

Pastoral dairying in Eastern Africa: how could Europe support it?

Pregnant woman visiting her husband and enjoying the first fresh milk for months in Arapal, Mount Kulal, Kenya.
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Pastoralism is a source of food security, nutrition and livelihood for about 20 million people in the drylands of Eastern Africa – in Djibouti, Ethiopia, Eritrea, Kenya, Tanzania, Somalia, Sudan, South Sudan and Uganda¹. Most of the meat consumed in the region comes from pastoral herds. For example, pastoralists produce more than 80% of all beef consumed in Kenya².

However, pastoralism is a multifunctional system in which milk plays a central role. Pastoralists have traditionally depended mainly on milk for their subsistence. This refers not only to the milk consumed by the family but also to the milk exchanged or sold to obtain grain and other foods. Especially in the wet seasons when yields of milk are higher, it is sold – mainly in fermented form – in nearby towns. Practically all products made from milk from pastoral herds are sold on the so-called

“informal market”, i.e. outside of formal channels. Most development projects in pastoral areas have focused on meat production. This has threatened the role of milk in the nutrition of the pastoralist families and other local consumers of milk products and has undermined the position of pastoralist women as the managers of milk and micro dairy enterprises.

Dairying in Eastern Africa

In Eastern Africa – as elsewhere in sub-Saharan Africa – demand for dairy products has long been higher than supply, and the demand is growing with rising incomes of consumers. Thus far, most dairy development efforts in the region have focused on mixed crop-livestock farmers in the highland areas, where the climate is cooler and wetter than in the lower drylands. Under these relatively favourable conditions, intensive livestock husbandry can

¹ CAPE AU/IBAR brochure “Introducing the community-based animal health and participatory epidemiology”, Nairobi, CAPE Unit, n.d., p. 1.

² IGAD. 2013. The contribution of livestock to the Kenyan economy. IGAD Centre for Pastoral Areas and Livestock Development Policy Brief 4. Djibouti: Intergovernmental Authority for Development (IGAD).

be practised and there is less fluctuation in milk production throughout the year than in the drylands. Those small-scale producers who operate at least partly in the formal sector provide milk for commercial dairy processing enterprises or cooperatives. However, the cooling facilities, pasteurisation (including ultrahigh temperature treatment of milk), other forms of processing and packaging of dairy products in this sector require high investment and operating costs and therefore lead to relatively high prices for consumers³.

In contrast, the informal dairy value chain involves generally low-cost and highly decentralised operations. Traders often collect milk directly from the producers and, because the marketing costs are lower than those of large-scale dairy operations, can pay higher prices to the producers and can also offer them daily cash payment and sometimes credit. Moreover, the traders reach producers in areas that are difficult to access, such as those who are far from the main tarmac roads. This is why many milk producers prefer to sell through the informal market⁴. In Eastern Africa, more than 80% of all milk produced by smallholders and pastoralists is sold outside of the formal dairy sector, up to 95% in Tanzania and 98% in Ethiopia⁵.

Differences between pastoral and small-holder dairying

The informal dairy sector includes producers, processors, transporters and sellers of milk in both smallholder arable farming and pastoral areas. In recent years, some researchers and development projects have worked with actors operating in the informal dairy value chain in arable farming areas. This led to greater recognition of how these operations contribute to meeting consumer demand for dairy products. However, relatively little attention has been given to understanding the marketing of dairy products in the drylands and – together with the pastoralists – seeking ways to improve marketing so as to improve local livelihoods, food security and nutrition.

Such support would help meet the demand for dairy products especially in the smaller dryland towns. Only niche products that command high prices, such as camel milk – sold mainly to former pastoralists who have settled in towns and highly value the taste and medicinal values of the milk – can be marketed at a profit in large cities in

non-pastoral areas. Development actors should give more attention to how dairy value chains in pastoral areas can be supported so as to benefit local producers and consumers.

However, dairy development in pastoral areas cannot be approached in the same way as in smallholder arable farming areas because of the specificities of pastoral production. These include:

