



More Milk in Tanzania (MoreMilkIT) baseline and monitoring survey results

Alice Njehu and Amos Omore

Summary

This brief summarizes the findings of the More Milk in Tanzania (MoreMilkIT) project baseline and three monitoring surveys. The MoreMilkIT project set out to pilot dairy market hubs (DMHs), an approach to dairy value chain development that strengthens linkages between milk producers and other value chain actors. The project primarily targeted pre-commercial marginalized smallholder cattle-keeping men and women who did not participate fully in dairy value chains with the goal of using the DMHs to allow them to grow towards greater participation and realize benefits from that participation.

The principal research question for the project was: can the DMH approach to developing dairy value chains increase dairy income for pre-commercial smallholder female and male cattle producers? This research brief describes trends from the baseline through the first, second and third monitoring surveys. Included are changes and trends in herd sizes, feeding, milk production and utilization, services, gender dis-aggregated participation in marketing innovations and household income. The changes capture details that underlie other analyses of participation in DMHs that showed increases in household daily revenue by 20% from USD1.0–1.20, about half of which is retained as household income (Twine and Omore 2016; ILRI 2016 and Bayiyana et al. 2018). The set of analyses determined that DMHs can

be adapted to the Tanzanian context in which they were piloted and taken to scale to secure more income for marginalized dairy-dependent households.

Introduction

The surveys were undertaken in Mvomero and Kilosa districts in Morogoro region and Lushoto and Handeni districts in Tanga region, Tanzania. The collection of baseline data began in November 2012 and was conducted in February 2013, while annual monitoring surveys were conducted 2014, 2015 and 2016. A total of 932 households—694 cattle keeping and 238 non-cattle keeping—were randomly sampled and interviewed in the baseline survey across villages in the four study districts. The annual monitoring surveys were conducted in 461 cattle-keeping households sampled from farmer-groups participating in MoreMilkIT and non-participating households in the project villages. A structured household questionnaire was used to collect production data on herd entries and exits, milk production and marketing, feeding systems animal health and breeding services, farmer participation in collective action and credit access, sources of income and gender participation in livestock production.

The recall period for data such as animal movements into and out of the herd (exits and entries), use of services and husbandry practices, and household income was 12 months

for the baseline survey and 6 months for the follow-up monitoring surveys. This has a bearing on the interpretation of the recall data. It should be noted that the surveys used different sampling methodologies. The baseline was based on a sample of households across all the villages in the four districts, while the monitoring surveys were based on a sample of households of farmer-group members, as well as non-member residents in the project villages.

Overall trends

The study recorded a decline in average cattle herd sizes by the third monitoring survey in all study districts except Lushoto district. The households also recorded a decline in cattle mortality in Mvomero, Handeni and Kilosa districts. The majority of cattle exits were attributed to sale of animal (52.1% of the total exits). On adoption of technologies, over 50% of the farmers used bulls for breeding in all the project sites. However, there was a higher proportion of households accessing artificial insemination in Lushoto district during the third round of monitoring (up to 50%). Regarding animal health services, anthelmintics and tick control were accessible to farmers in Mvomero, Handeni and Kilosa districts (by >40% of the households). Vaccination and treatment services, which are mostly sought on a need-basis, were less sought after.

Grazing and stall feeding were the popular feeding systems practiced in the project sites. There was, however, considerable heterogeneity across districts with respect to the predominant feeding system, but within each district, there was no significantly discernible difference across the two seasons.

Households in Lushoto and Mvomero district reported an increase in average daily milk production (up to 5.5 and 11.9 litres respectively) by the third monitoring survey while those in Mvomero and Kilosa districts registered an increase on average milk consumed per day in the second round of monitoring (3.2 and 6.1 litres respectively).

The proportion of dairy households selling milk remained the same or declined in second survey.

The final survey observed an increase in proportion of households selling milk in Mvomero and Handeni districts. On marketing channels, individual milk consumers and private milk traders comprised the common type of buyers of milk across the sites and in all the surveys. Individual milk consumers and private milk traders took the largest share of marketed milk. Individual milk consumers offered better prices per litre of milk during the monitoring period in all the sites (\geq USD 0.30). In terms of returns, the results showed that dairy keeping had a significant role in the household economy across project sites besides business, trade in agriculture products, livestock and associated products.

The results showed more participation by women in livestock production. This was evidenced by increased joint ownership of almost all types of livestock in the monitoring surveys where over 40% of livestock was owned jointly by both men and women. Financial contributions and decision making towards the purchase of cattle and other type of livestock was mainly made by men (up to 63% of the households), however there was an increasing trend of women's involvement through joint participation over the years.

