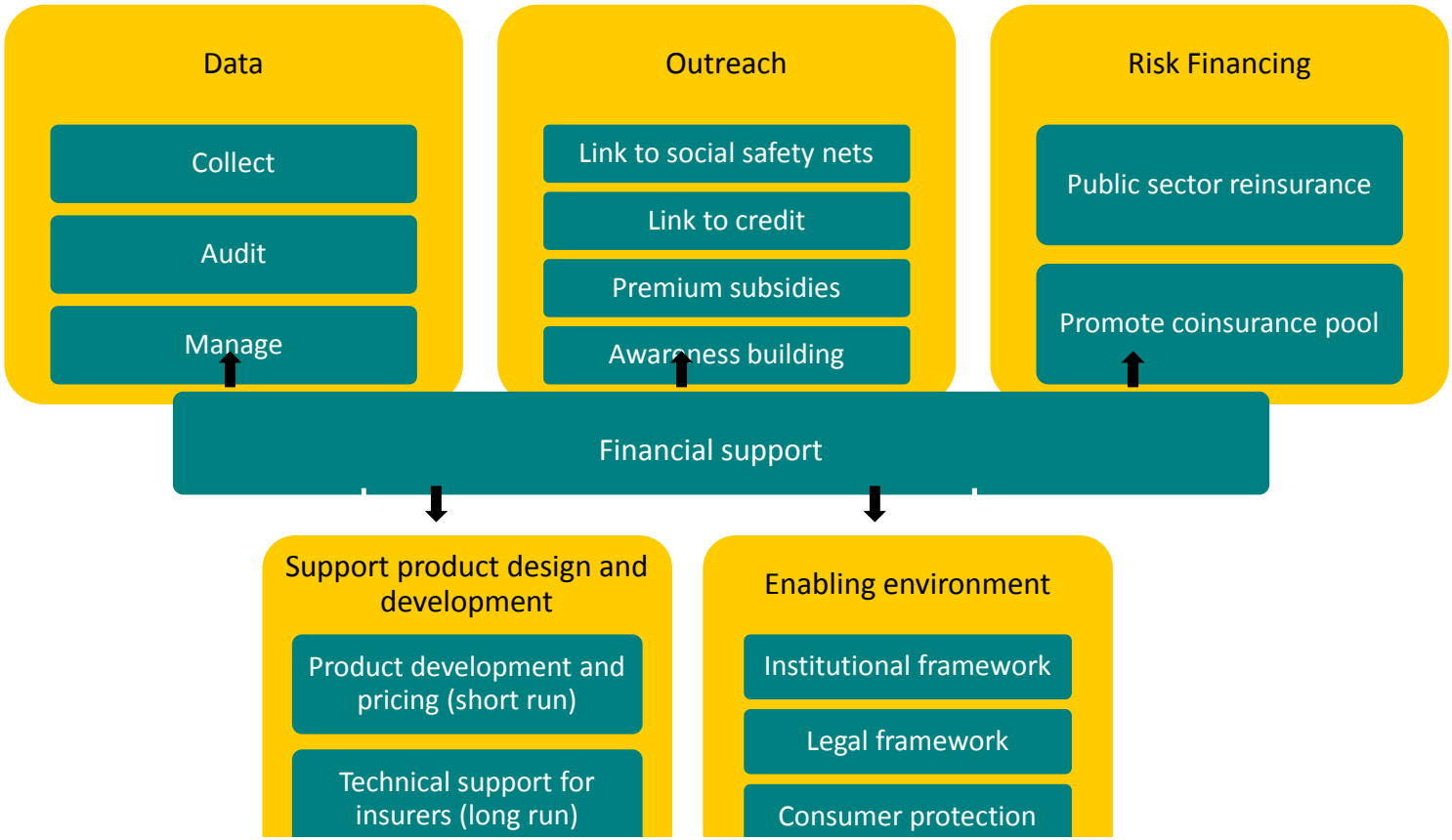
Risk Mitigation Measures at National Level

