



Securing more income for marginalized communities in Tanzania through dairy market hubs— Mid-term progress report on the MoreMilkIT project

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The Tanzanian government acknowledges the need for evidence-based policies to improve food security and raise incomes for the poor. Dairying is considered to be one of the most promising agricultural pathways for achieving this aim. However, support for dairy development has traditionally targeted high potential areas with classical complex models that emphasize technology-driven solutions for smallholder cattle owners.

These models paid little attention to marginalized areas where commercial dairying is considered unviable and because the models presuppose unrealistic levels of production and organizational commitment and capacity that are often also not pro-poor. Recent trends indicate the potential for rapid growth in dairy value chains in Tanzania with new opportunities to improve rural livelihoods in marginalized areas. Working closely with Sokoine University of Agriculture (SUA) since 2012 and with various development partners (Heifer International, Faida Faida Market Linkages and Tanzania Dairy Board) since 2014, ILRI leads an Irish Aid-funded research project—commonly known as More Milk in Tanzania (MoreMilkIT)—to identify entry points, generate evidence, and pilot interventions for inclusive upgrading of smallholder dairy value chains in Tanzania to contribute to achieving these aims.

The objectives of the project are:

- Develop scalable value chains approaches with improved organizations and institutions serving smallholder male and female households
- Generate and communicate evidence on business and organizational options for increasing participation of resource poor men and women in dairy value chains
- Inform policy on appropriate role for smallholder-based value chains in dairy sector development

One key question is how can policy be informed and influenced so that dairy sector investments are deployed to better target the poor and marginalized. The project is adapting the dairy market hub (DMH) approach as a basis to develop scalable value chains targeting marginalized pre-commercial cattle producers, securing them more income from dairying. Whereas the concept of DMHs has been successfully piloted in other areas of East Africa for collective milk bulking and marketing, this is perhaps the first project to pilot the concept among marginal producers that include areas characterized by transhumance. In these areas, collective bulking and marketing is usually not viable or not required because there is a ready market through traders or neighbours for the little milk available. By adapting the DMHs to fit these areas, the MoreMilkIT project is generating learning that directly contributes to the realization of the

inclusive and sustainable development of the dairy value chain in Tanzania, the goal of the longer-term ‘Maziwa Zaidi’ program of which it is part. Development partners work closely with local government authorities to pilot the adapted hub approach with capacity building (e.g., on dairy as a business) and facilitating business linkages between farmer groups and other value chain actors as key interventions. ILRI and national research partners focus on generating, consolidating and communicating the evidence on what works well, where and how.

What is a dairy market hub and how is it formed?

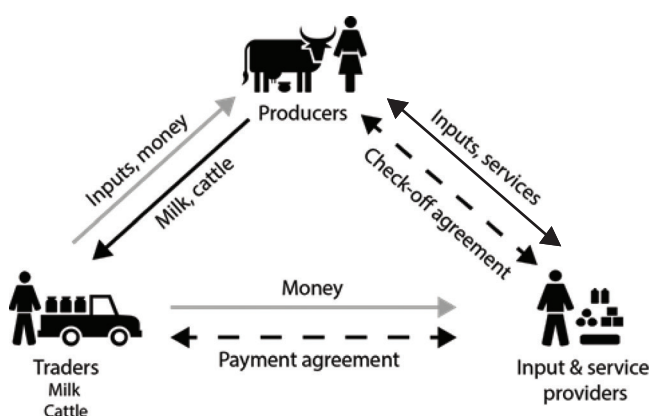
A dairy market hub is a connection point for all agents in a dairy value chain. It is formed by creating mutually beneficial business linkages between a group of farmers and dairy value chain actors. The linkages should ease farmers’ access to input and output markets to increase milk supply. A village is said to have a DMH when all of the following conditions are met: (a) the farmer group/cooperative is legally registered, (b) the group/cooperative has at least one formal contract with an input supplier or service provider, and (c) group members are able to access inputs and services on mutual agreement that may involve a ‘check-off’ business arrangement. This is an interlocking of input and output transactions where farmers access the desired inputs or services on credit with their milk delivery as collateral; the cost of the services is eventually repaid through retained earnings from milk delivery to a buyer.

