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Enhancing Livestock Resilience and Pastoral Livelihoods in Africa

May 17, 2012

Presenters

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Upcoming Events

- May 22 | Breakfast Seminar: Feed the Future's NAFKA Project in Tanzania
- May 30 | Ag Sector Council Seminar
- May 31 | MSU Food Security III Event



Pastoralism Resilience in North Eastern Kenya



Francis N Chabari, Chief of Party
USAID-Funded Kenya Drylands Livestock
Development Program (KDLDP)



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Pastoralist Resilience

Resilience

The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change

Pastoralists

Pastoralists are agriculturalists who keep domesticated livestock on natural pastures and depend upon their animals as their primary source of income



Horn of Africa Pastoralism

- 200M pastoralists around the world; of which approximately 20 – 25M live in the Horn of Africa
- Many pastoral groups in the Horn of Africa straddle international borders
- Control of rangeland resources shifted from local pastoral communities to national governments in the Horn of Africa in the 1900's



Resilience Initiatives

Inter-Governmental Authority on Development (IGAD)

The meeting in Sept 2011 in Nairobi led to the following outcomes:

- A Commitment to Sustainable Development by ending drought emergencies;
- Recognized the role of mobility, improved markets, access to education, technological advancements, and early warning in pastoral areas

Council of Ministers of Agriculture (COMESA)

The meeting held in October 2009 in Victoria Falls, Zimbabwe, declared support for cross-border mobility of pastoralists

Trends

- Droughts are becoming more frequent and intense; while rainfall is not decreasing
- La Niña events are set to worsen in coming years

Resilience Studies

- International Livestock Research Institute (ILRI)
Assessment of the 2008 – 2009 drought:
 - Herding is superior to crop agriculture in many of the arid and semi-arid lands
 - Timely interventions help pastoralists cope with drought
- Kenya lost 18 -20% of its livestock in the 2011 drought. The total loss was estimated at US \$8 Billion from 2008-2011 (Government of Kenya)
- Pastoralism evolved over time to cope with shifting resource availability



Human & Livestock Populations in North Eastern Province, Kenya, 2009

Species	Numbers ('000s)
Cattle: Exotic	80
Indigenous	2,695
Sheep	4,260
Goats	7,887
Camels	1,701
Donkeys	382

Human population: NE Prov. + T/River

A. Estimate population – 2.6M

B. Households - 352,670

C. Land size – 164,340 km sq.
(1/3 size of Kenya)

Over 70 percent of the meat consumed in East Africa comes from pastoral herds



For the Future

- Proposed key land tenure reforms and DRR planning
- Access rights to key resources: wetlands, forests, water, mineral/salt licks
- Strengthening pastoral associations, indigenous civil society and advocacy forums
- Growth of pastoral contribution to national economies

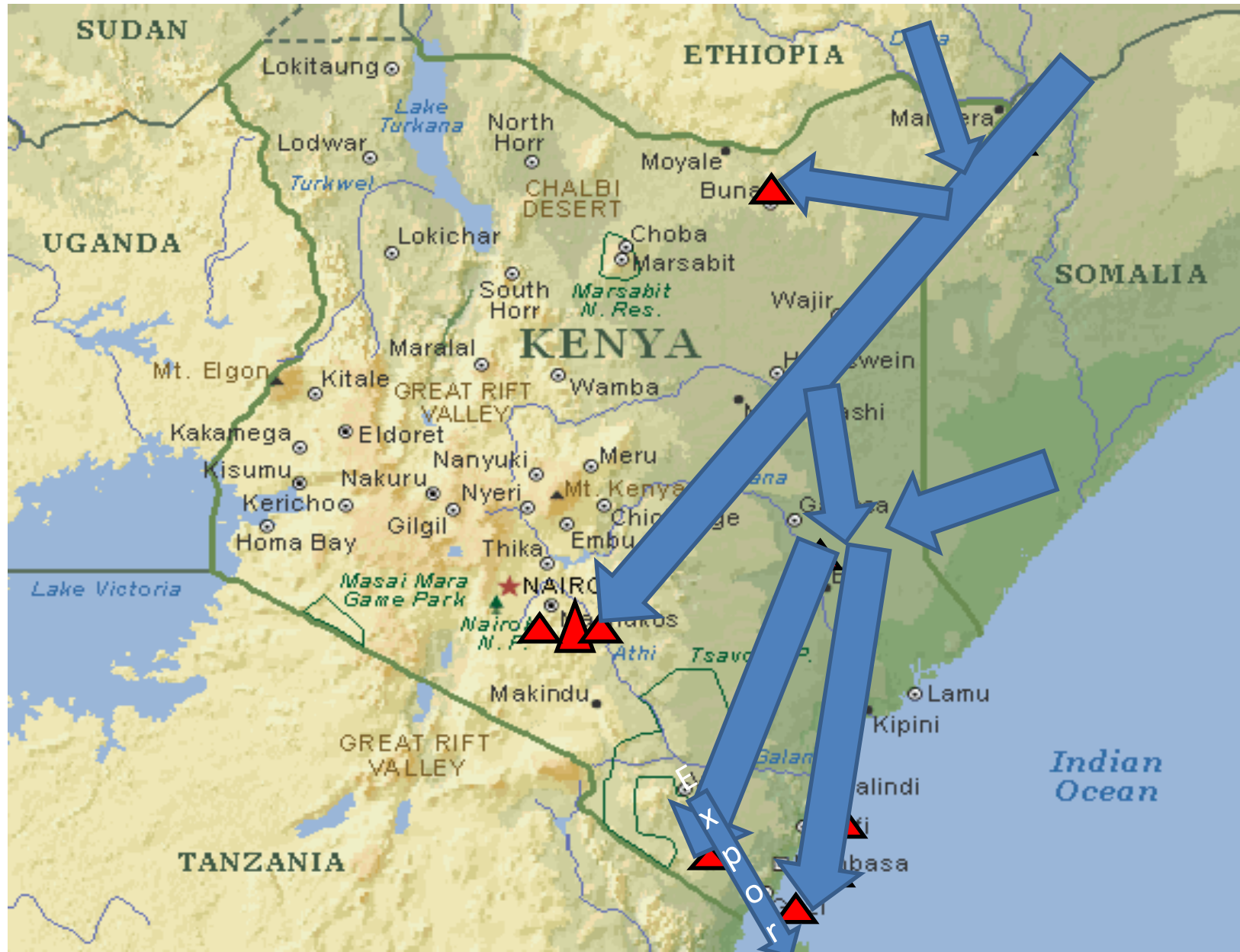


For the Future(cont'd)

- Capacity building – a necessary foundation for technological interventions
- Expanded use of ICT for market information and mobile banking facilities
- Important to conserve local breeds of livestock
- Control of trans-boundary and other economically significant range diseases for uninterrupted trade



Trade Livestock flow from North Eastern Kenya and X-border trade



For the Future (cont'd)

- Human population control
- Policies facilitating cross-border mobility
- Institutional structures for resources management and conflict resolution
- Inclusion of women in decision making structures
- Representation of LVC actors in devolved government structures
- Expanded physical and social infrastructure and opportunities for formal education for pastoralist children



For the Future (cont'd)

- Diversified livelihoods with greater attention to pastoral drop outs
- Early commercial off-take of non-core breeding stock when drought is imminent
- Livestock mix: more camels in drylands
- Expand production where feasible; this competes very effectively with other farm enterprises



USAID-Funded KDLDLP Key Interventions

- Access to markets and market linkages
- Value addition to livestock products
- Productivity and competitiveness
- Creating enabling policies for production and marketing
- Adaptation to climate change



Vaccinating Livestock



Competition for Key Resource: Irrigable/Wet Land



Rice Mill Store in Tana Delta: How about the Rice straw and husks as livestock feed in droughts?



Fodder production on local farms (Garissa)



Manual Hay Baler

Manually Baled Hay in Storage



(Lady Owner is Beneficiary of Matching Investment Funds)



Value Addition



Processing Camel Milk into Yoghurt

Value Addition



Two Volunteers from Oklahoma State University (right)



2012 03 29

Conclusion

Pastoralism has survived over millennia because
it changes and adapts

Pastoralism is here to stay

Thanks



Competitiveness improvement of the livestock value chain in Somaliland

Partnership for Economic Growth (PEG)

Funded by USAID/East Africa
Implemented by DAI and CNFA



Harnessing the **POWER** of the Private Sector







A photograph of a winding asphalt road that curves through a rugged, mountainous landscape. The terrain is arid with sparse green vegetation and rocky slopes. In the background, more mountains are visible under a hazy sky. The road starts from the bottom left, curves around a hillside, and continues into the distance.

Somaliland context

- Unrecognized but functioning Government
- No official banking system – money transfer system
- Diaspora Remittances (> livestock export)
- Arid (100 – 300 mm / y)
- High unemployment (47%)
- High energy cost (\$1.20 / kWh)



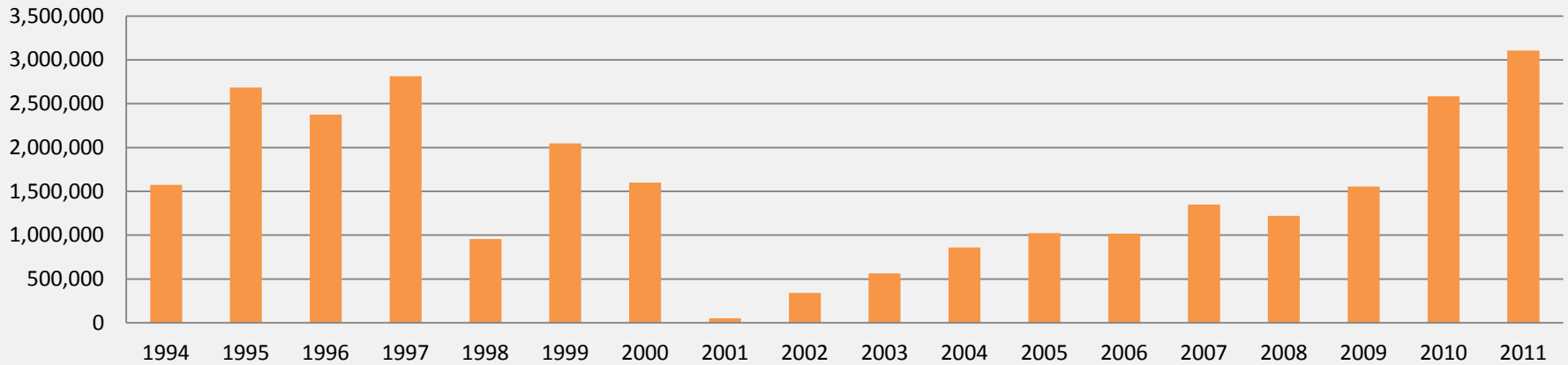
Somaliland Livestock Production

- 65% of GDP
- Pastoralist extensive livestock production system
 - goats & sheep / camels / cattle
- Large export and regional trade – live animals
- 30% of Gov. revenue from livestock export
- Large number of transactions / animal
- Burao largest market (10,000 per day)
- Unreliable data and figures