- The Government has committed itself to ending drought emergencies in Kenya by the year 2022. The commitment has further been entrenched into the 2nd Medium Term Plan for the Vision 2030, where ending drought emergencies is one of the foundations to rapid and sustainable development in Kenya.
- The **Vision 2030 Sector Plan for Drought Risk Management and Ending Drought Emergencies** outlines the government's strategic plan to ending drought;
  - » Taking measures to strengthen people's resilience to drought
  - » Improving the monitoring of, and response to, emerging drought conditions in ways that harness the efforts of all stakeholders
- Mitigation of drought related risks is the responsibility of **National Drought Management Authority** and the **National Drought and Disaster Contingency Fund** supported by the **ASAL Secretariat under the National Policy for the Sustainable Development of Northern Kenya and other Arid Lands**.

The Role of Government

The Government of Kenya has supported, and continues to support agriculture insurance through a variety of interventions

Illustration adapted from GIIF



The Role of Government

Participating Ministries

Ministry of Agriculture, Livestock and Fisheries

- Development of policy and institutional frameworks
- Development of criteria for targeting farmers
- Development of a system for data management
- Providing premium subsidies
- Developing risk management programmes that complement agriculture insurance
- Revitalizing extension and advisory services

Ministry of Environment and Mineral Resources

- Rehabilitation and modernization of weather stations across the country

Ministry of State for Planning, National Development and Vision 2030

- Developed methodology for farmers sampling and crop cutting experiments
- Addressing agricultural statistical data gaps
- Strengthening human capacity and enhancing statistical operations across the agricultural and rural statistics
- Promoting the collection and utilization of quality agricultural and rural statistics

Milestones through Government Interventions

Agriculture Insurance

Type	Livestock Insurance
Programme	Kenya Livestock Insurance Programme (KLIP)
Basis of Cover	Normalized Deviation Vegetation Index Insurance (NDVI)
Payouts	NDVI Payout Scale
Launch Date	July, 2014
Scope	ASAL Regions – 14 Counties
Traction	October 2015 - 25, 060 livestock units signed up across Turkana, Wajir, Marsabit, Isiolo, Tana-River 2016 Payment for cover for 45,000 TLU in Marsabit, Mandera, Isiolo and Tana River is underway
Animals Covered	Cows, Sheep, Goats, Donkeys, and Camels

Source: State Department of Livestock

Milestones through Government Interventions

KLIP Strategic Plan

	YEAR					
	14/15	15/16	16/17	17/18	18/19	19/20
Total Budget (Ks. Millions)	85	131	400	1,095	1,080	1,128
Premiums Budget	56.1	100	342	770	770	770
% Investment to Beneficiaries	66.0	76.3	85.5	70.3	71.3	68.3
% Capacity Building	34	23.7	14.5	29.7	28.7	31.7
Max Potential Payout ('000)	351	630	2,175	4,900	4,900	4,900
Households Covered	5,012	9,000	31,070	70,000	70,000	70,000
Human Pop in ASAL Covered	30,072	54,000	186,420	420,000	420,000	420,000
% of Human Pop in ASAL	0.4	0.7	2.4	5.4	5.4	5.4
Livestock Units Covered	25,060	45,000	155,350	350,000	350,000	350,000
Value of Livestock Protected (Ks. Millions)	1,253	2,250	7,768	17,500	17,500	17,500

Source: State Department of Livestock

Milestones through Government Interventions

Agriculture Insurance

Type	Crop Insurance
Basis of Cover	Index Based Crop Insurance
Payouts	Area Yield Loss | Weather Index Payout Scale
Launch Date	February, 2016
2016 Target	5, 700 Farmers in 5 Counties, Covering 9, 000 Ha of cultivated land
Traction	Approximately 2, 000 Farmers have an agriculture insurance policy a. Embu County (Runyenjes and Manyatta Sub Counties) b. Nakuru County (Rongai Sub County) c. Bungoma County (Bumula Sub County)
Crops Covered	Maize and Wheat
Strategic Plan	Cover 28 Counties by 2020 – 27, 100 farmers on 174, 000 Ha

