Transforming smallholder dairy value chains in Tanzania through innovation and market linkages

Amos O. Omore, Godfrey Bwana and Peter G. Ballantyne

Key messages

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

Introduction

Most rural households in Tanzania own livestock, and they derive on average 22% of their income from animals. Livestock are a valuable store of capital and produce manure for crop production. Milk production and marketing can provide a regular cash income, create employment in services and marketing, and milk is a source of nutrition for smallholder households and the poor in towns and cities. However, with only about 700,000 improved dairy cattle (out of 22 million) and a low per capita annual consumption of only 45 litres, these benefits are yet to be fully exploited.

To tackle these issues, a consortium of partners is working to transform smallholder dairy value chains in Tanzania through innovation and improved market linkages. Called Maziwa Zaidi, the partnership has a vision to achieve an inclusive and sustainable dairy value chain over the next decade. It relies strongly on multi-actor engagement and collaboration at different levels to achieve impacts at scale.

The national Dairy Development Forum (Box 1) has been established as an informal yet structured mechanism for the partners to champion this agenda and co-create solutions around common problems. This brief highlights experiences and lessons on the evolution of the Forum as well as other multi-stakeholder processes for innovation and market linkages that are critical to achieve the desired transformation. It draws from two projects:

- MilkIT (Enhancing dairy-based livelihoods in India and Tanzania through feed innovation and value chain development approaches) funded by the International Fund for Agricultural Development.
- MoreMilkIT (Adapting dairy market hubs for pro-poor smallholder value chains in Tanzania), funded by Irish Aid.
Challenges to dairy value chain actors

- The partners have identified the following key problems to transform the dairy value chain in Tanzania.

- Farmers want to produce more milk but they can’t because feed is limited and quality and availability varies greatly between seasons.

- Dominant direct sales of small volumes by smallholder producers preclude economies of scale. Because of this, the mostly pre-commercial producers struggle to operate as a group and build productive links with inputs providers and other milk market actors. More widely, value chain coordination is weak at various levels: at villages, regions and nationally.

- Milk is mostly sold informally, with only 3% of marketed milk reaching the consumer after pasteurization and packaging. Even though there are more than 50 processing units ranging in capacity from a few hundred to tens of thousands of litres per day, most operate at less than 30% of installed capacity. This is due to inadequate milk collection, poor infrastructure and lack of coordination in the value chain.

- Dairy research and extension systems are disconnected, especially at the district level, where breaks in the chain separate producers from the knowledge and advice they seek, and the providers of knowledge services do not have forums to engage with potential users.

- Nationally, the many actors and institutions require mechanisms to support common visioning and to enable actions, incentives and investment to converge.

This figure shows the value chain at the centre. It is affected by the business environment in which it operates and the support functions that are essential for the chains to perform well. At each node in the value chain, various forms of multi-stakeholder processes—hubs, innovation platforms etc.—can be used to address challenges and issues with a unified voice and concerted efforts.

The business environment comprises policies, rules and regulations, procedures and standards which actors in the value chain need to adhere to. These may be cumbersome and act as barriers for actors to perform well. Multi-stakeholder processes can be used to address the challenge. While innovation platforms can be used to address issues like licensing which are at local level (district and region), the Dairy Development Forum can discuss challenges that need a national approach, such as advocating for lower taxes on inputs and processing.

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Approach

For the dairy sector in Tanzania to function effectively and efficiently, all value chain actors need to coordinate their efforts and be linked to demand-responsive knowledge, research and extension systems. According to stakeholders, this coordination and communication can be improved through multi-stakeholder processes at different levels: farmer groups and dairy market hubs in villages, innovation platforms in districts, and the Dairy Development Forum at the national level.

Village level

Farmer and producer groups make it possible to achieve economies of scale by improving access to inputs and services, creating incentives to raise productivity and production, and addressing risks inherent in small-scale production and marketing. Maziwa Zaidi partners strengthen and champion existing and new groups.

Producers also need links with input suppliers, service providers and milk traders. These linkages can be provided through dairy market hubs (DMH). In Morogoro and...
Tanga, the MoreMilkiT project is facilitating the growth of 30 such hubs to encourage less commercial producers to become more commercial. In other places where commercial dairying is practiced, dairy hubs usually revolve around collective bulking and marketing with chilling plants. However, the MoreMilkiT project is growing commercial dairying by using hubs centred on helping milk small-scale producers to access inputs and services (including on credit) without the producers involving themselves in collective milk bulking and marketing that normally requires a high volume to be viable (Figure 2).

Figure 2. Dairy market hubs provide inputs and services without collective bulking and marketing

**District and regional levels**

The district is the focal point for planning in Tanzania, so it should also be the focus for strengthening the dairy value chain. Innovation platforms are multi-stakeholder processes that involve a range of actors: representatives of farmers’ groups, cooperatives traders, processors, input suppliers, veterinary services, research, extension, financial services and local government. As such, the district appears ideal for vibrant innovation platforms because this range of actors can be found at that level. Such platforms enable stakeholders to identify and discuss challenges and opportunities facing the dairy value chain, and find ways to overcome the challenges and develop the chain further. Several district-level innovation platforms can be linked together to form a regional platform.

**National level**

The role of the Dairy Development Forum (Box 1) is to address systemic bottlenecks and engage in policy dialogue. Its national convening power complements the efforts of district and regional platforms.