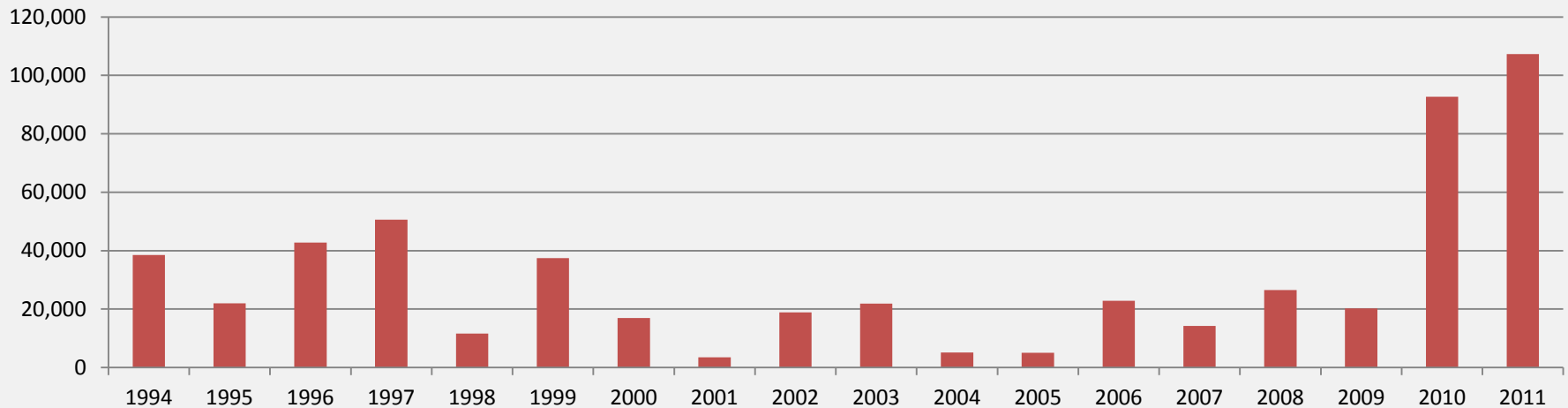


Berbera Livestock export numbers – (source: FSNAU)

goats and sheep

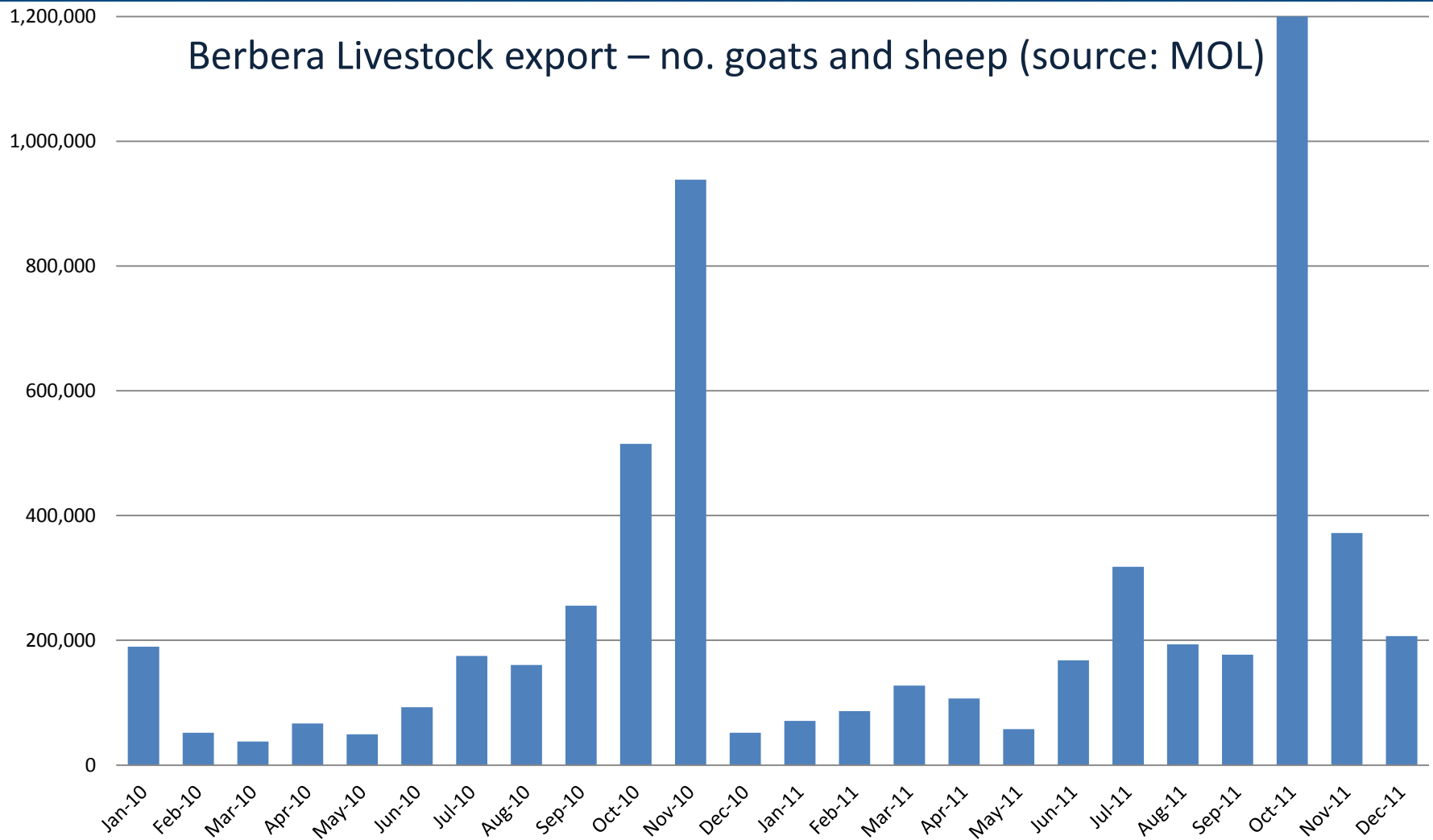


camels



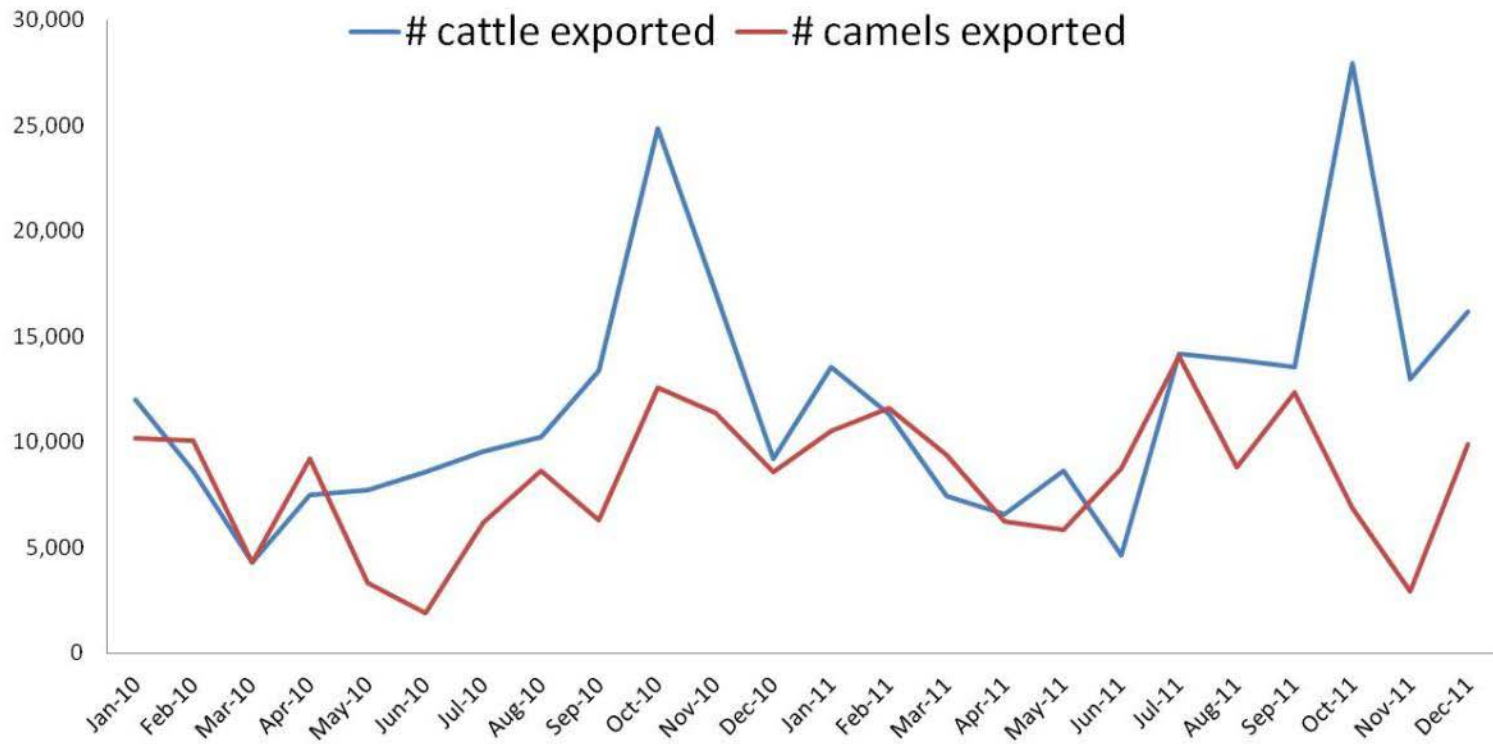


Berbera Livestock export – no. goats and sheep (source: MOL)





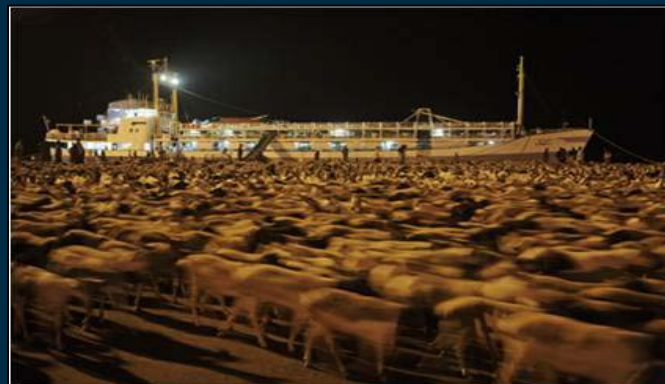
Berbera Livestock export – no. camels / cattle (source: MOL)





Berbera Livestock export (source: MOL)

2011	Export numbers	Est. Value (\$)
Small Ruminants	3,100,000	186,300,000
Cattle	150,000	51,000,000
Camels	107,000	59,000,000
Total	3,357,000	296,300,000





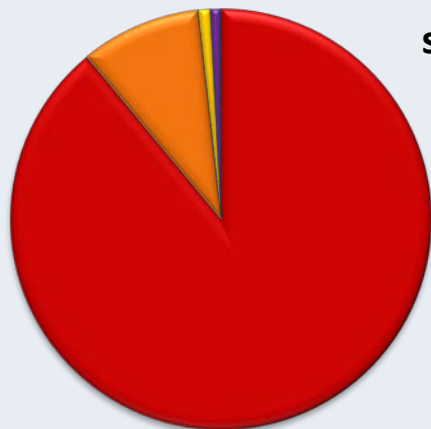
Berbera Livestock export – destination (source: MOL)





