

Index-Based Livestock Insurance (IBLI): Protecting Pastoralists Against Drought-Related Livestock Mortality

ECHO East Africa Symposium on Best Practices in Pastoralist Areas

Machakos, Kenya – March 4th – 6th, 2014



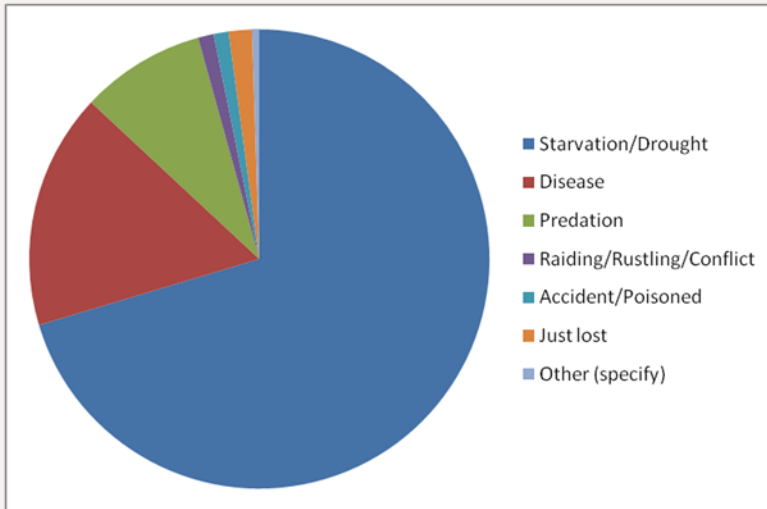
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Motivating IBLI: Centrality of Livestock Economy and Risk Profile

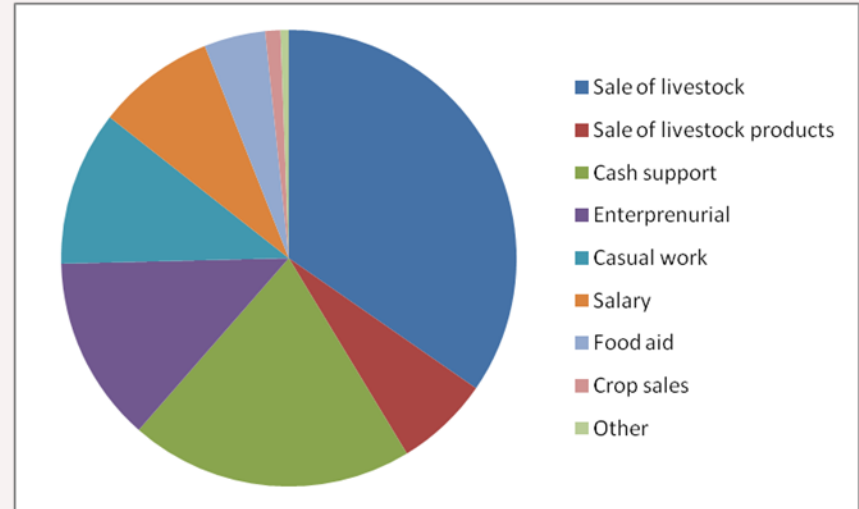
1. Livestock is the principle asset and key source of income
2. Pastoralists carry a heavy risk burden of which severe drought is the greatest
3. Drought-related livestock mortality is the greatest source of vulnerability