Livestock breeds

While the local cattle breeds were commonly found in households in Mvomero, Handeni and Kilosa districts, farmers in Lushoto district mainly reared crossbred cattle (Table 1). Small livestock species—local poultry, sheep and goats—were also raised as alternative sources of income, particularly to cover emergencies. The average number of livestock reared by farmers was notably higher during the first monitoring survey in 2014 and dropped thereafter. The decline could be explained by exits, for example livestock sales and deaths, probably due to the dry spell experienced in the region leading to forage scarcities.

Table 1. Average number of livestock reared*

Livestock species	Lushoto		Mvomero		Handeni		Kilosa		Total	
	BS [MS1]	[MS3]	BS [MS1]	[MS3]	BS [MS1]	[MS3]	BS [MS1]	[MS3]	BS [MS1]	[MS3]
Local cattle	1.9	[1.7] [1.9]	43.3	[73.7] [53.4]	30.8	[37.3] [22.6]	49.6	[113.8] [46.5]	36.0	[70.6] [37.6]
Cross/exotic cattle	2.3	[2.5] [2.5]	5.9	[15.0] [12.0]	3.7	[4.5] [12.4]	25.4	[27.2] [62.0]	4.6	[6.4] [7.1]
Local goats	3.0	[2.9] [2.8]	18.7	[37.7] [28.3]	20.4	[24.3] [16.3]	17.2	[35.7] [25.4]	17.3	[28.1] [19.8]
Cross/exotic goats	2.2	[3.1] [2.8]	5.3	[1.5] [45.0]	-	[1.5] [-]	15.0	[-] [3.0]	3.6	[2.9] [5.4]
Sheep	3.1	[2.7] [2.5]	12.9	[36.2] [17.1]	14.8	[22.9] [17.5]	9.7	[29.5] [14.4]	10.6	[23.2] [12.6]
Local poultry	5.7	[7.4] [8.9]	13.0	[15.7] [16.0]	13.2	[13.2] [12.2]	16.9	[19.1] [13.2]	11.9	[12.1] [12.0]
Cross/exotic poultry	12.0	[8.5] [4.8]	25.7	[-] [-]	40.0	[20.0] [1.0]	12.0	[-] [-]	20.8	[12.3] [4.2]
Local pig	12.0	[-] [12.7]	15.4	[8.5] [-]	-	[-] [2.0]	5.0	[-] [-]	13.4	[8.5] [10.0]
Cross/exotic pig	1.0	[-] [-]	12.0	[12.0] [2.0]	35.0	[-] [-]	-	[-] [-]	16.0	[12.0] [2.0]
Donkey/horses	-	[-] [-]	3.3	[2.0] [2.6]	3.9	[2.9] [-]	3.8	[13.0] [-]	3.7	[4.5] [2.6]
Ducks/guinea fowl	-	[1.8] [4.5]	-	[12.0] [8.6]	-	[7.8] [5.8]	-	[-] [-]	-	[5.6] [5.7]
Other livestock	2.4	[-] [4.0]	7.7	[-] [5.0]	5.2	[-] [3.0]	-	[-] [-]	4.9	[-] [4.0]

*The denominator are households keeping the specified type of livestock

1 BS=baseline survey

2 MS=Monitoring survey

Cattle population dynamics

Dairy households in the 2016 survey registered a decline in average cattle herd sizes in Mvomero, Handeni and Kilosa districts (Table 2). Lushoto district recorded a larger cow herd overall. The households also recorded a decrease in cattle mortality rates in Mvomero, Handeni and Kilosa districts. Calf mortality rates declined in all districts. The cattle intake rate (into farmer herds) was highest in the 2016 survey in Lushoto (8.9%), Mvomero (8.2%) and Handeni (11.2%) districts. The offtake rate, based on farmers voluntary actions/decisions on herd exits, remained almost the same in Mvomero and Kilosa districts, while Lushoto and Handeni districts registered a decline.