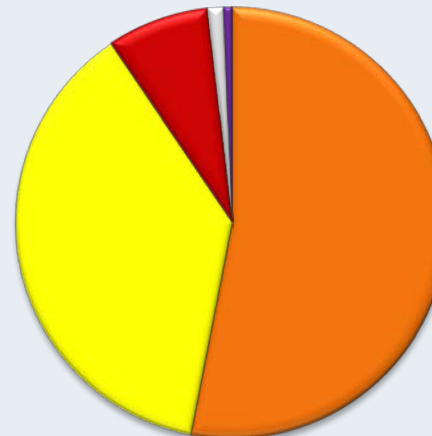
Berbera Livestock export – destination (source: MOL)

small ruminants



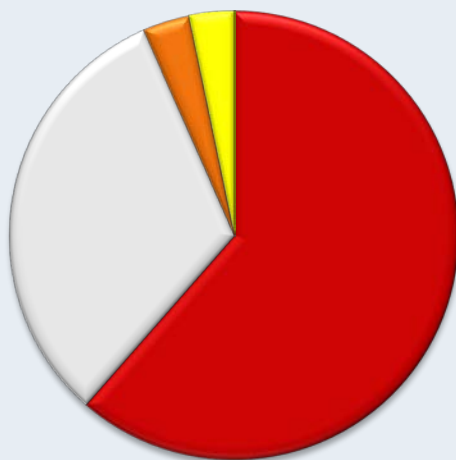
- Saudi Arabia
- Yemen
- Oman
- UAE
- Egypt

Cattle



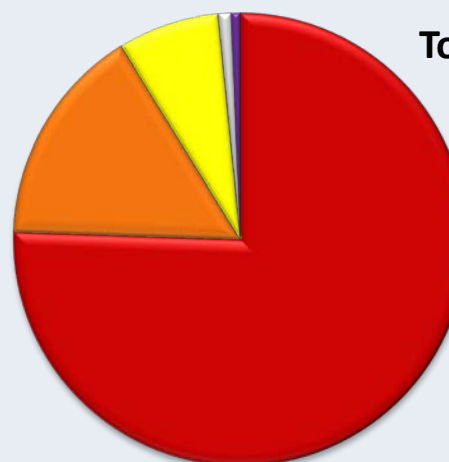
- Yemen
- Oman
- Saudi Arabia
- Egypt
- UAE

Camels



- Saudi Arabia
- Egypt
- Yemen
- Oman
- UAE

Total export value



- Saudi Arabia
- Yemen
- Oman
- Egypt
- UAE



Regional linkages

Berbera animals originate from:

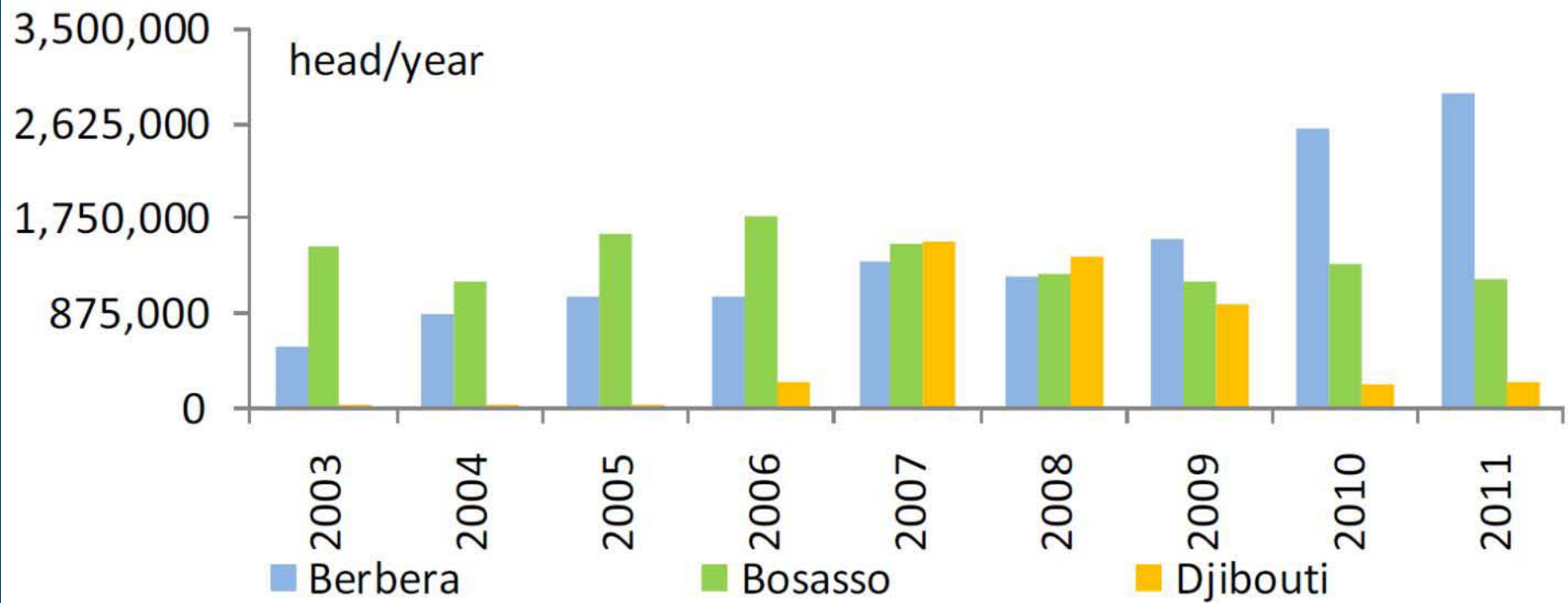
- Somali region in Ethiopia (50 %)
- Other Somalia regions (10 %)

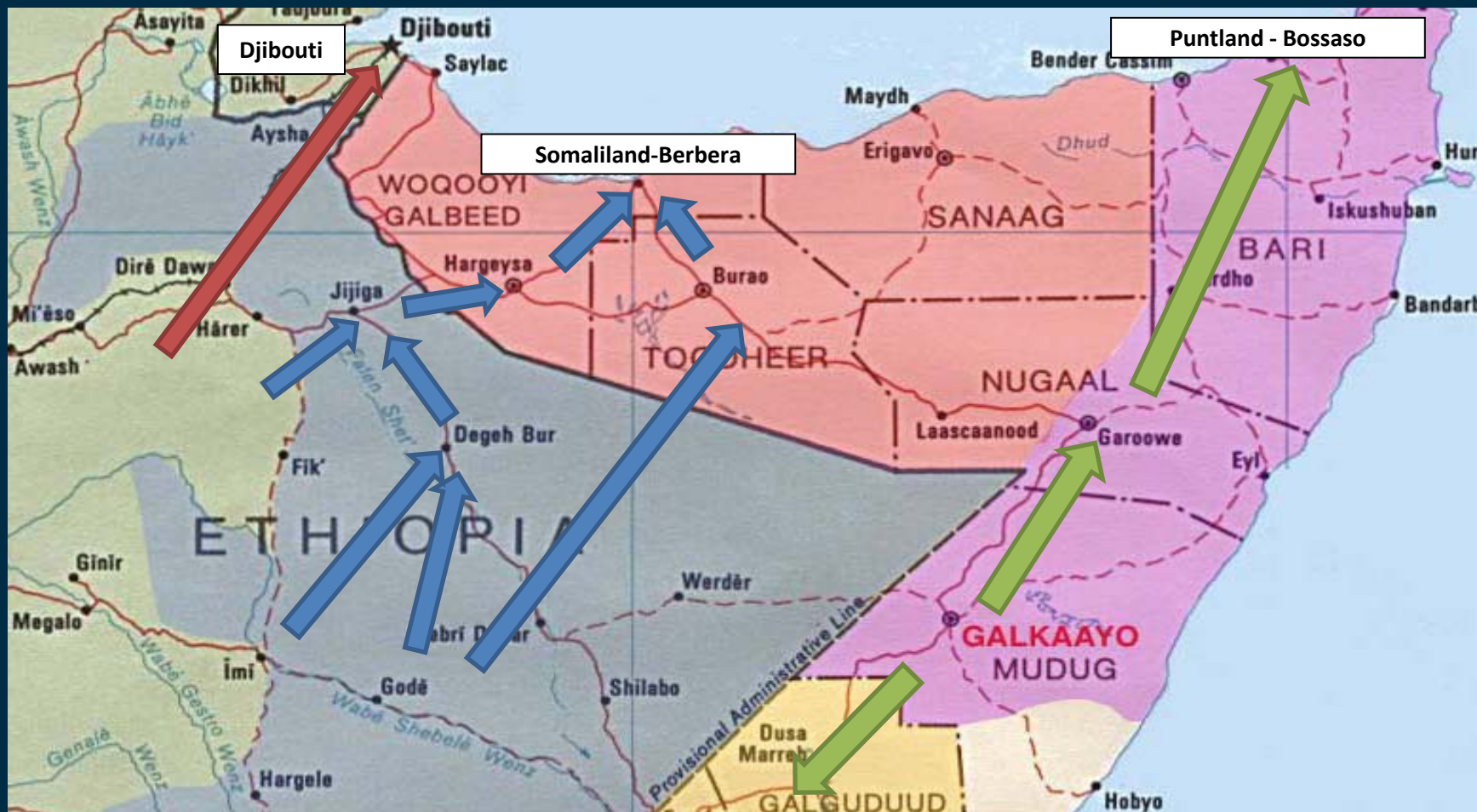
Other Ports: Djibouti, Bossaso

Livestock export to: SA, Yemen, Oman, Egypt, UAE

Links to regional bodies – IGAD, AU, COMESA

- policies (trade, pastoralism)







External regional challenges

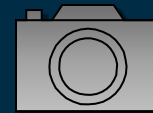
- Animal health
 - Livestock bans (past loss \$ 150 million - 2000)
 - Spread of diseases (Somalia regions, Ethiopia)
 - Animal disease certification for export (brucellosis, RVF)
- Inland “port” in Ethiopia
- Somalia Conflict





Constraints and challenges in livestock sector:

- Shortage of feed / water
- “Livestock harvesting”: – livestock breeding limited
- Support services limited
 - financial services - loans
 - Animal health
 - Extension
 - Input supply
- Droughts and unreliable rainfall
- Degradation of rangelands
- Little private sector investments







HILAL

AGRO-VETERINARY

Lawooyinka Xoolaha Beeraha & Siidhka



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34122 STC
Mob. 437302



X. Jare Sifano
Ants



A/65
18.25
17.5m

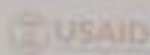












Partners

Economic Growth Impact (30 points)

- How do your programs for long-term growth impact year 1 and year 2 of the business development?
- Employment generation for women in long-term programs?
- What will your long-term programs lead to and what opportunities are there for youth entrepreneurship?
- How will your long-term programs impact business development opportunities for women and/or youth?
- Is your business assisting the growth of other businesses in the sector or creating market linkages and new opportunities for your customers?
- Will your business open up the market to other people or will you be putting other people out of business?



