

More milk by and for the poor:
Adapting dairy market hubs
for pro-poor smallholder value chains in Tanzania
(MoreMilkIT)

Annual Report to Irish Aid-Tanzania
January – October 2012

Irish Aid funding support to the International Livestock Research Institute and R&D partners in Tanzania (mainly Sokoine University of Agriculture)

Supporting the



RESEARCH
PROGRAM ON
Livestock and Fish

Table of Contents

Executive Summary	2
Progress Narrative	5
<i>Output 1: Current status of the Tanzanian dairy sector assessed and appropriate entry points and partners for promoting a more pro-poor development orientation identified</i>	<i>5</i>
Activity 1.1 Understand the policy environment:	5
Activity 1.2 Consult and sensitize stakeholders:	10
Activity 1.3 Develop and implement value chain assessment tool:	10
<i>Output 2: Strategy for strengthening the policy environment to better support pro-poor dairying developed</i>	<i>25</i>
Activity 2.1 Develop a pro-poor strategy for strengthening policy environment:	25
Activity 2.2 Improve quality assurance services:	26
Activity 2.3 Initiate process of strengthening of actors and their organizations:	27
<i>Output 3: Sites appropriate for piloting pro-poor dairy development interventions identified and available best bet interventions adapted to the Tanzanian context</i>	<i>27</i>
Activity 3.1 Develop and implement tool for site selection:	27
Activity 3.2 Structured baseline surveys:	31
Activity 3.3 Develop best bet options for pilot interventions:	31
General: administrative & coordination.....	37
Discussion	39
Annexes.....	40

Executive Summary

Working closely with Sokoine University of Agriculture (SUA), ILRI spearheaded a series of engagements aimed at generating and expanding the knowledge base for pro-poor and more inclusive dairy development in Tanzania. Annex 1 tabulates progress made to October 2012.

The pro-poor approach that is central to this project is a departure from most development efforts to date in Tanzanian dairy. Following a national sectoral situation study, sites that show potential for the pro-poor approach were screened through spatial mapping of various socio-economic and bio-physical data, followed by consultation with stakeholders. The following districts were selected for further studies: Kilosa and Handeni districts that represent mostly pre-commercial rural production for rural consumption; and Mvomero and Lushoto districts that represent relatively more commercial rural production for urban consumption. Urban consumption centres have been defined as those markets with over 50,000 inhabitants. These criteria guided several studies along a spectrum of pro-poor dairy value chains featuring variation from pre-commercial producers with limited market access to those better-linked to more vertically coordinated value chains that may reach as far as Dar es Salaam. Thus, the exercise offers a range of opportunities for upgrading.

Concurrent policy engagements have been actively pursued. Starting with a highly successful stakeholders' workshop in March 2012 in Morogoro, various complementary policy engagements culminated in the formation of a national platform to be known as the Dairy Development Forum (DDF) that was proposed at the workshop. The proposed DDF was discussed at the National Dairy Development Conference (NDDC) held in Moshi during the Dairy Promotion Week (29 May - 2 June 2012) and endorsed by the Annual Council (consisting of district stakeholders from across the country) of the Tanzania Dairy Board (TDB) that followed the NDDC. The DDF has been identified as a potentially useful informal platform for identifying systemic dairy industry bottlenecks, and co-creating solutions. Its membership will be open to all key stakeholders in the dairy sector including public and private players, with TDB acting as the Secretariat. The Task Force that is spearheading its formation plans an official launch in early 2013.

The first and part of the second quarter of 2012 was spent conducting desk reviews, and developing tools for sectoral and value chain assessments and stakeholder engagement. Field activity and engagement with value chain actors started in June with extensive qualitative assessments in the selected districts. These covered village maps, gender roles, decision making and livelihood analysis. The objectives were to: a) characterize the context, and community perspectives of the current situation with respect to dairy production, market channels and actors, and flows of dairy inputs and outputs along the marketing chain; b) identify constraints, barriers to participation by poor men and women, opportunities for value chain upgrading and expansion, and associated risks with particular regard to the domains of feeds, breeding, animal health and food safety; c) characterize the possible forms and functions of dairy market hubs (DMH) by examining producers' problems and opportunities, and identifying key indicators of DMH interventions for monitoring; and d) complement household level data collection that is underway. The baseline has been designed to form the basis for measuring progress on specified indicators and outcomes associated with interventions designed for implementation in the follow up phase, and whose effects on

alleviating constraints will be monitored, and related impacts evaluated at the end of the project.

The situational analysis suggests excellent opportunities for significant growth in smallholder dairying in Tanzania, driven by demand growth across rapidly expanding urban centres. The excellent opportunities for growth in the sector should be seen in the context of the current low per capita milk availability and consumption. At the aggregate level, low milk availability appears largely to explain per capita consumption that according to FAO Statistics has remained more or less stagnant at 24 kg per person per year over the last two decades. According to their data series, the quantity of dairy output (milk and butter) has grown by 4.4% per annum, barely keeping up with the population growth rate of about 4.5% since 1980, hence the stagnation in per capita consumption. This quantity is much lower when compared to Kenya (over 80 kg/yr), the average for Africa (35 kg/annum) and the world average (105 kg/annum).

On the supply side, a modest annual growth in milk productivity of 1.1% since has been documented and attributed to a doubling of the proportion of cows through concerted efforts to introduce more productive improved dairy breeds in the herd over the period. Analysis of the Tanzanian National Panel Survey household data reveals that access to market (based on location relative to roads) was the factor that had the strongest explanatory power positively affecting milk yields, while large herd size had a negative impact on yield, likely because large herds are kept by pastoralists who mainly keep cattle for their asset value and are often constrained by shortage of pasture.

The small proportion of imports of dairy products relative to total milk supply has shown a modest decline in recent years. This constituted only 2.5% of total domestically supplied dairy products in 2007. Evidence reveals that milk imports from within the East Africa Community (EAC) have doubled over the last decade to account for about 11% of total imports, mainly from Kenya and largely attributed a high EAC common external tariff on milk products. Local processors absorb only 1.4% of local production (the lowest in East Africa) with the rest reaching the consumer prior to pasteurization and packaging either through traders or directly from producers.

The value chain assessments have shown that access to adequate feeding, breeding, animal health and credit services has remained low and that production of a marketable surplus remains a fundamental challenge. This has been associated with poor animal health and nutrition, alongside shortages of land, capital, knowledge and information. Stakeholders recognize the need for a combination of public, collective and private action, but as outlined above, models for their delivery have yet to emerge in Tanzania, a challenge that this project will address. The findings show that benefits will flow disproportionately to women given their higher participation in the short value chains that dominate in selected project sites, by receiving and deciding on use of milk revenues in 80% of cases. Direct sales were found to pay farm-gate prices that are up to three times more than in the longer value chains that tend to be dominated by men.

The knowledge gained from the site selection process and value chain assessments indicates that that Tanzania dairy sector requires a unique development strategy for improving the livelihoods of poor dairy smallholders and pastoralists that focuses on markets, and market actors, and enhances their performance by organisational change. The

assessments indicate that we can target 50 villages with a total of about 8000 cattle keepers over the 4-year period. Each targeted village would be facilitated to form a primary DMH comprising about 160 members (range 30-300) depending on the types of interventions and density of cattle keepers within the market catchment areas for each hub. Three functional models for DMHs that have a cross-cutting emphasis on improving access to inputs and services through business development services (BDS) and check-off arrangements have been designed:

- a) DMHs revolving around *chilling plants* or accessing them (if under-utilized) through *transport arrangements* that provide both output marketing and inputs and services through *check-offs*;
- b) DMHs revolving around *check-offs* for inputs and services provided through milk traders; and
- c) DMHs revolving around *check-offs* for inputs and services provided through cattle traders.

The above entry points for hub interventions in the Tanzania setting have a strong emphasis on check-offs due to the widely acknowledged paucity of credit, which our own investigations confirmed. Pilot interventions should focus on capacity-building for market actors and dairy industry administrators. Accompanying analyses should generate information on issues of performance and factors affecting it, and generate the evidence base for advice to government and other stakeholders. The interventions may be seen as representing the supply side for hubs, and so need to be re-evaluated during implementation against their value propositions (the demand side) and a taxonomy of alternative hub forms and functions (extending to other forms of collective action) for producers and value chain actors identified elsewhere.

The Irish Aid funding, communication and organizational focus of the project is successfully providing leverage for integrating activities under other smaller projects dedicated to pro-poor dairy development. This includes externally-funded projects on feeds, food safety, and improvement of livestock data for investment and policy formulation. It also includes Tanzanian government and dairy industry initiatives in dairy industry promotion and co-ordination, particularly involving pre-commercial producers. The synergy created is thus allowing the project to raise its profile with officials at local and national levels and achieve much more through sharing of resources, common tools and approaches and by concentrating efforts at common field sites. The specific target towards the pre-commercial men and women is unique in Tanzania and promises to extend significantly the frontiers of commercial dairying by the poor. We hope the funding will become a model for support by other donors in Tanzania and beyond, especially because of its alignment to the CGIAR Research Programs (CRPs).

The key findings highlighted in this report have been used to shape the proposal for the next phase: 2012-2015. The identified entry points for piloting will hopefully spur market-led growth and increase private sector participation in dairy markets and fill these gaps in service and input provision, and in milk marketing for smallholders and agro-pastoralist cattle keepers. The approaches proposed are against the backdrop of general failure of previous conventional approaches to collective action for dairy development in Tanzania. The

approaches should significantly contribute to the desired goal of delivering working dairy hubs and associated support systems that contribute directly to poverty reduction among beneficiaries.

The total expenditure up to October 2012 amounted to €217,309, implying a carry-over of €232,691 into the following financial year. The rate of expenditure has been lower than expected. We spent much longer time than earlier anticipated to gain the required momentum and pace in implementation. However, this has accelerated since submission the semi-annual financial report. Project expenses stood at 48.3% of the total grant as at the end of October 2012, with several committed expenses not yet been captured. The project is rapidly catching up on the under-spend relative to the time into the project, which was mainly due to the failure to recruit a substantive staff in the previously-established post-doc position and departure from ILRI of a key team member, resulting in delays in some activities. We expect the momentum of expenditure to continue before the end of the contract period for Year 1. However, a proportion of the budget will remain at the end of the contract period. We have submitted a proposal for its usage up to March 2013 to finalize pending activities.

Progress Narrative

The tabulation in Annex 1 summarizes the progress to October 2012. The table reports progress relative to the activity milestones and Gantt chart discussed with Irish Aid at ILRI in February 2012¹.

Output 1: Current status of the Tanzanian dairy sector assessed and appropriate entry points and partners for promoting a more pro-poor development orientation identified

Three activities fall under this output, namely: 1.1 Understand the policy environment; 1.2 Consult and sensitize stakeholders; and 1.3 Develop and implement a value chain assessment tool.

Activity 1.1 Understand the policy environment:

This desk-based activity was designed to contextualize potential areas for interventions. The aim is to assess the conditions and situations within which the whole dairy sector and value chain (VC) in Tanzania operates. The sectoral assessment sets the broader national context for rapid and in-depth VC assessments and analysis at smaller geographical scales, which are already underway. Its scope is an overview of past trends, current status, and likely future directions. A value-chain conceptual framework (CF) has been developed for that purpose. The content follows stage-by-stage assessments of the VC including: consumption and expenditure, production, imports, inputs and services (cattle health, genetics, feeds, knowledge systems, credit), value addition and marketing, competitiveness, VC governance, externalities (e.g. environmental impacts), dairy development strategies,

¹ Re-scheduling of tasks to accommodate the departure from ILRI of a key team member and failure to recruit the post-doc resulted in some delays in activities and finalization of reports.

research and development (R&D) landscape, current perspectives on opportunities for pro-poor dairy VC R&D; and food safety.

At the aggregate level, low milk availability appears largely to explain per capita consumption that according to FAO Statistics has remained more or less stagnant at 24 kg per person per year over the last two decades. According to their data series, the quantity of dairy output (milk and butter) has grown by 4.4% per annum, barely keeping up with the population growth rate of about 4.5% since 1980, hence the stagnation in per capita consumption. This quantity is much lower when compared to Kenya (over 80 kg/yr), the average for Africa (35 kg/annum) and the world average (105 kg/annum). Pauw and Thurlow (2010)² reasoned that this stagnation may partly be attributed to the relatively higher price for animal products (TSh22.4 per 100kcal) compared to all agricultural products (TSh5.9 per 100kcal) in Tanzania.

More recent data from other sources, however, suggest that dairy consumption is increasing in Tanzania (see Figure 1 below). Contrary to the FAO data, national sources in Tanzania also estimate that per capita annual milk consumption has increased significantly over the last decade and a half to about 39 litres per capita annually (NBS, 2007)³.

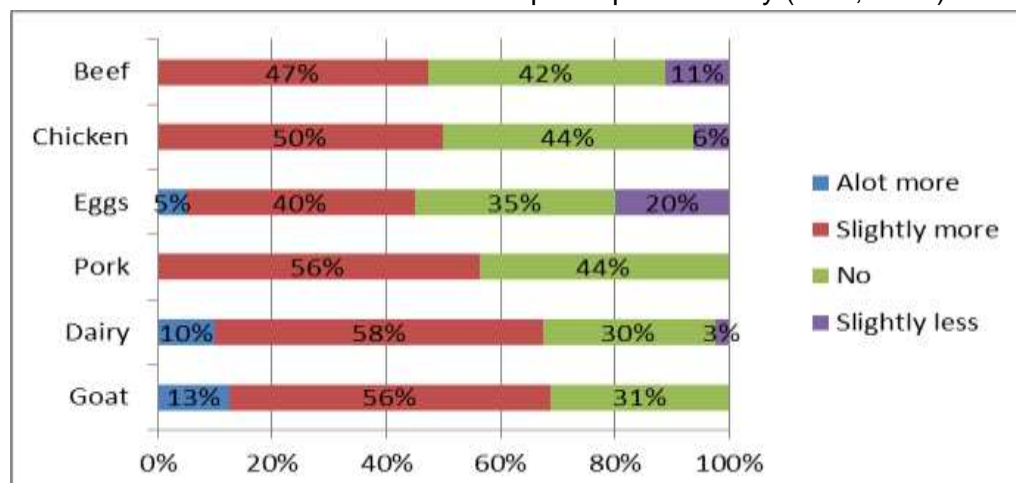


Figure 1: Reported consumption change in last 12 months, across livestock products⁴

Further, updated demand and supply projections since 2008 (when the last livestock census was conducted) to 2020 (see <http://mahider.ilri.org/handle/10568/3248> or <http://www.ilri.org/crp3.7>) suggest excellent opportunities for significant growth in smallholder dairying in Tanzania, driven by demand growth in the country's expanding cities (Figure 2).