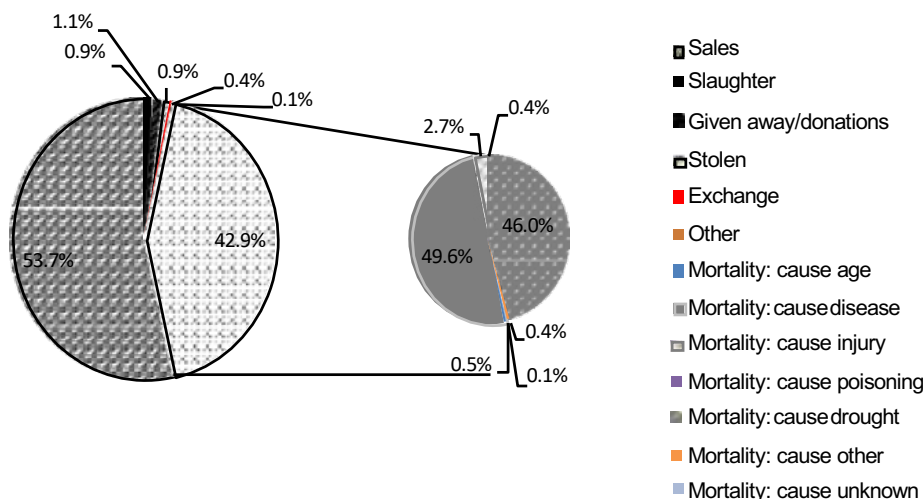
Table 2. Herd sizes and dynamics

	Lushoto [BS] [MSI] [MSIII]	Mvomero [BS] [MSI] [MSIII]	Handeni [BS] [MSI] [MSIII]	Kilosa [BS] [MSI] [MSIII]
Total herd/ house hold	2.4 [2.5] [2.5]	37.8 [59.2] [44.3]	31.3 [36.8] [22.5]	50.7 [83.1] [50.7]
Cow herd/ household	1.0 [1.0] [1.3]	14.5 [22.5] [16.9]	10.8 [13.4] [9.7]	17.0 [36.8] [15.4]
Entries (%) Intake rate	8.5 [*] [8.9]	4.3 [*] [8.2]	2.3 [*] [11.2]	7.9 [*] [7.0]
Exits (%) Calf mortality rate	2.9 [7.2] [4.8]	10.8 [6.4] [1.7]	10.3 [8.6] [10.6]	2.2 [4.7] [2.7]
Cattle mortality rate	2.6 [4.6] [4.9]	12.3 [5.1] [1.4]	7.9 [6.3] [5.7]	[8.0] [2.8] [1.5]
Offtake rate	23.5 [**] [12.9]	19.6 [**] [19.5]	7.7 [**] [5.1]	19.0 [**] [19.2]

*Intake refers to the entries in the herd through births, exchanges, donations, etc. MSI had no data on other routes of entries other than purchases.

** Offtake refers to voluntary cattle exits including through sale, slaughter, exchanges and donations, etc. MSI had no data on other routes of exits other than sales.

Figure 1. Routes of cattle exit and causes of mortality during baseline survey



Routes of cattle exits

Figure 1 represents categories of exits from the baseline cattle sample. With a total of 4,664 cattle exits, this represents 18.8% of the sample cattle population. Cattle exits were mainly associated with the sale of live animals (53.7%) and deaths (42.9%). Most deaths were attributed to disease (49.6%) and drought (46.0%). Two households reported massive losses: one drought-related and one disease-related mortalities. Though not corroborated, the health conditions of the disease-affected herds were said to have been caused by notifiable diseases and routine management-related conditions. Cattle exits in the 2014 monitoring survey represented 4% of the sample population. Death-related losses accounted for 64.2% exits, cattle sales for the remainder. One thousand three hundred and twenty-eight cattle exits were recorded in the 2016 monitoring survey, representing 12% of the herd. Sales accounted for most exits (52.1%), followed by temporary transfer to other farms (33.4%), particularly in Kilosa district, and death (11.9%).

Input use and technology adoption

The nature and sources of essential inputs provide insights into the types of technologies and practices in use and those that are likely to be adopted by dairy farmers at the project sites. Feeding systems, breeding methods and animal health services that are available and used are considered below.

a) Feeding systems

Grazing and stall feeding were generally the most popular feeding systems practiced at the project sites (Table 3). While there was considerable heterogeneity across districts with respect to the predominant feeding system, there were not any discernible differences within each district across seasons.

Households tend to use the same feeding system regardless of the season. While there were few differences in the feeding practices adopted for local and crossbreeds, some households in Mvomero, Handeni and Kilosa districts practiced transhumance with all their animals, especially during the dry season, and most Lushoto district households practiced stall feeding. This tendency could be directly associated with the undulating landscape of the area as well as the fact that most households reared crossbred cattle.

