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KENYA ACCESS TO RURAL FINANCE

Dairy Value Chain Financing Research Findings

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Objective

- Carefully collect and analyze data from all value chain actors in four major milk sheds:
 - Relationships of buyers and sellers
 - Revenues, costs, volumes, margins and returns of a statistically significant sample
 - Seasonality of cash flows
 - Low risk financing opportunities
- Recommend sound financing strategies for Kenya's financial institutions
 - Savings, credit, leasing, structured trade and hybrid strategies



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Sampling Strategy

- Cover Kabete, Nyeri, Nakuru and Eldoret Milk Sheds using locally recruited dairy professionals as enumerators.
- Anchor all data collection to **dairy producers** using the following sample size

$$n = \frac{Z^2 \cdot p \cdot (1-p)}{(1 - \% \text{ conf})^2} = \frac{(1.96)^2 \cdot 0.5 \cdot 0.5}{(1-93\%)^2} = 196$$

Where: **n** is sample size

Z is the mass within 2 standard deviations of the mean in a normal distribution

p is the degree of variability in the sample (0.5 is maximum and lowest risk)

1-% conf is the acceptable error (93 of 100 interviews should be accurate)

Actual sample used was 230 farmers; actual confidence was 94 out of 100 interviews.



Sampling Coverage

Location→ Category↓	Kabete	Nyeri	Nakuru	Eldoret	Total
AI Providers	16	18	14	11	59
Vet Services	22	22	26	4	74
Feed Supply	15	14	20	5	54
Producers	48	52	77	45	222
Bulkers	16	19	21	6	62
Transporters	16	17	20	8	61
Total	133	142	178	79	532

•590 interviews actually conducted with 58 excluded by quality control.



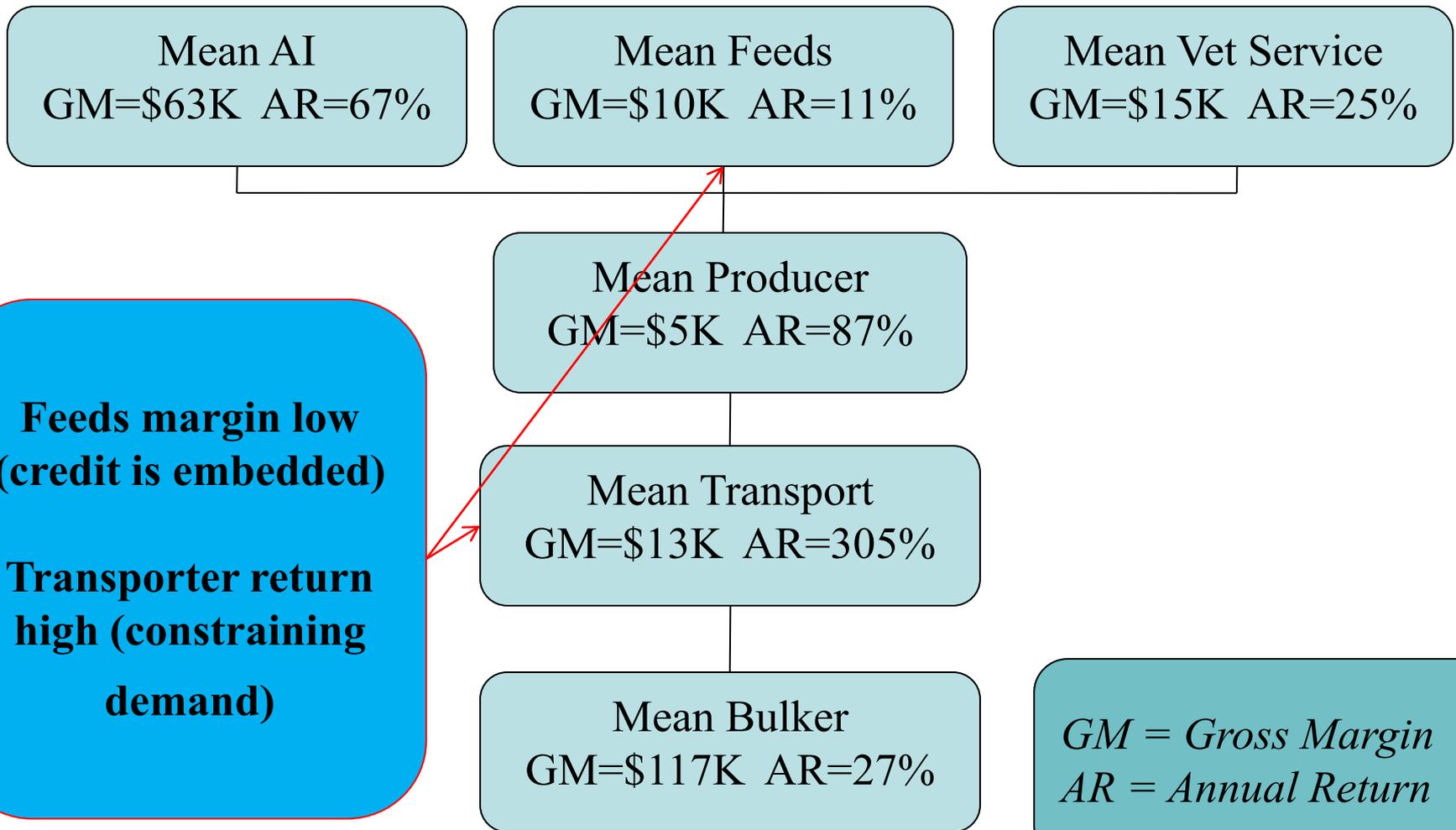
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Overview of Value Chain Function