The production projections using conservative GDP growth rates assume no change in per animal productivity or herd structure, and are based on extrapolating current herd changes. The traditional zebu herd is projected to increase at a rate of 1.4% annually and dairy herd, estimated to be growing at 5%. The latter growth rate is assumed to decline modestly to 4.6 by 2020. These projections suggest an increase of some 41% in milk production, with the

² Pauw, Karl and Thurlow, James (2010). Agricultural Growth, Poverty, and Nutrition in Tanzania. IFPRI Discussion Paper 00947

³ Country Stat, National Bureau of Statistics 2007/8

⁴ Source: Unpublished constraint analysis conducted in the selected project sites under BMGF-funded "Livestock Data Innovation Project", implemented as a partnership between FAO, the World Bank and ILRI.

dairy herd share rising from 34% to 43%. Under this supply projection and the demand scenario of 2% GDP growth, there could be shortfall of some 673 million litres of milk annually, or about 26% of demand. Under the same GDP scenario, an overall herd productivity increase of 4.5% annually would be necessary to enable supply to keep pace with demand.

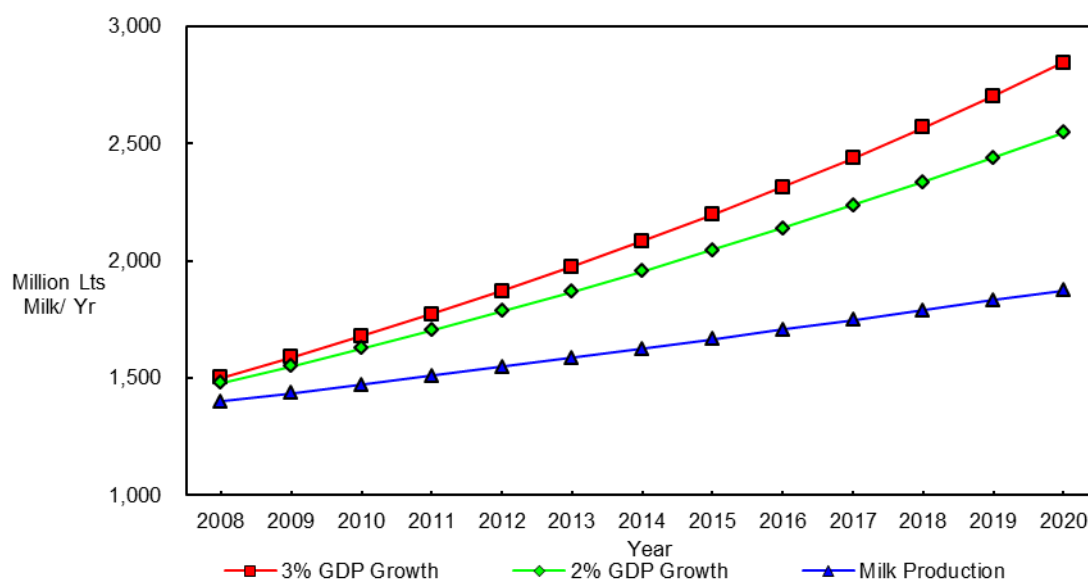


Figure 2. Projections in dairy supply and demand to 2020 for Tanzania

These projections suggest that, under current trends, production is very likely to fall short of demand. National economic performance continues to respond positively to recent structural reforms, implying the shortfall is likely to be substantial. These trends present an important opportunity for improving the welfare of current and potential smallholder dairy producers in Tanzania and their market agents, through income and employment generated in dairy production, processing and marketing.

Tanzania has the third largest (after Ethiopia and Sudan) cattle population in Africa currently estimated at 21 million heads, mainly consisting of low milk producing indigenous shorthorn East African zebu that make up more than 96% of the cattle population⁵. A modest annual growth in milk productivity of 1.1% from 160kg in 1965 to 239kg/cow in 2010 has been documented (but not reflected in the above conservative projections). This has been attributed to a doubling of the proportion of cows in the herd from 17% to 35% over the period⁶. In turn, such change can partially be attributed to concerted efforts to introduce more productive improved dairy breeds over the period. Crossbred and exotic dairy cattle totaled around 600,000 heads in 2007/2008.

Analysis of the Tanzanian National Panel Survey household data reveals that access to market (based on location relative to roads) was the factor that had the strongest explanatory power positively affecting milk yields, while large herd size had a negative

⁵ National Bureau of Statistics 2007/8

⁶ Computed using data from FAO statistical database, <http://faostat.fao.org/site/569>

impact on yield, likely because large herds are kept by pastoralists who mainly keep cattle for their asset value and are often constrained by shortage of pasture⁷.

The small proportion of imports of dairy products relative to total milk supply has shown a modest decline in recent years, falling from 33,000 tonnes in the 1980s to 25,000 tonnes in 2007. This constitutes about 2.5% of total domestically supplied dairy products in 2007 (Table 1)⁸. Evidence reveals that milk imports from within the East Africa Community (EAC) have doubled over the last decade to account for about 11% of total imports, mainly from Kenya, mainly attributed a high EAC common external tariff on milk products⁹.

Table 1: Imports of dairy products – milk, butter, and cream ('000 tonnes) (1980 - 2007)

	1980	1990	2000	2007
Production	421	602	811	961
Import quantity	33	18	28	25
Domestic supply quantity	453	620	836	985
Import as a share of domestic supply (%)	7.3	2.9	3.3	2.5

Source: Computed using data from FAOSTats, <http://faostat.fao.org/site/368>

Rural households in Tanzania have very low access to credit services. Nationally, only 6% of all livestock keeping households and 4% among the poorest quartile held credit¹⁰. Coupled with low private sector participation in the livestock sector, this has contributed to low use of inputs (feed, breeding, animal health) and related services as indicated in findings from Activity 1.3 below.

Most milk is sold directly to consumers and in small quantities by individual “pre-commercial” smallholder producers, with over 85% reaching consumers in this traditional manner, while traders (in local and secondary market outlets) absorb most of the remainder (11%)¹¹. Processors absorb only 1.4%. This picture confirms our hypothesis that pro-poor dairy development has not been effectively targeted by past policy, which concentrated on more complex cooperative models and technology-driven solutions. These policies presuppose an unrealistic level of production, and organizational commitment and capacity, and are often not pro-poor, as they are inapplicable to poor producers and consumers. However, the prevailing “unorganized” model has high costs per unit of milk sold.

There are significant risks to producers associated with unorganized milk sales, particularly in relation to prices, long-term commitment to buyers or service suppliers, feed sources and

⁷ Analysis conducted under the BMGF-funded “Livestock Data Innovation Project”, implemented as a partnership between FAO, the World Bank and ILRI

⁸ However, a report by Tanzania Milk Processors Association (TAMPA) contends that imports have been growing since 1995 when the industry was liberalized for private sector participation, rising steadily at about 9% annually and now stands at 30-40 million litres of liquid milk equivalent annually, equivalent to the volume of locally processed milk(see: www.tzdp.org.or.tz/.../TAMPA_POLICY_BRIEF_FINAL.pdf)

⁹ Gelan, A and Omore, A. 2011. Beyond Tariffs: The role of Non-Tariff Barriers on Dairy Trade in East Africa Community Free Trade Area. Journal paper submitted to Regional Science. In press

¹⁰ Katia Covarrubias, Longin Nsiima and Alberto Zezza. 2012. Livestock and livelihoods in rural Tanzania: A descriptive analysis of the 2009 National Panel Survey. Joint paper of the World Bank, FAO, AU-IBAR, ILRI and the Tanzania MLDF with support from the BMGF.

¹¹ National Bureau of Statistics 2003

animal health. This scenario discourages investment by smaller producers to improve productivity and quality. Although co-operative models have not been taken up, the nature of the high unit costs in the value chain indicate collective action offers a role among pre-commercial producers. A major policy focus should then be on improved organizational models to achieve economies of scale for access to inputs and services, to unleash incentives for raised productivity and production levels, and address risks inherent in small scale production and marketing. In turn, these will justify bulking of milk and the transition to more vertically co-ordinated marketing channels. Such a policy shift will require concerted policy analysis and advocacy.

It is also the case that the overarching policy framework is largely supportive. Following a general withdrawal of public support for dairy development in the 1990s, the Tanzanian Dairy Board (TDB) and a number of government and non-government organisations have renewed efforts to harness the energy of the smallholder dairy sector for development, as exemplified by recent collaboration between TDB and ILRI, with support from ASARECA to improve informal sector milk marketing¹². Recent findings from a BDS networks survey conducted under this collaboration reveal sparse BDS connections and networks with many buyers and sellers of inputs and output market services operating in isolation from others. As a result, surplus production has faced uncertain markets and installed milk processing capacity in Tanzania (about 350,000 litres per day) has remained grossly underutilised for many years. The national average is 25-30% utilisation according to estimates by the Ministry of Livestock and Fisheries Development (MLFD), while informal non-pasteurised milk markets continue to offer over 95% of the domestic marketed supply. Improved conditions would directly benefit the 60% of rural households who earn about 22% of their income from livestock, mainly cattle¹³. This collaboration with TDB is now being out-scaled to sites selected under this project (see Activity 2.2).

The Tanzania Agricultural Sector Development Strategy (ASDS) and Programme (ASDP) has put emphasis on strengthening the institutional framework for managing agricultural development; creation of a favourable climate for commercial activities; clarifying public and private support services; and improving input and output markets. In addition, the Tanzania Agriculture and Food Security Investment Plan (TAFSIP) provides a sector-wide plan for coordinating and harmonising the resources needed to accelerate implementation, including a financing mechanism, of existing initiatives such as ASDP. Integrating the research process directly with dairy development as envisaged under this project will provide an environment conducive to identifying and developing practical solutions, while working with partners who will be positioned subsequently to scale those solutions up and out.

¹² ASARECA-PAAP/TDB/ILRI. 2011. Integrating informal milk markets into formal value chains in Eastern and Central Africa (ECA). Closure Report. International Livestock Research Institute, Nairobi, Kenya. 32pp.

¹³ Katia Covarrubias, Longin Nsiima and Alberto Zezza. 2012. Livestock and livelihoods in rural Tanzania: A descriptive analysis of the 2009 National Panel Survey. Joint paper of the World Bank, FAO, AU-IBAR, ILRI and the Tanzania MLDF with support from the BMGF.
http://www.africallivestockdata.org/afrlivestock/sites/africallivestockdata.org/files/PAP_LIV_TZ_LSMS-ISA_July_12_0.pdf

Activity 1.2 Consult and sensitize stakeholders:

A meeting was held in Morogoro on 9 March 2012 to present the aims of the MoreMilkIT project and broader CGIAR aims in Tanzania, to air the range of views and experiences of stakeholders, and to share information about current efforts to promote smallholder dairy VCs in Tanzania. A main theme was the identification of what is working and the challenges faced, and to chart a way forward for concerted action. The meeting dwelt on the current status of the smallholder dairy VC in Tanzania and the opportunities for research and development to support its growth for effective poverty reduction. It was held in conjunction with other initiatives contributing to CGIAR Research Programs in which ILRI plays a role and that have synergies with the MoreMilkIT project: the IFAD-funded project on Enhancing Dairy-based Livelihoods through Feed Innovation and Value Chain Development Approaches (MilkIT project) and the BMGF and World Bank-funded Livestock Data Innovation Project (LDIP) in Africa (<http://www.africalivestockdata.org>). The stakeholders present included donors, development partners, East Africa Dairy Development (EADD) project representatives, other NGOs, (MLFD), TDB, dairy cooperatives, Tanzania Milk Processors Association (TAMPA), Tanzania Milk Producers Association (TAMPRODA), and breeders and scientists from various national and international research institutions (SUA, ILRI, CIAT).

The main issues raised by participants were: the important role that the dairy industry plays in Tanzania; its great potential for improving living standards and contributing towards reduction of poverty; its current low levels of productivity; low consumption and low availability of milk in many places. Suggested proposals for interventions included: upgrading the indigenous cattle stock; developing an effective extension system; promoting milk consumption; and creating a conducive policy and regulatory environment for investments in appropriate milk collection infrastructure and improved delivery of inputs and services, especially to pre-commercial producers. Investment for more utilization of existing processing capacity was also called for by stakeholders, which further emphasizes the need for VC co-ordination. The development actors represented highlighted the need to better research VC linkages, especially to facilitate uptake of appropriate technologies and organisational change as innovations to address productivity constraints. A national platform to be known as the Dairy Development Forum (DDF) was proposed as an informal mechanism for public and private stakeholders to address systemic bottlenecks in the dairy sector (see more details in results under Activity 2.1 below).

Another opportunity to sensitize stakeholders on activities of the project came when ILRI and SUA were invited to make a keynote presentation titled: *“Entry points for extending the frontiers of dairy value chains in Tanzania through hubs”* at the 35th Tanzania Society of Animal Production (TSAP) Conference, Arusha, 23-26 October 2012. Further details on the situation will be spelt out in the Situation Analysis report being finalised.

Activity 1.3 Develop and implement value chain assessment tool:

A toolkit with specific tools targeted for use with male and female producers, inputs and service providers and milk traders was developed and applied in the diagnostic phase to assess the dairy VC in selected districts during June and July 2012 (see <http://livestock-fish.wikispaces.com/VCD+Tanzania>). The assessment was conducted in selected districts in

Morogoro Region (Kilosa and Mvomero districts) and in Tanga Region (Handeni and Lushoto districts), and covered village maps, gender roles, decision making and livelihood analysis. The value chain assessment (VCA) tool was implemented in the following villages that were selected to represent dominant production & market systems within the districts (Table 2): the process followed to select these districts is reported separately under Activity 3.1.