- **Very high fluctuations in milk yield:** As pastoralists produce animals and milk in environments with very high seasonal variation in rainfall (further exacerbated by climate change) and therefore in forage yield, the milk yield varies accordingly. During the dry seasons, the milk yield may be only enough for the family, if that. During the wet seasons, pastoral herds may produce more milk than the pastoralist families can consume or sell locally on sufficiently attractive terms. The women convert some of the milk into longer-lasting forms such as butter, ghee, butter oil or cheese for later sale or exchange or home consumption. The pattern of milk yield in pastoral areas means that it is not suitable for dairy processing and marketing businesses operating on a year-round basis.
- **Extensive system in sparsely populated areas:** By definition, pastoral herds depend primarily on natural forage, in contrast to livestock kept by smallholders in arable farming areas, where more intensive systems involving forage production and livestock feeding are ecologically and economically feasible. Pastoralism is practised in drier areas where overall forage yields are lower than in the farming areas with higher rainfall. The livestock breeds that can withstand the harsh dryland conditions are not high milk yielders. This means that, in drier areas, there are fewer cows and there is less milk produced per unit of land. In order to supply even a small-scale dairy operation, milk must be drawn from a much wider radius than in a farming area with higher livestock density and higher-yielding breeds. In view of also the poor road infrastructure in sparsely populated pastoral areas, even what many development projects would consider a “small-scale” milk processing unit could not collect enough milk on an economic basis for conventional dairy operations.
- **Multifunctional production system:** Milk-oriented livestock systems in the Eastern African rangelands are significantly more productive

³ Blackmore E, Alonso S & Grace D. 2015. Legitimising informal markets: a case study of the dairy sector in Kenya. London: International Institute for Environment and Development (IIED).

⁴ Hambloch C, McLean D, Jean-Louis FEF & Andersson K. 2014. Factors influencing small-scale farmers' choice of formal and informal raw milk markets: a case study in Gura Sub-location, Kenya. Interdisciplinary Land Use and Natural Resource Management.

⁵ Bingi S & Tondell F. 2015. Recent developments in the dairy sector in Eastern Africa: towards a regional policy framework for value chain development. Maastricht: European Centre for Development Policy Management (ECDPM).



Women selling milk at the boarder of the road in Isiolo, Kenya.
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than meat-oriented ones⁶. This could be seen as an argument for specialisation in dairying in pastoral areas. However, pastoralism is not specialised in one commodity. Its multifunctional nature, which includes also other outputs such as skins and hides, means that it can support a higher number of people per unit area than can either purely milk- or purely meat-oriented systems. Specialised dairy herds would be impossible under pastoral conditions, as the system would have to be intensified to the extent that it would no longer be pastoralism and would thus lose its main advantage: the ability to exploit unpredictable and ephemeral dryland resources to produce food and other useful products using low levels of external inputs.

These differences between pastoral dairying in the drylands and smallholder dairy farming in the highlands need to be taken into account when planning dairy development interventions in pastoral areas.

Why support pastoral dairy development in Eastern Africa?

Support to the development of dairy value chains in pastoral areas in Eastern Africa could contribute to:

- **Women's empowerment:** Generally, the women in the pastoralist households process the milk into traditional products that they sell either directly to consumers or via only one or two intermediaries. The proceeds from dairy sales are controlled by the women, not by the male household heads⁷. Some women have been highly innovative in managing to tap new markets, such as the camel milk sellers in Somalia⁸. Supporting such small-scale dairy development in pastoral areas in Eastern Africa, building on women's initiatives, would help empower pastoralist women.
- **Food security and nutrition.** The main group of consumers of milk from pastoral herds are the pastoralists themselves and other people from pastoralist origin – genetically capable of consuming fresh milk, because they can tolerate lactose – who live in towns and pursue other forms of livelihood in addition to or instead of keeping livestock. For them, milk is an excellent source of macronutrients, dietary energy, lipids and proteins of high nutritional quality⁹. Milk also brings carbohydrates and its calcium content, vitamins and proteins play a determining role in bone growth and the health of children. To the extent that the pastoralists sell fermented milk products that can be better tolerated by people of non-pastoralist origin¹⁰ dairy development in pastoral areas could

⁶ ILRI/ASARECA. 2012. Drylands development, pastoralism and biodiversity conservation in Eastern Africa. Nairobi: ILRI/Entebbe: Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA).

⁷ CARE. 2014. Women's engagement in pastoral value chains in northern Kenya. Nairobi: CARE International in Kenya.

⁸ Nori M. 2010. Milking drylands: gender networks, pastoral markets and food security in stateless Somalia. PhD dissertation, Wageningen University and Research.



contribute also to improving the food security, nutrition and health of the majority of Eastern Africans in these other ethnic groups.

- **Pro-poor development.** Pastoralist families with larger herds can live mainly from selling animals, but the families with smaller herds need to rely more on dairy income to meet their food and other cash needs, so that they do not have to sell breeding stock. They can afford to sell only the occasional surplus male or older animal. Dairying helps **augment the income of poorer pastoralist** families. Because most dairy products that are marketed outside of the formal sector go through a short and low-technology value chain, they are less expensive than those that have moved through longer and higher-technology value chains: milk collection, transportation, pasteurisation, processing, packaging and distribution, involving still more transportation – especially to the more remote dryland areas. The **lower prices** on the informal market mean that these products are more affordable **for poorer consumers** in the drylands.