Table 1: Criteria for becoming a dairy market hub

Category	Criteria ^a
a): DMH with collective bulking and marketing: sale of milk by members of a farmers group	The farmers group is registered at district level; has at least one link with a milk trader/ buyer or at least one link with an input and services provider; its members are able to access inputs and services with or without on ‘check-off’ system.
b) DMH without collective bulking and marketing: Individual members of a farmers group sell milk directly to traders or consumers	

^a A DMH is further distinguished by the number of business linkages, whether two (usually without a milk trader) or three (usually with a milk trader/processor) as well

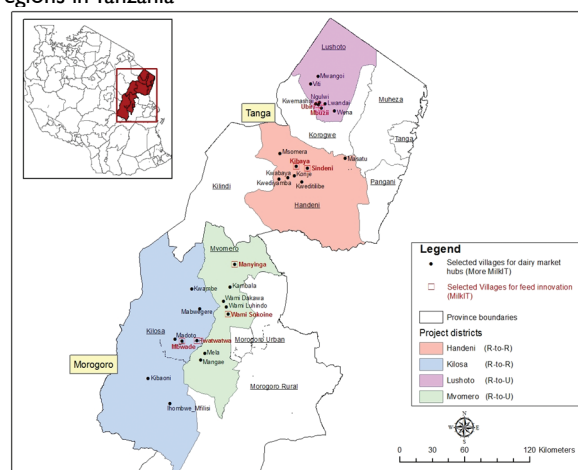
Figure 1: Illustration of a DMH to provide inputs and services on credit without collective bulking and marketing



Project sites

The pilot sites for DMHs are in Mvomero and Kilosa districts in Morogoro region, and Lushoto and Handeni districts in Tanga region (Figure 1). The four districts represent key research domains: Kilosa and Handeni represent rural production to rural consumption (R-to-R) or predominantly pre-commercial extensive production with unimproved breeds where milk supply to the market is often via small-scale traders or direct sales to consumers. Mvomero and Lushoto represent rural production to urban consumption (R-to-U) or more commercial intensive production with improved breeds from which some milk reach urban centres including Dar es Salaam. The latter also represent high potential areas that have previously benefited from some dairy development support, while the R-to-R locations represent hitherto marginalized areas where the frontiers of commercial dairying could be extended. These choices allow comparisons and learning along a gradient of dairy intensification and value chains.

Figure 2. Map showing project sites in Morogoro and Tanga regions in Tanzania



Mid-term progress and lessons learned Farmer mobilization and preparation to participate in dairy market hubs

The 30 villages that make up the project sites can be found on the map (Figure 1). So far 27 farmer groups have been legally registered on top of three already existing. In addition, the project has registered 2336 cattle keepers (1230 men and 1106 women) across the 30 villages¹. The proportion of livestock keepers in these sites now belonging to a farmers group has increased three-fold (from 15% to 47%) as a direct result of this mobilization. The farmer groups have received technical training on dairy cattle husbandry and dairy business management. They are also being linked to input suppliers and business development service (BDS) providers, such as for animal health and breeding. The same traders received training and certification to improve milk quality.

Ensuring dairy market hubs respond to the demand for inputs and services

To serve the needs of individual smallholder households in diverse settings, participatory site-specific planning exercises were undertaken at each of the 30 sites, building on the capabilities and resources of each farmer group. The

1. Groups have different membership criteria and the numbers often fluctuate

plans articulate the most important challenges to dairying at a particular site, the potential solutions as perceived by the farmers, the locally available resources that could be employed to overcome the challenges, as well those that need to be externally-sourced. Subsequently, project partners tailored their activity plans to the site-specific plans and have also synchronized implementation of the activities where possible to achieve synergy. The project also fosters linkages with other organizations that could help farmers achieve aims that the project cannot support. These

activities are meant to improve technical and business competencies of individual farmers so they can benefit from their dairy market hubs. The process of establishing business linkages has been already been initiated among more than half of the farmer groups through the introduction of contractual agreements between farmer groups and service providers. To improve quality assurance, TDB trained and certified six milk inspectors and 15 BDS providers. They have in turn already trained and certified 20 milk traders operating in project sites.

Box 1. Improving access to inputs and services through check-off arrangements: Lea Mwalaki's story

Mrs Lea Mwalaki is both a livestock keeper and milk trader in Wami Sokoine Village, Mvomero District. Lea is the kind of milk trader whose business could grow through the linkages the project promotes in Tanga and Morogoro.