Table 2. Villages and production systems where value chain assessment tools were applied

Region	District	Villages	Production system	Study strata
Morogoro	Kilosa	Mbwade	Extensive	R-to-R
		Twatwatwa	Extensive	R-to-R
	Mvomero	Kambala	Extensive/semi-intensive	R-to-U
		Manyinga	Intensive	R-to-U
Tanga	Handeni	Sundeni	Extensive	R-to-R
		Kabuku	Semi-intensive/intensive	R-to-R
	Lushoto	Kwapunda	Semi-intensive/intensive	R-to-U
		Kwang'wenda	Intensive	R-to-U

Key: R-to-R: Rural production to rural consumption (pre-commercial)
R-to-U: Rural production to urban consumption (more commercial)

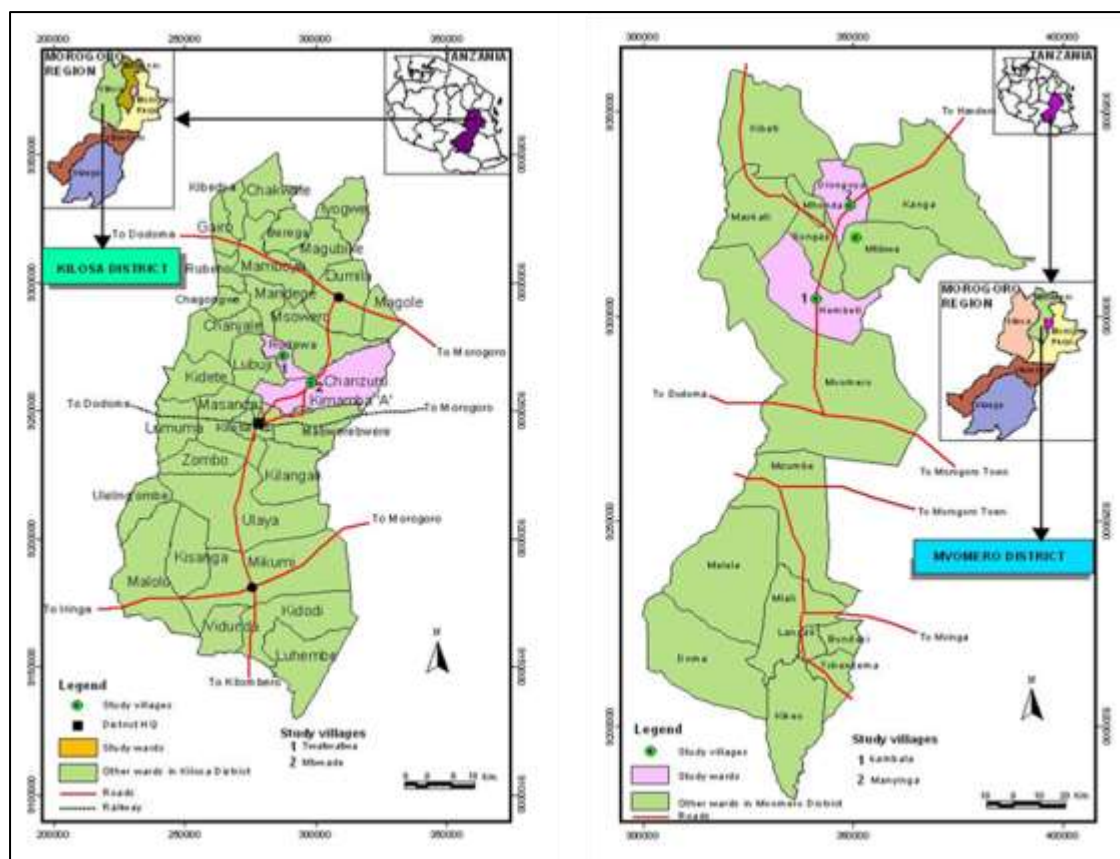


Figure 3: Villages where value chain assessment tools were applied in Morogoro (Kilosa and Mvomero districts)

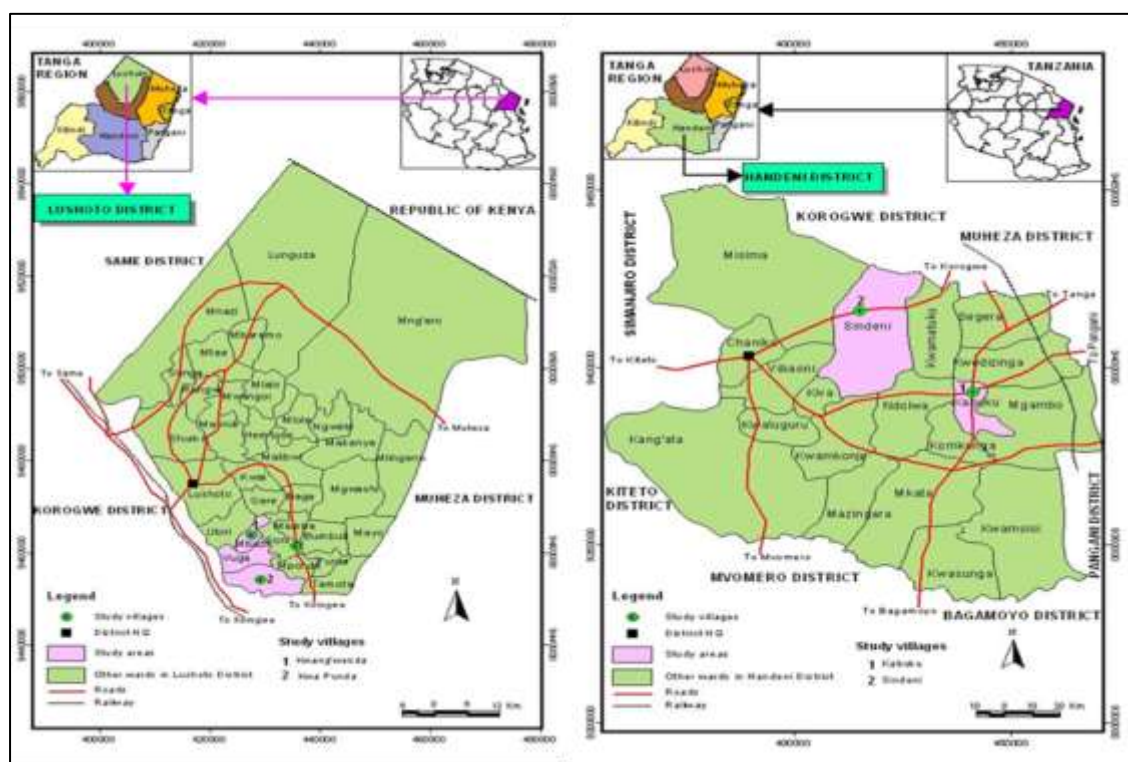
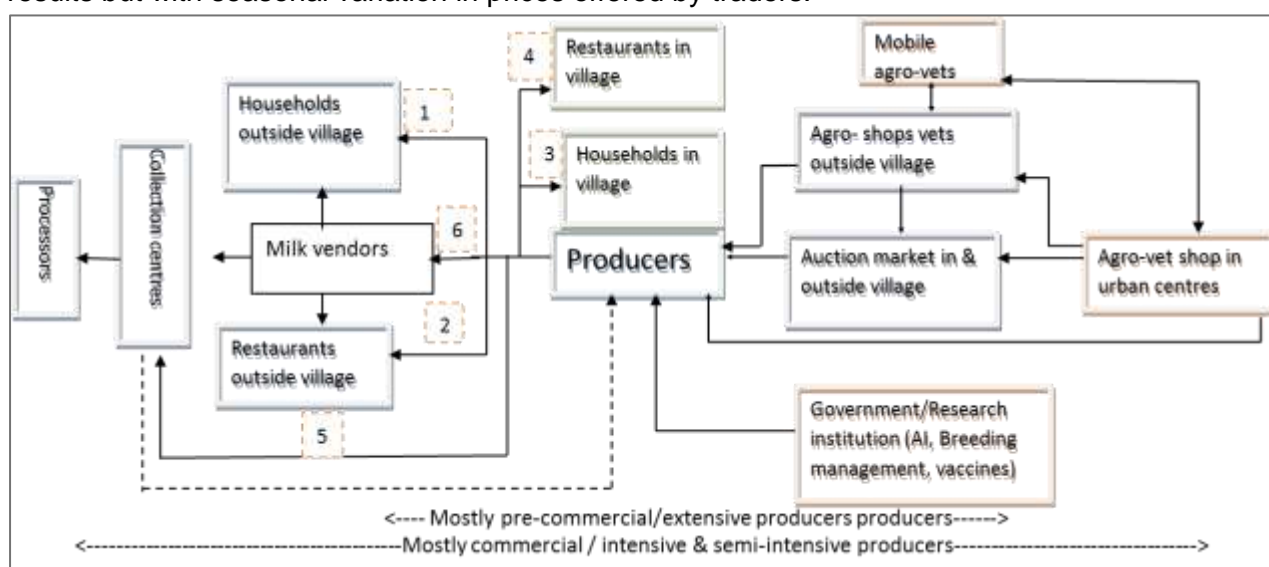


Figure 4: Villages where value chain assessment tools were applied in Tanga (Handeni and Lushoto districts)

The tools were applied with the following objectives:

- Characterize the context, and community perspectives on the current situation with respect to dairy production, market channels and actors, and flows of dairy inputs, services and outputs
- Identify constraints, barriers to participation by poor men and women, opportunities for VC co-ordination, upgrading and expansion, and associated risks with particular regard to domains of feeds, breeding, animal health and food safety
- Characterize the possible forms and functions of dairy market hubs (DMH), by looking at producers' problems and opportunities and identifying key indicators to be factored into the follow-up detailed sites selection for the DMH and baseline survey
- To complement and guide collection of household-level data that will follow.

A consolidated summary of value chain maps identified across the eight villages is presented in Figure 5. Pre-commercial producers participated more in direct sales to consumers with farm-gate prices as high as TSh 1,000/litre in Kabuku village in Handeni district. More commercial-oriented producers participated in all market outlets. The lowest farm-gate prices of TSh 300-350/litre were found in channels to vendors in Mbwade and Twatwatwa villages in Kilosa district. The constraints analysis under LDIP also found similar results but with seasonal variation in prices offered by traders.



Key: 1-6 = channels preference by producers across the 8 villages that also reflect decreasing price gradient that ranges from TSh 1000/litre for direct sales down to TSh 300/litre for sales to vendors collection centres

Figure 5: Input supply and output markets in surveyed villages

The involvement of three CGIAR Research Programs (Livestock and Fish, Agriculture for improved Nutrition and Health, and Policies, Institutions, and Markets) in developing the tools, and their adaptation with R&D partners in Tanzania, underscores the potential to maximize the knowledge to be generated. Specifically, the BMGF-funded project “Livestock Data Innovation Project (LDIP)”, implemented as a partnership between FAO, the World Bank and ILRI, was invited to apply their “constraint analysis” methodology in villages in the same districts or close to them: Mvomero and Mlale districts in Morogoro Region and

Mkalumo and Bungu in Tanga Region. Results from the LDIP's constraints analysis that employed a quantitative approach in these locations have been used to enrich and validate the qualitative findings generated under this project. For example, the LDIP assessments already provide data on the typology cattle keepers, pending those from the more in-depth and structured baseline surveys under this project that were on-going at the time of submitting this report. The relevant findings are summarized below.

Sample composition: The findings from 115 interviews in the LDIP assessment reveal that large households with an average of 8 people per household. The general low level of education of farmers with close to one quarter of the cattle keepers interviewed declared having no education and 65% had only some form of primary education. Districts in Morogoro in particular had percentages of uneducated farmers that were significantly higher (33% and 44% respectively) than those from districts in Tanga (1% level of significance).

Other statistically significant differences appeared across the districts. For example, districts in Morogoro (Mlale and Mvomero) showed a greater prevalence of livestock-only farming systems whereas those in Tanga (Mkalumo and Bungu) also displayed some cropping (1% level of statistical significance). In Mlale in particular, 63% of the farmers interviewed engaged in dairy farming only while 33% were involved in some mix of cattle and crop farming. Fewer than 30% of the farmers interviewed had bought animal feeds for their cattle; virtually none of the farmers interviewed used their own crops or even crop residue as fodder for the cows.

Household labour allocation: Household labour allocation revealed that the farming systems rely heavily on grazing of pasture land. This bias towards itinerant animal production was reflected in the household distribution of labour on farm tasks (e.g., Figure 15). The findings show substantial labour being allocated to guarding, grazing and watering the herd.

Transhumance: The districts in Morogoro had higher numbers of households engaging in transhumant herding (89% in Mlale and 64% in Mvomero), with the animals moving in search of pasture and water. This was significantly different (at 1% level) from the situation in districts in Tanga where 86% of farmers in Mkalumo and 89% of farmers that were interviewed had fixed households and dairy enterprises. This difference in production system was reflected in the land area held by the farmers. Farmers in Morogoro also declared using large areas of communal pasture land while farmers in Tanga used very little communal pasture land (figures were not statistically significant). Water availability was scarce across districts. However, shared watering facilities for cattle were available within 1 km to 57% of Bungu farmers and 45% of Mkalamo farmers whereas they were rarer in Mlale and Mvomero where only 30% and 32% of farmers respectively had access to shared watering facilities within 1km of their household (statistically significant difference at 1% level).

Productivity: The herd sizes in Morogoro was also significantly larger (the number of calves born in 2011 was different at the 5% statistical level) than in the two other districts, as shown in Table 3. Despite the big difference in herd size, the amount of milk produced each day was not significantly different across districts. At first analysis, this discrepancy could be due to variations in the breed composition of herds across districts.

Table 3. Average herd size and milk production by district

	Mean value of variable			
	Districts			
Variables	Mlale (a)	Mvomero (b)	Mkalumo (c)	Bungu (d)
Number of calves born in 2011*	29 (c, d)	29 (c, d)	5	4
Average daily milk production (litres)	13.7	13.4	15.6	5.3
Average daily milk sold (litres)	9.4	10.11	6.8	2.9
Number of local breed heads in herd	131	108	28	79
Number of cross-bred heads in herd [†]	45	33	2	69
Number of pure-bred heads in herd [†]	6	1	0	-

*: mean value is significantly different from that of district indicated in parentheses (at 5% level of statistical significance)

[†]: too few observations for Mkalumo and Bungu districts to calculate statistical tests

Purposes for keeping cattle: When asked what was the most important reason for raising cattle, 47% of farmers surveyed replied that it was the income from milk sales. However, in Mlale district, the most important reason to keep cattle was the income from cattle sales for 47% of farmers there. This strategy helps explain the large herds compared with the amount of milk produced by farms in this district. In Mkalamo district, the income from milk sales was tied with nutrition and food security as the most important reason for keeping cattle for 41% of farmers interviewed in the district. These differences across districts were statistically significant at the 1% level. The second main reason for keeping cattle was the income from cattle sales: 26% of all farmers surveyed. Further statistically significant differences (at 1% level) reappeared for the third main reason to keep cattle. Overall, manure production came third for 20% of farmers. But this latter reason was mainly that of 32% of Bungu farmers. In the three other districts, farmers particularly valued their cattle as assets and wealth. These differences in production strategies help to shed light on the variations observed in the production systems across districts.