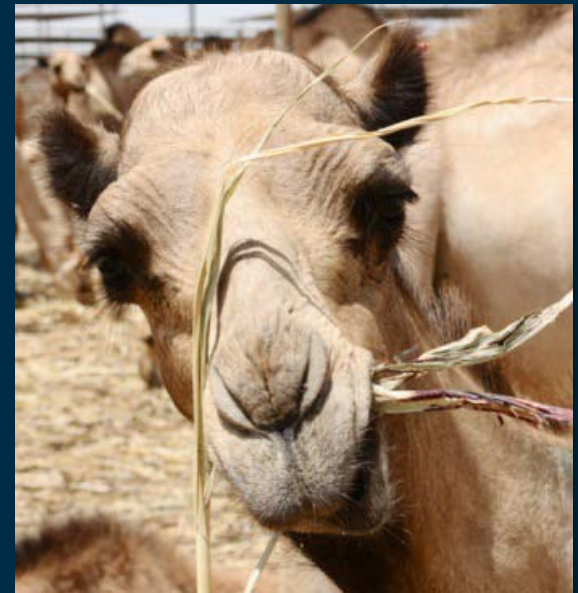




USAID/East Africa – Partnership for Economic Growth (PEG) Livestock Component (- Aug '13)

Improving competitiveness through support to:

- Animal feed
- Animal health
- Partnership Fund for economic growth
 - Small matching grants < \$100,000
 - ± \$ 300,000 livestock
- Puntland component
 - Livestock / under formulation





PEG – improving competitiveness

Activities will result in:

- Lower Feed transportation costs (down to 30%)
- Better quality animal health service
- Improved input supply
- Improved quality of veterinary drugs and use
- Improved body condition:
 - More animals marketed
 - Higher farm prices for animals
- Livestock businesses supported





Conclusions and Recommendations

- Extremely High Value of Livestock sector
- Thriving Regional Trade
- Great opportunities exist

Need for:

- Improvement of public support sector
- private sector investments
- better end-market analysis
- Marketing livestock products?

Mahadsanid! - Thank you!



Harnessing the **POWER** of the Private Sector



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Part 2 | Changing Livelihoods in a Risky Environment: Findings from the Pastoral Risk Management Project



Changing Livelihoods in a Risky Environment: Findings From the PARIMA Data

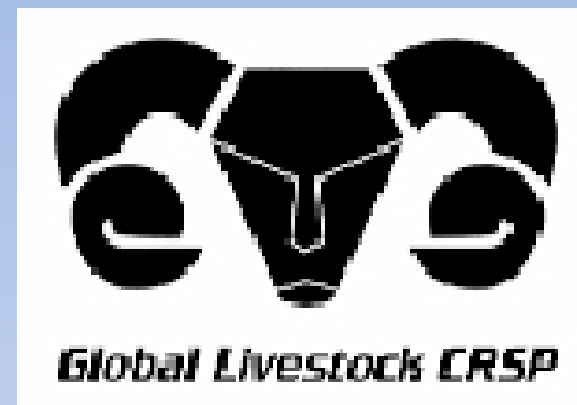
John McPeak – Syracuse University

PARIMA data, book with Peter Little and Cheryl Doss



The opinions expressed herein are those of the author and do not necessarily reflect the views of GL CRSP, BASIS AMA CRSP, LCC CRSP, the U.S. Agency for International Development or the U.S. government.

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LCC CRSP: This presentation was made possible by the United States Agency for International Development and the generous support of the American people through Grant No. EEM-A-00-10-00001.



Key Messages

- Risk is pervasive and multifaceted
 - Climate risk is key problem faced
- Despite considerable change, livestock are and will be the foundation of the economy and people's livelihoods in this area
 - Access to livestock combined with access to ways to earn cash is the most rewarding outcome
- Diversification and education will allow people to build livelihood strategies not directly reliant on livestock and livestock products
 - Some will be indirectly based on livestock and livestock products

Overview of the PARIMA Survey work

- PARIMA repeat round survey work
 - Baseline March 2000
 - 330 Households, individuals within households
 - 11 sites in Kenya and Ethiopia
 - Quarterly (3 month periods) June 2000 – June 2002
 - Area sampled was a location / kebele
- Other modules fielded between survey rounds will be mentioned as well
- IBLI baseline and monitoring work launched in 2009, surveys run 2010 and 2011

PARIMA Research sites

	SM-K	FI-E	DG-K	DH-E	WA-E	QO-E	LL-K	NG-K	DL-E	KA-K	NH-K
NDVI (CV NDVI)	0.42 (0.33)	0.31 (0.39)	0.30 (0.56)	0.30 (0.32)	0.28 (0.35)	0.27 (0.52)	0.23 (0.50)	0.22 (0.35)	0.21 (0.42)	0.19 (0.45)	0.10 (0.25)