The Forum’s secretariat is the Tanzania Dairy Board. It is assisted by an advisory committee comprising representatives of the key stakeholder organisations listed in Box 1. The main role of the secretariat is to coordinate the engagement of stakeholders at various levels, promote representation of farmer groups in innovation platforms at each level, and ensure efficient communication among participants, working groups and task forces.

At the lower level, input and service providers, producers and small-scale milk traders are expected to be more visible, while at the higher level, processors, policymakers and academia are expected to be more visible (Figure 3).

**Box 1. the Dairy Development Forum**

The Dairy Development Forum was formed in 2013 to improve the coordination and communication in the dairy industry in Tanzania. It is envisaged as a national convener of national, regional and district-level multi-stakeholder processes involving actors in the dairy value chain. The Tanzania Dairy Board is the secretariat.

The Forum convenes twice a year to address common problems identified by the stakeholders. The barriers to transformation of the dairy value chain that have been identified and are being addressed through the Forum include: growing the national dairy herd, addressing the scarcity of feed, and strengthening dairy agribusinesses. Working groups and task forces have been formed to address these issues between the Forum meetings. Partners include: Tanzania Dairy Board, Tanzania Milk Processors Association, Sokoine University of Agriculture (SUA), Tanzania Livestock Research Institute (TALIRI), International Livestock and Research Institute (ILRI), International Centre for Tropical Agriculture (CIAT), Heifer Project International, SNV—The Netherlands Development Organization, and the Ministry of Livestock and Fisheries Development.

**Lessons on coordination and linkages**

**Establishment of farmer groups and hubs at the village level**

The MoreMilkiT project facilitated the creation of farmer groups in 30 villages in four districts in Tanga and Morogoro. These groups formed the basis to create linkages to form dairy market hubs. The groups suggested that hubs centred on milk traders would be the most appropriate way to promote milk production and marketing (Figure 2 and Table 1). This is the first time that hubs of this type have been tried. They have the potential to transform the dairy value chain in areas with extensive grazing where the low volumes of milk produced do not lend themselves to collective bulking and marketing.
Individual actors are finding and making new alliances. For example, a medium-scale dairy producer who also sells forage made contacts and obtained seedlings of a drought-resistant grass from a provider based in Nairobi. This producer intends to sell seed of this species, so may be able to help fill a major gap in forage seed supply in Tanzania.

Two key lessons from the innovation platforms are the need to ensure the participation of the ‘right’ partners and representatives, and to invest sufficient time in clarifying the platform’s purpose, role and rules of engagement.

The Dairy Development Forum
Despite its newness, the Dairy Development Forum is already helping improve Tanzania’s dairy sector, largely by sharing information. However, communication could be improved further: the secretariat has undertaken training and is now championing the use of the internet and social media. The task forces formed by the Forum to achieve their goals have been struggling to meet in between the Forum meetings, so alternative modes of communication may help them achieve their goals.

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Conclusions
The evidence shows that there is a good foundation for stakeholders to transform smallholder dairy value chains in Tanzania through innovation and improved market linkages at different levels.

Strong farmer groups with strong linkages to input and service providers and to milk traders can form market hubs that help producers become more commercial and more professional.

Mechanisms should be worked out to integrate multi-stakeholder processes into planning at various levels. Hubs and innovation platforms have important roles to play to strengthen information sharing between value chain actors, researchers and extension agents.

At the national level, the Dairy Development Forum should continue to promote policy coherence and the convergence of the various multi-stakeholder processes and actions.

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Table 1. Types of dairy market hubs developed in Morogoro and Tanga

<table>
<thead>
<tr>
<th>Dairy market hub centred on</th>
<th>Morogoro</th>
<th>Tanga</th>
<th>Total</th>
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<tbody>
<tr>
<td>Chilling plant</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Chilling plant and milk traders</td>
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<td>6</td>
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<tr>
<td>Milk traders</td>
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<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>16</td>
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Village innovation platforms
The MilkIT project attempted to establish innovation platforms in villages; with mixed success (see: http://hdl.handle.net/10568/68575). In a few cases, the platforms functioned well and began to resolve common problems—water shortages, land conflicts between pastoralists and crop farmers, and dry-season feeding reserves used by agro-pastoralists. In others, producers dominated the platforms limiting the scope of the problems they could address. Instead of setting up platforms, it may be better to encourage existing farmer groups to improve access to inputs and services via dairy market hubs and strengthen their linkages and engagement with district, regional and national platforms.

In India, where MilkIT implemented a parallel project, it was shown that innovation platforms can effectively operate at village level because of the wider involvement of various value chain actors in the local communities.

Linkages at the district and regional levels
The involvement of district community development departments in district-level innovation platforms has had positive results. In Twatwatwa, extension staff found the platforms were a useful way to find out how to address problems raised by their clients and they thus regularly attended the platform meetings. The platforms also promise to enhance relations between milk producers and district authorities. They could also improve district planning and interactions at various levels since senior district staff are platform members. The Morogoro platform, for instance, discussed the poor supply of veterinary drugs; the issue was picked up by the media and the platform wrote a letter to the Ministry of Livestock to address the matter.

These kinds of interactions between national, local government officials and dairy value chain actors have become the norm in the Tanga Dairy Platform where platform members working together have been able to overcome obstacles they could not otherwise have done.