Source: State Department of Agriculture

Insurance Regulatory Authority Support

The Role of Insurance Regulatory Authority

- The biggest role of IRA is that of policy development and supervision through optimum regulatory framework – ensuring prudent underwriting principles are followed.
- The Authority has supported the development of pilot index-based insurance products in the Kenyan market.
- These pilot products may need to be redesigned once the formal regulations and product approval guidelines come into force.

Current Regulatory Environment

- No bespoke regulatory framework for approving and monitoring agriculture insurance products exists in Kenya. However, draft Index Based Insurance Policy Paper exists and in the final development stages
- The Index Based Insurance Policy Paper consists of 4 parts:
  - » Key regulatory considerations
  - » Product approval guidelines
  - » Sales, Reporting and Valuation requirements
  - » Consumer protection requirements

Source: Insurance Regulatory Authority

Key Regulatory Considerations

Insurable Interest and Sum Insured

- Insurable interest exist if there is prospect of adverse impact on the insured should the insured risk occur
  - » Contract must state the risk against which insurance is provided. This is intended to distinguish under insurance from basis risk
- The product must offer Fixed-sum instead of Indemnity insurance
  - » The index can only serve as a proxy for the actual loss
  - » Must have a maximum sum assured, but level not specified in the regulations

Product approval guidelines

- Do not require a prescribed minimum premium basis
- Submit premiums on file-and–use basis only, one month prior to taking effect
- Must specify the data sources and back-up sources or process
- Specify how index will be measured and results used to calculate the pay-out
- Interested 3rd party be allowed to receive data and calculate the pay-out themselves
- Policyholders do not need to lodge a claim –insurer must provide a notice
- Insurer must specify a complaints resolution process prior to product launch

Source: Insurance Regulatory Authority

Key Regulatory Considerations

Sales Requirements

- Index-based insurance should be a separate class of insurance
  - » Long-term, General or Micro Insurers be allowed to sell this class of business
  - » Micro Index Based Insurance to be reported separately from Conventional Indexed Based Insurance
- Allowed to bundle the product with other insurance
  - » Hybrid indices, benefits based on actual loss, life or disability cover
- Insurers are allowed to sell their product/s through various distribution channels
  - » Aggregators collect premium and pay claims – if a SLA is in place
  - » Master group policyholders must document the pay-out method to individuals
  - » Portfolio cover sold to organizations to protect against losses affecting their clients

Source: Insurance Regulatory Authority

Key Regulatory Considerations

Reporting and Valuation Requirements

- IRA shall require performance monitoring to ensure value for money
  - » Insurer to report index values versus actual payments to ensure correct payouts
  - » Authority may require insurer to monitor extent of basis risk
- Modify the method of calculating technical liabilities
  - » Calculation of the unearned premium reserves: Assume the risk only expires at the end of the insured period or risk expired proportionally over the cover window of the policy
- Calculation of the outstanding claims incurred reserves: Appointed actuary shall use any method but describe the method used in valuation report
- Reinsurance requirements: The authority will require the insurer to obtain appropriate catastrophe insurance