She currently buys milk from neighbours at between TZS 500 and 600 per litre to supplement her own production and then sells about 100 litres of bulked milk to outlets in Morogoro town at TZS 1000 per litre. Her clients include hotels, restaurants and milk vendors. Lea also often purchases various inputs such as animal feeds and drugs from Morogoro town to sell to her neighbours.

Lea's role in facilitating interlocking of input and output transactions where farmers access the desired inputs or services on credit with their milk delivery as collateral (check-off) is now reflected in three villages in Lushoto and one in Mvomero where the same linkages exist but without check-off arrangements. These business linkages are beginning to address some of the constraints to improving productivity that were identified during site-specific planning with farmer groups across the 30 villages with more than 2300 members.

Nurturing multi-stakeholder innovation platforms

Alongside some farmer groups are village-level multi-stakeholder innovation platforms (MSIPs) that were supported by the project's counterpart—the IFAD-funded MilkIT feeds innovations project—as forums for finding solutions for common problems. Efforts also focused

on creating and strengthening a regional-level platform in Morogoro Region, following the success of the Tanga Regional Dairy Platform. The [Dairy Development Forum](#) (DDF) will continue to nurture these regional MSIPs and as well as district level MSIPs where village-level MSIPs are struggling².

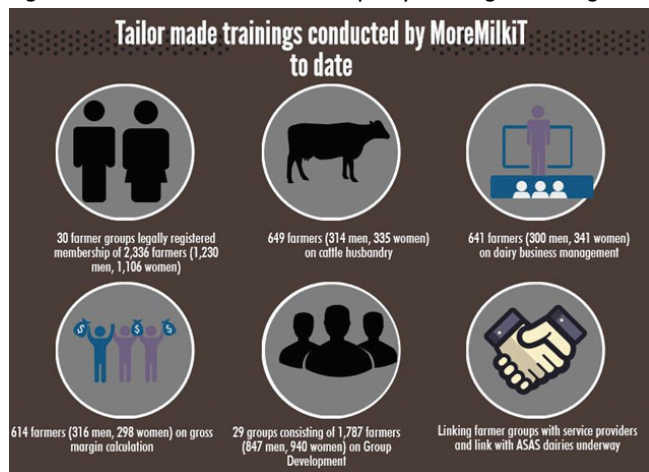
Table 2: Status of business linkages in emerging dairy market hubs in Tanga and Morogoro—August 2015

Stage	Status	District	Villages with contracts established	Prospective villages yet to be linked
4 (Most advanced: Three legs with check-off)	Registered groups with linkage contracts involving: at least one link with a milk trader/buyer; at least one link with an input and services provider and check-off system	Lushoto	Mwangoi, Viti, Wena	
		Handeni		
		Mvomero	Manyinga	
3 (Three legs)	Registered groups with linkage contracts involving: at least one link with a milk trader/buyer and at least one link with an input and services provider	Kilosa		
		Lushoto	Lwendai, Kwemashai, Ubiri, Mbuzii, Ngulwi	
		Handeni	Masatu	
		Mvomero*	Mangae, Mela	
2 (Two legs)	Registered groups with linkage contracts involving: • at least one link with a milk trader/buyer	Kilosa*	Mfilisi, Kabaoni	
		Lushoto	All in 3 and 4 above	
		Handeni		Kwabaya, Kibaya, Wami Dakawa
2 (Two legs)	Registered groups with linkage contracts involving: at least one link with an input and services provider only	Mvomero*	Mangae	
		Kilosa*	Madoto Mbwade	
		Lushoto	All in 3 and 4 above	
		Handeni	Kweditilibe, Kwediyaamba, Kibaya	Kwabaya
1 (Least advanced: Registered but no linkage)	Registered groups where linkages have not yet evolved (have few or non-existent businesses to link)	Mvomero*		Wami Dakawa,
		Kilosa*	Sendeni	
		Lushoto	All in 3 and 4 above	N/A
		Handeni		Msomera, Konje,
		Mvomero		(Wami Sokoine)
		Kilosa*		Kambala, Wami Luhindo Twatwatwa, Mabwegere, Kwambe,

*Some villages in these districts are exploring linkages with ASAS Dairies; similar existing linkages with Tanga Fresh mainly in Lushoto

2. MSIPs appear to be unviable in [some villages](#) because of lack of a wide range of value chain actors besides farmers. This project contributed to defining guidelines for more effective local area MSIPs