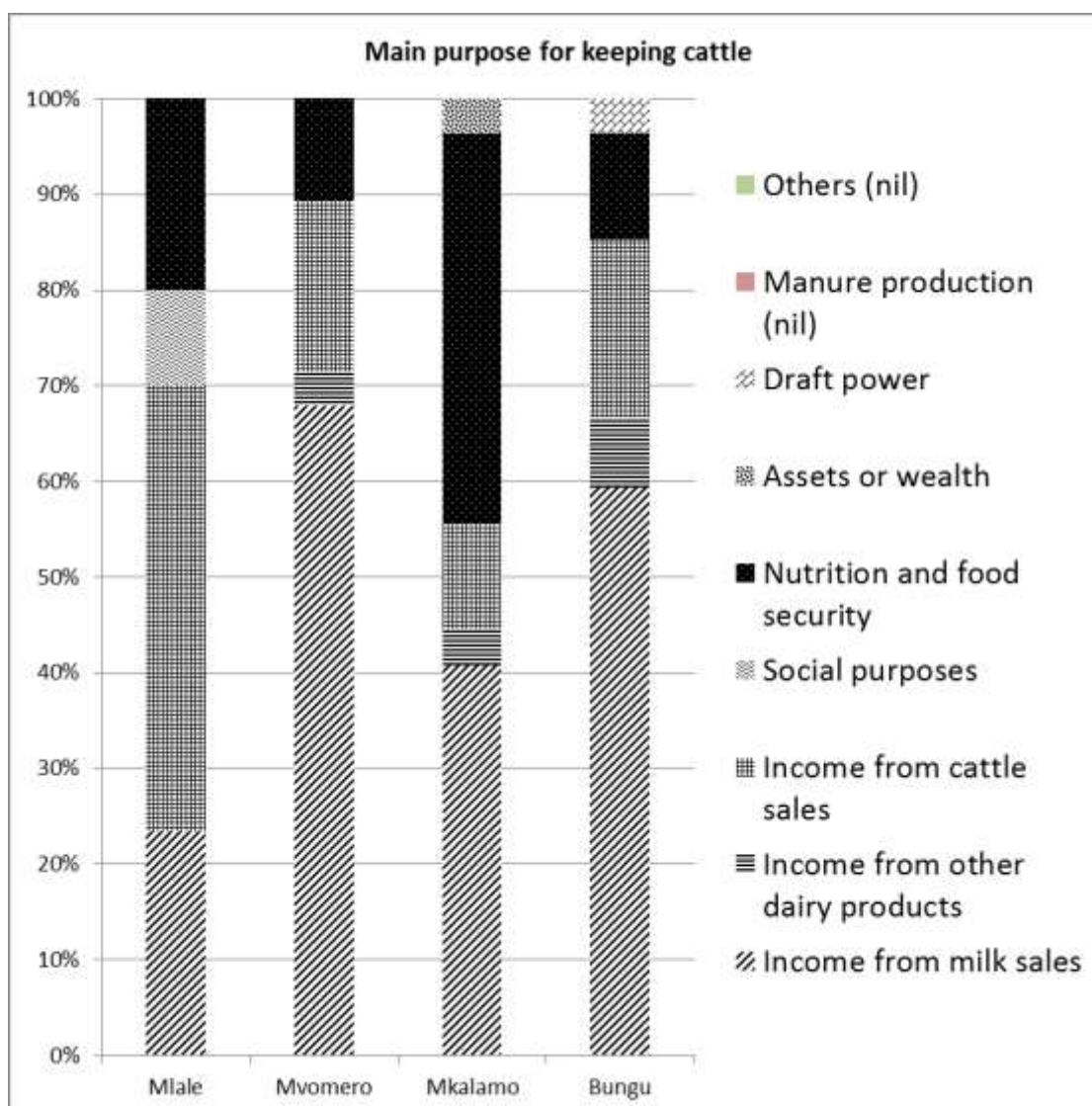


Figure 6. Main purposes for keeping cattle in selected project sites in Morogoro and Tanga¹⁴

Milk sales: As far as sales outlets are concerned, farmers in all four districts sold their milk to local consumers from other households (88% of sample) and to local vendors (71% of sample). On the other hand, sales to distant vendors (only 22%) and to milk processors (15%) were not common among the farmers of the four districts surveyed in Tanzania. For this last indicator, dairy farmers in Bungu were significantly (at 1% level) more involved in sales to a milk processor than farmers in other districts; indeed, 75% of Bungu farmers declared selling milk to a processor; only 22% did so in Mlale and none in the two other districts. Customers also showed varying discernment for milk quality across districts. In Mlale, Mvomero and Bungu, respectively 83%, 68% and 71% of farmers declared that their customers provided information about good quality milk to them; only 31% of farmers in Mkalamo had a similar experience with their customers (statistically significant difference at 1% level). The same applied for acceptance of the product: 70%, 57% and 75% of customers would accept or reject milk according to quality indicators in Mlale, Mvomero and

¹⁴ Source: Unpublished constraint analysis conducted in the selected project sites under BMGF-funded "Livestock Data Innovation Project", implemented as a partnership between FAO, the World Bank and ILRI

Bungu respectively. Only 21% of farmers in Mkalamo faced equally demanding customers (statistically significant difference at 1% level).

Availability of information: Another statistically significant difference (at the 2‰ level) across districts related to the provision of information on crop production, cattle production, hygiene and safety, and on market conditions (Table 4). All these variables showed greater information being provided to farmers in Mlale (Morogoro) and Bungu (Tanga) than in the two other districts. Farmers in Bungu in particular referred to agricultural and livestock officers for timely information to help them improve their production system. These were mostly sedentary farmers.

Table 4. Information received by Tanzanian cattle keepers

Variables	Percentage of farmers responding 'Yes'			
	Districts			
	Mlale	Mvomero	Mkalumo	Bungu
Farmers received information on crop production in the past 2 years ⁺	38.5	19	19	69.6
Farmers received information on cattle production in the past 2 years*	54.5	20	23.8	69.6
Farmers received information on milk hygiene and safety in the past 2 years ⁺	70	5.3	20	69.6
Farmers received information on prices, selling and income from milk in the past 2 years*	11.1	5.3	19	54.5

*: Pearson chi-squared test 0.002

⁺: Pearson chi-squared test 0.001

The full range of constraints faced in four contrasting locations in Morogoro and Tanga regions are shown in Figure 7.

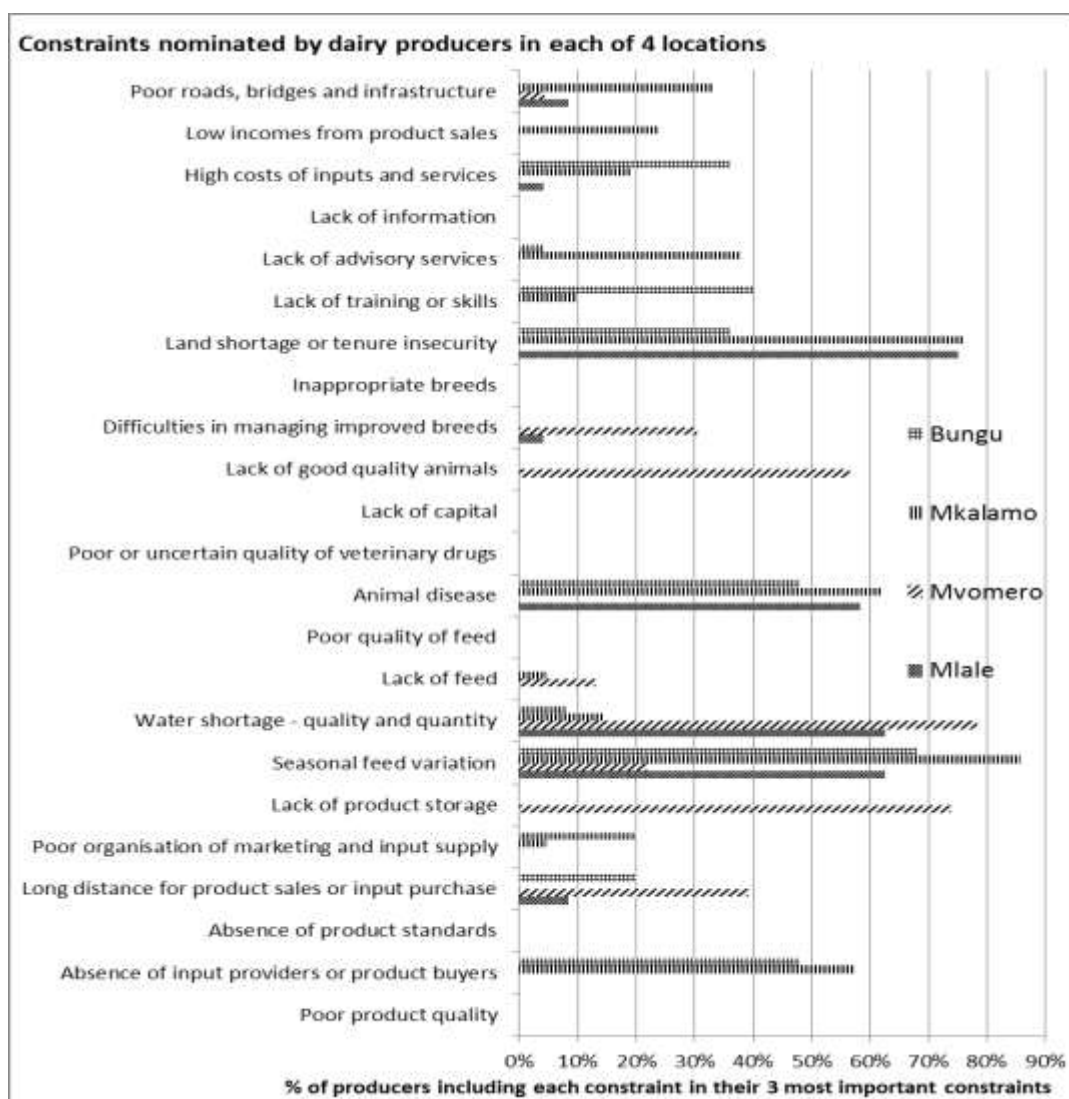


Figure 7. Constraints nominated by dairy producers in four locations in Morogoro and Tanga regions¹⁵

These assessments show that access to adequate feeding, breeding, animal health and credit services have remained low and that production of a marketable surplus remains a fundamental challenge. In addition, there is poor animal health and nutrition, alongside shortages of land, low access to working capital, and limited knowledge and information. Although access to capital was not commonly nominated as a constraint faced by dairy producers, impacts of lack of working capital on dairy and cattle operations were revealed as poor access to, and high cost of, inputs, long distance to markets, and lack of buyers.

When asked to rate the three most important constraints they face in terms of what prevented the producer from achieving his/her main purpose for cattle farming: land was overwhelmingly identified as the most important basic constraint, cited by 44% of cattle keepers interviewed, with capital and knowledge & information as the next important basic

¹⁵ Source: Unpublished constraint analysis conducted in the selected project sites under BMGF-funded "Livestock Data Innovation Project", implemented as a partnership between FAO, the World Bank and ILRI

constraints (Figure 8)¹⁶. Constraints related to capital were mainly cited by men, while constraints related to knowledge & information was mainly associated with livestock diseases. Labour was not considered a basic constraint. Concerns over access to grazing land was considered the most severe (Figure 9).

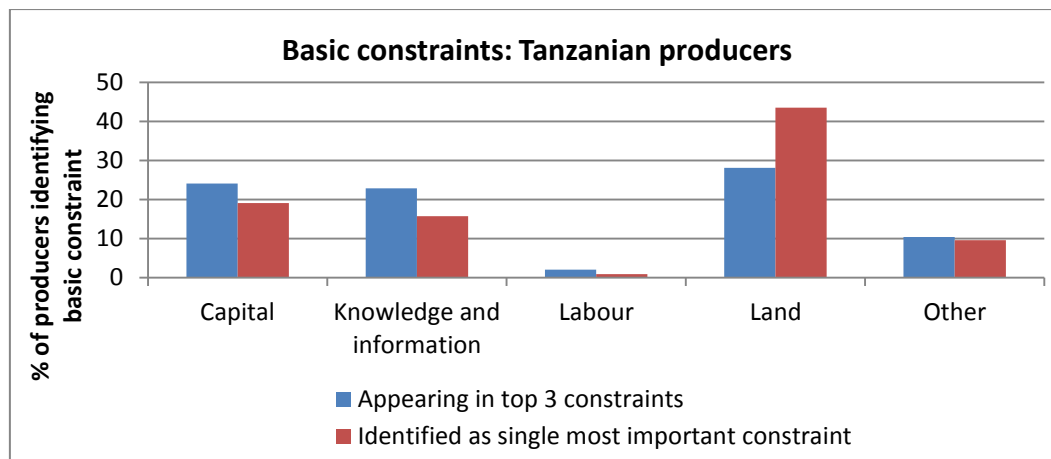


Figure 8: Basic constraints faced by cattle producers in selected sites Tanzania

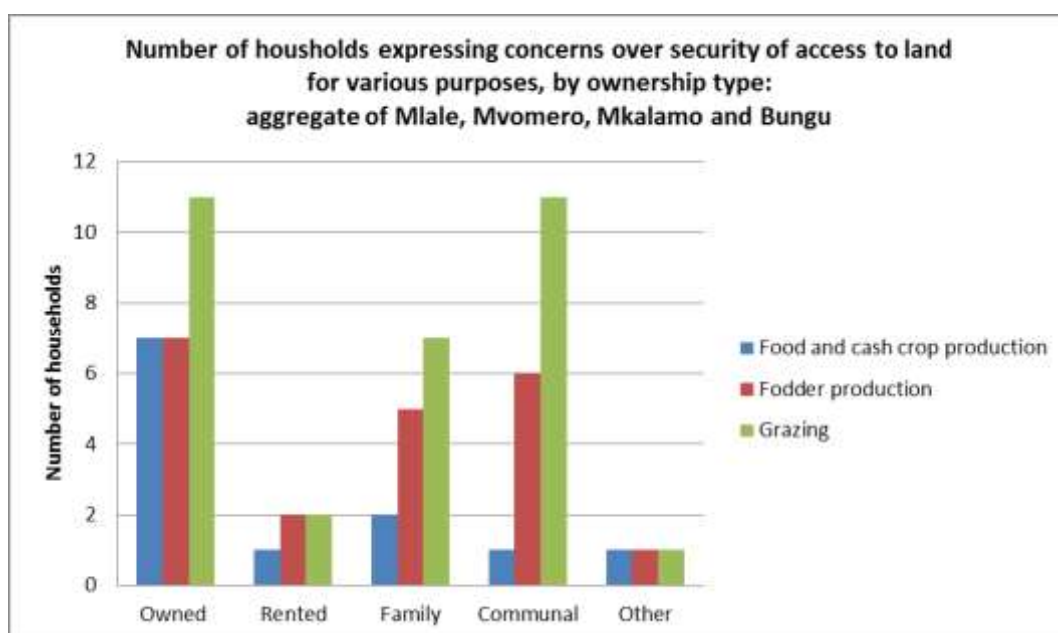


Figure 9. Concerns over security of access to land for various purposes, by ownership type

A summary of key findings from the value chain assessments and constraints analysis are presented in Table 5.

Table 5: Summary of findings from value chain assessment workshops conducted in Morogoro and Tanga: Findings from MoreMilkIT and LDIP (May - July 2012).

¹⁶ Source: Unpublished constraint analysis conducted in the selected project sites under BMGF-funded "Livestock Data Innovation Project", implemented as a partnership between FAO, the World Bank and ILRI.