Source: Insurance Regulatory Authority

Key Regulatory Considerations

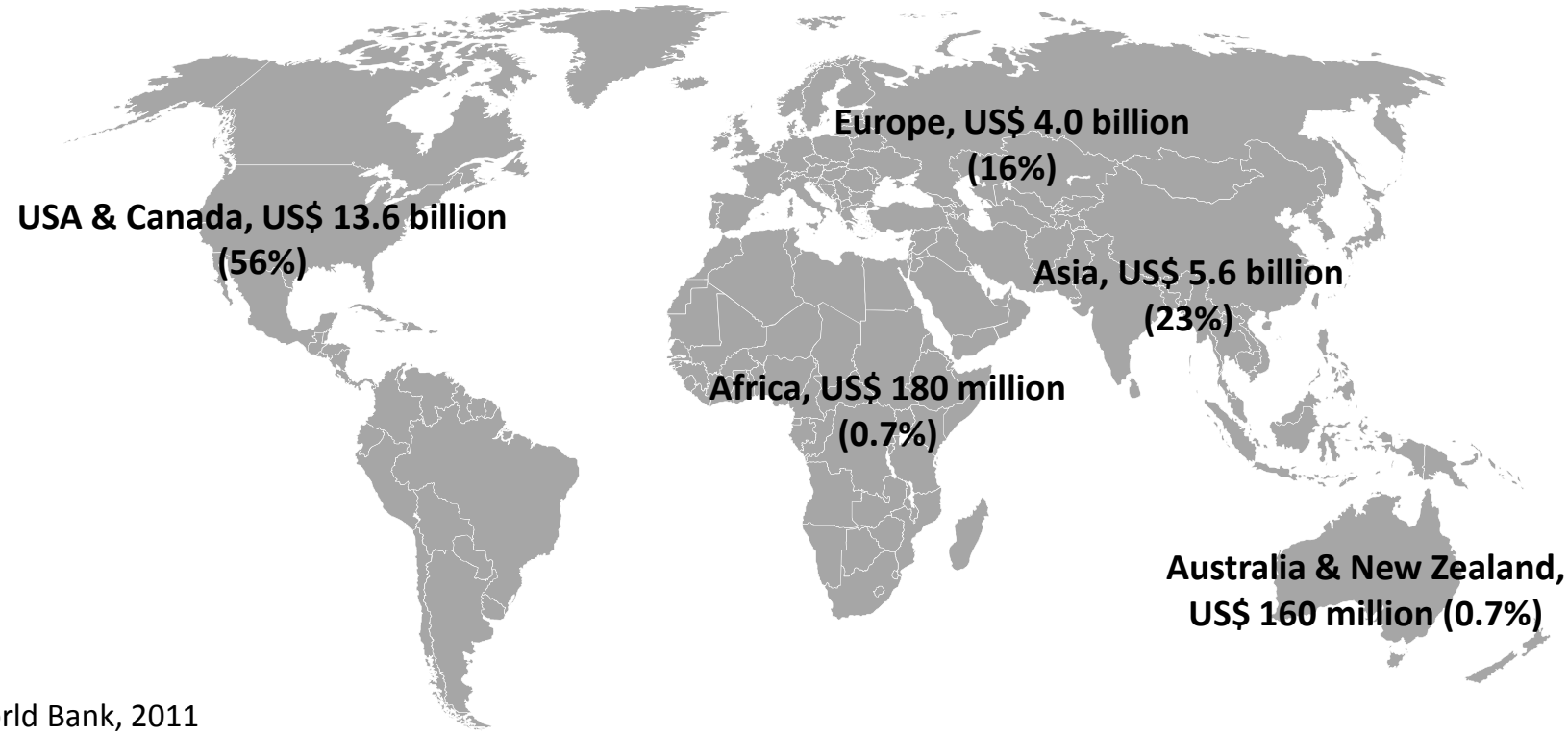
Consumer Protection Requirements

- Marketing material should explain product and associated risks
  - » Explain that the pay-out depends on the value of the index and not the actual loss
  - » Explain which risks are covered and excluded
  - » Explain what index is used to calculate the pay-out and expected frequency of pay-out
  - » Explain the eligibility criteria for buying agriculture insurance policy
- Pay-outs must be verified, communicated and paid within 30 days. If the regulator requires independent validation of index data;
  - » A service level agreement is needed with the independent body
  - » Explain how to resolve conflicts over the data, index values and benefits
  - » Explain the penalties the independent body is liable for if it makes mistakes
  - » The independent body must notify the regulating authority over any concern regarding the insurer's actions