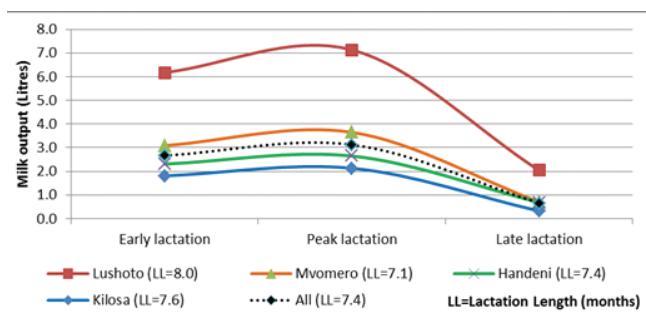
Figure 3: Achievements to date in capacity building and linkages



Assessing performance of emerging dairy market hubs

Based on a robust monitoring, learning and evaluation (MLE) framework, a first monitoring survey was undertaken. The information generated was compared to the baseline survey undertaken in 2012/13 (more in-depth analyses are in progress) bearing in mind the different sampling strategies for the baseline³ and monitoring⁴ surveys. The main intervention undertaken between the baseline and the first monitoring survey was mobilization to form dairy farmers' groups. As already highlighted, the monitoring survey revealed that group membership in project sites has risen to 47% across the four districts from 15% before the project began, most likely due to mobilization by the project. The highest participation in groups currently is in Mvomero (58%) and lowest in Kilosa (37%). More males (74%) participate in farmer groups than female cattle keepers (40%). There appears to be some effects on milk production and sales even though minimal engagement in capacity building or creation of business linkages had taken place prior to the first monitoring survey.

Figure 4. Average milk production per cow over the lactation period



3. The baseline survey followed a stratified random sampling method in which cattle ownership and households were stratified by market access classification (district) and randomly sampled within each village. A total of 932 households were surveyed of which 694 were cattle keeping, while the remaining 238 were non-cattle keeping.

4. The monitoring surveys focus on cattle-keeping households only with market access (district) and hub type (collective bulking/marketing, sales through milk traders) as the two main stratification factors for sampling. A total of 461 households were surveyed in the first monitoring survey of which 158 were group members and 303 were non-group members

Most of the anticipated changes in dairy income will come from milk sales. Figure 4 represents the levels of milk production per cow by district and Table 3 presents allocation of production per household at the time of the first monitoring survey. While cows in Lushoto are more productive, there is more milk produced per household in the other districts (Kilosa, Mvomero and Handeni) due to larger herd sizes. Overall, about 60% of production is consumed in the household and 40% is sold. This indicates that a significant contribution of the interventions in this project will be for better household nutrition. The much higher milk productivity in Lushoto compared to the other districts reflects the higher proportion of households in the district rearing improved cattle.

Table 3: Average number of lactating cows and allocation of milk meant for household use (mean and [SD])

	Lushoto	Mvomero	Handeni	Kilosa	Total
Number of lactating cows	1.2 [0.5]	11.7 [16.2]	6.1 [11.3]	16.5 [24.4]	9.6 [17.6]
Fermented milk consumed (litres)	1.0 [0.6]	2.3 [1.2]	2.6 [5.6]	4.5 [2.4]	2.6 [3.3]
Fresh milk consumed (litres)	1.5 [0.9]	3.6 [2.9]	3.2 [6.1]	6.1 [5.8]	3.8 [4.9]
Fermented milk sold (litres)	0.0 [0.1]	0.4 [1.9]	0.2 [1.0]	0.4 [2.0]	0.3 [1.5]
Fresh milk sold—morning (litres)	2.8 [3.0]	5.1 [7.9]	1.8 [3.7]	4.9 [9.7]	3.8 [7.1]
Fresh milk sold—evening (litres)	0.3 [1.0]	0.6 [2.6]	0.1 [0.3]	0 [1.4]	0.2 [1.4]