Cause of Livestock Mortality



- Drought is by far the leading cause of livestock mortality

Component Shares of Income

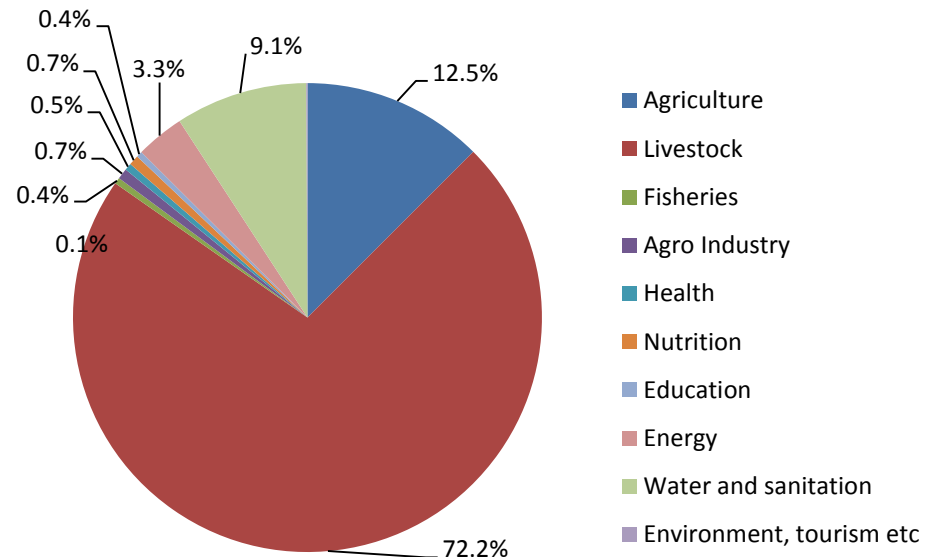


- Sale of livestock and livestock products constitute 40% of household income

The costs of uninsured risk

- **Systemic Drought exposure: 28 Droughts last 100 years, 4 in last 10 years**
- **Frequency and Intensity increasing**
- **2008 -2011: 4 consecutive years drought:**
 - Total value damages and losses US\$ 12.1 billion
 - Agriculture US\$ 1.51 billion (12.5%)
 - Livestock US\$ 8.74 billion (72.2%)
 - 9% national livestock herd died – mostly cattle
- **Food Insecurity due to drought:**
 - 2009 = 3.8 million people
 - 2011 = 3.75 million people affected,
 - 1.8 million in marginal crop areas
 - 1.9 million people in marginal pastoral areas

Total Value Drought Losses US\$ 12.2 billion



This magnitude of drought damage and losses to agriculture and livestock cannot be financed out of GOK's budget and by the Donor community only.

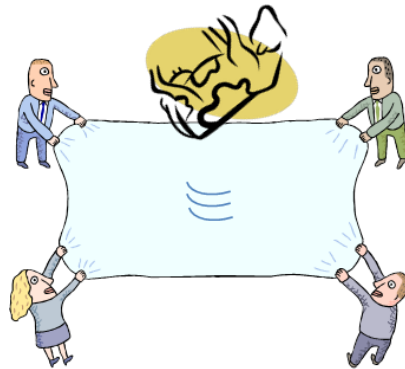
What is Index Based Insurance?

- New innovation in insurance avoids problems that make traditional insurance unprofitable for small, remote clients:
- Suited for risks affecting a large number of people simultaneously and for which a suitable index exists.
- Policy holders paid based on external “index” that triggers payments to all insured clients
 - No transactions costs of measuring individual losses (prevents costly fraud)
 - Preserves effort incentives (no moral hazard) as no single individual can influence index.
 - Adverse selection does not matter as payouts do not depend on the riskiness of those who buy the insurance. However opportunistic behavior.
 - Problem of “basis” risk

Why IBLI?

➤ An effective IBLI program can:

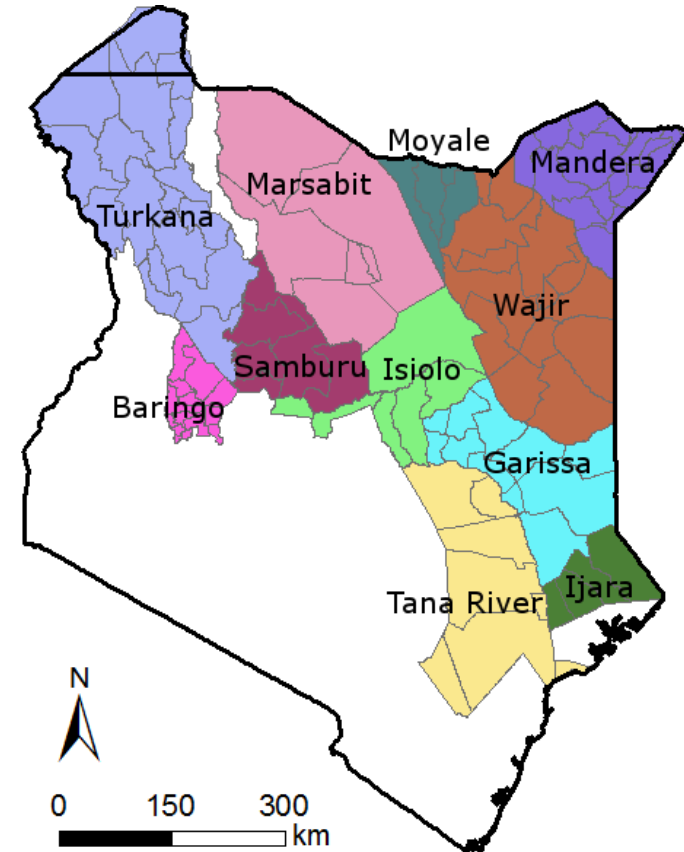
- Prevent downward slide of vulnerable populations
- Productive Asset Safety-Net in complement (or substitute) to food and cash aid
- Stabilize expectations & crowd-in investment by the poor
- Induce financial deepening by crowding-in credit S & D