Table 3. Feeding systems: % households using given feeding systems

Feeding system (baseline survey)	Lusoto		Mvomero		Handeni		Kilosa	
	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry
	Exotic	Exotic	Exotic	Exotic	Exotic	Exotic	Exotic	Exotic
	[Local]	[Local]	[Local]	[Local]	[Local]	[Local]	[Local]	[Local]
Mainly grazing	1.4 [0.0]	2.1 [6.9]	20.9 [97.9]	20.9 [56.9]	41.7 [98.3]	41.7 [92.5]	61.5 [99.0]	38.5 [75.8]
Grazing with stall feeding	2.7 [3.4]	0.7 [3.4]	4.7 [0.0]	4.7 [0.0]	0.0 [0.0]	0.0 [0.0]	7.7 [1.0]	7.7 [1.0]
Stall feeding with grazing	0.7 [3.4]	3.4 [3.4]	2.3 [0.0]	2.3 [0.0]	8.3 [0.0]	0.0 [0.0]	0.0 [0.0]	0.0 [0.0]
Mainly stall feeding	95.2 [93.1]	93.8 [86.2]	72.1 [0.7]	67.4 [0.7]	50.0 [0.4]	50.0 [0.0]	30.8 [0.0]	30.8 [0.0]
On transhumance, some animals	0.0 [0.0]	0.0 [0.0]	0.0 [0.0]	2.3 [16.0]	0.0 [0.0]	0.0 [2.9]	0.0 [0.0]	15.4 [13.1]
On transhumance, all animals	0.0 [0.0]	0.0 [0.0]	0.0 [1.4]	2.3 [26.4]	0.0 [1.3]	8.3 [4.6]	0.0 [0.0]	7.7 [10.1]

Feeding system (MS)	Lushoto		Mvomero		Handeni		Kilosa	
	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry
	Exotic	Exotic	Exotic	Exotic	Exotic	Exotic	Exotic	Exotic
	[Local]	[Local]	[Local]	[Local]	[Local]	[Local]	[Local]	[Local]
Mainly grazing	2.8 [5.6]	2.8 [5.6]	39.5 [91.4]	37.2 [68.6]	75.0 [92.2]	75.0 [93.2]	50.0 [100.0]	50.0 [69.9]
Grazing with stall feeding	0.0 [11.1]	0.0 [11.1]	4.7 [0.0]	4.7 [0.0]	0.0 [0.0]	0.0 [0.0]	0.0 [0.0]	0.0 [1.0]
Stall feeding with grazing	2.8 [0.0]	3.5 [0.0]	7.0 [0.0]	14.0 [0.0]	0.0 [0.0]	0.0 [0.0]	10.0 [0.0]	0.0 [1.0]
Mainly stall feeding	93.8 [72.2]	93.1 [72.2]	46.5 [0.0]	37.2 [0.0]	25.0 [0.0]	25.0 [0.0]	0.0 [0.0]	10.0 [0.0]
On transhumance, some animals	0.0 [0.0]	0.0 [0.0]	0.0 [7.1]	2.3 [21.4]	0.0 [6.8]	0.0 [5.8]	0.0 [0.0]	0.0 [20.4]
On transhumance, all animals	0.0 [0.0]	0.0 [0.0]	0.0 [1.4]	2.3 [10.1]	0.0 [1.0]	0.0 [1.0]	0.0 [0.0]	0.0 [5.8]

b) Fodder production

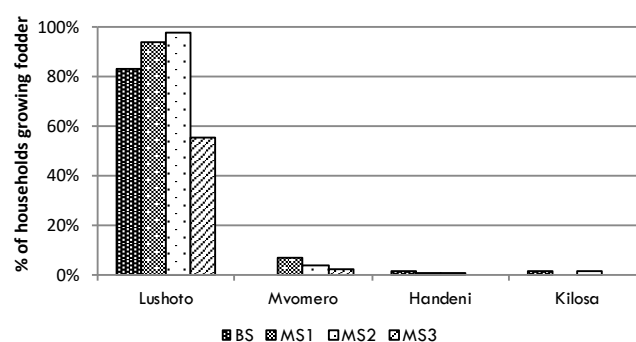
Given the type of feeding systems, fodder demand was high in Lushoto district. This explains the large and increasing number of households producing fodder there [Figure 2]. The decline reported in the 2016 monitoring survey could possibly be explained by the lack of rain reported throughout that year in the region. Little fodder was produced at the other sites where most inhabitants engage in pastoralism.

c) Breeding services

Most farmers mentioned the use of bulls, their own or those of other farmers, as the most accessible means of breeding (Figure 3). It is noted that with farmers raising large cattle herds and the animals freely grazing together, natural mating using bulls may not be easily monitored. Most farmers relied on their own bulls for breeding except in Lushoto where they paid for bull services from neighbours. The proportion of households reportedly accessing artificial insemination increased from the baseline to monitoring studies, particularly in Lushoto district, even though the overall rate still fell below 50% by the third monitoring survey. The main artificial insemination providers were private inseminators and the government

livestock officers.

Figure 2. Proportion of households growing fodder



d) Animal health services

The animal health services assessed include deworming, tick control, vaccination and treatment against disease (Figure 4). The use of anthelmintics and tick control were frequently accessed at all project sites. This is probably because these services could be administered by the farmers. Fewer households reported accessing vaccination and treatment which would need to be actively requested. There was a lot of variation across sites as to the source of disease prevention and treatment related services.