Figure 5: Household participation in milk market outlets by project sites

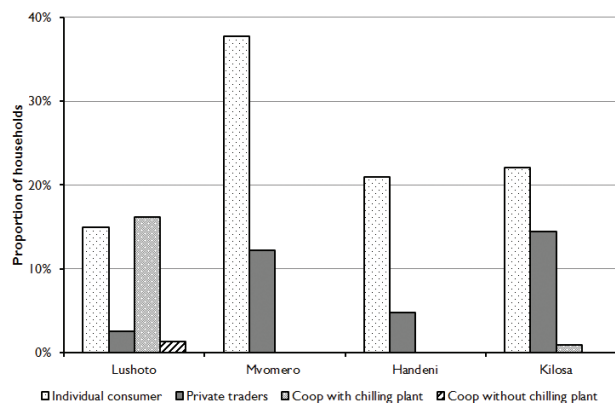


Figure 5 illustrates the distribution of household access to various milk market outlets. This distribution remains the same as the baseline survey with most households selling milk to individual consumers and milk traders. This scenario is not expected to change significantly over the project period given the low milk availability in Tanzania, relatively high demand and corresponding higher prices received by producers who sell milk to short value chains especially to consumers.

Figure 6 provides an overall summary of milk quantities sold and prices offered by different buyers. Private traders took the largest share of marketed milk compared to other buyers. However, private traders sold milk at a lower price than was offered by individual consumers (TZS 670) or cooperative with chilling plants (TZS 615). This pattern remains the same as the baseline survey.

Figure 6. Summary of milk quantity sold and prices received by milk market outlet

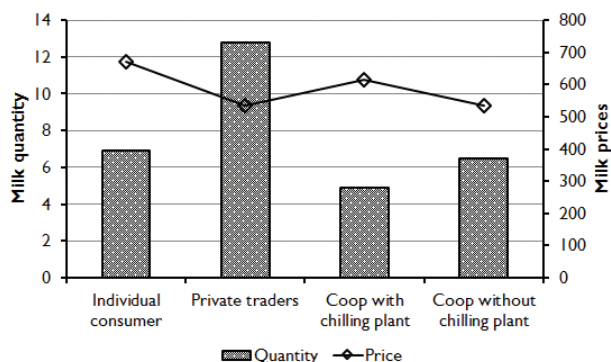


Figure 7: Average revenues, prices and quantities sold

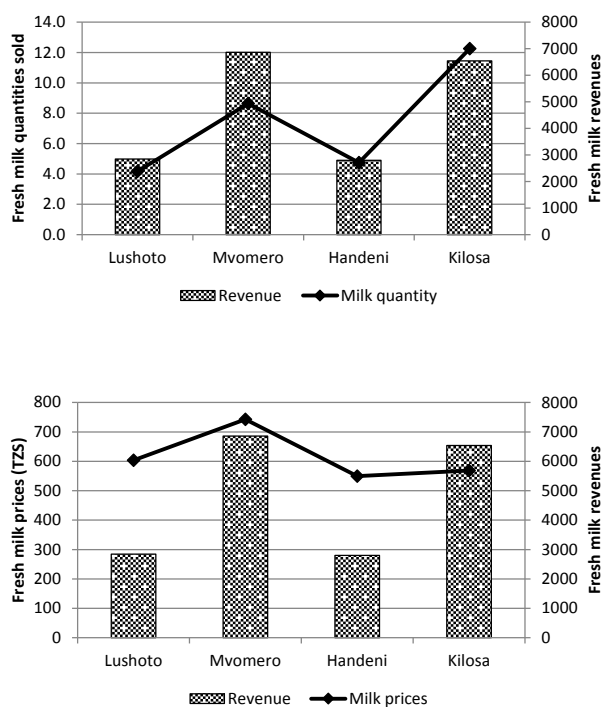


Figure 7 shows that daily average milk revenues depend on the prices offered per litre and quantities sold. Households in Mvomero and Kilosa sold the highest quantities and enjoyed the highest prices per litre, likely reflecting lower milk availability and high demand. This pattern remains the same as in the baseline survey.

Control of milk revenues by gender

Control of revenues from milk sales disaggregated by gender is shown in Figure 8. There are more households in which women control revenues from morning milk than households in which men dominate. This is true across all the four sites with Kilosa having the largest proportion of households in which women control revenue from morning milk. Handeni has the largest proportion of households where women control revenue from evening milk. Revenue from sale of morning milk is predominantly controlled jointly in Lushoto and Mvomero.

Figure 9 shows that men predominantly control the largest revenue from sales to individual consumers, while the largest amount of milk revenues from private milk traders is jointly managed. Revenues from cooperatives

with a chilling plant are nearly evenly shared between men and women. Despite having more outlets in which women control milk revenues, most milk revenues on average still accrue to men, especially from sales to individual consumers. Ensuring inclusivity in upgrading these short value chains is central to this project and the next monitoring survey should provide more firm evidence on these trends and pointers to appropriate interventions.