- ## ➤ Meso level (county governments) – allows for timely provision of resources for drought emergency response

IBLI Coverage

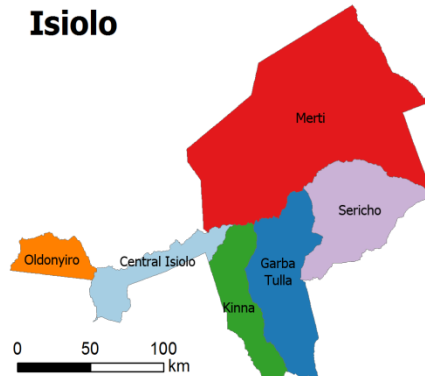
- First launched in Marsabit in January 2010
- Contract provision extended to Isiolo and Wajir in August 2013
- Also have a program in the Borana Zone of S. Ethiopia – launched in July 2012
- Expanding to Mandera & Garissa in August 2014



Marsabit



Isiolo



Wajir



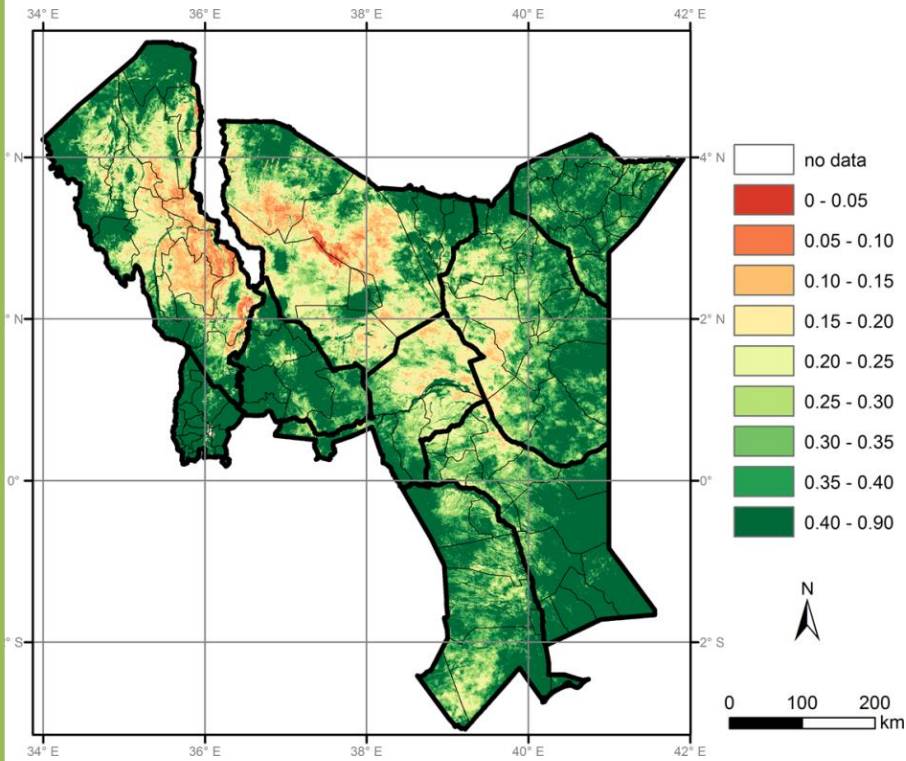
Index Design Basics

- Find a reliable, objectively verifiable signal, that explains most of the variation in household's seasonal livestock mortality
- We use functions of NDVI, a remotely sensed proxy for forage availability, which is an indicator of the level of photosynthetic activity in the vegetation.
- Model a relationship between the risk to be insured (area-average livestock mortality) and the driving signal (NDVI)