In Lushoto district, treatment and administration of vaccines were performed by government livestock officers and para- veterinarians. In Mvomero, Handeni and Kilosa districts, most farmers administered treatment with or without professional advice. This pattern, of sourcing services, was consistently reported in the baseline and monitoring surveys, underlining the importance of organized and efficient service delivery systems.

Figure 3. Proportion of households accessing breeding services

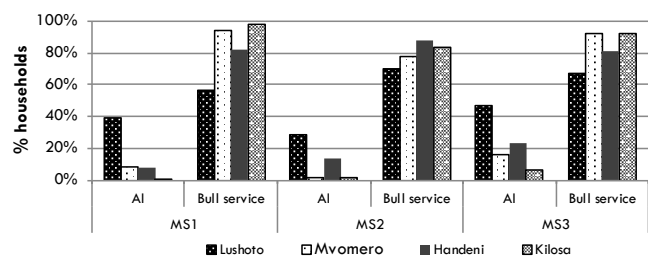
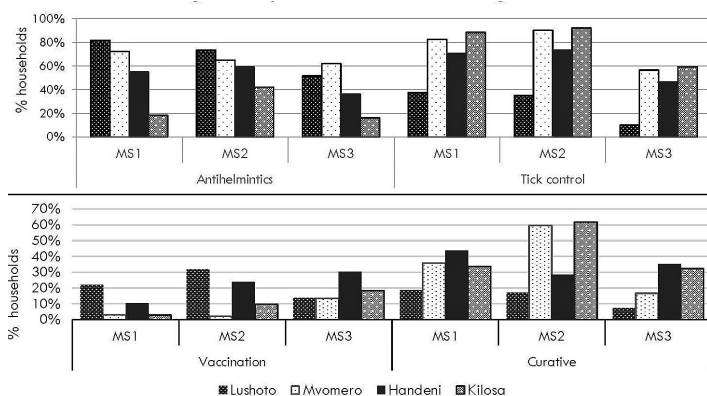


Figure 4. Proportion of households accessing animal health services



Milk production, utilization and marketing

The study sought to understand variability in milk production by collecting milk production data a day before the survey and during the different lactation stages (early, peak and late lactation). Production data over lactation stages was only available in the monitoring survey (Figure 5). Data was collected on a sample of milking cows based on the recollection of the respondent.

a) Milk production over the lactation period

Average production over the lactation period was similar over the three surveys. The highest level of production was reported in the 2015 monitoring survey. The effect of dry conditions throughout the year could explain the decline in production reported in the 2016 monitoring survey.

b) Average daily milk production and utilization

Households in Lushoto and Mvomero districts reported an overall increase in milk production over the three surveys, while those in Kilosa and Handeni spoke of increases in milk consumption (Figure 6).

Figure 5. Average milk production over lactation period

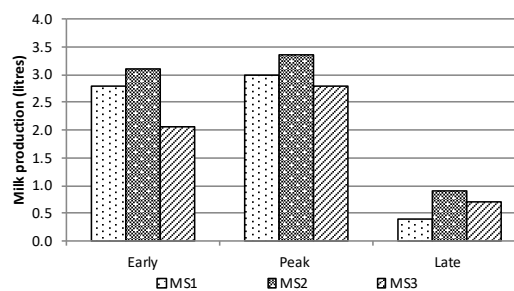
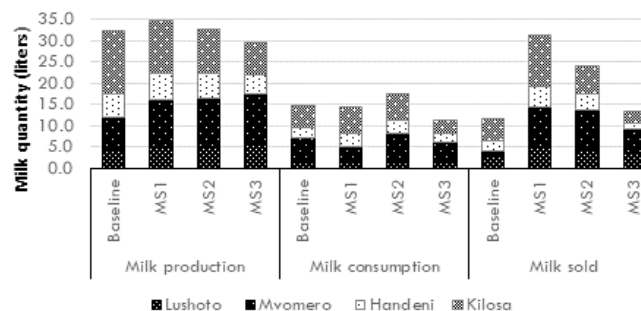


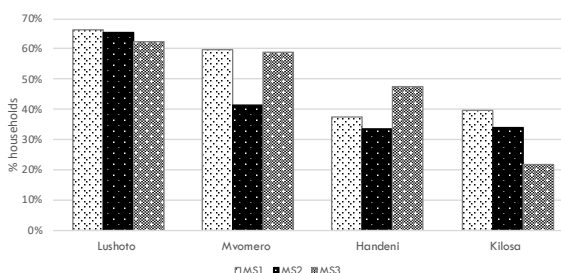
Figure 6. Average milk production and utilization by district



Market orientation

This section addresses the marketing and distribution of milk, the price offered, and quantities of milk going to each outlet. The milk trade is one of the most important income generating activities in the area. The proportion of dairy households in Lushoto, Mvomero and Kilosa districts selling milk declined over the period studied, while it remained almost static in Handeni district (Figure 7). The decline could be as a result of the dry conditions experienced in East Africa around that time.