Figure 8. Control of milk revenue by gender and district

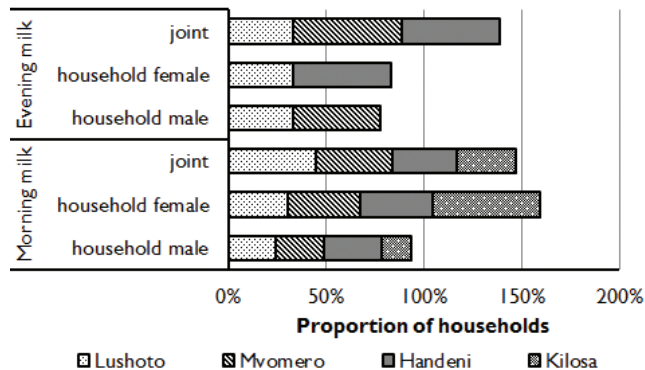
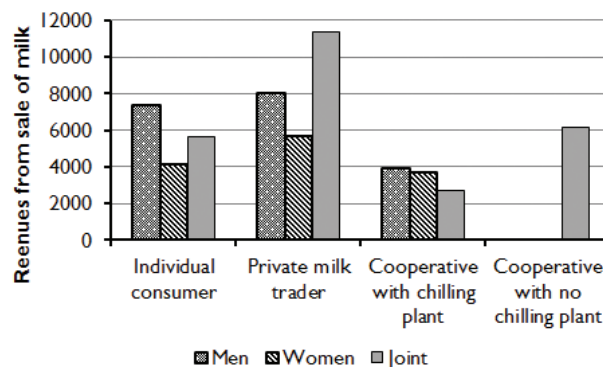


Figure 9. Share of milk revenue control by gender and milk market outlet.



Household participation in marketing innovations

Use of various inputs and services is still generally low as determined during the first monitoring survey. Animal health services are the most available or commonly sought after with 40% of services received (Table 3). Other commonly used services were for milk purchase (23%), input supply (14%) and breeding (13%). Feeding, extension advice and milk transport services were received by only 5%, 3% and 2% of households, respectively. These percentages include a few instances where the service was self-provided for feeding, animal health or breeding, presumably when the farmer had the related skills. Lushoto has the highest number of cattle keepers that receive the full range of services followed by Mvomero. These districts also have the highest proportion of cattle keepers with improved breeds mostly kept in intensive or semi-intensive production systems. The extremely low use of extension services requires urgent attention at policy level and should be pursued through the DDF and ongoing initiatives to reform extension services in Tanzania.

Looking at specific types of service providers for each type of service, the main insights from the first monitoring surveys are: Posho mills are the main sources of non-forage feed in Lushoto and Mvomero, while hardly any posho-mill

services are received in Handeni and Kilosa. Animal health services and other inputs are received mainly from agro-vet shops across all the four districts, implying that most producers treat their own animals. Use of services by vets or animal health assistants mostly occurs in Lushoto and to a limited extent in Handeni. Bull services provided dominate the provision of breeding services. This has implications for the design of institutional mechanisms for the delivery of improved genetic material that the project will pursue.

Table 4: Types of services received

Types of service	Number of services received by type					
	Lushoto	Mvomero	Handeni	Kilosa	Total	%
Feeding	33	11	1	0	45	5%
Animal health	82	90	69	100	341	40%
Breeding	45	23	16	26	110	13%
Extension advice	23	1	2	0	26	3%
Milk marketing	50	66	37	48	201	23%
Milk transport	13	5	2	0	20	2%
Input supply	57	20	28	14	119	14%
Total	303	216	155	188	862	100%

Most services (94%) are still accessed individually with only 6% accessed through groups (Table 4). This implies very low levels of collective action, mainly for purposes of milk purchase in Lushoto, calling for continued strengthening of the farmer groups. The relatively high value of transactions to purchase animal health inputs indicates that disease is a major problem or awareness and use of inputs is relatively high.