Survey Sites in Southern Ethiopia and Northern Kenya

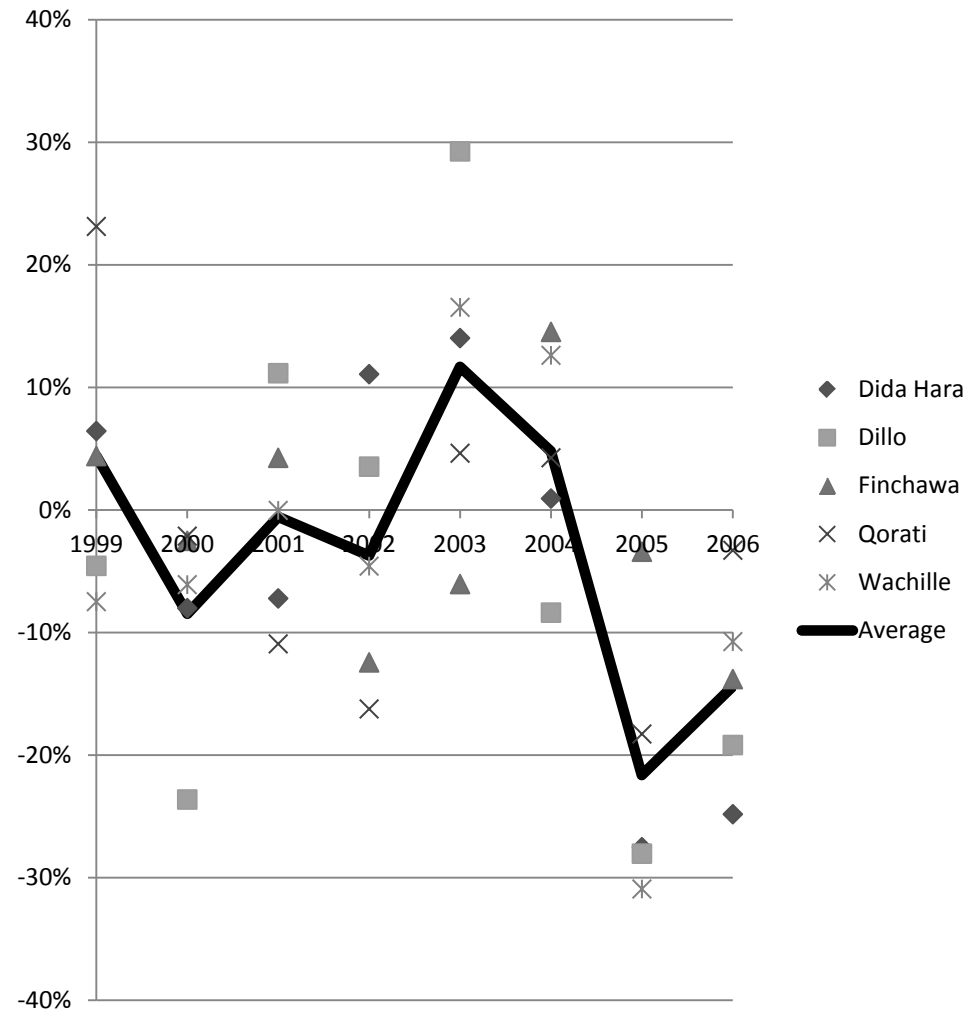


● Major Towns
z Survey Sites
— Major Roads

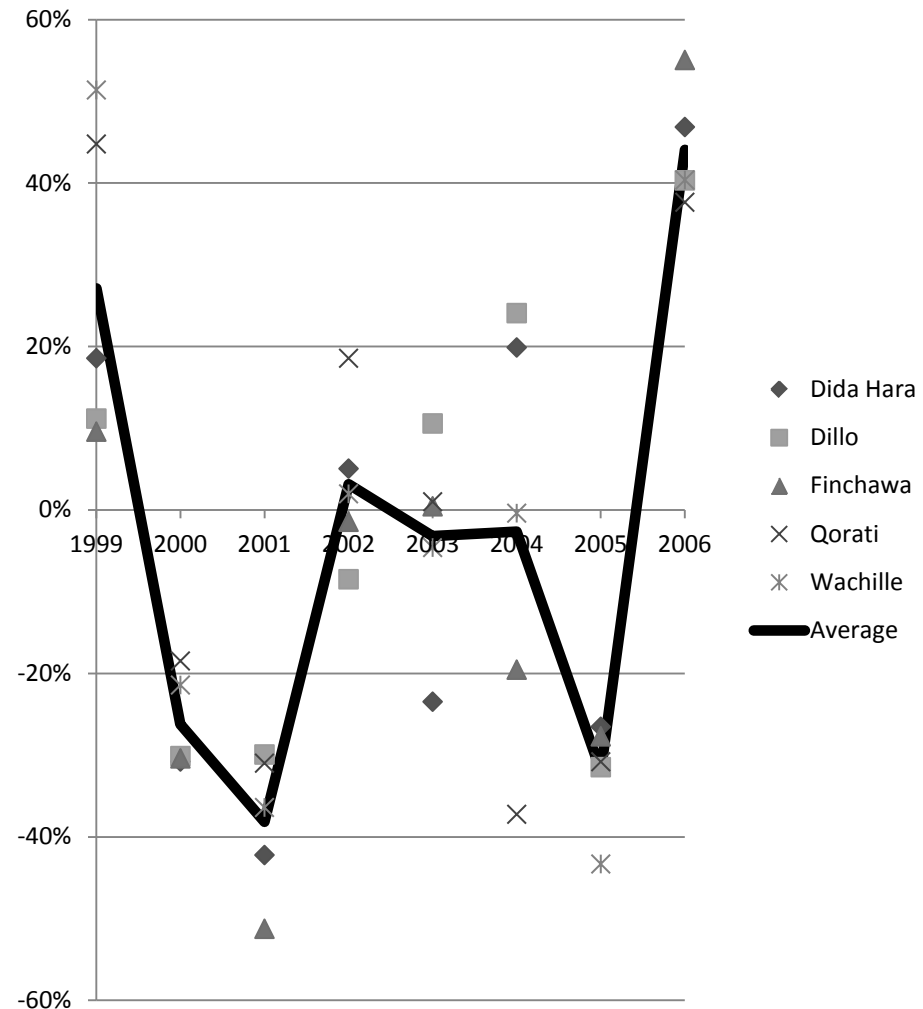


Risk-Ethiopian Sites

NDVI

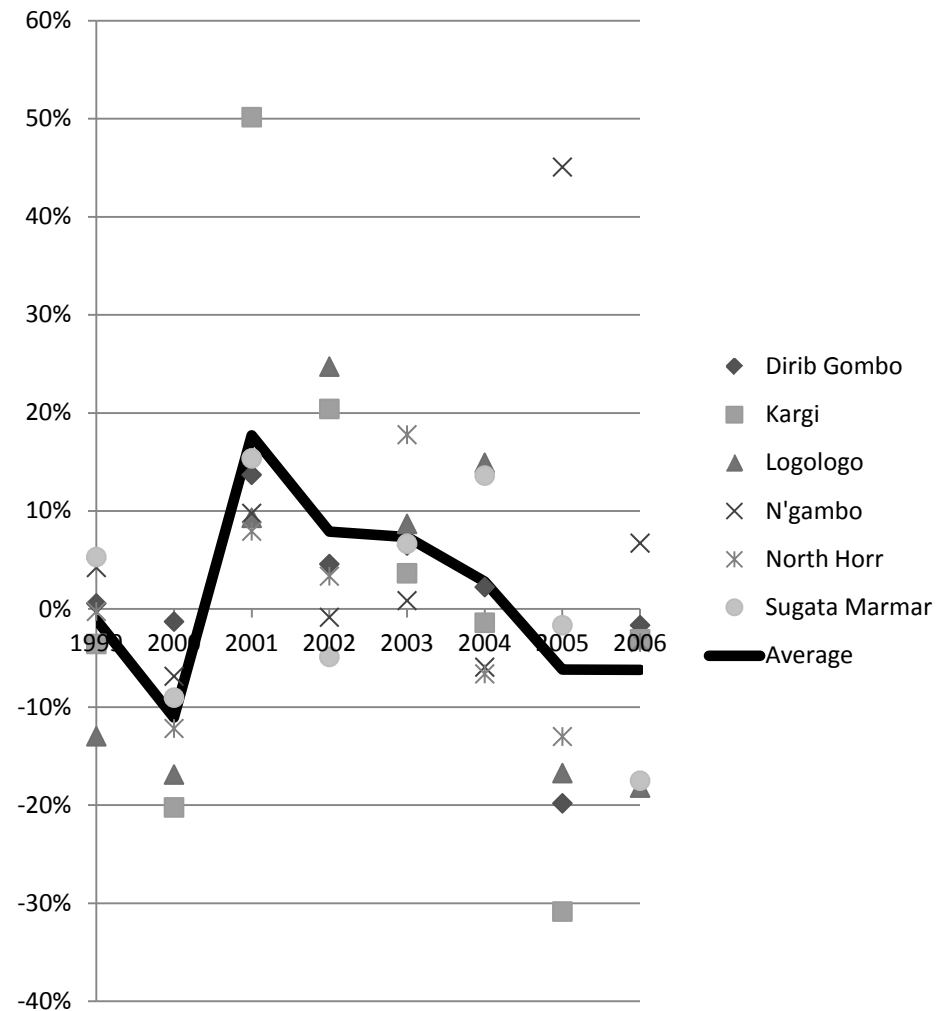


Rainfall

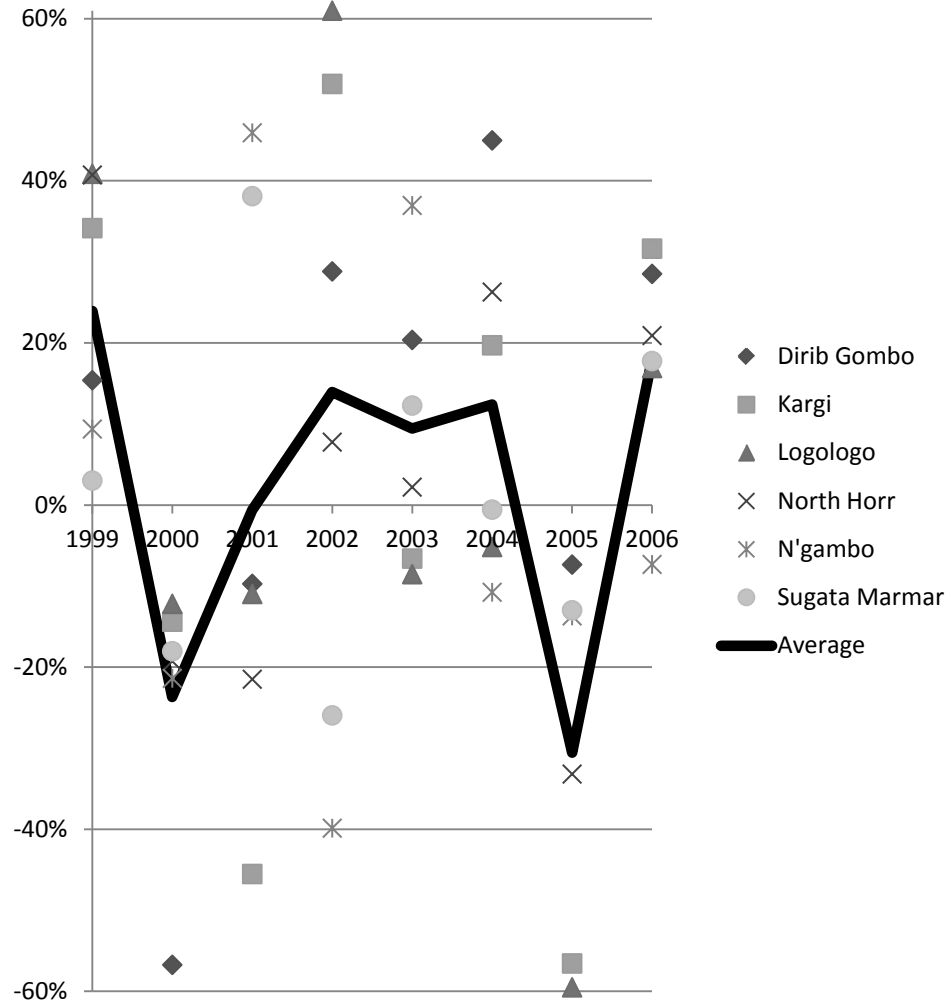


Risk-Kenyan Sites

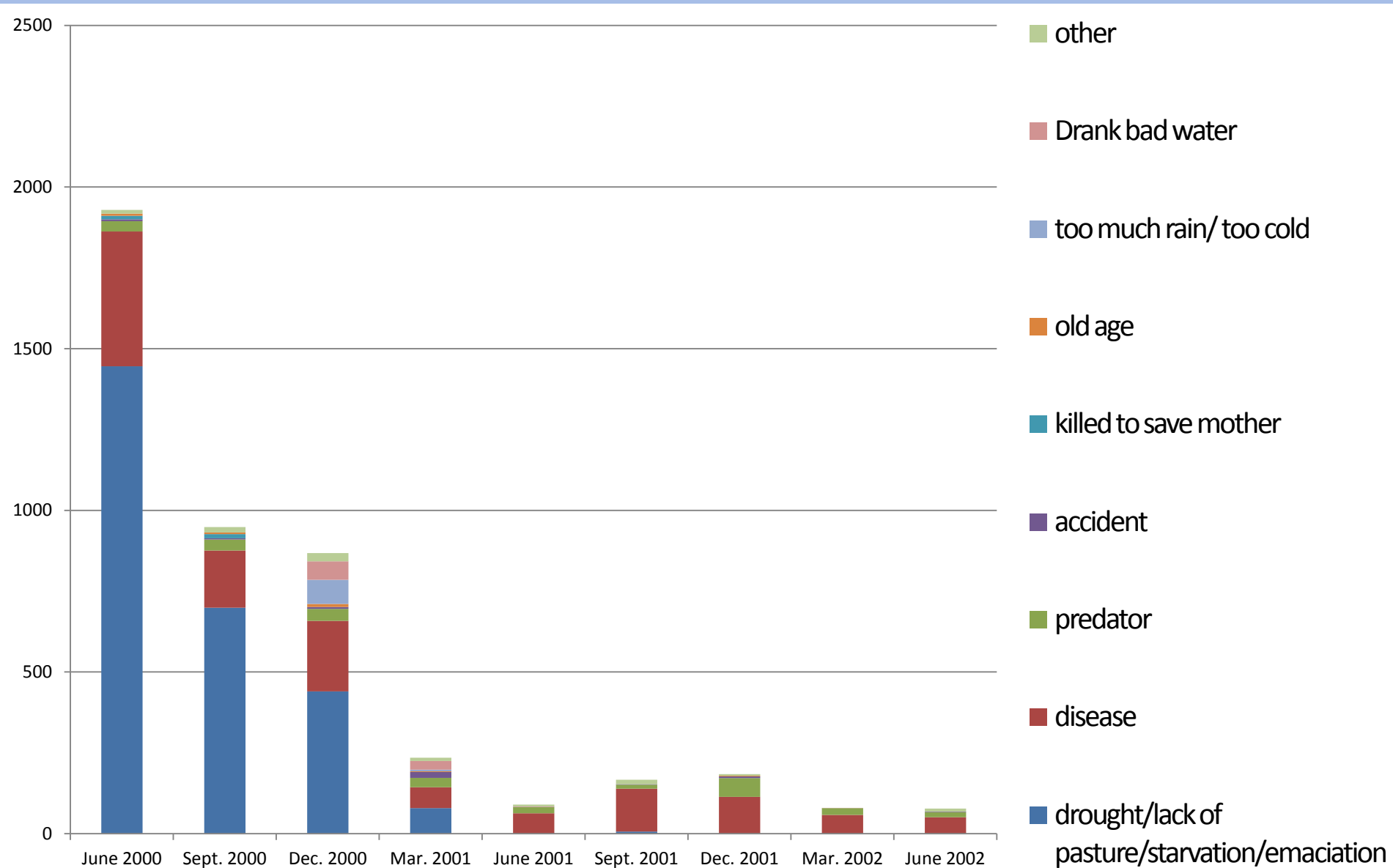
NDVI



Rainfall



Number of and reasons given for livestock deaths in PARIMA survey by round



Besides the risk of livestock loss, other risks were identified

For the 11 communities' monthly reports over the study period March 2000-June 2002:

- 24% of months were identified as having security problems, 5% reported raids
- 20% of months were identified as having widespread human health problems
- 14% of months were identified as having widespread animal health problems
- 6% of months were identified as being under a market quarantine

Insecurity and Raids

- Insecurity is more common, and has an impact on production; lots of no-go areas
- On raids, for our sample of 336 households in the baseline, 27% had lost animals in a raid in the 1990s
- Median loss in a raid: if camels, 3; if cattle 6.5; if small stock, 19; if donkeys, 3