- Before considering what products show promise for financing value chain actors, an overall analysis of profitability of each value chain segment and the buying and selling relationships between segments must be done.
 - If a buyer is not profitable, increasing his/her supplier's capacity to supply will be disastrous.
- The following four slides give an overview of actors' average profitability within the four milk sheds.

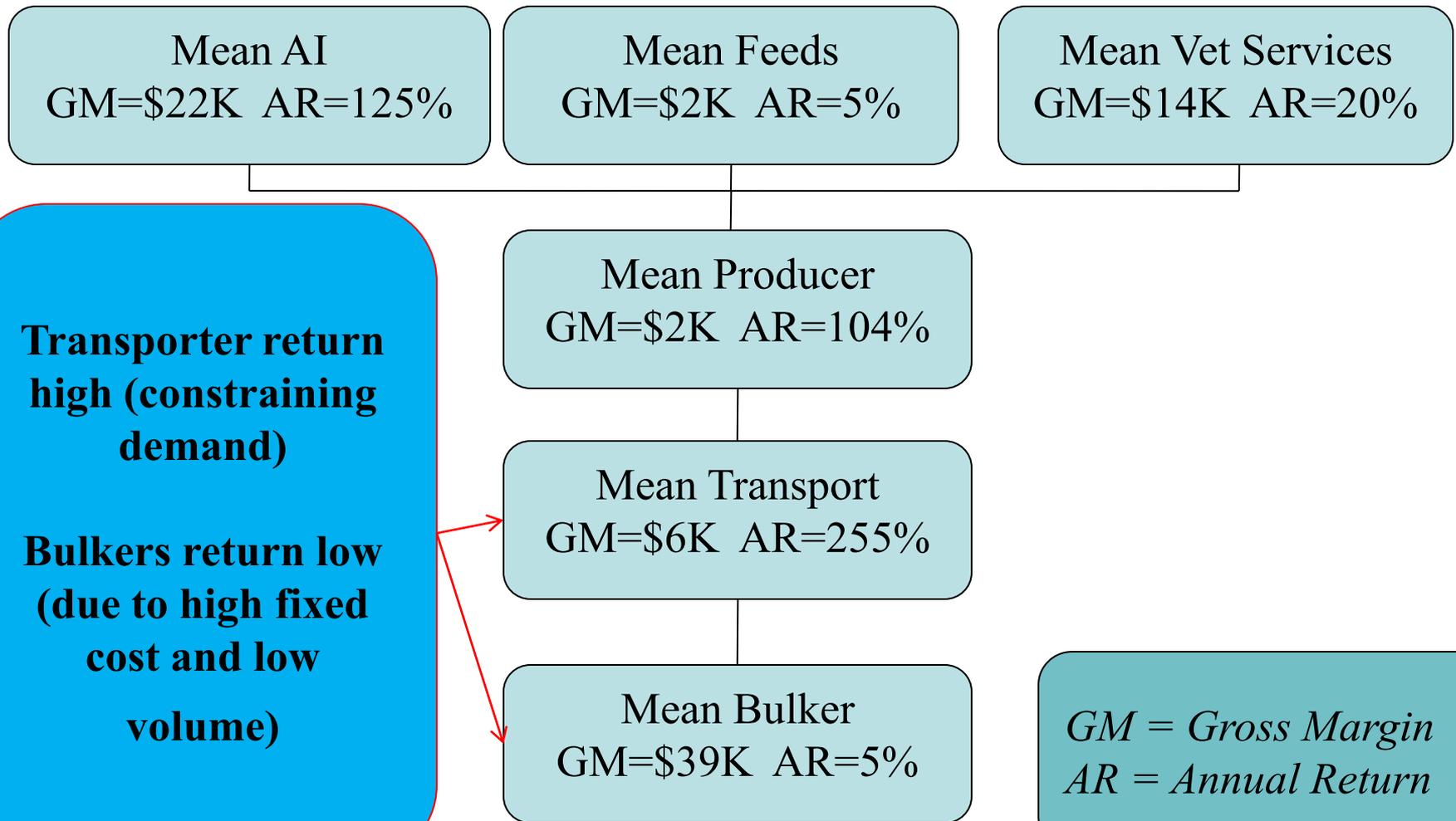


Kabete Milk Shed Value Chain



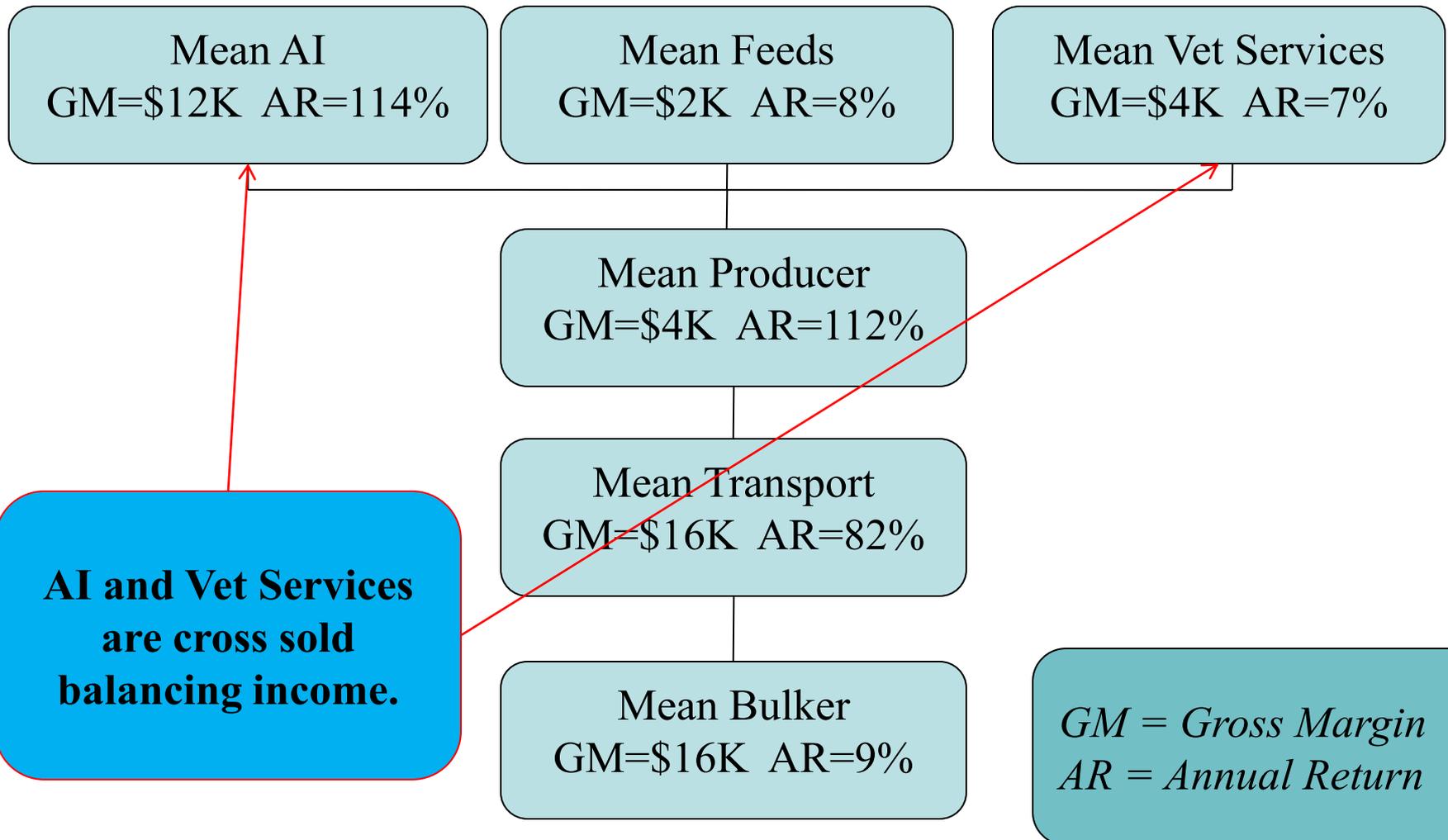


Nyeri Milk Shed Value Chain





Nakuru Milk Shed Value Chain





Eldoret Milk Shed Value Chain

Mean AI
GM=\$2K AR=50%

Mean Feeds
GM=\$10K AR=(1%)

Mean Vet Services
GM=\$2K AR=2%