Table 5: Mode of engagement and payment by households

Mode of engagement	N	Mode of payment				%
		Cash	Credit	Check-off	No payment	
Group	53	32	7	8	6	6%
Individual	804	682	50	4	68	94%
Total	857	714	57	12	74	100%
%		83%	7%	1%	9%	

Significant services (9%) are rendered without payment, likely by NGOs or local government. This occurs mainly for breeding services in Lushoto, Handeni and Mvomero and for extension services in Lushoto. Given the very low access to inputs and services, this public support could be encouraged where there are limited private sector providers but without stifling growth of the private sector.

Credit access and utilization

Cash purchases dominate across all services received by producers. Only 7% of these transactions are on credit and these feature mainly in relation to milk purchases. Virtually all non-cash transactions recorded were for milk purchase in Lushoto and Mvomero. The need for credit is strongest in Mvomero as shown in Table 5. Of those that needed credit, less than 30% in each district actually obtained it. Overall, the incidence of borrowing among cattle keepers is about equivalent to the 6% obtained for livestock keepers in the entire country from the National Panel Survey data of 2008/2009.

The project is working to increase access to credit by dairy farmers that need it through check-off arrangements. The survey finds that local micro-finance institutions including savings groups currently provide most credit, with land and livestock the most common forms of collateral. It will be interesting to see if farmers in need of credit use the check-off arrangement being promoted through DMHs. A recent analysis of the [relationships between credit, technology adoption and collective action](#) using data from the pilot sites found that both collective action and technology adoption positively influence the amount of funds borrowed.

Table 5: Proportion of households that need and have access to credit

Mode of engagement	N	Mode of payment				%
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Box 2. Highlights of findings from studies

A study on the concentrate feed sub-sector in Tanzania concluded that many dairy farms have doubts about the price and quality of the feeds in the market. Several feed manufacturers are re-establishing the Tanzania Feed Manufacturers' association to tackle problems such as feed quality.

A study being finalized on 'what is killing my cow?' conducted with a BMZ/GIZ funded initiative indicated that tick-borne diseases causing East Coast fever and anaplasmosis and others such as contagious bovine pleuropneumonia (CBPP) and brucellosis are widespread. Pathogens rarely looked for such as neospora, and bovine parainfluenza virus type 3 and Q-fever were also found.

A study on factors influencing the adoption of DMHs by input providers and milk traders revealed that harsh market conditions were a motivation for agents to want to participate in DMHs. This explains why the hubs are appreciated as an appropriate intervention in the project sites.

Another study found that gender disparities are prevalent in decision-making, land rights and intra-household economic power. It recommends safe milk consumption practices to ensure that benefits of dairy development translate into nutrition benefits without undermining human health. Another study has been conducted to explore gender perceptions of resource ownership and their implications among rural livestock owners. It highlights challenges to discern resource entitlements and their impact on food security.

Informing policy on smallholder value chains in dairy sector development

The MoreMilkiT project is using evidence from the piloting of DMHs in marginal areas to influence policy towards more inclusive dairy value chain development. Information from the monitoring and evaluation surveys and targeted studies around the hubs is being analysed and will be communicated to show how marginalized people can be targeted successfully through pro-poor transformation of smallholder dairy value chains. A key mechanism for this communication is the [Dairy Development Forum](#).

Dairy Development Forum: The Tanzania Dairy Development Forum (DDF) is a national MSIP that was established in 2013 to bring together, and better coordinate, dairy sector actors across the country to address systemic bottlenecks and co-create solutions towards a more inclusive and sustainable dairy value chain. Members of the forum include input suppliers, producers and processors, development partners, policymakers and researchers. The DDF provides a platform for dairy industry stakeholders to share their experiences, challenges, possible solutions and coordinate policy lobbying and advocacy. So far two working groups have emerged, on 'increasing the national dairy herd' and on 'addressing feeds scarcity'. These have set up several taskforces to address systemic bottlenecks (Figure 8).

DDF's main challenge is getting more value chain actors actively involved. The actors include farmers' representatives, inputs and service providers and milk buyers. Communications around the DDF also needs further strengthening. The fifth DDF in May 2015 witnessed active participation by about 100 participants who were mostly producers and value chain actors and it is hoped that this momentum will continue.

Box 3. Dairy Development Forum improves dairy management by widely sharing information

A recent [study](#) shows that the Dairy Development Forum (DDF) is already helping to improve Tanzania's dairy sector, largely by sharing information, especially through membership associations (e.g. Tanzania Milk Producers Association and Tanzania Milk Processors' Association), which in turn is influencing policy changes.