Category of findings	Study strata where finding is applicable	
	R-to-R	R-to-U
a) Situation related		
Extreme seasonality that is reflected in producers' management in terms of drying-off and mating times for cross-bred cows, resulting in an exacerbation of the seasonality in terms of milk volumes. Furthermore, as much production is consumed at home or sold to neighbours, the volumes reaching the market display extreme seasonality. Prices provide no incentive for dry season production.	XXX	XX
Access to land and insecurity regarding future access to land are the most commonly cited constraints on both production and investment for dairy	XXX	XX
Access to working capital for purchase of inputs (mainly concentrate feed and animal health products) and services is a major constraint, that government provision is not relieving as it is not reaching the small producers. This is aggravated by low access to BDS providers	XX	XXX
Even amongst ethnic groups not usually associated with transhumance, pastoral systems commonly feature annual periods during which the animals are sent elsewhere for grazing.	XXX	N/A
Long distance to urban centres is associated with lower milk prices at farm level (Price range TSh 300 – 1000 per litre)	XXX	X
b) Value chain assessment related		
Many producers face limited numbers of buyers, due to transport constraints arising from remoteness, condition of roads, or short "reach" of processing plants' collection	XX	XXX
There appears to be widespread shortage of all inputs (animal health, breeding, feed, capital) and related services for cattle owners. Few farmers knew how to access these. Their prices were also viewed as too high where available	XXX	X
Extreme seasonal milk retail price variations are not reflected in price patterns at farm level.	XXX	XXX
There is widespread reference to milk quality, and buyers commonly accept/reject milk on this basis, but the criteria used are not appropriate or clear besides mention of adulteration, and there is no quality-related pricing.	XX	XXX
Little knowledge is a major factor constraining disease prevention and poor access to health service providers	XX	XXX
Lack of knowledge on milk-borne and other animal associated diseases (zoonoses)	XXX	XXX
c) Intervention related		
There is considerable interest in vertical co-ordination activities, particularly for input supply and milk marketing	X	XXX
Integration of crops and cattle is widely-cited but not well documented nor understood in terms of poverty reduction or gender effects.	X	XXX
Isolated cases were found of active and continuous innovation by producers -- these are potentially valuable as demonstration tools	XXX	XXX
Cattle are kept for a variety of purposes, and milk production for sale is often a secondary albeit vital, purpose.	XX	XXX

Cattle production is the most important source of livelihood	XXX	XX
Women actively participate and directly benefit from proceeds of sales in in the short value chains that dominate selected project sites	XXX	XX

Key: R-to-R: Rural production to rural consumption (pre-commercial);
R-to-U: Rural production to urban consumption (more commercial)
X=relevant; X=highly relevant; XXX=very highly relevant

The type of production system was influential in determining the constraints cited: intensive /semi-intensive producers faced constraints associated with fine-tuning, such as feed quality, diseases and organisation of marketing. Extensive producers were concerned with constraints such as the quantity of feed and lack of water (Table 6).

Table 6: Ranking of the most important constraints by production system from value chain assessment workshops

Constraints	Rank	
	Extensive production systems	Intensive/semi-intensive production systems
Lack of water	2	5
Lack of pastures /inadequate feeds / land tenure	1	3
Lack of market	3	3
Livestock diseases*	4	1
Theft	5	-
Lack of quality breeds	-	2
Lack of capital	-	6

*East Coast Fever (ECF), Contagious Bovine Pleuropneumonia (CBPP), Foot and Mouth Disease, (FMD) were cited as the most important diseases in terms of morbidity, and mortality and their impacts on production

These results are already being applied not only to inform the next steps in the MoreMilkIT project but activities in associated projects as well including: the IFAD-funded MilkIT feed innovations project and the BMZ-funded Safe Food Fair Food (SFFF2) project. These projects have been attracted to the same sites to achieve synergy. The VCA findings have also informed the updating of key problems that face resource-poor cattle keepers and constrain commercial orientation in milk production as follows:

- *Dominant direct sales of small volumes by smallholder producers that precludes economies of scale.* This results in high costs of production and marketing (see Figure 10).

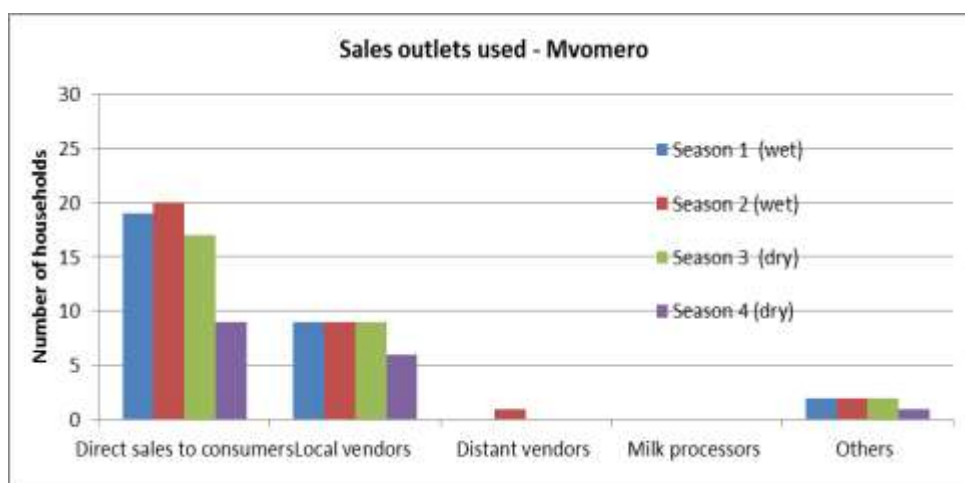


Figure 10. Sales outlets used by producers in Mvomero district in Morogoro¹⁷

- *Credit facilities are lacking.* Due to little contact between credit providers and individual small scale producers, credit facilities are difficult to set up for basic inputs and services or working capital. This discourages investment to improve productivity and perpetuates a low-input low-output vicious circle¹⁸
- *Lack of appropriate organizational models for pre-commercial producers.* Suitable organisational models have been lacking to facilitate collective action for bulking of milk, entry to milk markets and access to inputs and services. Organizational difficulties also reduce capacity of poor cattle keepers to innovate, manage risk, reduce vulnerability, increase their incomes and ensure food security. Classical complex cooperative models that emphasize technology-driven solutions for smallholder cattle owners in most locations have largely failed because they presuppose an unrealistic level of production and organisational commitment and capacity that are often not pro-poor¹⁹
- *Seasonality of rainfall (and access to water) is extreme.* This is reflected in producers' management of their animals' reproductive cycle in intensive systems and transhumance in extensive systems, resulting in an exacerbation of the seasonality in terms of milk volumes that follow the same pattern (Figures 11, 12 & 13). Seasonal variation in feed availability, which is main cause of difficulties in securing regular milk selling arrangements, is also a consequence of lack of the working capital necessary to buy or produce feed for use in the dry season. However, large reported differences in yields for different breeds in the same locality indicate substantial potential gains from introduction of improved breeds (Figure 14).

¹⁷ Source: Unpublished constraint analysis conducted in the selected project sites under BMGF-funded "Livestock Data Innovation Project", implemented as a partnership between FAO, the World Bank and ILRI.

¹⁸ In all eight villages visited in Morogoro and Tanga, there was no indication of availability of institutions which could provide credit to the farmers. Village Community Banking (VICOBA; <http://www.wiatanzania.org/vicoba.shtml>) was mentioned in one of the eight villages surveyed. http://www.africalivestockdata.org/afrlivestock/sites/africalivestockdata.org/files/PAP_LIV_TZ_LSMS-ISA_July_12_0.pdf

¹⁹ Membership to existing farmer organisations was only mentioned by a few producers in two of eight villages visited for value chain assessments

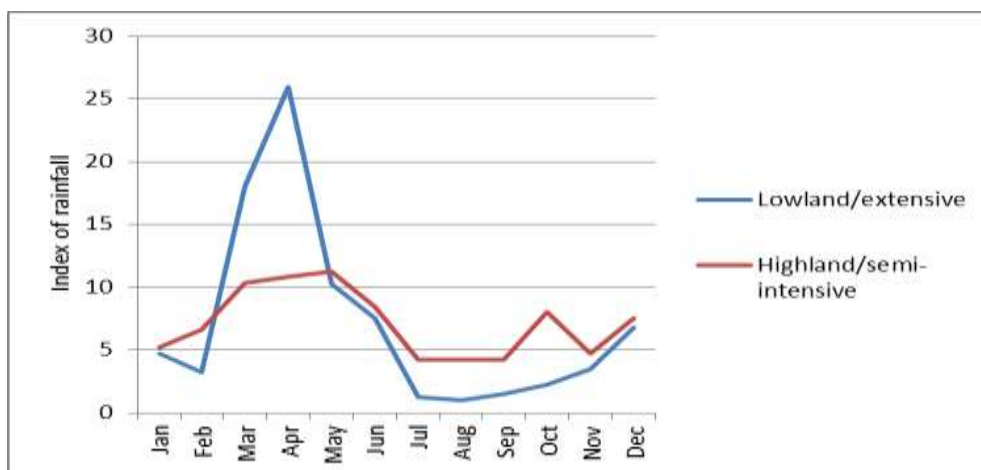


Figure 11. Annual rainfall distribution in lowland/extensive and highland/semi-intensive areas in identified project sites in Morogoro and Tanga

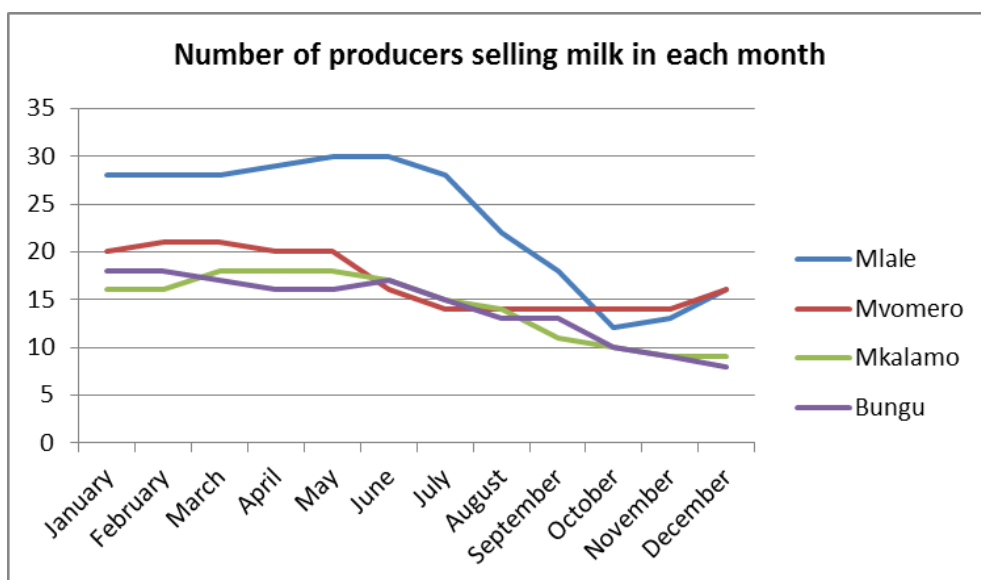


Figure 12. Number of producers selling in each month

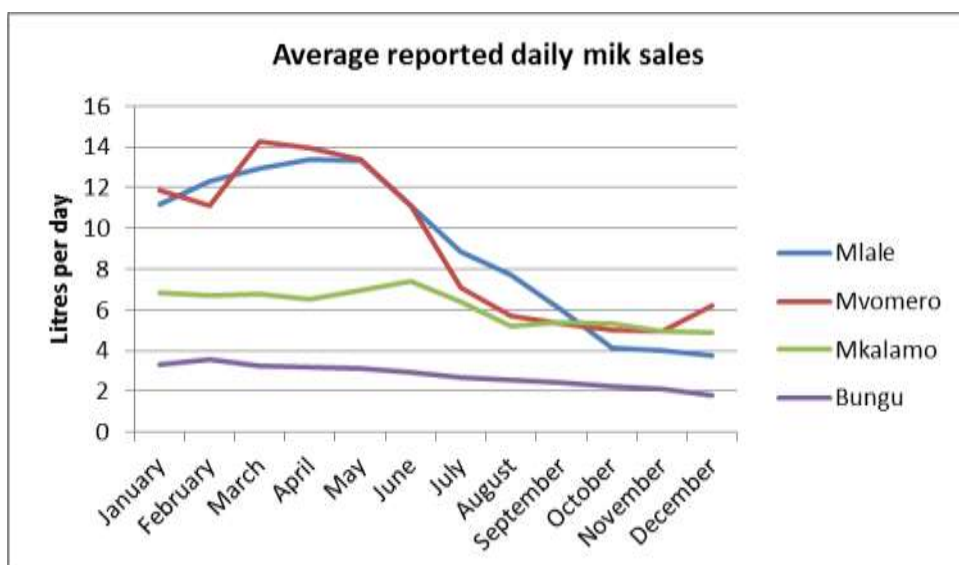


Figure 13. Average reported daily milk sales

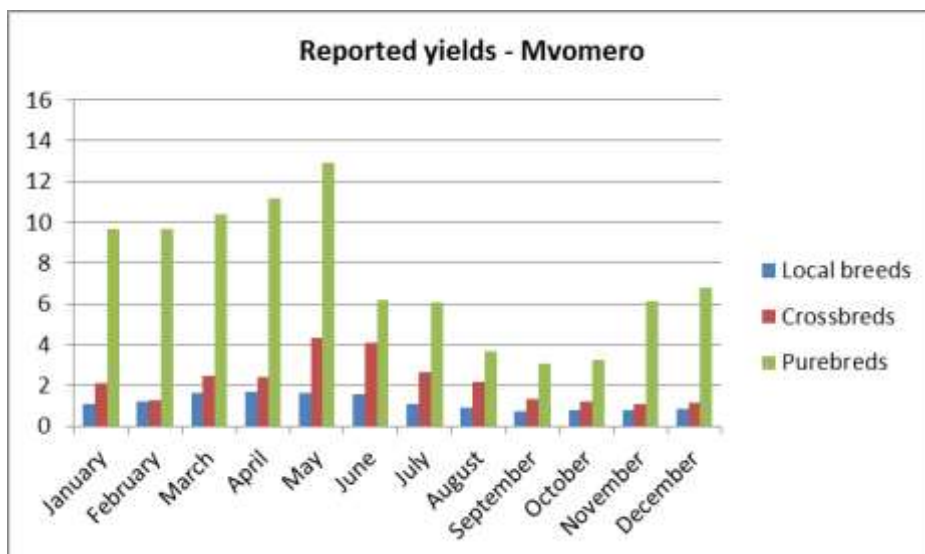


Figure 14. Reported milk yield by different dairy breeds in Mvomero district in Morogoro.

The interventions that have been proposed here have been designed with these key problems in mind. On the plus side, whereas a number of important decisions are made by men who also control related income, decisions related to milking and milk sales are made by women, who also control related income (Figure 15).