Figure 7. Proportion of households selling milk by district



a) Market outlets, volume sold and milk prices

For buyers of fresh milk, Lushoto district offers the most diversity in terms of outlets (Table 4). Individual consumers and private traders were the most common buyers across all sites and in all surveys. However, the chilling cooperatives and other buyers, such as restaurants/cafeterias, were not available across all sites in all years. As expected prices differed by buyer type, across sites and surveys. Other buyers offered the highest price during the baseline survey. Overall, individual milk consumers were offered better prices per litre of milk during the monitoring survey (Table 4). However, prices oscillated across the sites and among buyers over the period studied.

It is not clear why there were fluctuations in milks prices over time.

Individual milk consumers and private milk traders purchased the bulk of marketed milk. The high volume sold to a private chiller in Handeni district during the baseline survey (20 litres) was from a single household. The different types of milk buyers (neighbours, traders or milk collection centres with chilling facilities) and the quantities of milk purchased provide an

indication of the hub types (trader-centred or collective bulking and marketing) likely to evolve in respective project sites.

The low volumes indicate that it would take a while before collective bulking and marketing (that requires economies of scale) can be justified in most locations.

Table 4. Quantity of milk sold (average litres) and average price per litre of milk (USD) by market outlet

Buyer type	Quantity (average litres) and [average price (USD)] by buyer											
	Baseline survey				Monitoring survey I and II				Monitoring survey III			
	Lushoto	Mvomero	Handeni	Kilosa	Lushoto	Mvomero	Handeni	Kilosa	Lushoto	Mvomero	Handeni	Kilosa
Individual consumers	3.4 [0.37]	3.8 [0.48]	4.3 [0.30]	9.8 [0.48]	1.4 [0.38]	6.8 [0.43]	2.9 [0.34]	3.9 [0.40]	1.7 [0.39]	7.5[0.43]	2.3[0.32]	3.4 [0.40]
Private milk traders	3.2	2.8 [0.44]	4.5 [0.28]	9.4 [0.40]	1.3 [0.29]	1.7 [0.38]	1.0 [0.28]	3.7 [0.27]	3.0 [0.30]	2.5[0.38]	4.0[0.32]	6.5 [0.27]
Co-op with chilling	2.7 [0.31]	5.0 [0.54]	4.0 [0.40]	.	1.6 [0.36]	.	.	0.5 [0.26]	3.9 [0.27]	3.0[0.19]	.	6.0 [0.21]
Co-op no chilling	4.3 [0.36]	.	.	.	0.2 [0.32]	.	.	.	7.0 [0.29]	.	2.5[0.24]	.
Privately owned chiller	2.0 [0.35]	.	20.0 [0.34]	.	.	0.03 [0.54]	.	1.7 [0.29]	.	.	.	20.0 [0.24]
Other	2.5 [0.54]	7.3 [0.45]	3.0 [0.54]	.	0.1 [0.35]	.	0.1 [0.24]	0.3 [0.28]	4.3 [0.33]	5.0[0.48]	4.5[0.31]	.

b) Household participation in marketing innovations

The survey elicited information on various services received and types of service providers, modes of engagement and payment methods. Usage of these services was very low in the four project sites as was revealed in all the monitoring surveys. Of the services listed at the project sites, animal health services were the most sought-after (Table 5).

Unsurprisingly, feed supply was the most sought-after service in Lushoto district during the 2015 monitoring survey owing to the feeding system predominant at the site. Of those available, extension services (3–9%) and milk transportation services (<3%) were the least used. The supply of inputs was lowest in the 2016 survey (3%). Access and/or utilizations of these services informs type of hubs suitable at each project site.

Access to credit facility

The surveys elicited information on households in need of credit facilities, those that had successfully accessed credit, and how the funds were allocated. Less than 50% of dairy households reported needing a loan during the three years in which the monitoring surveys were undertaken in Lushoto, Handeni and Kilosa districts. Further, less than 33% of those households in need successfully accessed the credit facility (Figure 8). The dairy farmers approached

micro-credit facilities, banks and informally organized groups for funds. The money was allocated to a diverse range of uses, including on household expenditure, and investment in crop and livestock production. Other uses included the purchase of fixed assets, repayment of loans and investment in businesses.

Household incomes

The survey elicited information on available sources of income, both agricultural and non-agricultural activities over a period of six months retrospectively. The income sources revealed came from trade in livestock and livestock products, feeds, agricultural products, cattle-related activities, formal employment, businesses, off-farm employment, the sale of natural resources, the renting of land, pensions, remittances, etc. (Figure 9).