Risk and climate

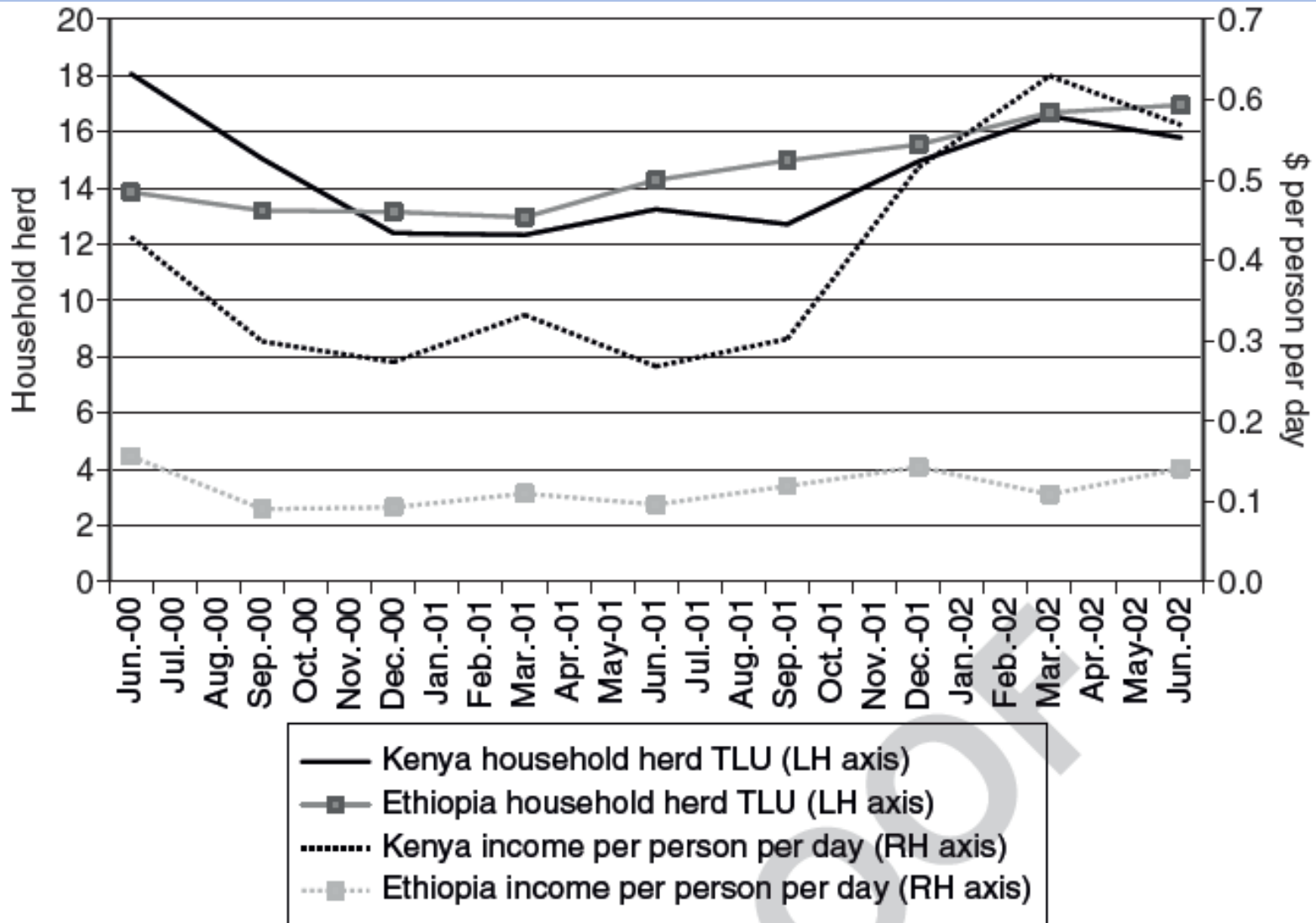
- Prices for things to buy higher during drought
- Mean decrease and variance increase in livestock producer prices during drought
- Health problems more pronounced during drought: % of households reporting illness by round (50% malaria, respiratory 8%, ENT 7%, injury 6%,...)

Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02
33%	33%	30%	23%	19%	16%	15%	13%	12%

- Climate information findings
 - More confidence in traditional, but understand and trust official forecast
 - Hear, understand, update, but little action in response

Part of the mystery

Left axis is income, right axis is herd size
Time on the x axis (0600 is June 2000,...)



Livelihood Groups

- Using the median value of the household herd size per capita (1.25 TLU) when we first surveyed the household, we can divide into 'lower livestock' and 'higher livestock'
- Using the median value of cash income per capita per day (\$0.0437) in the household when we first surveyed them, we can divide households into 'lower cash' and 'higher cash'
- Somewhat arbitrary to use the median, but it makes sure we have a reasonable size sample in each group

Livelihood Groups

Mean Total Income (<i>mean cv over time</i>)	Lower cash	Higher cash
Lower Herd	\$0.23 (1.32)	\$0.24 (0.90)
Higher Herd	\$0.35 (0.82)	\$0.48 (0.63)

Total income per household per person per day as expressed in USD =

cash income

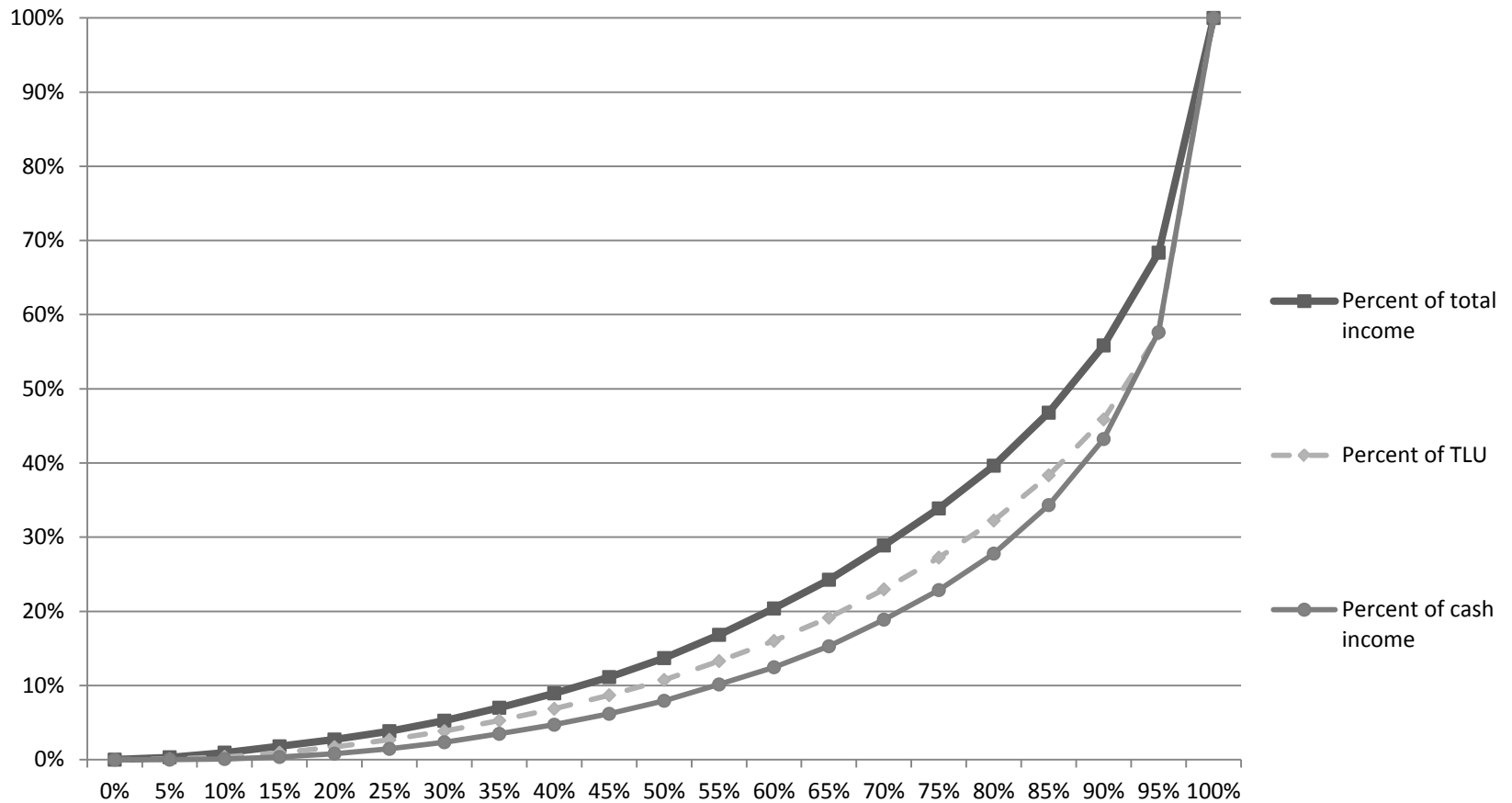
+ cash value of home produced and consumed goods (milk, meat, crops)

+ net gifts (including the cash value of food aid)

Differences are significant for higher cash higher herd compared to the lower herd groups. The variation differences are all significant except the .90 and .82 comparison.

cv is coefficient of variation, higher means more relative variability over time in the flow of income for the average household in the livelihood group

Distribution of income, TLU



The Gini coefficient for total income is 0.56, for cash income is 0.68 and for livestock is 0.64