AI and Vet services
are too few
Feed margins are too
low;
Producers are larger
and commercialized;
Bulkers are
inadequate.

Mean Producer
GM=\$37K AR=170%

Mean Transport
GM=\$8K AR=67%

Mean Bulker
GM=\$628K AR=4%

GM = Gross Margin
AR = Annual Return



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Introduction Summary

- All actors must be adequately profitable for a value chain to function optimally
 - This is not the case in the four milk shed studies (particularly at the bulker/trader level).
 - Eldoret is the worst case; producers are commercialized but input supply and off-take marketing are not adequately commercialized.
- Milk sheds are not homogeneous
 - Neither within milk sheds nor across milk sheds are production systems standardized.
 - Financing strategies must emphasize those aspects that are broadly shared and avoid aspects particular to a given geography.



Specific Observations: Producers

Large Commercial

Small Commercial

All
Kabete
Nyeri
Nakuru
Eldoret

	n	% of Total	Avg AM	Avg AR	Avg # Cows	Feed Cost/l
All	98	45%	\$ 3,310	127%	7.94	8.22
Kabete	25	54%	\$ 2,764	108%	7.60	9.75
Nyeri	32	63%	\$ 2,817	138%	4.81	7.41
Nakuru	31	39%	\$ 3,372	128%	8.21	8.01
Eldoret	10	24%	\$ 6,116	133%	18.70	8.36

Subsistence

	n	% of Total	Avg AM	Avg AR	Avg # Cows	Feed Cost/l
All	82	38%	\$ 129	0%	7.58	15.27
Kabete	16	35%	\$ (266)	-3%	5.00	19.96
Nyeri	17	33%	\$ (95)	-3%	6.38	12.75
Nakuru	44	56%	\$ 467	6%	6.32	14.39
Eldoret	5	12%	\$ 689	-6%	23.80	10.10