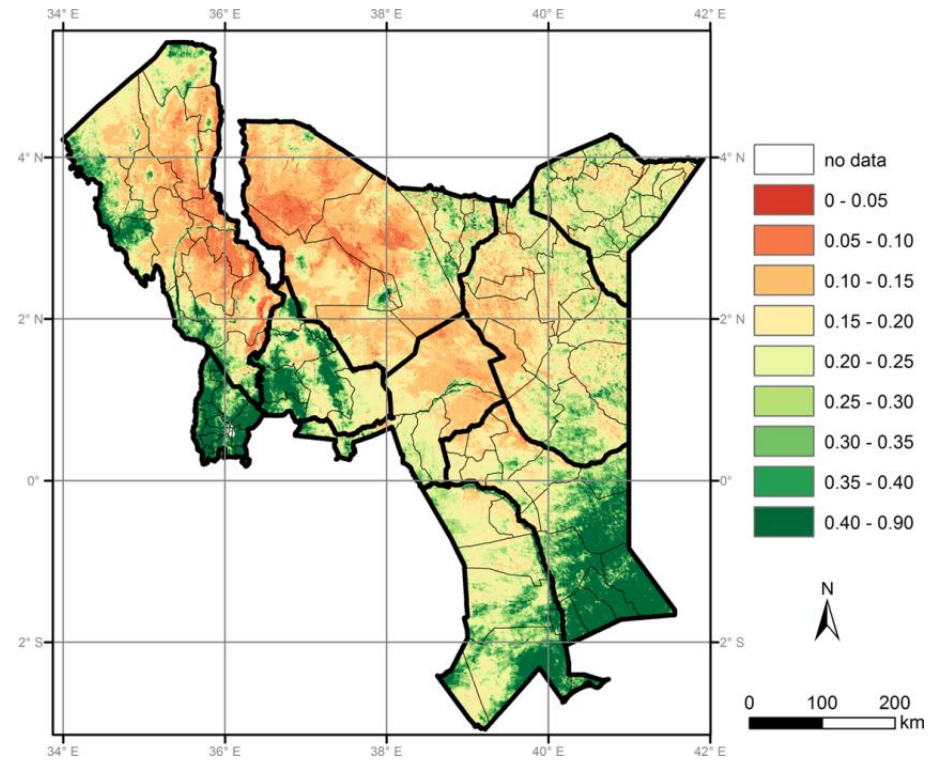


Satellite imagery solves the data challenges

Normalized difference vegetation index (NDVI)



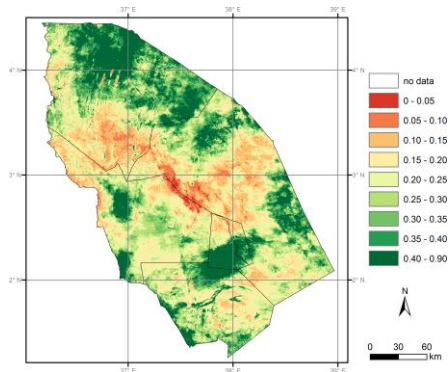
1-10 May 2010 good vegetation



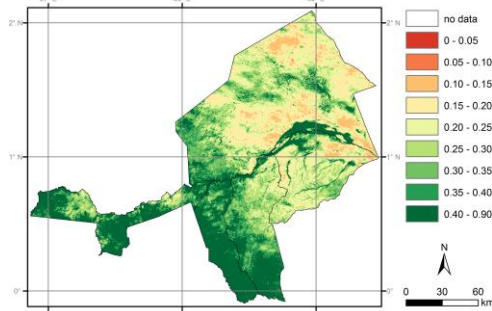
1-10 May 2011 bad vegetation

Satellite Imagery, etc.

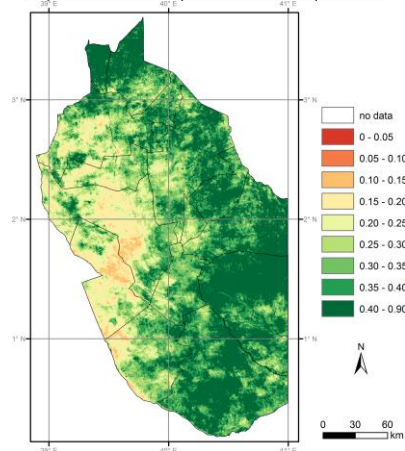
Marsabit



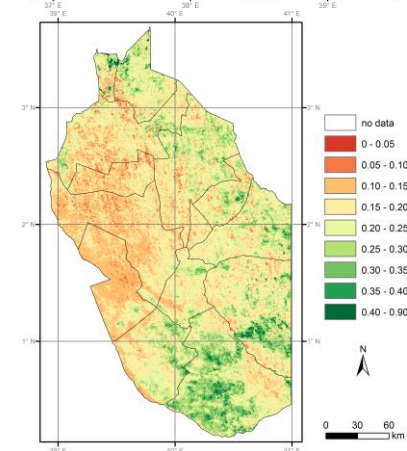
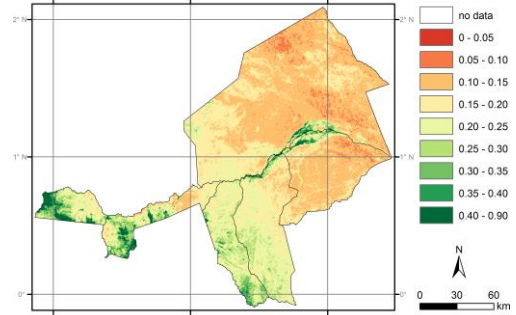
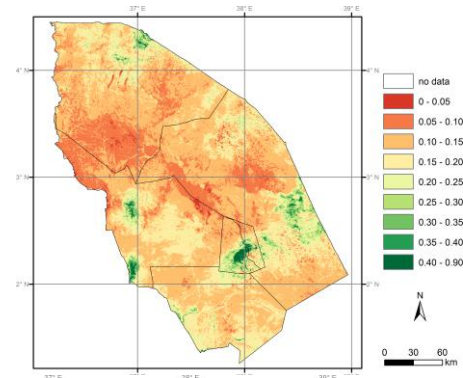
Isiolo