Source: Insurance Regulatory Authority

Agriculture Insurance Worldwide

Geographic Distribution of Agriculture Insurance Premiums

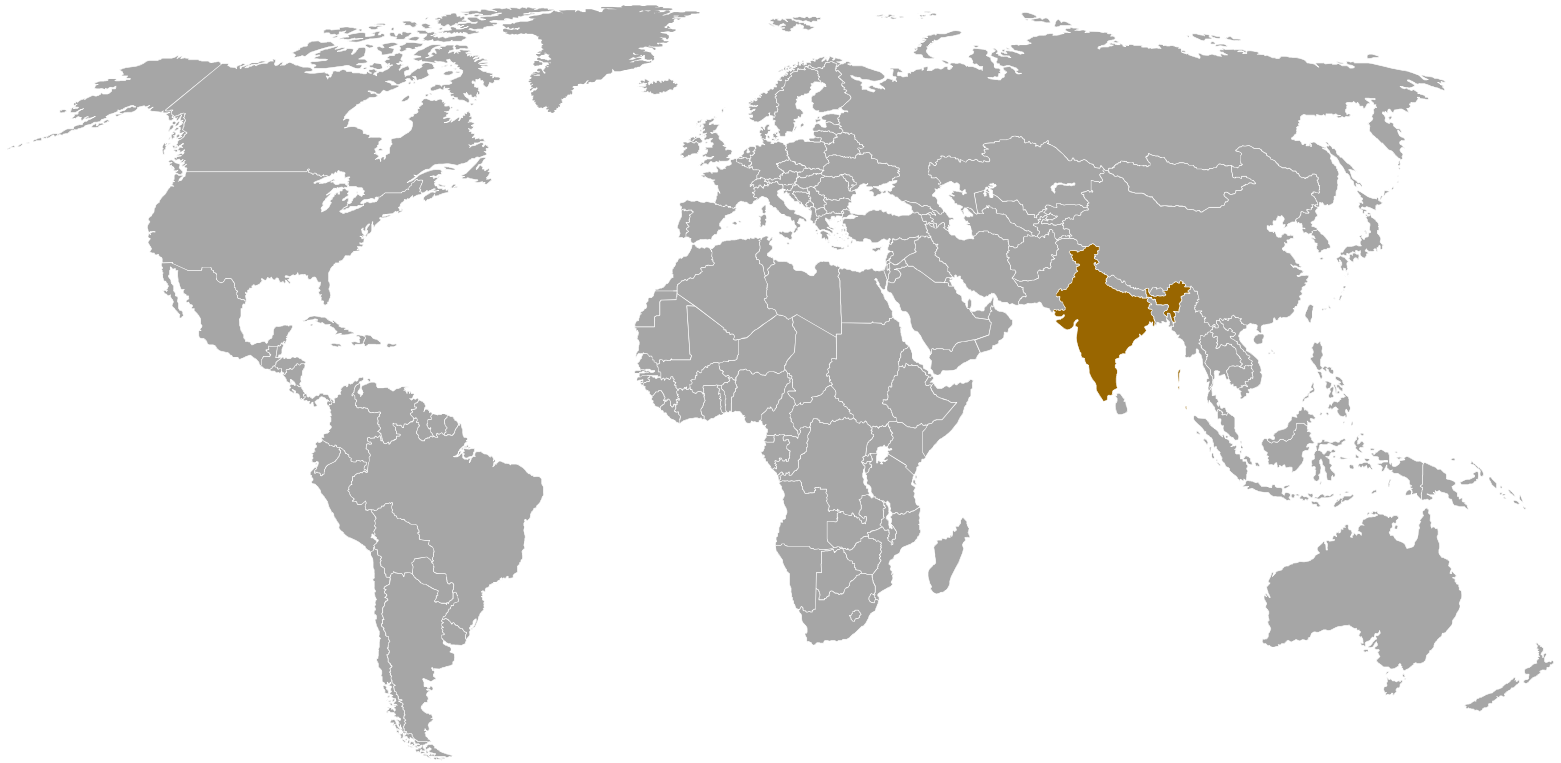


Source: World Bank, 2011

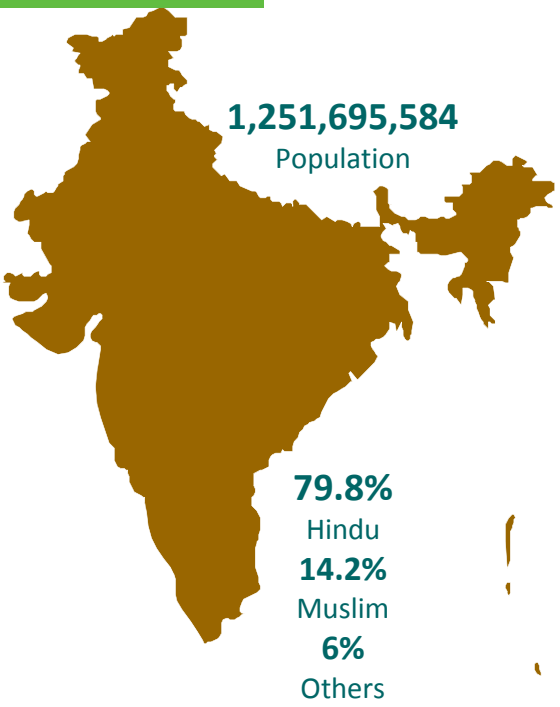
Scaling Up Agriculture Insurance

Case Studies from Around the World

Agricultural Insurance Programs that have Scaled Up Build on Strong Public and Private Partnership