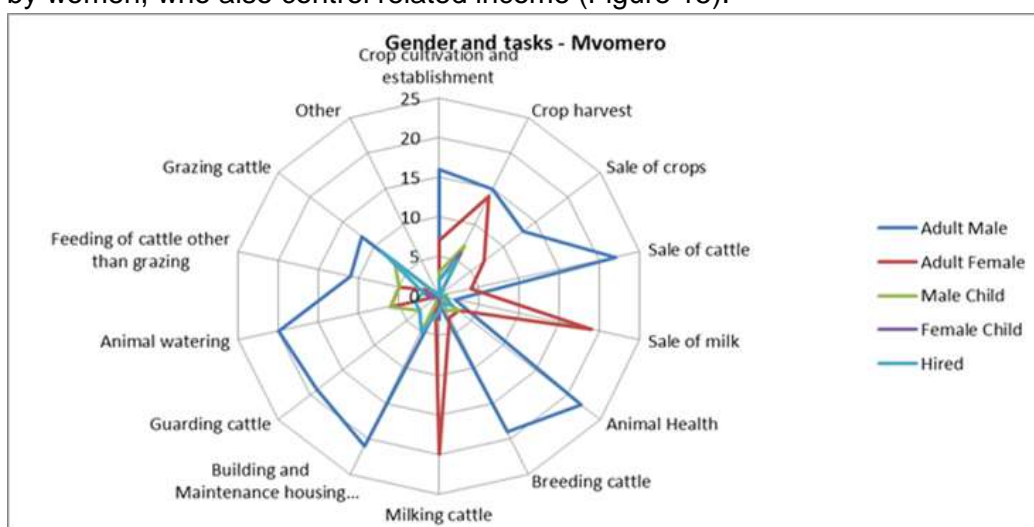


Figure 15: Gender and tasks in Mvomero district, Morogoro

The women participate and benefit more, by receiving and deciding on use of milk revenues in 80% of cases (Table 7). The funds from the sale of crops and cattle were generally received by men. It is more interesting to look at how the decision to use this money is made within the household. Overall, the decision on what to do with the money from crop sales lay with men in 86% of the households surveyed; the same figure for the money from cattle sales stood at 92%. In contrast, 62% of farmers interviewed declared that the money from the sale of milk was used following the decision of the woman in the households.

Table 7: Gender differences in ownership and control of three forms of farm household revenue in Mvomero, Morogoro²⁰

Source of Income	Who receives the funds?			Who makes the decision on how the funds are spent?		
	Male	Female	Both	Male	Female	Both
Sale of crops	20	2	2	20	2	1
Sale of milk	2	21	1	4	19	1
Sale of cattle	21	1	1	21	1	1

Output 2: Strategy for strengthening the policy environment to better support pro-poor dairying developed

The three activities under this output are: 2.1 Develop a pro-poor strategy for strengthening policy environment; 2.2 Improve quality assurance services; and 2.3 Initiate process of strengthening of actors and their organisations.

Activity 2.1 Develop a pro-poor strategy for strengthening policy environment:

A key focus for the project is to generate knowledge required for influencing the policy environment. Successful policy-oriented research needs to be underpinned by effective communication and involve relevant policy actors in the research process. Starting with the stakeholders' workshop held on 9 March 2012 in Morogoro, various policy engagements have taken place including participation by ILRI in a Country Working Group (CWG) formed to mobilize efforts towards the second phase of the EADD project to be funded by the BMGF. Another forum for engagement was the National Dairy Development Conference (NDDC) held in Moshi alongside the Dairy Promotion Week of 29 May – 2 June 2012. The DDF proposal that was initiated during the Morogoro meeting in March 2012 was roundly endorsed at the NDDC and the Annual Council meeting of the Tanzania Dairy Board involving district-level stakeholders from across the country. The main role for the DDF has been identified as an informal platform for identifying systemic dairy industry bottlenecks and for co-creating solutions. Its membership will be open to all major stakeholders in the dairy sector including public and private players, with TDB acting as the Secretariat (Figure 16). Representatives of organisations active in the dairy sector in Tanzania were tasked to drive the agenda forward. The organisations represented were SNV Netherlands Development Organisation, Land O'Lakes (LOL), MLFD, Heifer/EADD2-Tanzania and ILRI. These organisations have been nominated to provide advisory services to the Secretariat. A draft Terms of Reference (ToR) for the Forum developed through facilitation by TDB and ILRI is available upon request.

²⁰ Source: Unpublished constraint analysis conducted in the selected project sites under BMGF-funded "Livestock Data Innovation Project", implemented as a partnership between FAO, the World Bank and ILRI.

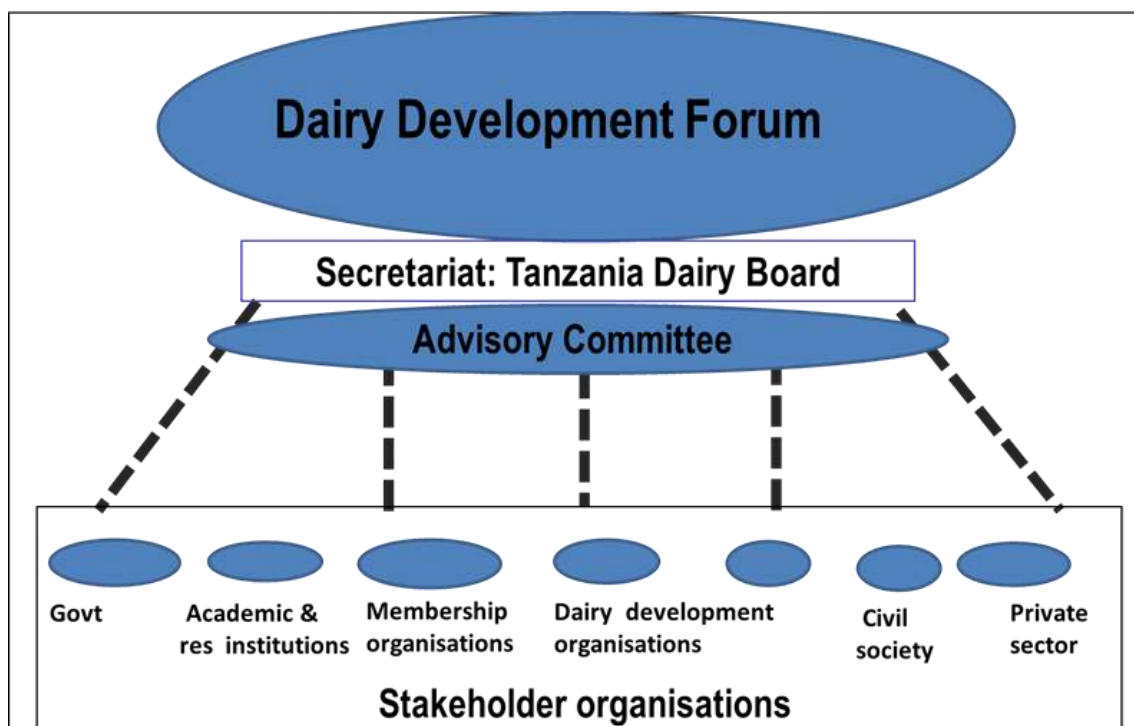


Figure 16. Schematic representation of DDF and potential stakeholder linkages

The DDF could also provide a platform for interaction with the Southern Agriculture Growth Corridor of Tanzania (SAGCOT; <http://www.sagcot.com/home/>), an initiative that promotes public-private-partnerships (PPPs) for large-scale investments in the agricultural sector, with which there are potential opportunities to leverage pro-poor benefits, especially in relation to promotion of growth of the private sector, given that our project sites fall within that corridor.

A key event that took place in relation to developing a pro-poor strategy and designing the next phase was the Outcome Mapping²¹ (OM) workshop that was held in Dar es Salaam on 6-7 August 2012. The outputs from OM workshop also informed the strategy for monitoring and evaluation (M&E) and impact assessment, so that pro-poor development, and the role of dairy VC in it, can be brought directly to the attention of policy makers (see further details under Activity 3.3).

A Steering Committee composed of dairy industry representatives has been constituted. It will be co-chaired by the Regional Administrative Secretaries of the two regions (Morogoro and Tanga) hosting the project sites. Its function will be advisory. A number of its members are also members of the DDF Task Force.

Activity 2.2 Improve quality assurance services:

This activity was pursued by way of a one-year Collaborative Research Agreement (CRA) agreed with TDB in October 2012. In preparation, an evaluation was initiated of a similar pilot project previously carried out with TDB in Arusha and Mwanza aimed at capacity building and improved milk quality in the informal sector through Business Development

²¹ OM provides a structured approach to supporting changes in behavior, relationships, activities or actions of the people, groups and organizations whom the project wishes to influence.

Services (BDS) providers. The research addresses the impact of BDS by mapping producer-trader-BDS provider networks. Knowledge of the producer-trader-BDS networks has been used to inform the design of check-offs for BDS services provided through traders. The methodological advance offered by this approach is that it allows studying the form and configuration of interactions amongst actors in the VC. These then can be used as explanatory factors in attributing the impact of BDS, as well as in gaining more insight into the extent and form of that impact. Understanding the packaging of BDS (e.g. many services supplied to few clients, or a few services to large numbers of clients) will both help explain impact of BDS and provide guidelines for future programmes. Acknowledgement of the network-type nature of smallholder dairy will help identify and quantify the “seeing is believing” issue and other forms of demonstration effect. The aim is to package the knowledge for inclusion in toolboxes to assist strengthening quality assurance schemes around DMHs and rolling out to other areas. The output will be used to inform BDS related interventions in the activity with TDB and the development partner that will implement pilot DMHs.

Activity 2.3 Initiate process of strengthening of actors and their organizations:

The main issue to be addressed through this activity is that of: a) weak institutions that, given their nascent nature, are unable to accomplish their mandates in governing the unorganised informal sector; and b) an over-regulated formal sector that processors claim stifles their growth and denies the industry the benefits of vertical co-ordination. A process has been initiated through SUA and TDB to engage TDB-linked membership organizations such as TAMPRODA. The small-scale farmers’ network, *Mtandao wa Vikundi vya Wakulima Tanzania* (MVIWATA; <http://www.mviwata.org>) has also been contacted to explore potential opportunities for engagement through its networks. Linkages to grass-roots organizations were explored during the VCAs and were found to be weak. Further discussions will be held with the associations in future on how to strengthen grass-roots linkages in the context of milk-shed based DDF innovation platforms.

Output 3: Sites appropriate for piloting pro-poor dairy development interventions identified and available best bet interventions adapted to the Tanzanian context

The activities under this output are: 3.1 Develop and implement tool for site selection; 3.2 Structured baseline surveys; and, 3.3 Develop best bet options for pilot interventions.

Activity 3.1 Develop and implement tool for site selection:

As already mentioned above, districts where interventions will be implemented have been identified in Morogoro Region (Kilosa and Mvomero districts) and in Tanga Region (Handeni and Lushoto districts) based on a mixture of spatial map overlays, stakeholder consultation and R&D partner preferences (Figure 17 and Table 8). The spatial mapping mainly relied on the following data: socio-economic data (human population & poverty, market access and consumption), livestock density and livestock production systems. Other criteria also mapped and considered were: biomass use / feed requirements, production (represented by bovine milk production and surplus – deficit areas), spatial distribution of bovine nitrogen

excretion, distribution of bovine CO₂ emissions, length of pasture and crop growing period, and relevant trends (projections of consumption of different animal products, feed surplus/deficits, and growth in livestock numbers). Final selection of the districts took account of stakeholder consultation and R&D partner preferences, stratified by the market orientation of the VC:

Based on this spatial analysis and stakeholder consultations, options were recommended for targeting extensive/pre-commercial rural producers who predominantly sell milk to rural consumers (R-to-R) and intensive/more commercial rural producers who predominantly sell milk to urban consumers (R-to-U)²², usually via bulk traders. While the focus in both cases is on rural producers, the latter represents a growth path for upgrading of the former when surplus milk grows beyond volumes that neighbours can buy. Using replicate regions (Morogoro and Tanga), two districts were selected in each region, one R-to-R and the other R-to-U. These strata also represent a gradient of increasing intensification. The selected districts are: a) R-to-R: Kilosa and Handeni; b) R-to-U: Mvomero and Lushoto.

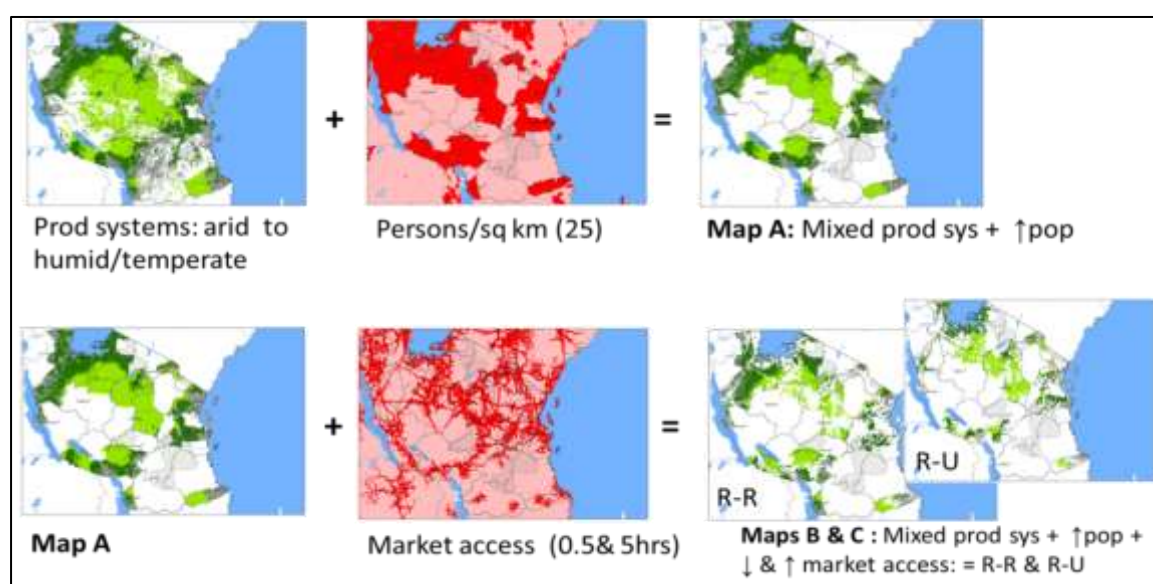


Figure 17: Spatial overlays for sites selection

Table 8: Identified project field sites in Tanzania

²² Urban centres were defined as those with more than 50,000 inhabitants.