Wajir



1-10 May 2010



1-10 May 2011

Contract Basics

- 10% or 15% Trigger/Deductible
- Premium paid based on value of camel, cow, sheep, goat. Otherwise, known as a

Tropical Livestock Unit (TLU)

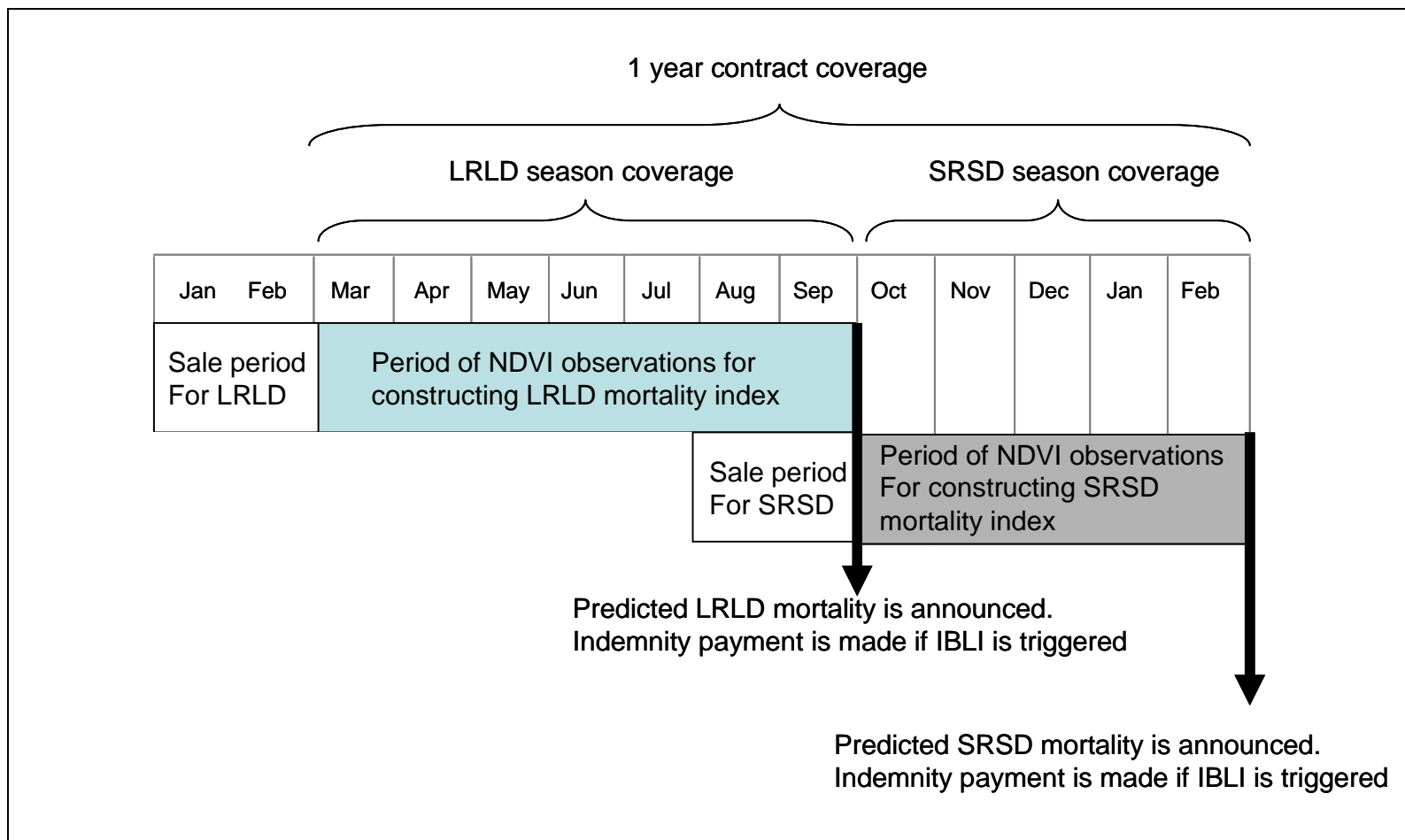
- In Wajir, this is set as follows:

- Camel – 35,000
- Cattle – 25,000
- Goat – 2,500
- Sheep – 2,500

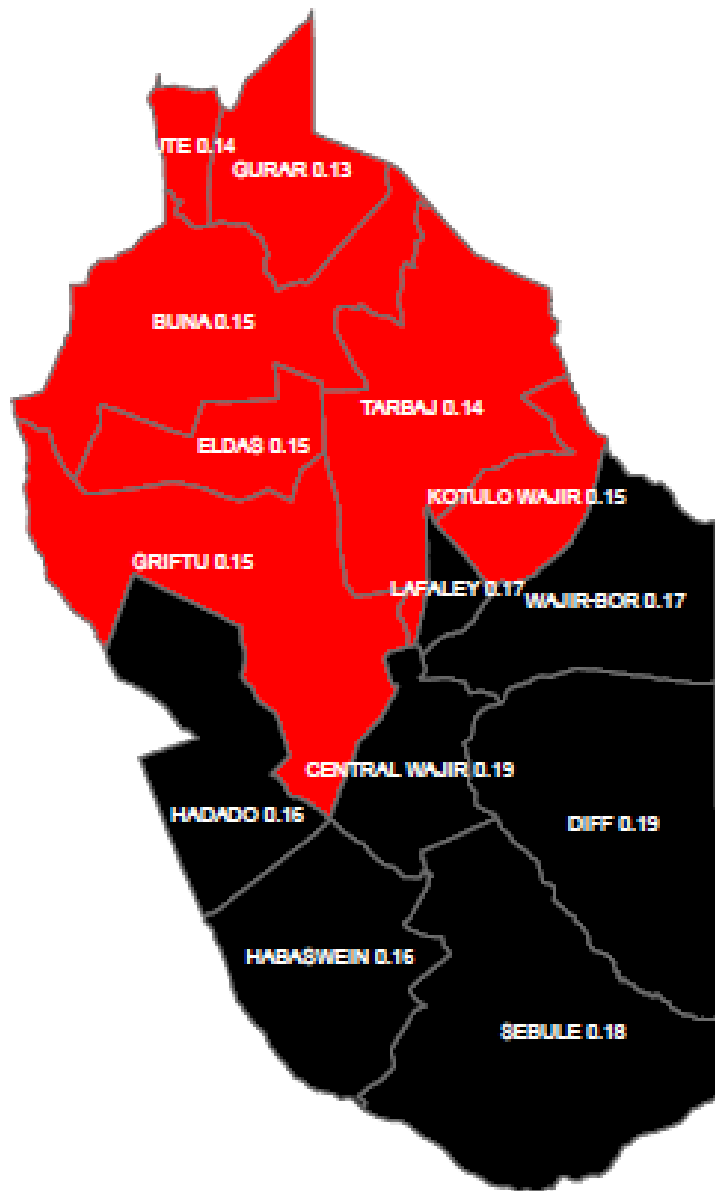
- Current premiums for Jan/Feb 2014 sales window

District	Division	Contribution	Contribution for 1 camel	Contribution for 1 cow	Contribution for 1 shoat
		at 15% trigger			
WAJIR	BUNA	5.32%	1,863 KSH	1,331 KSH	133 KSH
	BUTE	4.56%	1,596 KSH	1,140 KSH	114 KSH
	CENTRAL WAJIR	7.91%	2,768 KSH	1,977 KSH	198 KSH
	DIFF	5.77%	2,021 KSH	1,444 KSH	144 KSH
	ELDAS	6.03%	2,111 KSH	1,508 KSH	151 KSH
	GRIFTU	6.31%	2,207 KSH	1,576 KSH	158 KSH
	GURAR	4.90%	1,714 KSH	1,225 KSH	122 KSH
	HABASWEIN	7.52%	2,633 KSH	1,881 KSH	188 KSH
	HADADO	6.91%	2,419 KSH	1,728 KSH	173 KSH
	KOTULO WAJIR	5.40%	1,890 KSH	1,350 KSH	135 KSH
	SEBULE	6.10%	2,135 KSH	1,525 KSH	153 KSH
	TARBAJ	5.83%	2,040 KSH	1,458 KSH	146 KSH
	WAJIR-BOR	6.25%	2,188 KSH	1,563 KSH	156 KSH

IBLI Temporal Contract Coverage



Index Reading as of 20th January 2014 - Wajir



Green	Good Regime Stable: Here, the division in question is within a good regime and is characterized as stable.
Yellow	Good Regime Worsening: While the division in question is characterized by better than average forage cover, the situation has been consistently worsening within the past two months.
Orange	Bad Regime Moderate: The sum of forage available over the past year has dropped below the long-run average. However, while the division in question is under considerable stress, the model predicts less than 10% average livestock mortality.
Red	Bad Regime Acute: Average livestock deaths predicted to be between 10 and 15%.
Black	Bad Regime Severe: The drought is now severe. Forage scarcity has been pronounced over a long period and greater than 15% of livestock in the area are predicted to have died. Insurance payments have been triggered.