The study also found that information sharing has improved the running of regional dairy innovation platforms, such as the Tanga Dairy Platform, and of working groups formed to work on areas such as dairy breed improvement. The study recommends introduction of information packages at the end of DDF meetings, for example, for those unable to attend, to help widen and increase the impacts of information sharing. The study also calls for more explicit advocacy work to influence national policies.

To ensure sustainability of the project's interventions beyond the duration of the project and to inform policy from the bottom-up, local governments in the four districts have been involved in project activities and the project has initiated discussions with district officials on how best the issues raised in the site-specific plans can be integrated into

the local governments' district agricultural development plans (DADPs). This will ensure that bottom-up planning processes get reflected into district and potentially national plans. The project is also reviewing the DADPs plans to determine which district activities can benefit from the DMHs.

Policy conclusions so far

- Transforming Tanzania's dairy industry to secure more income for marginalized communities requires that all stakeholders be involved along the value chain.
- MSIPs are an effective way to bring together these stakeholders to solve common problems.
- These processes enable producers, local institutions, the public sector, private businesses, research and financial institutions to jointly drive dairy development.
- In villages, multi-stakeholder processes build on farmers' groups, cooperatives and dairy market hubs. They link market actors, connecting producers with intermediary and final customers.
- At district and region levels, innovation platforms integrate research, innovation, extension and business interventions and they contribute to dairy development plans.
- At the national level, the DDF has a strategic role leading to coherent policies and convergence of initiatives.
- A hierarchy of platforms at different levels can improve policymaking and planning, and may attract further investment.



Box 5. Emerging issues in nutrition, gender and transhumance requiring more attention

Nutrition: Milk and other animal-source foods are the richest dietary sources of many key micronutrients and essential fatty acids needed for growth, health, and brain development especially in early childhood. Malnutrition has been associated with stunting that affects 42% of children under 5 years of age in Tanzania according to the Tanzania Demographic and Health Survey, 2010. Value chain assessments have revealed that about 60% of milk produced is consumed in producer households, thus confirming that better nutrition and food security are the main reasons for keeping cattle. However, seasonality is likely to negatively impact nutrition outcomes among milk-producing households; data from the baseline and monitoring surveys indicates that almost 90% of milk produced in the dry season is sold because prices are relatively high compared to 36% sold during the wet season. One recent ILRI study that assessed whether low-income households in Tanzania derive income and nutrition benefits from dairy innovation and dairy production, based on Integrated Surveys on Agriculture (LSMS-ISA) household panel data of 2008/2009 and 2010/2011, concluded that although dairy innovations had a positive effect on dairy income, the effect was small among low-income households as they lack capacities to access and use inputs, output markets and services. Interventions under this project, if successful, should therefore help alleviate this under-nutrition as they target households in marginalized poor areas.

Gender: Different household members are involved in different aspects of cattle keeping in the project areas. Value chain assessments revealed that while men and male youth are mostly engaged in grazing, buying and selling cattle and cattle products, children and women are responsible for milking and preparing fodder. The challenge around gender is how to ensure that increased commercialization of smallholder dairying will continue to ensure women's participation and proportionate benefit from milk sales. Clarifying ownership is important in meeting this goal as revealed by a study to explore gender perceptions of resource ownership and their implications among rural livestock owners. In addition, the project aims to bridge capacity gaps in gender assessment among its partners based on a capacity-needs assessment already conducted. The next step, which is outside the scope of this project, would be to implement its recommendations. Testing of gender transformative 'best bets' at community level should also follow to identify the best recommendations.

Transhumance: Pastoralism is common in Handeni, Mvomero and Kilosa districts. The mobility in search of water and pasture makes it difficult for collective action to take root, and the fierce land conflicts between pastoralists and crop growers are ongoing challenges. One intervention initiated with the IFAD-funded MilkIT project in some villages has potential to positively impact pastoralists as they transit into agro-pastoralism and sedentary lifestyles. The intervention is around the concept of improved pastures in traditional enclosures around pastoralist homesteads (Ololili in Maasai) to be used as dry season feed reserves by women. However, this is being hampered by poor land demarcations and related conflicts. It is clear that livestock keepers need to first agree on their own regulations/bylaws and not put the improved Ololili at risk by uncontrolled grazing. Further evidence is needed to identify the number of transhumant producers whose involvement in DMHs is threatened by land-use conflicts and mechanisms to overcome them.

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