India Case Study



1,251,695,584
Population

79.8%
Hindu
14.2%
Muslim
6%
Others

502.1 Million
Labor Force

49%
Agriculture

31%
Services

20%
Industry

2015 Est.

$ 2074 Billion
GDP

16.1%
Agriculture

54.4%
Services

20%
Industry

2015 Est.

Approximately
138 million farm holdings

60%
Rural farming households

1.3 ha
Average farm size

50%
Cropped area under maize

30%
Irrigated land

Weather Patterns
Highly dependent on monsoon

15
Number of insurers in agriculture

750m
Agriculture insurance premium (USD) in 2014

480m
Agriculture reinsurance premium (USD) in 2014

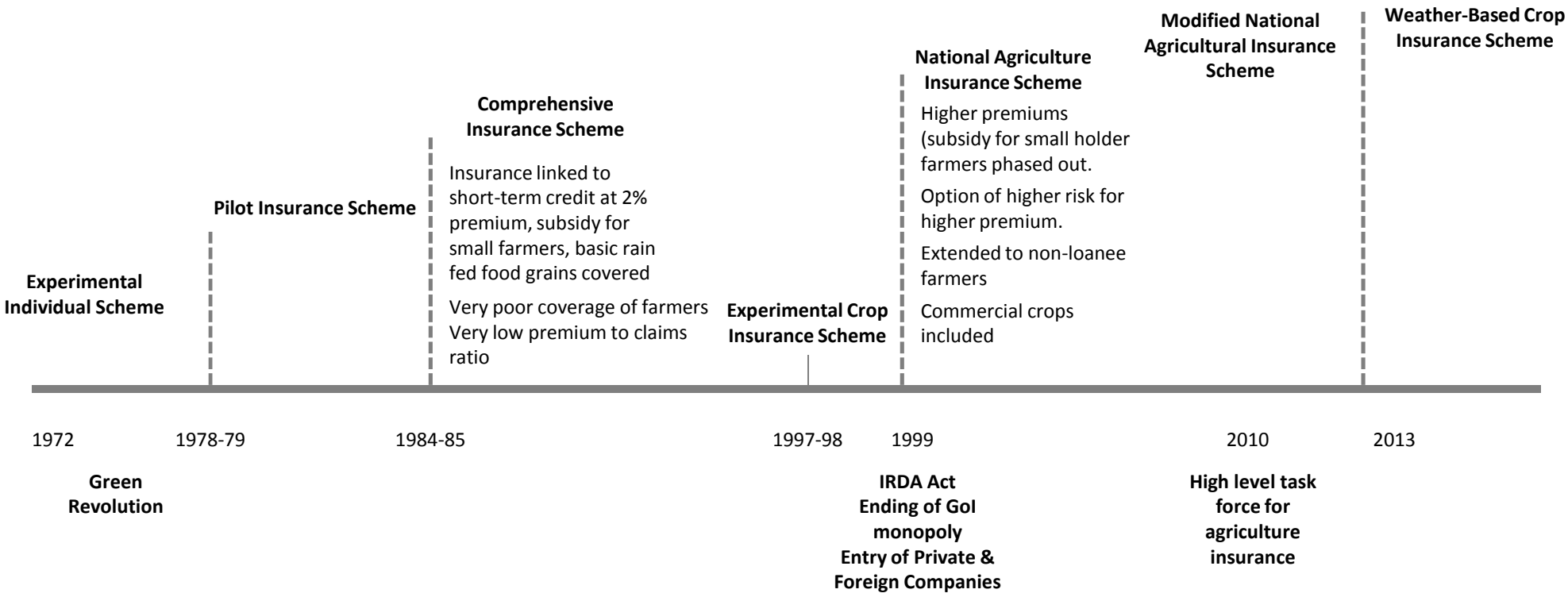
25%
Crop insurance penetration

Government subsidizes
agriculture insurance for weather (WBCIS) and yield index program (mNAIS)

Compulsory insurance for loaned farmer

Insurers tender for districts with State Governments

Evolution of Crop Insurance in India



INDIA	(CCIS) Comprehensive Crop Insurance Scheme	(NAIS) National Agricultural Insurance Scheme	(mNAIS) Modified National Agricultural Insurance Scheme	(WBCIS) Weather-Based Crop Insurance Scheme
Start Date	1985	1999	2010	2013
Commodities	Basic rain fed food crops e.g. Cereals, Millet, Pulses	Basic rain fed food crops e.g. Cereals, Millet, Pulses	Cereals, Millet, Pulses, Oilseeds, Annual Commercial Horticulture	Around 40 crops are insured under the category
Number of Insured Farmers		16.79 million	3 million	13.62 million