Potentials and constraints in pastoral dairy development

Thus, in summary, promoting pastoral dairy development in a multifunctional system could

bring a higher income to a larger number of pastoralist families than focusing on livestock and meat marketing, from which the already richer herd owners reap most of the benefits. Greater commercialisation of milk from pastoral herds would augment family income – especially for poorer pastoralist families – by taking advantage of the seasonal availability of surplus milk, if it were processed in appropriate forms. This would include traditional fermented milk products and possibly new products that are acceptable for consumer taste and lactose intolerance, can be stored for a long time and can be transported easily. This would give also poorer consumer families access to nutritious dairy products.

Many pastoralists – especially women – are already processing and selling dairy products on a seasonal basis, but their enterprises are constrained by **poor transport infrastructure, lack of appropriate technologies and facilities** for preserving and marketing more of the surplus milk, and **lack of capital for local investment**.

Moreover, pastoralists in Eastern Africa face constraints that threaten their entire production system. Their **insecurity of access to natural resources** such as land and water reduces their flexibility and mobility in using the seasonally dispersed grazing resources in the drylands.

⁹ FAO. 2013. Milk and dairy products in human nutrition. Rome: FAO. www.fao.org/docrep/018/i3396e/i3396e.pdf

¹⁰ Up to 90% of people in arable farming communities in East Africa have a high level of lactose intolerance. Because fermentation converts lactose into lactic acid, they can better tolerate fermented milk products (Tishkoff SA et al. 2007. Convergent adaptation of human lactase persistence in Africa and Europe. *Nature Genetics* 39: 31–40).

Throughout Africa, pastoralists continue to be **politically and socially marginalised**. Although the African Union¹¹ developed an African policy framework on pastoralism that was endorsed by African Head of States, only a few national parliaments, e.g. in Tanzania, have endorsed it at country level, and implementation has been very slow. There is still little explicit recognition of and support to pastoralism in Eastern Africa.

Pastoralists continue to have **difficulties to access public services, most of which are not adapted to their mobile way of life**. These include human and animal healthcare, formal education and provision of clean water, which would contribute not only to the pastoralists' wellbeing but also to better hygiene and food safety in the products they sell. Although, in the shorter value chains for pastoral dairy produce, there is less opportunity for contamination of milk than in the longer formal value chains, the risks could be further reduced if the milk handlers could learn more about how to deal with them¹².

Recommendations regarding European policies and development interventions

The Coalition of European Lobbies for Eastern African Pastoralism (CELEP) asks the European Parliament, the European Commission (EC) and the national governments in Europe to give more attention to appropriate dairy development in pastoral areas. This means not imposing a dairy system that comes from a European tradition and may suit better-endowed arable farming areas in Africa, but rather to **recognise the specificities of pastoralism and to support dairying in a way that fits this context**. It means promoting a multifunctional livestock system that – in addition to its ecological functions – produces meat, milk and other products (e.g. leather), so that a larger number of families will be able to live from pastoralism in dryland areas than if there were only specialised meat production.

European entities could provide support to pastoralism and specifically to pastoral dairying by:

1. **Highlighting the value of pastoralism.** A positive attitude toward pastoralism is reflected in policies such as the EU Consensus for Development and in projects such as “Supporting the Horn of Africa’s Resilience” (SHARE), but the EC could do more by explicitly

recognising the value of pastoralism in a reference document such as technical note. Not only would this clarify the course of action of the EC toward pastoralism, it would also be a clear signal to partner countries, particularly in (Eastern) Africa. The EU and its member states in the Organisation for Economic Cooperation and Development (OECD) should advocate in the Development Assistance Committee (DAC) for a separate Common Reporting Standard (CRS) code for pastoralism. This code – in addition to the existing CRS codes for livestock and animal health – would enable civil society organisations defending pastoralism in both Europe and the Global South to track global investment in pastoralism through Official Development Aid (ODA). The EU and national development agencies could also support the organisation of awareness-raising events on pastoralism in Eastern Africa, such as Pastoralists’ Days or Weeks, and – at these events – encourage attention to the role of women in pastoral dairying.

2. **Recognising the role of women in pastoral dairying.** Promoting dairy development in the drylands should always start with recognising the role of pastoralist women related to milk, their locally appropriate dairy products and their own initiatives and innovations in milk processing and marketing. Having access to milk from the herd is part of a pastoralist woman’s identity. Milk processing and allocation to the family and the market are completely under her control, as are the proceeds from dairy sales. Most dairy “development” projects to collect, process, package and distribute milk deal with men, and rob women of their power within the pastoralist society and economy. More research into how the existing dairy value chains in the drylands benefit pastoralists and consumers would provide a better evidence base for this recognition and help identify entry points for collaboration.