Payout Determination

- Pastoralists are paid when livestock deaths are greater than the trigger point of **15%**. This means payments start at **15%**; for example, if livestock losses are 25%, then the payment will be for 10% (25% - **15%** = 10%).
- In this case, the 10% will be multiplied by the sum assured (total value of livestock insured). For example, if the sum assured is KSH 100,000 the payment would be KSH 10,000.
- $10\% \times \text{KSH } 100,000 = \text{KSH } 10,000$
- It is important to note that pastoralists are paid based on the predicted livestock deaths for the division and not on an individual basis (see page 5).



IBLI Sales



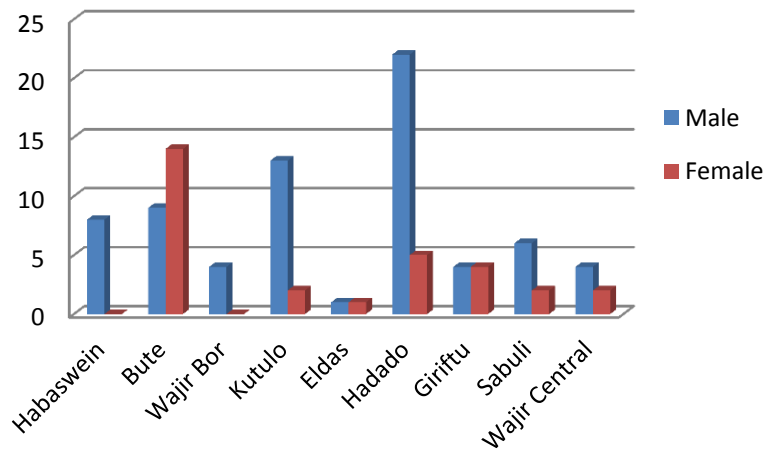
DIVISION	NO. OF CLIENTS	GENDER (2013 only)		CAMELS	CATTLE	SHOATS	TLU	PREMIUMS COLLECTED
		MALE	FEMALE					
Marsabit	3117	201	130				8209	4,855,540
Wajir	101	71	30	15	112	2059	339	514,293
Isiolo	68	38	30	12	356	155	385	750,004
TOTAL	3286	310	190	27	468	2214	8933	6,119,837

Role of Gender

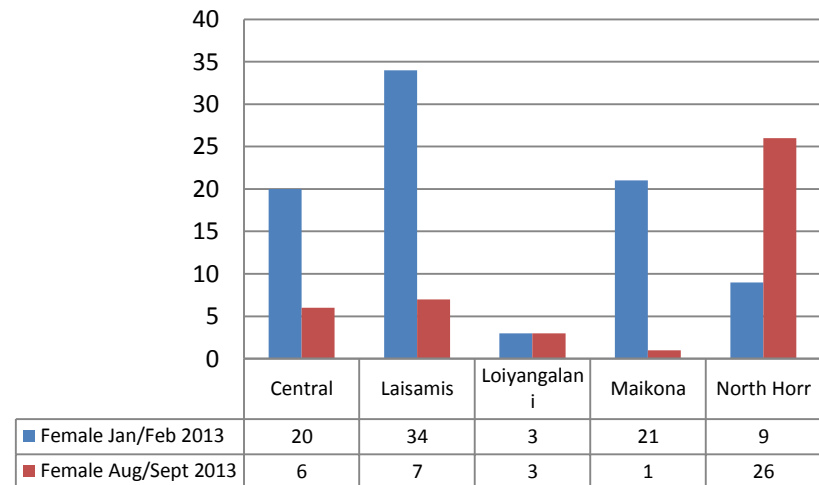
- In Wajir, many women purchased, especially in locations closer to town centers but they insured smaller numbers of animals. The only female sales agent also fell ill during the sales period, which means sales may increase once a female agent is active in Jan/Feb 2014

- In Marsabit, sales in North Horr increased among women by a factor of 2.8 vs. men at 1.25 due to the strength of women's savings groups
- In Isiolo, the purchase of insurance is not related to ownership but more about who is available during sales period.