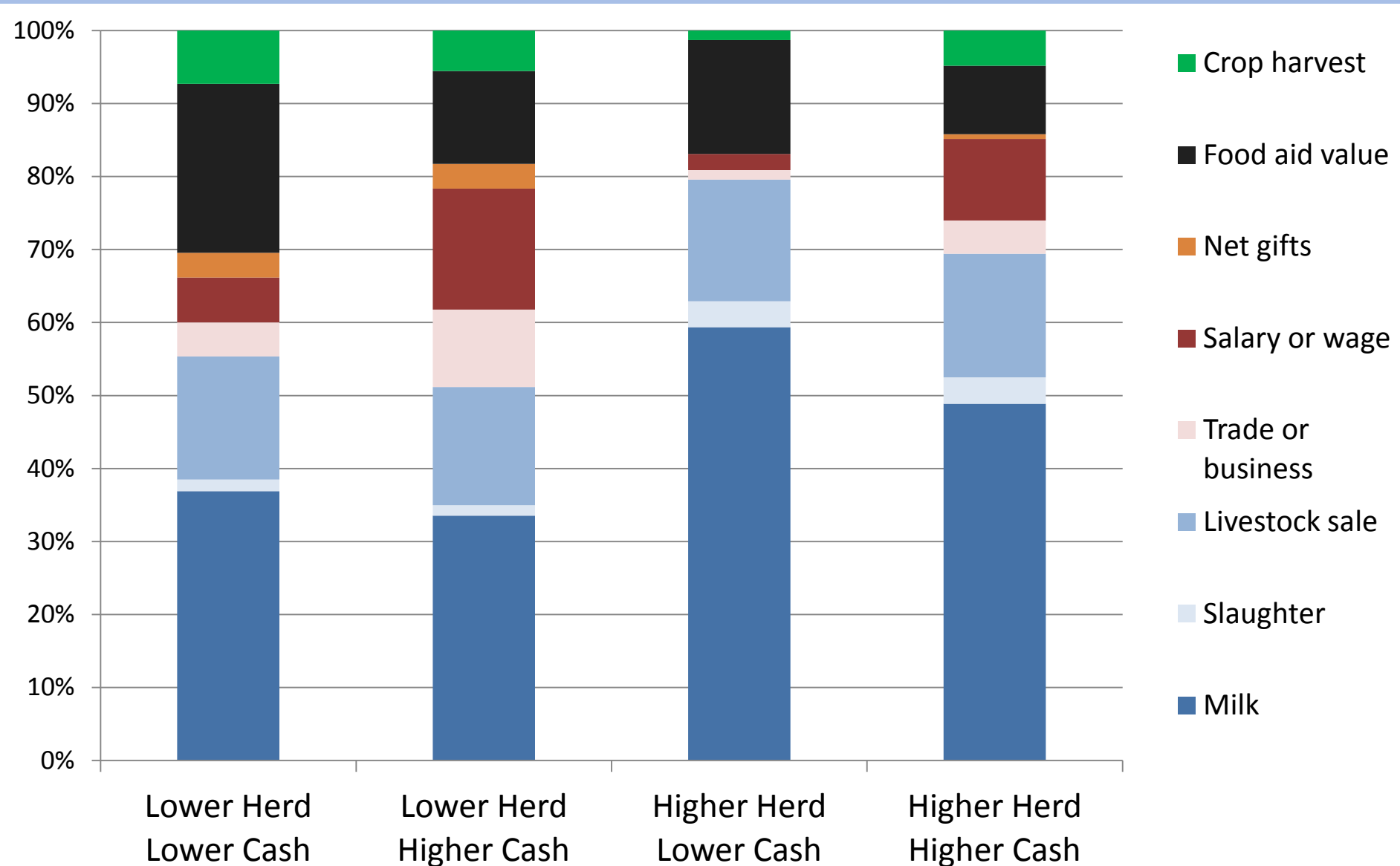
Livelihood Groups

Share of the sample in each category	Lower cash	Higher cash
Lower Herd	29%	21%
Higher Herd	21%	29%

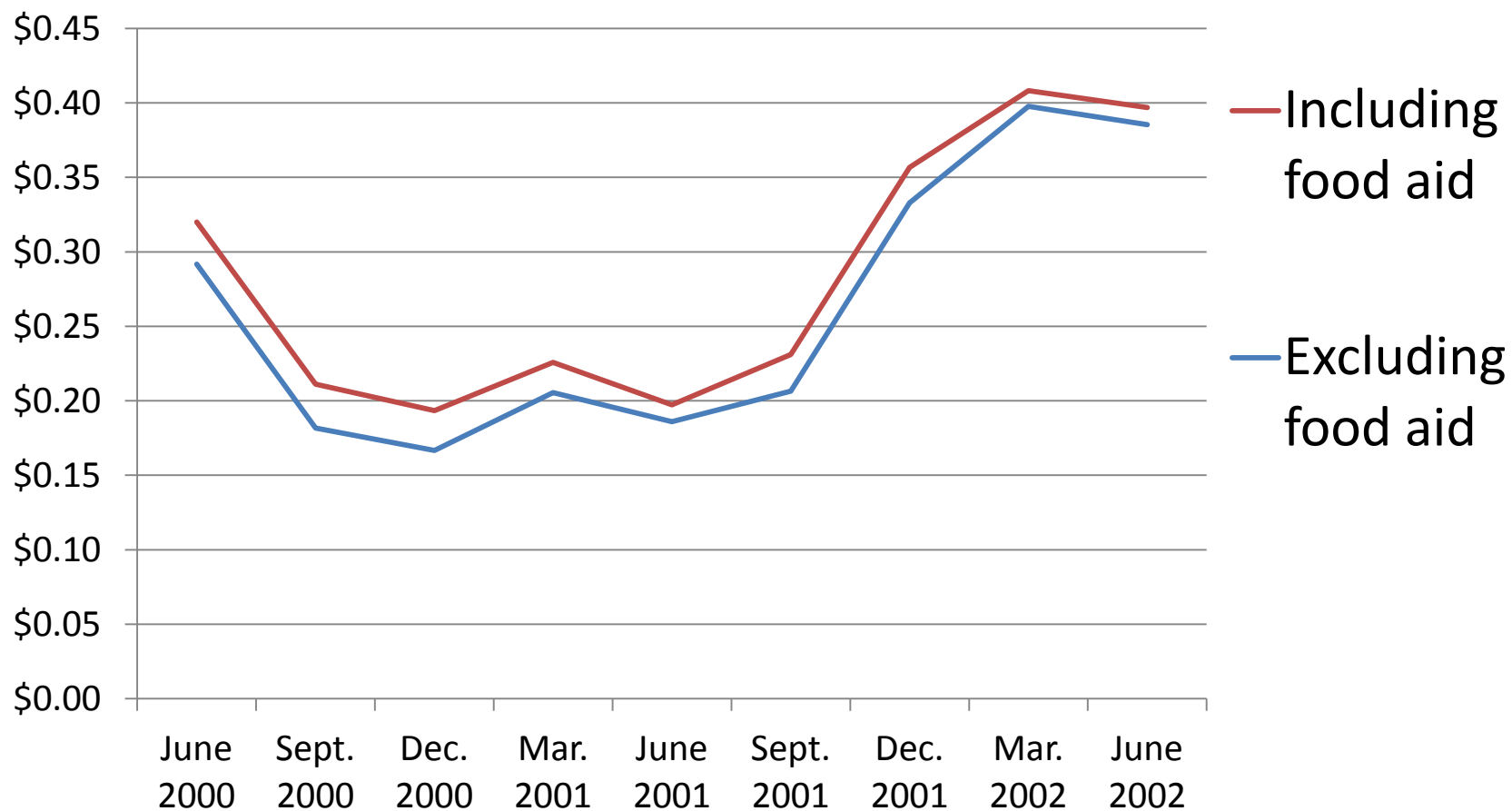
(By using medians in both variables to categorize, the symmetry is 'built-in'.)

How we can think of the groups:	Lower cash	Higher cash
Lower Herd	Low access to both cash and livestock	Access to cash but low access to livestock
Higher Herd	Access to livestock but low access to cash	Access to both cash and livestock

Livelihood Groups: Total income sources



Mean total income by round inclusive of and excluding food aid's value



Patterns Across Groups 1

	Average TLU per person	Milk per day per person in liters	Livestock sales over 3 months (TLU)	Household Size	% Female headed households
Lower Herd Lower Cash	1.3	0.1	0.2	8.5	37%
Lower Herd Higher Cash	0.8	0.2	0.3	8.1	30%
Higher Herd Lower Cash	4.3	0.6	0.2	6.8	23%
Higher Herd Higher Cash	5.0	0.7	0.5	5.9	33%

Patterns Across Groups 2

	% TLU Female	Inherited or Born into herd	Purchased	Gift or borrowed
Lower Herd Lower Cash	76%	77%	6%	15%
Lower Herd Higher Cash	73%	75%	9%	11%
Higher Herd Lower Cash	71%	84%	2%	7%
Higher Herd Higher Cash	64%	78%	8%	9%

Patterns Across Groups 3

	Cash Per Person Per Day	livestock and products	trade and business, wage and salary	Net gift	Natural Resource based	<i>Cash income as % of total income</i>
Lower Herd Lower Cash	\$0.04	\$0.02	\$0.02	\$0.002	\$0.001	29%
Lower Herd Higher Cash	\$0.14	\$0.03	\$0.10	\$0.005	\$0.003	46%
Higher Herd Lower Cash	\$0.05	\$0.04	\$0.01	\$0.003	\$0.000	21%
Higher Herd Higher Cash	\$0.21	\$0.08	\$0.12	\$0.006	\$0.003	35%
ALL	\$0.11	\$0.04	\$0.06	\$0.004	\$0.002	33%

Note non-livestock sources of cash are higher than livestock sources!

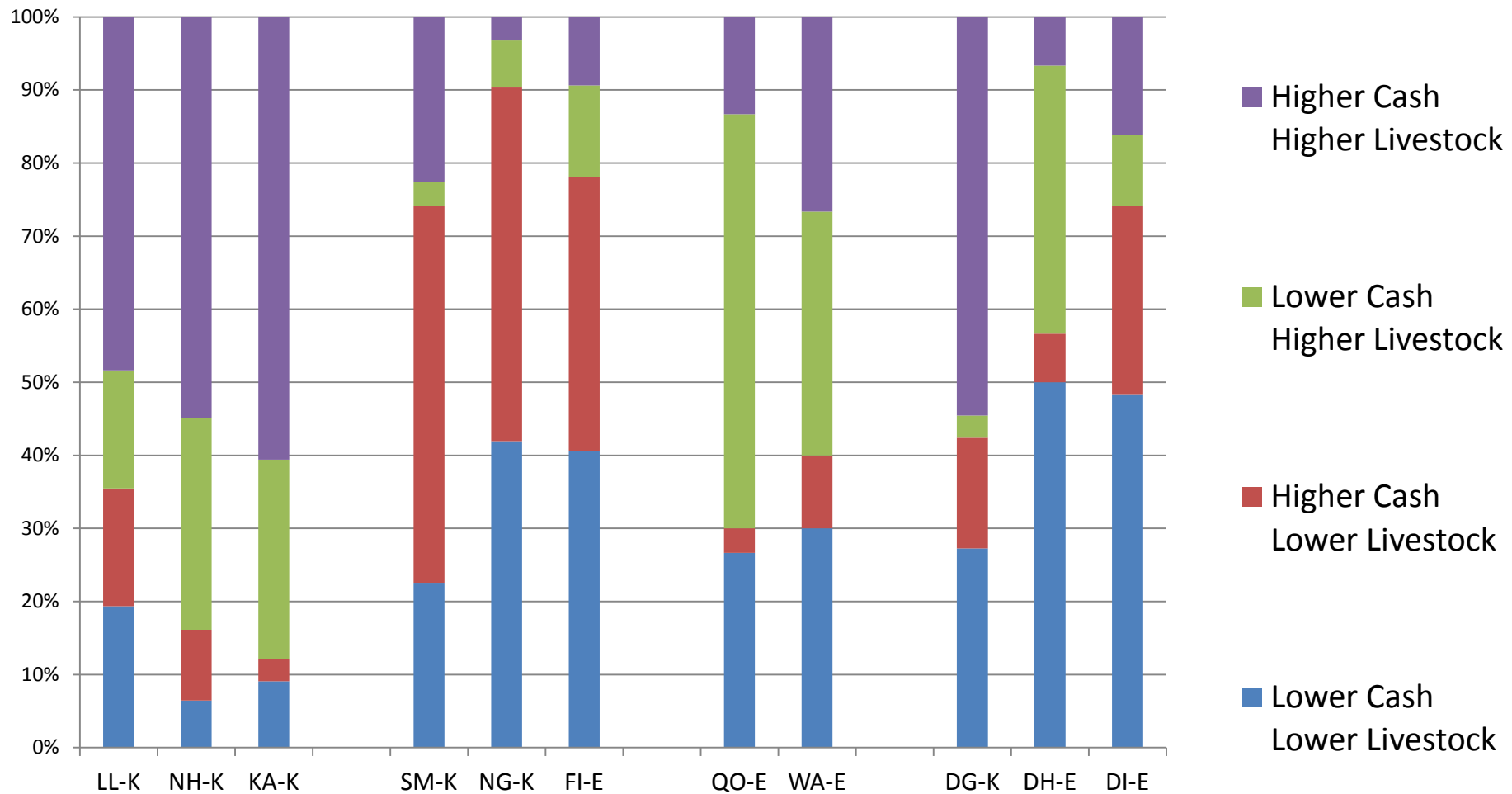
Patterns in Education

	Percent of household members with any formal education	Percent of enrollable age children enrolled.
Lower Herd Lower Cash	22%	26%
Lower Herd Higher Cash	34%	44%
Higher Herd Lower Cash	14%	19%
Higher Herd Higher Cash	22%	29%

Higher cash and higher enrollment and higher spending on education appear to be related.