Formal employment, trade in agricultural and livestock products and business operations played a key role in the generation of household incomes. Cattle-related activities were estimated based on revenues generated from dairy cattle and include the sale of milk, cattle and cattle products. The results demonstrate the significant role played by dairy farming in the household economies at the project sites (Figure 9), and confirm a previously reported trend (ILRI 2016 and Bayiyana et al. 2018).

Table 5. Type and number of services received by type

Types of service	Lushoto			Mvomero			Handeni			Kilosa			Total			%		
	MS1 (n=154)	MS2 (n=151)	MS3 (n=151)	MS1 (n=98)	MS2 (n=94)	MS3 (n=90)	MS1 (n=105)	MS2 (n=105)	MS3 (n=99)	MS1 (n=104)	MS2 (n=102)	MS3 (n=93)	MS1 (n=461)	MS2 (n=452)	MS3 (n=433)	MS1	MS2	MS3
Feeding	33	111	61	11	24	16	1	26	5	0	13	2	45	174	84	5%	17%	14%
Animal Health	82	66	75	90	68	49	69	53	73	100	57	61	341	244	258	40%	24%	43%
Breeding	45	63	57	23	22	17	16	19	17	26	24	1	110	128	92	13%	13%	15%
Extension Advice	23	35	31	1	10	4	2	20	12	0	8	5	26	73	52	3%	7%	9%
Milk marketing	50	71	24	66	32	28	37	33	22	48	23	17	201	159	91	23%	16%	15%
Milk transport	13	0	3	5	9	1	2	0	0	0	15	0	20	24	4	2%	2%	1%
Input supply	57	74	5	20	32	11	28	64	1	14	35	1	119	205	18	14%	20%	3%
Total	303	420	256	216	197	126	155	215	130	188	175	87	862	1007	599	100%	100%	100%

Figure 8. Proportion of households in need and accessing credit

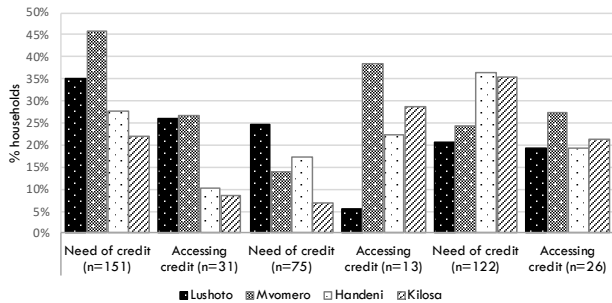
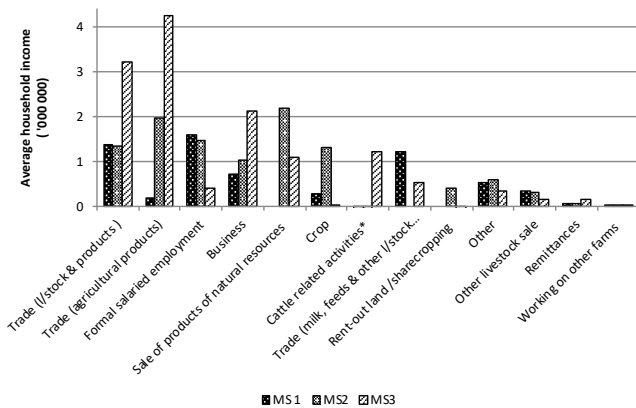


Figure 9. Average household income from different sources



Gender participation in dairy

The survey also assessed gender participation in dairy and looked at various aspects including livestock ownership, cash contribution towards the purchase of livestock and decision making on the allocation of revenues from the sale of livestock and milk.

a) Livestock ownership

Women's participation was highest in livestock production. This is evidenced by increased joint ownership of almost all types of livestock in the monitoring surveys where over 40% of livestock were jointly owned by both men and women (Figure 10).

In addition to the proportion of livestock owned exclusively by women, this suggests women are positioned at a very important node in the dairy value chain, providing an important channel for the promotion and adoption of new livestock technologies.

b) Gender contribution and decision making towards purchase and sale of livestock