Claims Settlement Process		Crop Cutting Experiments	Indices based on combination of CCEs, weather and remote sensing data	Indices based on combination of CCEs, weather and remote sensing data
Premiums Rate	Simple calculation of premiums not reflecting actual risk exposure	Simple calculation of premiums not reflecting actual risk exposure	Actuarial design and ratemaking covering longer historical time periods	Actuarial design and ratemaking covering longer historical time periods
Financing Arrangement	Ex Post	Ex Post	Ex Ante	Ex Ante
Involvement of Private Sector	No	No	Private competes with public insurer	Private competes with public insurer
Claims Settlement Time	Unpredictable	Up to 9-12 months or more	Up to 9-12 months	45 days
Key Features		State-subsidized insurance programme, between 60% to 75%. Link with agricultural credit - mandatory for all farmers borrowing from financial institutions	Lower basis risk by reducing the insurance unit size to village level Elimination of calamity years in calculating threshold yield Coverage for prevented sowing & post-harvest risks Coverage for failed planting based on weather indices	Various climatic risks such as deficit rainfall, dry-spells, excess rainfall, low temperature, high temperature, high humidity, and high wind
Challenges		Poor risk classification, resulting in adverse selection and inequity between farmers in nearby insurance units		The limited availability and quality of ground-based weather data. Currently, weather data linked to 5000 Reference Weather Stations