Specific Observations: Private Bulkers

Kabete

n	# > Median
11	
Median	
26%	
Max AR & AM	
211%	

Nyeri

n	# > Median
5	
Median	
15%	
Max AR & AM	
17%	

Nakuru

n	# > Median
11	
Median	
19%	
Max AR & AM	
37%	

Eldoret

n	# > Median
5	3
Median AR & AM	
3%	921,943
Max AR & AM	
16%	145,533,900

Values in Shillings



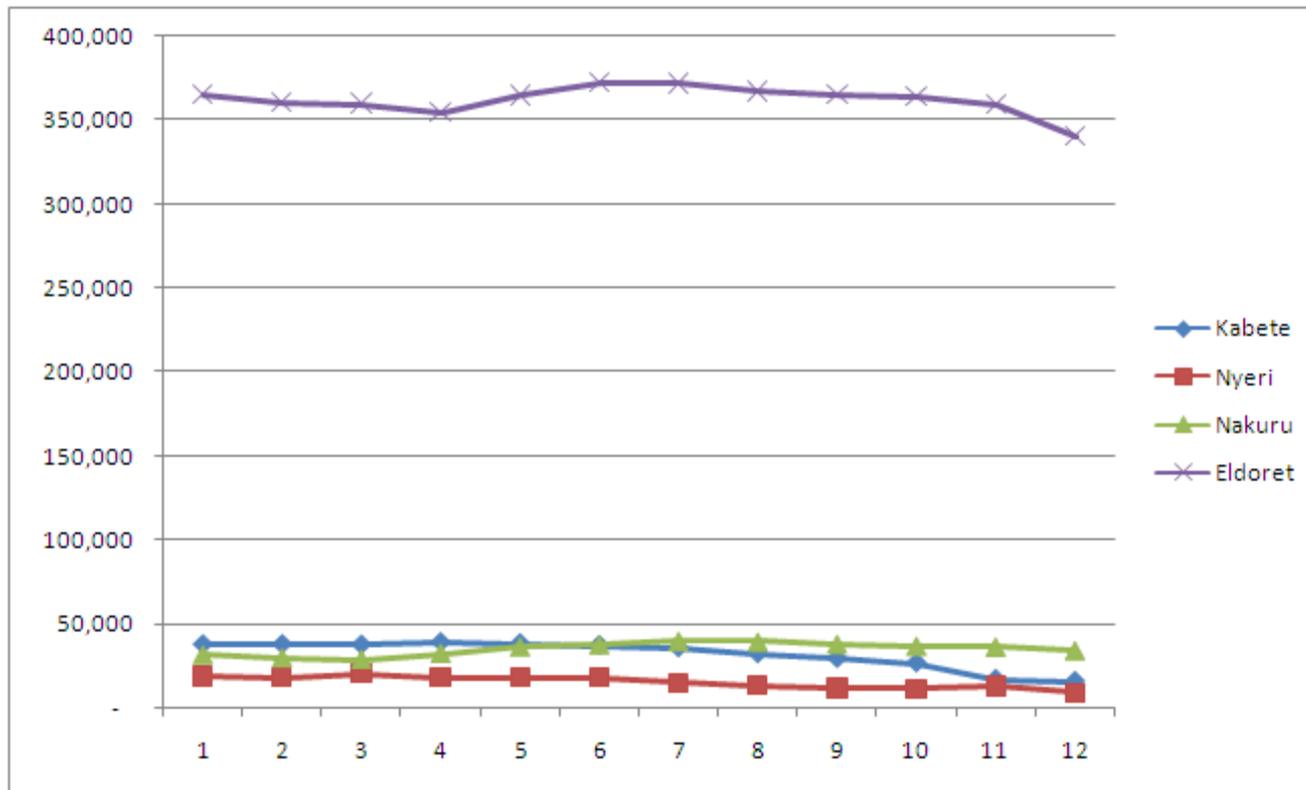
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Specific Observations: Producer Savings Capacity

	Large Commercial	Small Commercial	Subsistence
N	102,304	270,968	226,728
Avg AM	3,495,987 /=	254,855 /=	9,916 /=
Potential Savings	357,653,983,007 /=	69,057,409,376 /=	2,248,153,216 /=
USD	\$4,644,856,922	\$896,849,472	\$29,196,795



Specific Observations: Producer Cash Flows



Cash Flows Drop Off Dramatically Beginning in October; Nakuru and Eldoret also Experience a Dip in March



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General Field Observations

- Increased TA is relevant to move MSMEs to commercial levels and enable financing.
 - Smallholders need cash planning assistance
 - Other MSMEs need business training
- Seasonality for all actors creates a need for income smoothing and opportunities for savings development
- Payment systems and convenient cash access points are inadequate and constrain creditworthiness
- Access to appropriately defined financial services, outside of current accounts, is minimal and sporadic



General Field Observations—continued

- Eldoret, and to a large degree Nakuru, are unique cases due largely to post election violence
 - Quality livestock were killed (setting back eight years of breeding programs)
 - Input sales were disorganized through destruction and reduced demand
 - Based on interviews, output sales were also slowed as a result of reduced quality dairy herd and reduced quality input supply.
- Donor support is underway to revitalize the dairy industry and offers opportunities to complementary financial services.