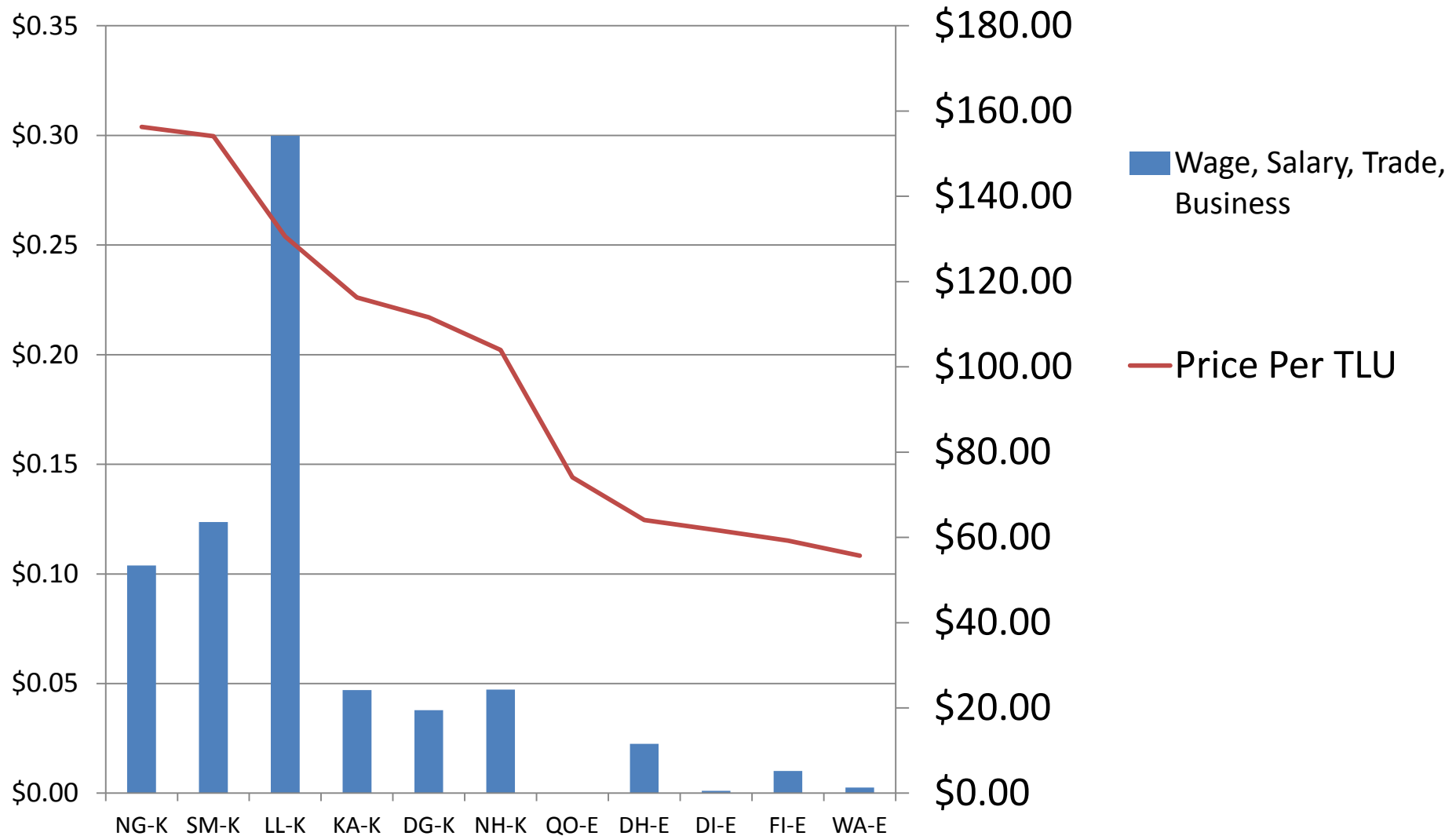
Gender ratio about even for both primary and secondary

Spatial patterns in Livelihood Groups



Part of the story behind the spatial patterns in cash income

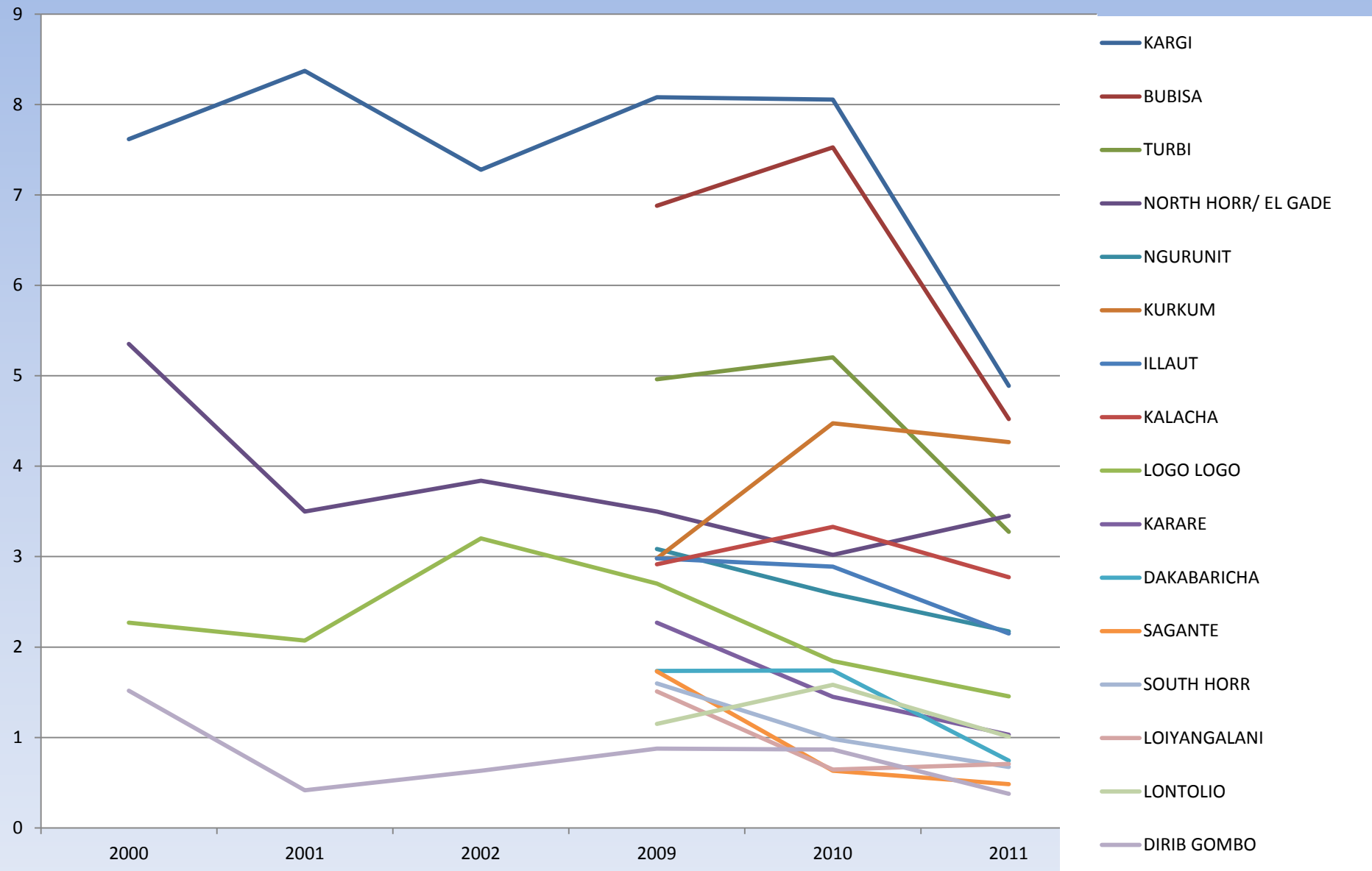
Left hand side is income, right hand side \$ per TLU



Total Income by site and site characteristics

	Total income per person per day by site	Mean annual rainfall	Market Access	Average herd size per person in TLU
Kargi, Kenya	\$0.56	200	Low	6.5
Logologo, Kenya	\$0.50	250	Medium	2.9
Sugata Marmar, Kenya	\$0.45	500	High	2.3
North Horr, Kenya	\$0.34	150	Low	3.9
Ng'ambo, Kenya	\$0.29	650	High	0.9
Dirib Gumbo, Kenya	\$0.26	650	Medium	1.7
Qorati, Ethiopia	\$0.17	450	Low	4.1
Dida Hara, Ethiopia	\$0.16	500	Medium	3.3
Finchawa, Ethiopia	\$0.11	650	High	2.3
Wachille, Ethiopia	\$0.10	550	Medium	2.2
Dillo, Ethiopia	\$0.05	400	Low	0.9

An update on the Herd Sizes




Key messages

- Livestock and livestock products continue to be the foundation of the economy
 - Improving livestock marketing has the potential to have the broadest impact for improving cash income
 - Milk is the largest contributor for all groups. Improving milk productivity has the most potential for having the broadest impact on improving total income

Key messages

- There is already significant diversification out of the livestock production system, especially as seen in the generation of cash income
 - Spatial differences in access to markets and education need to be recognized and addressed if possible
 - ‘Market integrated’ / ‘Diversified pastoralism’ is more successful than ‘diversification out of pastoralism’
 - Diversification out of pastoralism is happening
 - ‘Poverty in pastoral areas’ is a different concept than ‘pastoral poverty’
- Places with extensive rangelands are on average supporting the highest incomes



A white goat with yellow markings on its legs and back is standing on a concrete structure, possibly a water pump or a small platform. The background is a dry, hilly landscape with sparse, green trees and a clear blue sky. A speech bubble is overlaid on the image, containing the text: "This is the highest average income site in the sample?".

This is the highest average income site in the sample?

Kargi, Kenya.



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Roundtable Discussion With Members of the Global Livestock Discussion Group





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AGRICULTURE
SECTOR COUNCIL

Thank you for joining us!



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zbaquet@usaid.gov



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May 22 | Breakfast Seminar:
Feed the Future's NAFKA
Project in Tanzania

May 30 | Ag Sector Council
Seminar

May 31 | MSU Food
Security III Event

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past presentations:
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KDMD

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