Sales by Gender - Wajir
Aug/Sept 2013



Sales (Women) - Marsabit

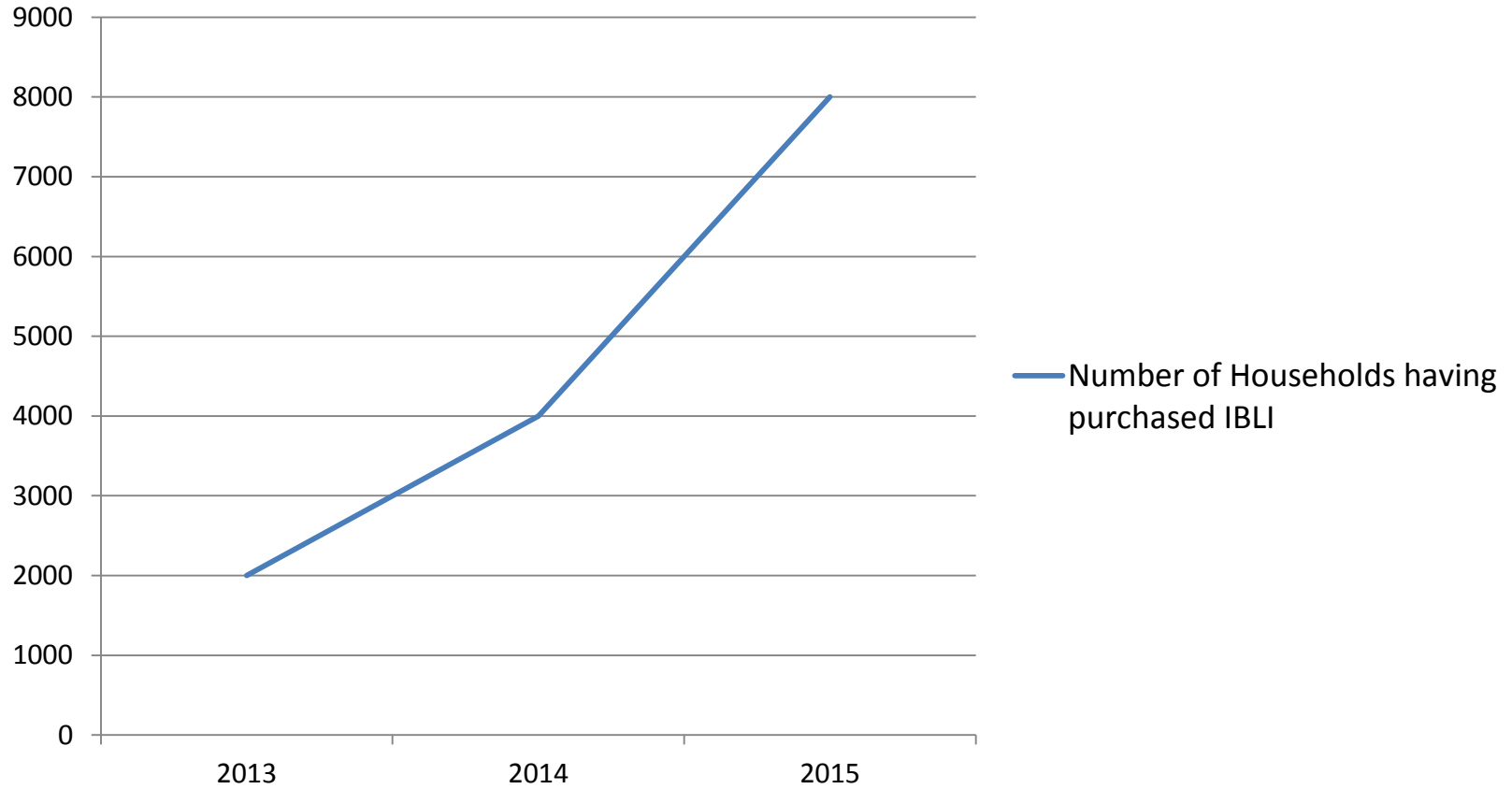


Challenges

- Communities in the regions IBLI operates are not conversant with the insurance concept
 - Increases cost of public awareness & education
- Local communities have also become accustomed to handouts from NGOs, creating an environment of dependency
 - Makes it difficult to sell a commercial product like IBLI
- Poor logistics & mobility issues due to a lack of infrastructure on the ground & expansive nature of the terrain
 - Costly transport, need for electricity to charge phones (to make sales), no mobile network
- Low literacy levels make information dissemination less effective
- Sharia compliance – some traditional Islamic scholars discouraged purchase of a Takaful product, believing that it contravenes the teachings of Islam
- The perception of “good weather/rain” discourages purchases

Outlook for 2014 & Beyond

Number of Households having purchased IBLI



2014 Plans

- We will strengthen & improve current partnerships
- Find new NGO & insurance partners to help us scale-up
- IBLI will be implemented in at least three more counties – Mandera & Garissa
- IBLI will have expanded in Ethiopia, in the Afar/Somali region
- We will increase sales through better training, marketing, & outreach
- We will have designed a meso-level product for County governments
- We will be better organized with regard to sales window prep & execution with our partners



IBLI Partners



A New Dimension in Insurance



Thank you



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