3. **Strengthening pastoralist civil society organisations (CSOs).** CSOs can make the voices of pastoralist men, women and youth heard in the policy arena locally, nationally and internationally. Groups of pastoralists – above all, pastoralist women – could also be supported to collaborate in milk transport, processing and marketing. The EU and European countries should, through their development policies and joint projects with African partners, help pastoralists strengthen their CSOs so that

¹¹African Union. 2010. Policy framework for pastoralism in Africa. www.au.int/web/sites/default/files/documents/30240-doc-policy_framework_for_pastoralism.pdf

¹²Roesel K & Grace D. 2014. Food safety and informal markets: animal products in sub-Saharan Africa. London: Routledge.

they can explore new paths to development and can advance a pro-pastoralist agenda. Pressure to meet the Western standards and to ban informal milk marketing comes mainly from large-scale corporate dairy firms in the formal sector. These interests can work against more effective and inclusive policies for dairy development¹³. Strengthening pastoralist CSOs and milk trader associations can help to bring their perspectives into the policy arena and to counter these vested interests.

4. **Facilitating development of context-appropriate milk standards.** Current milk handling and safety regulations in Eastern Africa are derived from models in industrialised countries and are not appropriate for local small-scale dairying operations. Instead of trying to enforce unattainable standards that would push smallholders, pastoralists and actors out of business or even into illegality, it is necessary to develop standards that reflect the situation and needs of small-scale producers and the mass of consumers. To improve hygiene and health, it is much more effective and inclusive to train milk handlers in maintaining milk quality and food safety¹⁴. If only the formal “modern” dairy system would be allowed, the poorer consumers would be deprived of nutritious dairy products and the poorer producers would be deprived of the additional income from the milk.
5. **Promoting investment in services and infrastructure suited to pastoral areas.** Investments should be made to improve the road network in the drylands and to offer services adapted for pastoralists, including mobile animal and human healthcare and education for children and adults. This could take advantage of the widespread use of mobile phones among pastoralists. Information and communication technology (ICT) could be used to support pastoral dairying, e.g. for communication about markets, prices and

transport opportunities and also to increase literacy levels – especially among women and girls – and to share information about hygiene and food safety. Pastoralist women and dairy associations need credit, training and organisational support to be able to invest in and operate decentralised micro-scale equipment and facilities for handling milk, including cooling equipment possibly using solar power.

6. **Ensuring policy coherence for sustainable development.** Protective dairy policy in Europe has favoured dairy exports to Africa. Milk powder repackaging and reconstitution facilities are central to the African investment plans of numerous European dairy firms. Imports of milk powder can help fill the gap in domestic milk supply but undermine the value chains based on locally produced milk and the efforts to develop these value chains. The competition from imports of dairy products leads to low prices for African producers¹⁵. The impact of EU dairy exports on African markets should be closely monitored and explicitly analysed in the biennial reports on Policy Coherence for Development. Corporate social responsibility needs to be promoted among European firms doing business in Africa, and the Principles for Responsible Investment in Agriculture and Food Systems should be applied. Firms investing in the dairy (or meat) sector in Africa should be encouraged to honour the engagements of the Agenda for Change and the EU Consensus on Development. They need to commit to making investments that maximise positive effects on local development in Africa. The EU should facilitate discussion about responsible patterns of EU trade and investment in the dairy sector in Africa to support development of dairy value chains from milk produced locally by smallholders and pastoralists, rather than from re-constituted imported milk powder.

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¹³Blackmore et al. 2015. Legitimising informal markets.

¹⁴Roesel K & Grace D. 2014. Food safety and informal markets.

¹⁵Goodison P. 2015. EU dairy sector policies and their impact on policies in sub-Saharan Africa. Copenhagen: Initiativet for Handel og Udvikling.



About CELEP

The Coalition of European Lobbies for Eastern African Pastoralism (CELEP) is an informal advocacy coalition of European organisations, groups and experts working in partnership with pastoralist organisations, groups, and experts in Eastern Africa. They collaborate to encourage their governments in Europe and Africa and the EU to explicitly recognise and support pastoralism and pastoralists in the drylands of Eastern Africa. For more information, contact the CELEP focal point Koen Van Troos at k.vantroos@vsf-belgium.org or the regional focal point Ken Otieno at kenotieno@reconcile-ea.org. www.celep.info