Region	District	Market access classification	Cattle population*	% improved dairy breeds	Dominant production system
Morogoro	Kilosa	R-to-R	215,100	1	Extensive/Agro-pastoral (zebu)
	Mvomero	R-to-U	187,350	5	Extensive/Agro-pastoral (zebu) with significant semi-intensive & intensive (improved)
Tanga	Handeni	R-to-R	126,780	1	Extensive/Agro-pastoral & Extensive/Sedentary (all zebu)
	Lushoto	R-to-U	119,492	24	Extensive/Sedentary (zebu) with significant semi-intensive & intensive (improved)

Key: *Most recent cattle figures available from district profile reports
R-to-R: Rural production to rural consumption (pre-commercial);
R-to-U: Rural production to urban consumption (more commercial)

The next step in the site selection process was to develop and apply a toolkit to identify potential specific village for DMH and associated dairy development interventions. This was done to generate required data at ward and village levels in targeted districts because sub-national data are not available below the district level from official sources. An initial long list of up to 35 villages per district where DMHs could be located was generated based on available data on density of cattle keepers (by breed) and milk production per village. The long list was pruned to 25 villages where a more detailed tool was applied. The more detailed tool had additional criteria such as target groups, impact indicators, ease of assistance, access to markets/inputs/services, existing collective action, and availability of related development activities.

The knowledge gained from the site selection process and value chain assessments indicates that that Tanzania dairy sector requires a unique development strategy for improving the livelihoods of poor dairy smallholders and pastoralists that focuses on markets, and market actors, and enhances their performance by organisational change. The assessments indicate that we can target 50 villages with a total of about 8000 cattle keepers over the 4-year period (Table 9). Each targeted village would be facilitated to form a primary DMH comprising about 160 members (range 30-300) depending on the types of interventions and density of cattle keepers within the market catchment areas for each hub.

Table 9: Target number of households and DMHs in Morogoro and Tanga Regions in Tanzania

District	Cattle population*	% improved dairy breeds	# zebu cattle	# improved cattle	Market orientation	# zebu cattle ^a	# cattle keepers (hh) with zebu ^a	# improved cattle	# cattle keepers (hh) with improved cattle ^a
Lushoto	119,492	24	90,814	28,678	Relatively more Commercial (R-to-U)	268,796	20,677	38,046	9,511
Mvomero	187,350	5	177,983	9,368					
Handeni	126,780	1	125,512	1,268	Mostly pre-commercial (R-to-R)	338,461	26,035	3,419	855
Kilosa	215,100	1	212,949	2,151					
Total (cattle & hh)						607,258	46,712	41,464	10,366
Target # hh ^b							6,073		2,073
Target # DMHs ^c							38		12

Source: National Bureau of Statistics 2007/8; district profiles.

^aNumber of households based on average of 4 heads/hh for improved breeds and 13 heads/hh for zebu breeds (see Table A5-3 below)

^bBased on assumption of 20% and 13% mobilisation of improved and zebu cattle keeping households, respectively, based on experience from similar production systems in Uganda

^cAssuming a dairy DMH serving 160 members per village at the end of the project

Activity 3.2 Structured baseline surveys:

The next step following the detailed sites selection process was random selection of short-listed villages for conducting a baseline among cattle keeping and non-cattle keeping households. This activity is ongoing following the detailed sites selection exercise. The survey is following a stratified random sampling method stratified by cattle ownership and households randomly sampled within each village cluster. The baseline is intended for impact assessment at the end of the project. Randomly selected villages in which the baseline is being carried out are listed in Table 10.

Table 10: Representative villages selected for baseline surveys

District (Code)	Village Code	Village (Ward – if different)	Estimated total number of households in village	Estimated total number of cattle keepers in village	Number of households <u>with</u> cattle to survey (1)	Number of households <u>without</u> cattle to survey (2)
Lushoto	1	Mbuzii	402	146	33	11
	2	Wena (Bambuli)	420	113	33	11
	3	Ubiri	820	220	33	11
	4	Magamba (Lushoto)	481	377	33	11
	5	Hamboyo (Shume)	377	93	33	11
Mvomero	1	Msufini (Hembeti)	365	151	35	12
	2	Manyinga (Diongoya)	1249	151	35	12
	3	Mangae (Melela)	697	66	35	12
	4	Mela (Melela)	398	319	35	12
	5	W. Sokoine (Dakawa)	759	632	35	12
Handeni	1	Sindeni	1017	86	49	17
	2	Kibaya (Misima)	872	201	49	17
	3	Konje (Vibaoni)	407	390	49	17
	4	Kwediyaamba (Chanika)	583	88	49	17
	5	Masatu (Segera)	390	62	49	17
Kilosa	1	Mbwade (Madoto)	328	48	20	7
	2	Kwambe (Dumila)	215	44	20	7
	3	Mvumi (Msowero)	1436	38	20	7
	4	Kibaoni (Ulaya)	644	36	20	7
	5	Mikumi	2661	42	20	7

Activity 3.3 Develop best bet options for pilot interventions:

A desk-review of past successes and failures in dairy development in Tanzania and elsewhere in East Africa, to complement and build on the stakeholder consultation (see activity 1.2 above), was conducted. Findings from this review, together with those from the VCA informed the Outcome Mapping for defining best-bet interventions.

The identified interventions for piloting hinge on the fact that despite opportunities for market-led growth, private sector participation in Tanzanian dairy markets has been

insufficient to fill gaps in service and input provision, and in milk marketing for smallholders and agro-pastoralist cattle keepers. This was confirmed by findings from a BDS networks survey conducted under the recent TDB-ILRI collaboration reveal sparse BDS connections and networks with many buyers and sellers of inputs and output market services operating in isolation from others. This may explain the gross underutilisation of installed milk processing capacity in Tanzania, estimated at national average of 25-30% by MLFD, while informal non-pasteurised milk markets continue to offer over 95% of the domestic marketed supply.

Previous conventional approaches to collective action for dairy development that relied on highly capitalized cold chains have not been suitable where individual volumes are small and dispersed, and where occasional and opportunistic marketing prevails. As already highlighted, the recent work by ILRI and partners in Tanzania identifying constraints amongst small scale dairy producers has shown that access to adequate feeding, breeding, animal health and credit services has remained low and that production of a marketable surplus remains a fundamental challenge, particularly in the dry season when shortages are reflected in high milk prices. This has been associated with poor animal health and nutrition, alongside shortages of land, capital, knowledge and information as revealed from recent VC assessments. Stakeholders (including at the Outcome Mapping) therefore recognise the need for a combination of public, collective and private action.

The recommended organizational interventions here are “dairy market hubs” (DMHs) as the approaches of choice for achieving economies of scale for access to inputs and services. DMHs are collective arrangements for cattle keepers that aim to stimulate grouping of large numbers of producers and/or cattle and/or demand for inputs and hence opportunity to produce and bulk more milk, facilitating both entry to milk markets and group access to inputs and services. Unlike formal systems, hub-based production tend to serve nearby communities and urban markets, drawing on local service providers that have been demonstrated to be rapidly emerging during a recent collaboration between TDB and ILRI. DMHs can also attract pastoralists so they become more into contact with commercial milk and input markets as a consequence of hub membership.

There are several predisposing factors for successfully establishing and operating hubs in terms of problems to be overcome and opportunities to be exploited. The main problems that have been noted in the Tanzanian context that need to be addressed are:

- lack of access to credit
- isolation of markets
- lack of satisfaction with government services
- knowledge gaps
- high transport costs

And the opportunities that can be exploited are:

- willingness to produce milk in the dry season in order to access markets when prices are relatively high
- group approach to access or investment in improved inputs and services (credit, animal health, breeding, feeding), subject to availability of improved marketing
- tight social links
- opportunities to demonstrate leadership

The pooled production of the hub offers an attractive volume of milk for both the traditional traders, and the formal sector collectors, which is the next step towards commercialisation

beyond sales to neighbours that currently dominate in Tanzania. Hubs can also become the focus for introduction of specific technologies (feed processing and storage, milk chilling plants). Such organizational forms targeting pre-commercial dairy farmers have not been tested in Tanzania, and the factors affecting the success of their establishment and sustainable operation there remain unknown.

Hubs have both supply and demand side considerations that were examined during the value chain assessments and constraints analysis as explained below.

Demand side of hubs:

Close to 100% of producers from all locations claimed to be interested in joining groups for each of accessing inputs, marketing products, accessing capital and receiving information. An important observation on such results is that such expression of demand is for the services of a collective action organization, and not for the organization itself. The four services proposed in the questions and welcomed by the producers are strongly reflected in the producers' statements of constraints, which were examined in a simultaneous research exercise.

Second to working capital, distance from buyers and from markets, and from sellers of inputs and services, was also widely acknowledged as a constraint. Also related to isolation is the constraint associated with access to information. The constraint analysis process revealed that a minority of producers had received recently information on milk marketing. Information on cattle production and milk hygiene was a more mixed picture, but knowledge gaps are in evidence. Experience in dealing with Tanzanian extension services suggests that distance is a major constraint to contact between extension and advisory services, and farmers. Hence a major demand driver for collective action is its function in concentrating producers so as to lower the transaction and search costs of contact between farmers and commercial value chain actors in one hand and providers of advisory services and other information on the other.

Supply side for hubs:

Provision of collective action as a catalyst for flows of knowledge, information, working capital, inputs and product sales relies on the willingness producers to register sufficient commitment to a group of farmers, that a range of value chain actors and government agents will be attracted to the group. Achieving this commitment from producers requires, effectively, that its benefits outweigh its costs. This explains the generally-acknowledged failure of large scale co-operatives in Tanzania due to the high costs of joining a co-operative and its generally low benefits.

The collective action proposed is of sufficiently low cost and commitment, that even a small perceived benefit will encourage membership. Low barriers to entry by new members, and general recognition that benefits of membership rise with the number of members, is at the heart of the so-called "hub" model applied elsewhere in East Africa. Demonstration effects fuel the scaling up process whereby new hubs are formed.

The project's role would be to create initial linkages between farmers by demonstration of shared needs and explanation of the hub's cost reducing functions. It also disseminates

information to value chain actors about the quantities of product for sale and inputs demanded, by hub members. The project can then engage with hub participants in designing more advanced hub functions that address constraints of producers (e.g. lack of working capital), product buyers (e.g. lack of access to year-around milk supply) and input providers (e.g. lack of producers' funds to purchase inputs).

To accommodate the diversity of contexts between and within the districts, three functional models of DMHs have been identified through comprehensive reviews and by stakeholders for piloting in these districts:

- a) DMHs revolving around *chilling plants* or accessing them (if under-utilized) through *transport arrangements* that provide both outputs marketing and inputs and services through *check-offs*;
- b) DMHs revolving around *check-offs* for inputs and services provided through milk traders; and
- c) DMHs revolving around *check-offs* for inputs and services provided through cattle traders.

Although they all have a cross-cutting emphasis on improving access to inputs and services and check-off arrangements, they reflect differences in production intensity, markets served, and the local business environment. The inputs and services are to be provided through **BDS** providers in all cases. Figure 18 illustrates how the DMH models without collective milk marketing (**b** and **c**) would function.

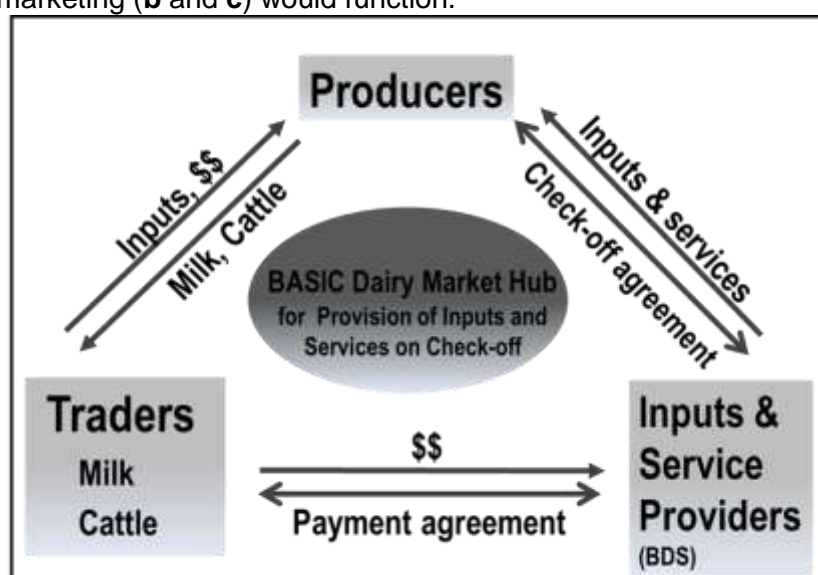


Figure 18: Illustration of a Dairy Market Hub for provision of inputs and services on credit without collective bulking and marketing

Information from village-level surveys indicates that virtually all milk sales in Kilosa, Handeni and Mvomero, go to neighbours, traders or milk shops/bars. As already stated, ILRI's constraint analysis in related areas also found that cattle sales were equally or more important to the households than milk sales in terms of objectives expressed. This indicates that DMHs in categories b) and c) would be appropriate in these areas. It is only in Lushoto where collective milk bulking prior to sale plays a significant role with 40% of villages in the district involved in this market channel. The profile and numbers of cattle keepers and DMHs targeted per district is presented in Table 11. Projections of profits and losses at DMH and farmer levels will be presented in the new proposal.

Table 11: Profiles of targeted cattle keepers in Morogoro and Tanga Regions in Tanzania

Market orientation	Major Product(s)	Dominant milk sales outlets	Geno-type	Management	Target regions and districts ^a	Cattle Population ^{a, b}	Cattle keeping households ^b	Target households		Target DMHs & their category
						# '000	# '000	# '000	% ^c	# DMHs ^d
Relatively more Commercial (R-to-U)	Dairy	neighbours traders Processors	Improved cattle (exotic/crosses)	intensive & semi intensive (stall-fed/semi-grazing)	Tanga: Lushoto, Morogoro: Mvomero	41	10	2	20%	12 (mainly a & b)
Mostly pre-commercial (R-to-R)	Meat-dairy	neighbours	Tanzania short horn Zebu	extensive /sedentary	Tanga: Handeni, Lushoto Morogoro: Kilosa, Mvomero	607	46	6	13%	38 (mainly b & c)

^aDistrict included if profile has cattle population comprises 5% or more

^bSource: National Bureau of Statistics 2007/8; district profiles. Number of households based on average of 4 heads/hh for improved breeds and 13 heads/hh for zebu breeds (see Table A5-3 below)

^c20% and 13% mobilisation of improved and zebu cattle keeping households, respectively, based on experience from similar production systems in Uganda

^dAssuming a dairy DMH serving 160 members per village. In practice, these DMHs will comprise a mix of various DMH categories and households with improved and zebu cattle. The DMH categories a, b and c are as follows:

- a) DMHs revolving around chilling plants or accessing them through transport arrangements that provide both outputs marketing and inputs and services through check-offs;
- b) DMHs revolving around check-offs for inputs and services provided through milk traders; and
- c) DMHs revolving around check-offs for inputs and services provided through cattle traders.