Objectives:

a. Provide a measure of financial support to farmers in the event of crop failure from drought, cyclone and incidence of pest & diseases;
b. Restore the credit eligibility of a farmer for the next season after a crop failure;
c. Encourage the farmers to adopt progressive farming practices, high value inputs and higher technology in agriculture;
d. Help stabilize farm incomes, particularly in disaster years

Weather-based index insurance in India was developed originally by the private sector, then adopted by the State. Much of the scaling in these schemes can be attributed to requiring insurance as a prerequisite for agricultural credit, and high premium subsidy of up to 75%

India Case Study: Key Learning

- India uses **diverse levels of business models** in promoting agriculture insurance.
  - » At the **micro level**, the policyholders (the insurer's customers) are farmers who purchase insurance to protect themselves from potential losses caused by adverse weather events.
  - » At **meso level** agriculture insurance has been sold to;
    - *Union territories and state governments to aid governments in disaster management and development.*
    - *Rural community based organizations to help offset loan defaults and liquidity problems caused by adverse weather events*
- **Distribution Networks**
  - » India utilizes a variety of distribution networks in selling agriculture insurance. Insurance companies do not generally sell insurance policies directly to farmers, instead they use non-governmental organizations, micro finance institutions, self-help groups, cooperatives, regional rural banks and post offices.
- **Product Development**
  - » In attempt to reduce basis risk, several insurance companies use a dual index insurance approach .i.e. a multiple phase weather index combined with a consecutive dry days index or high temperature index.
  - » Innovative product development; current contracts are generic for 3 phases of a crop cycle for specific rainfall thresholds. This allows farmers the flexibility to choose what crops to insure.
  - » Indices have been developed in India to try to capture exposure to pestilence or disease, such as aphid infestation or potato blight and are typically based on relative humidity, or a combination of relative humidity, temperature and rainfall.
- **Loss Assessment**
  - » Use of drones for surveying farmer's crops, mapping of crop diseases as well as assistance for insurance companies in assessing extent, type and severity of damage on farm fields

In Conclusion……

Challenges in Developing Agriculture Insurance Business

Macro Level Challenges

- Poor quality and inherent limitations of existing management information systems – lack of computerized database on crop and animal production at national and county level.
- Lack of/quality of yield data from relevant government agencies – crop yield data, reference weather stations data, statistics on farmer population
- Inadequate knowledge on insurance as a risk management tool by farmers, at policy making level, and by support resources such as extension officers;
- Management of coinsurance pool – Different business models by agriculture insurance underwriting companies

Meso Level Challenges

- Inadequate marketing and selling of insurance policies
- Under resourcing of the agriculture insurance underwriting departments
- Numerous stakeholders such as financial institutions, farm input distributors, social enterprises, and farmer produce organizations have not been included in the agriculture insurance value chain. They would be more effective in scaling up insurance uptake.

The huge untapped market for agriculture insurance is the rural farming households through cooperatives, farmer producer organizations and social enterprises. This provides greatest opportunity to insurance companies to secure fast in-road and strong footing as well as help generate high volumes more efficiently and encouraging viable commercialization of agriculture insurance.

Considerations and Strategies for Success

1. **Creating Demand** > Heighten the need for insurance;
   - » Through increased insurance literacy campaigns
   - » Participative information dissemination through small groups at farmer trainings and field days
   - » Rigorous training to partners in the insurance distribution channels to provide adequate information to enable farmers understand insurance clearly and demystify the concept
   - » Creative education tools can help farmers to quickly grasp the insurance concept
   - » Include some of the participating farmers as they can provide a valuable perspective on what their colleagues can understand and value
2. Re-evaluate the agriculture insurance marketing and distribution strategy - engage as many intermediaries as possible and identify strong value propositions for partnership
3. Increase the scale of bundling insurance with other services for which there is demand e.g. agri-loans, farming inputs
4. Adopt innovative ways for recovering premium e.g. monthly instalments linked to milk delivery, link to warehouse receipt system, encouraging distribution channels to pre-finance premium and recover at end of the season

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