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Overview of Financial Services Recommendations

- Savings capacity is huge, untapped and capable of underpinning greater production and productivity.
 - Conventional savings needs bolstering
 - Targeted savings for income smoothing needs development
 - Savings-cum-credit products for improving dairy herds should be developed
- Payment systems and cash access points are woefully inadequate and highly feasible.
- Leasing/Asset finance has high potential
 - Low cost value adding equipment is highly demanded
 - Transporters are not competing
 - Outreach for MSME input suppliers can be greatly enhanced with small assets such as motorcycles and small 4X4s



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Specific Product Recommendations

- Inventory credit for specialized, high volume feed dealers shows high promise
 - Supply and demand are well understood
 - All actors expressed willingness
- Roll out of existing conventional savings and credit products remains relevant.
 - Microfinance for small service providers such as AI, milk transporters, etc.



Product Specifications

Product	Income Smoothing Structured Savings
Description	Regular contract savings deducted from milk deliveries from January to September payable with interest in four fixed value withdrawals (October, November, December, January). This can be targeted to specific expenses and disbursed in kind.
Potential Market	Four milk sheds, commercialized actors (300,000 potential clients).
Value	KES 2000 minimum monthly per saver (upwards of KES 600M)
Timing	Beginning January 2010
Risk/Mitigation	Early withdrawal/interest penalty
Complementary TA	Support for product development and marketing



Product Specifications

Product	Savings-Cum-Credit for Herd Improvement
Description	Monthly contract savings for 50% of the value of improved breed cow(s) and 100% of the value 4 months dairy feed. Savings topped up with a complementary loan when savings target is achieved.
Potential Market	Four milk sheds, commercialized actors (350,000 potential clients).
Value	Minimum KES 9000 monthly per saver for maximum 10 months
Timing	Beginning January 2010;
Risk/Mitigation	Diversion of loan/disburse to breeder; lender asymmetric information/partner with cattle specialists; willful default/attach the cow and other assets; mortality or theft/require insurance and branding
Complementary TA	Support for product development, marketing, guarantees



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Product Specifications

Product	Inventory Credit for Rural Feed Supply
Description	Line of credit, secured by dairy feed inventory, settled through the lender when feed is sold and replenished as needed.
Potential Market	Nyeri, Nakuru and Eldoret milk sheds, ten-1000 MT warehouses each for a pilot (30 per milk shed potential).
Value	KES 12M per warehouse monthly (KES 360M monthly)
Timing	Beginning as soon as possible
Risk/Mitigation	Inventory diverted/collateral management; loss of inventory/insurance and guarantees; price risk/fund 75% of inventory value
Complementary TA	Support for product development, marketing, guarantees, subsidization from donors for infrastructure.



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Product Specifications

Product	Micro Lease Financing
Description	Provision of assets such as processing equipment, motorcycles, small 4X4s, etc. secured by the asset itself.
Potential Market	Four milk sheds among commercialized and private sector dairy actors—minimum 300 leases per milk shed
Value	KES 300,000 to 800,000 per borrower
Timing	Beginning as soon as possible
Risk/Mitigation	Default/recovery of asset; loss of asset/insurance and guarantees; poor quality assets/partner with reputable vendors; assets poorly maintained/include maintenance of asset by vendor in lease agreement
Complementary TA	Support for product development, marketing, guarantees



Product Specifications

Product	Structured Settlement—Lease Financing
Description	Provision of large assets such as large processing equipment, refrigerated 4X4 medium trucks secured by the asset itself with payments settled against milk deliveries.
Potential Market	Four milk sheds—minimum 20 leases per milk shed
Value	KES 1.5M to 4.5M per borrower
Timing	Beginning as soon as possible
Risk/Mitigation	Default/payment through lender and recovery of asset; loss of asset/insurance and guarantees; poor quality assets/partner with reputable vendors; assets poorly maintained/include maintenance of asset by vendor in lease agreement
Complementary TA	Support for product development, marketing, guarantees



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Next Steps

- KARF and other donor funded partners are ready, willing and able to support the development of these and similar products.
- We await your expressions of interest.