Putting the profile and numbers of targeted cattle keepers into the national context, out of 1.7 million cattle keeping households in Tanzania, DMHs in categories a) and b) would be appropriate for those with surplus milk beyond volumes that neighbours can absorb (about 6% of households)²³. Hubs revolving around check-offs for inputs and services through cattle traders were considered appropriate for the majority, who currently sell milk to neighbours (about 20%) or those who do not engage in milk markets currently or only rarely (about 74%). Producers, mainly agro-pastoralists, would be organized to access inputs and services on a check-off basis provided through cattle traders, and costs incurred deducted after a sale to a cattle trader. This will build on thriving sales of veterinary drugs around cattle markets and, if feasible, could respond to the desire that the project addresses the needs of pastoralists. The increased communications associated with hubs means that producers and traders could be organised into associations to facilitate check-off and payment agreements.

The identified entry points for hub interventions in the Tanzania setting may be seen as representing the supply side for hubs. They may also be looked at against value propositions and taxonomy for alternative forms and functions of hubs (and other forms of collective action) to producers and value chain actors identified elsewhere that mainly represent the demand side for hubs (see Ramkumar, Garforth et al. 2007; Klerkx et al., 2009; Klerkx and Gildemacher, 2011; Davis and Heemskerk, 2012)²⁴. The taxonomy captured by these authors portrays hubs as networks for all value chain actors with three main functions:

- 1) A node for connections amongst value chain actors;
- 2) A one-stop shop where many services are offered; and,
- 3) A cluster and forum for ideas exchange.

In combination with the set of three functional forms of hubs, this taxonomy can be represented in the matrix in Table 12 to illustrate both the tasks performed by hubs, and the developmental path that the project's interventions might follow as seen in other projects that ILRI is involved in such as milk marketing under EADD and goat marketing in India and Mozambique. This framework also identifies the actors involved in interventions.

²³ The latest livestock population and market participation statistics are contained in National Bureau of Statistics reports for 2002/3 and 2007/08. Cattle keeping households comprise about 30% of agricultural households

²⁴ Ramkumar, S. et al. (2007). Design and Formative Evaluation of an Information Kiosk on Cattle Health for Landless Cattle Owners. *The Journal of Agricultural Education and Extension* 13(1): 7-22 ;

Klerkx, L. and C. Leeuwis (2008). "Matching demand and Supply in the agricultural knowledge infrastructure: experiences with innovation intermediaries." *Food policy* 33(3): 260-276;

Davis, K., & Heemskerk, W. (2012). Farming as a Business and the Need for Local (Agri-) Business Development Services. *Sourcebook for Agricultural Innovation Systems, Module 3(TN 2)*, 204-212;

Klerkx, L. W. A. and P. Gildemacher (2011). "The role of innovation brokers in agricultural innovations systems. In. *Agricultural innovation Systems.*" *An investment sourcebook: Investment in extension and advisory services as part of agricultural innovation systems: Module 3, TN 4.*

Table 12: Taxonomies of hubs proposed for piloting in Tanzania against those in popular literature

	1) A node for connections amongst value chain actors	2) A one-stop shop where many services are offered	3) A cluster and forum for ideas exchange
a) DMHs revolving around chilling plants	YES	YES	YES
b) DMHs revolving around milk traders	YES	NO	YES
c) DMHs revolving around cattle traders.	YES	NO	YES

In a whole value chain context, the DMH interventions proposed above lean more towards downstream activities with a focus on improving access to inputs and services to improve productivity.


General: administrative & coordination

A Collaborative Research Agreement (CRA) was signed between ILRI and SUA, and based on that, a SUA-based Project coordinator, Prof Lusato Kurwijila, was appointed. He works closely with Salim Werner Nandonde, who is acting part-time in the previously-established post-doc position, which has not yet been substantively filled because none of the applicants for the posted advert matched the requirements for the position. The position is to be re-advertised at the end of 2012. A second CRA has been signed with TDB in relation to Activity 2.2

A visit to Ireland in mid-June 2012 by four ILRI and SUA scientists explored areas of collaboration on dairy VC in Tanzania with Irish researchers and institutions, and identified potential collaborators and modes of engagement. The visitors met with officials/scientists from Irish Aid and Dept of Foreign Affairs in Dublin, DAFM Veterinary Laboratories in Kildare, Teagasc Animal & Grassland Research and Innovation Centre in Moorepark, Reprodac Ltd, also in Moorepark, and the University College Dublin (UCD) Veterinary and Agriculture Schools. We also met officials associated with the African Agri-food Development Fund who had earlier visited Tanzania and Kenya. A return visit to Tanzania and ILRI-Nairobi by interested researchers from Teagasc and UCD was undertaken in September 2012 to allow them to better appreciate the circumstances of smallholder dairying and cattle keeping in Tanzania. Potential areas of collaboration are being discussed and will likely be conducted in the context of targeted research to be proposed in the proposal for the follow-up phase of the project (years 2-5). Other organizations in Ireland with whom we will pursue opportunities for collaboration are: Food for Health Ireland in Cork and the Irish Co-operative Organization Society (ICOS).

SUA have offered the project office space at their Morogoro campus, and this is expected to be ready for occupation at the end of the 2012.


The total expenditure up to October 2012 amounted to €217,309, implying a carry-over of €232,691 into the following financial year. The rate of expenditure has been lower than expected. The slow rate of expenditure at the onset of the project has accelerated since submission the semi-annual financial report. We spent much longer time than earlier anticipated to gain the required momentum and pace in implementation. Project expenses stood at 48.3% of the total grant as at the end of October 2012. The under-spend relative to the time into the project period is mainly due to the failure to recruit a substantive staff in the previously-established post-doc position and departure from ILRI of a key team member, resulting in delays in some activities and finalization of reports. We expect the momentum to continue given on-going field activities, especially the quantitative baseline survey that is underway. The next financial report will also include expenses on funds committed to partners in Tanzania. However, we anticipate a small amount will remain at the end of the contract period and have submitted alongside this report, a proposal for its usage to finalize pending activities.



PROJECT FINANCIAL REPORT

Donor:	Embassy of Ireland
Organization:	International Livestock Research Institute (ILRI)
Contract Number:	
Title:	More milk by and for the poor; Adapting dairy market hubs for pro-poor smallholder value chains in Tanzania
Reporting Currency:	EUR
Reporting Period:	1st Jan - 31st October 2012

	Project Budget	Expenditure	Budget Balance
INCOME:			
Funds Received:		450,000	
PROJECT EXPENDITURE:			
Technical input costs	147,247	52,950	94,296
Services	154,944	62,311	92,634
General Expenses	53,749	43,277	10,472
Travel	27,038	16,765	10,274
Total Direct Costs	382,979	175,303	207,675
ILRI overhead (17.5%)	67,021	30,678	36,343
Total Project Costs	450,000	205,981	244,019
75% Payment-SOKOINE (Partner expenditure will be reflected in the next report)		11,327.3	
Funds Balance		232,691	

SIGNED: 

NAME: **Gatigwa Kimana**

POSITION: **Ag. Director Corporate Services**

<p><small>headquarters</small></p> <p>box 30709, Nairobi, 00100, Kenya</p> <p>phone +254-20 422 3000</p> <p>fax +254-20 422 3001</p> <p>email ilri-kenya@cgiar.org</p>	<p><small>principal site</small></p> <p>box 5689, Addis Ababa, Ethiopia</p> <p>phone +251-11 617 2000</p> <p>fax +251-11 617-2001</p> <p>email ilri-ethiopia@cgiar.org</p>
--	---

ILRI is a member of the Consortium of International Agricultural Research Centers.

www.ilri.org

We expect to finalise partnership agreement as soon as we receive commitment for funding from Irish Aid for the follow up phase 2012-15. We expect the partnership will be with Heifer-Tanzania as indicated their letter submitted alongside the new proposal.

Discussion

The value chain assessment undertaken to identify constraints amongst small scale dairy producers has shown that access to adequate feeding, breeding, animal health and credit services has remained low and that production of a marketable surplus remains a fundamental challenge. This has been associated with poor animal health and nutrition, alongside shortages of land, capital, knowledge and information. Stakeholders recognize the need for a combination of public, collective and private action, but as outlined above, models for their delivery have yet to emerge in Tanzania, a challenge that this project will take head on. Situational Analysis confirmed that policy is not reaching the pre-commercial sector, a shortcoming that TDB has taken that up with initiatives like the DDF. This project represents the only source of (i) impartial and (ii) technically experienced policy analysis and advice for this Forum.

The key findings highlighted in this report have been used to shape the proposal for the next phase to be submitted in November 2012. The identified entry points (both spatial and institutional) for piloting are intended to spur market-led growth and increase private sector participation in dairy markets and fill gaps in service and input provision, and in milk marketing for smallholders and agro-pastoralist cattle keepers. The approaches proposed are against the backdrop of general failure of previous conventional approaches to collective action for dairy development in Tanzania that relied on highly capitalized cold chains and that have not been suitable where individual volumes are small and dispersed, and where occasional and opportunistic marketing prevails.

However, while the proposed approaches can address concerns related to knowledge and skills in relation to organization of inputs supply and marketing, and access to capital through credit arrangements, it is important to keep in mind the other basic constraint cited, i.e., access to (and tenure over) land and water resources, that the approaches cannot address.

The findings have also informed the on-going structured household baseline survey that is generating data for monitoring and evaluation and impact assessment of the next phase. Further details of the findings are available in the specific technical reports under preparation and working documents.

Annexes

Annex 1: Activity Milestones

Output	Milestone for 2012 - as per the project document	Progress by Oct 2012	Due date if pending	Comments
Output 1: Current status of the Tanzanian dairy sector assessed and appropriate entry points and partners for promoting a more pro-poor development orientation identified	1.1 Understand policy environment: Desk reviews; develop tool; develop conceptual framework (CF); conduct situational analysis; prepare report with key lessons and report at stakeholder meeting for feedback	Desk reviews conducted; tool and CF developed and used to collect and organize information. Situational analysis conducted	Completed.	Part of study conducted in collaboration with EADD. Draft report being finalised
	1.2 Consult and sensitise stakeholders: Scoping visits; identify stakeholders & invite; hold workshop; report proceedings	Scoping visits and workshop with 36 participants held on 9 March 2012; key stakeholders in R&D and areas of collaboration identified; Keynote presentation at 35 TSAP Conference, Arusha, 23-26 October 2012	Completed.	Proceedings available of 9 March 2012 meeting available
	1.3 Develop and implement value chain assessment tool: Develop tool; implement tool; reporting.	Tools developed and implemented in Morogoro (Kilosa and Mvomoto districts) and Tanga (Handeni and Lushoto districts)	Completed	Draft report being finalized. Tools are contributing to a cross-country effort and can be found at: http://livestock-fish.wikispaces.com/VCD+Tanzania
Output 2: Strategy for strengthening the policy environment to better support pro-poor dairying developed	2.1 Develop a pro-poor strategy for strengthening policy environment: Initiate strategy development during workshop in 1.2; develop policy and gender agenda to inform outcome mapping (OM); conduct OM workshop; strategy development for follow for R&D phase	Main issues identified during workshop in 1.2. when the Dairy Development Forum (DDF) idea was mooted. OM workshop held.	Completed	The Outcome Mapping (OM) results applied to inform the strategy for monitoring and evaluation (M&E) and impact assessment for proposal for Years 2-5.
	2.2 Improve quality assurance services: Agree Collaborative Research Agreement (CRA) with TDB	Producer-milk trader-BDS networks study analysis being applied to inform new engagement	Engagement with TDB initiated	CRA with Tanzania Dairy Board agreed in Oct 2012

		with TDB.		
	<p>2.3 Initiate process of strengthening of actors and their organisations:</p> <p>Initiate process with TDB and council members represented including TAMPRODA; engage during June dairy week and National Dairy Development Conference; engage in forming Dairy Development Forum (DDF) and stakeholder workshops to develop agenda. Also engage MVIWATA</p>	Process initiated through contacts with MVIWATA and during NDDC in May in Moshi. DDF initiative was roundly welcomed as necessary for addressing industry bottlenecks and co-creating solutions and ToR drafted	Task Force for DDF formation is in progress and DDF launch expected early 2013	Draft DDF ToR is available
<p>Output 3: Sites appropriate for piloting pro-poor dairy development interventions identified and available best bet interventions adapted to the Tanzanian context</p>	<p>3.1 Develop and implement tool for site selection:</p> <p>Develop toolkits and criteria; implement tool; document sites</p>	Geographical Information System (GIS) and other tools developed and used to select the following districts: Kilosa and Mvomero, Handeni and Lushoto	Completed	Detailed tool developed and applied in selected districts; Targeting and pre site selection scoping reports are available
	<p>3.2 Structured baseline surveys:</p> <p>Conduct baseline survey; analysis & reporting</p>	On-going	Dec 2012	It was considered necessary to conduct a thorough qualitative value chain assessment as the first stage in baseline surveying prior to this household baseline
	<p>3.3 Develop best bet options for pilot interventions:</p> <p>Desk review of: a) past successes & failures and b) best bet interventions; initial best-bet interventions evaluated (ex-ante) and described; compile key lessons; identify potential development partner(s); finalise & submit proposal for pilot interventions, with technical report annex; engage development partner if green light from IA</p>	Activities initiated	Partially completed; best-bet interventions defined and included in proposal for pilot interventions ready for submission.	Key findings summarized in this report; various drafts being finalised; letter of support obtained from Heifer International. They have expressed willingness to be engaged as dev. partner
<p>General: administrative & coordination</p>	SUA based project coordinator appointed, post-doc advert posted; meetings with IA; project office set up; Collaborative Research Agreement (CRA) with SUA signed; Form steering committee (SC) & define their ToR; identify &	SUA-based project coordinator appointed, post-doc position filled part-time; a project office	Project office to be ready end-Novemeber 2012. Formation of SC on-	Specific date for sharing of 'learnings' with donors group yet to be agreed.

	engage consultants, including from Ireland; develop learnings & "IA case study" presentation and share at donor group meeting in Dar-es-Salaam; progress reporting (technical+financial); and hold review meeting with IA	is being rehabilitated at SUA; CRA with SUA agreed and signed; visit to Ireland undertaken to identify collaborators and mode of collaboration; return visit by Irish researchers undertaken; meeting with donor group was planned, but ended up being a project review with IA only	going; Several local consultants engaged; This is the second technical (accompanied by financial) report. Meeting with IA to review progress held in Oct 12	Candidate areas of collaboration on targeted research with Irish researchers being pursued
--	---	--	---	--

List of draft reports from Year 1 implementation summarized for this narrative and being finalized

(Working documents available at: <http://livestock-fish.wikispaces.com/VCD+Tanzania>)

- Proceedings of stakeholder workshop of 9 March 2012
- Site selection
- Situational Analysis
- Review of past successes and failures
- Value chain assessment baseline

Pending

- Household baseline for impact assessment (study is on-going)