Figure 10. Proportion of livestock owned by a gender

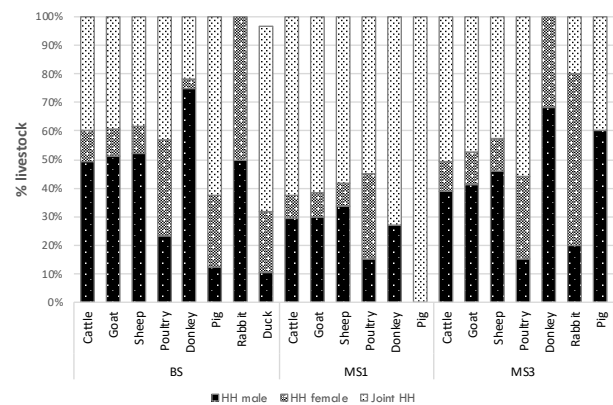
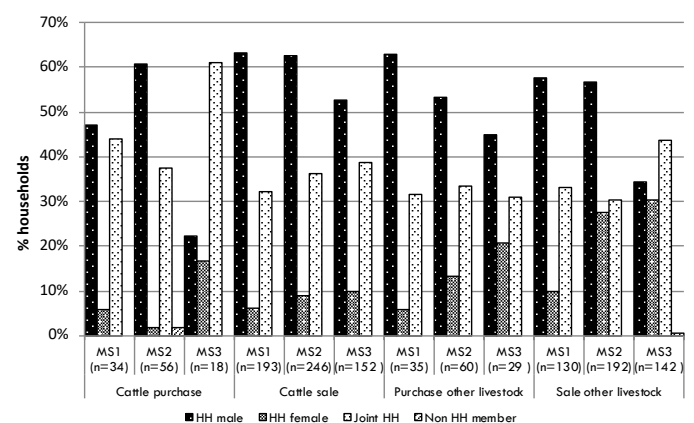
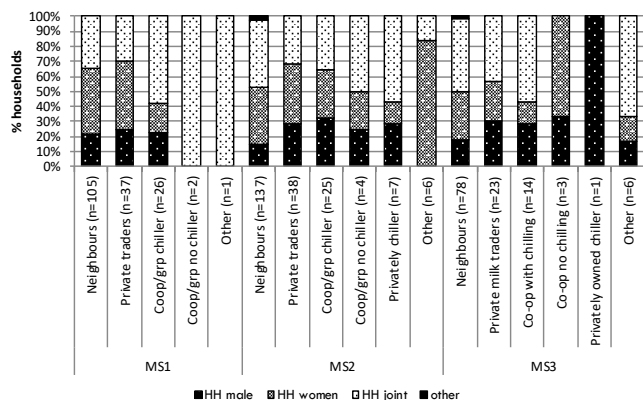


Figure 11. Proportion contributing and making decision towards purchase and sale of livestock



Men generally made the decisions to purchase cattle and other livestock. The involvement of women in these decisions was becoming increasingly common (Figure 11). A similar trend was observed regarding who decided how money obtained from the sale of cattle and other livestock was used. Income from milk sales, however, was controlled by women exclusively or jointly with men (Figure 12). The involvement of women, evident in their participation in acquiring and selling livestock assets and/or products (Figure 11 and 12), confirmed the important role women played and their probable impact in the future on livestock production.

Figure 12. Proportion of HH member (by gender) making decision on revenues from sale of milk by buyer type



References

- Bayiyana, I., Hepelwa, A., Rao, E.J.O., and Mdadila, K. 2018. Do dairy market hubs improve smallholder farmers' income? The case of dairy farmers in the Tanga and Morogoro regions of Tanzania. *Agrekon*. <https://doi.org/10.1080/03031853.2018.1481758>
- ILRI 2016. *Dairy income results from baseline and monitoring surveys in the More Milk in Tanzania project*. ILRI Project Update. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/71124>
- Twine, E. and Omere, A.O. 2016. *Securing more income for marginalized communities in Tanzania through dairy market hubs—Mid-term progress report on the MoreMilkIT project*. ILRI Research Brief 61. Nairobi, Kenya: ILRI. <http://hdl.handle.net/10568/71120>

Contact

Amos Omere
ILRI, Kenya
a.omere@cgiar.org
ilri.org

Alice Njehu and Amos Omere both work for the International Livestock Research Institute.

Photo credits:
Page 1: (left) ILRI/Ben Lukuyu
(right) ILRI/Brigitte L. Maass



More Milk in Tanzania (MoreMilkIT) Project



ILRI thanks all donors that globally support its work through their contributions to the [CGIAR Trust Fund](https://www.cgiar.org/centers/ILRI/)

Patron: Professor Peter C Doherty AC, FAA, FRS

Animal scientist, Nobel Prize Laureate for Physiology or Medicine—1996

Box 30709, Nairobi 00100 Kenya
Phone +254 20 422 3000
Fax +254 20 422 3001
Email ilri-kenya@cgiar.org

ilri.org
better lives through livestock

ILRI is a CGIAR research centre

Box 5689, Addis Ababa, Ethiopia
Phone +251 11 617 2000
Fax +251 11 667 6923
Email ilri-ethiopia@cgiar.org

ILRI has offices in East Africa • South Asia • Southeast and East Asia • Southern Africa • West Africa

