

Factsheet final findings Global Challenges Programme Call 2



Local and International business collaboration for productivity and Quality Improvement in Dairy chains in Thailand, Indonesia, Tanzania and Kenya (LIQUID)

Summary

The LIQUID project aims to provide a better understanding on how producer organization collaborations and quality management systems contribute to two performance indicators: milk quality improvement and value chain inclusiveness. LIQUID includes research and capacity building.

Dairy value chains are important food chains in many developing countries, with the potential to contribute to food security, social change and poverty reduction. However, as the quality of raw milk and of processed dairy products is often low, producers miss income opportunities and consumers are exposed to health risks. The introduction of dairy development programs as collaborative efforts based at the producer organizations, should help farmers get a better income and improve dairy quality at the same time. Women, important actors in dairy production and the poorest smallholders, are highly dependent on this income. Therefore, the improvement of milk quality could make a major difference in their household economics. Dairy development programs, however, seem not to function as expected considering the continuing lack of good milk quality. In dairy production and processing, women and other disadvantaged groups play essential roles as they supervise the home-based activities. Particularly when innovations for quality improvement are required, all actors need to be included. By identifying barriers and constraints to inclusive milk quality improvement, LIQUID offers opportunities for dairy development practice.

Final research findings

It seems that the success of milk quality improvement through inclusive producer organizations is a trade-off. On the one hand, milk quality improvement requires a strong business-oriented organization. On the other hand, inclusive producer organizations are usually not the most efficient in their business operations. Levels of inclusiveness and social inequalities can be related to informal institutions and the hidden effects of formal regulations, organization structure and farmers' organization-grade as well as urban-rural locations of farms. The more remote the farm location, with limited access to informal and formal markets, the more essential the producer organization is to smallholder dairying. As the organization grows, however, the more market-focused and less inclusive it becomes. Insights into power balances in formal and informal dairy value chains as related to the inclusive development effects of milk quality improvement activities can be considered as the key results of the program.

Outcomes achieved

Improving food security and hygiene in the Dairy Value Chain requires support programs (training, technical assistance and infrastructure development) that consider smallholders opportunities and constraints in the value chain. The work of PhD student James Ledo has made farmers, dairy companies, local businesses, governments and non-government organizations aware of the need for collaboration and integration along the value chain. As quality improvement is often not the primary goal of current support programs, they are often too general to bring about a significant upgrade in milk safety system performance. Ledo's study with the farmers shows that, despite of the positive perception of the support of the non-commercial program, current support programs do not achieve the desirable safety and hygiene outcomes.

To improve on this, Ledo has developed a customized tool that does seem to help the smallholders. The customized assessment tool was able to differentiate accurately between the actual safety and hygiene control practices of dairy chain actors. The resulting actor performance profiles provide a starting point for the development of tailored training programs to farmers.

Messages to

A) Actors from private sector:

- Seek collaboration with researchers to develop solutions for milk quality problems;
- Effective collaboration with local milk producers needs a long-term commitment.

B) Civil society and practitioners organizations:

- Collaboration with private sector will lead to milk quality improvements that are supported by the whole value chain;
- Coordinate your activities with colleagues from other organizations and countries.

C) Policy makers:

- Explore constraints in the implementation of current rules instead of developing new rules;
- Support inclusiveness by giving the good example.

Knowledge products

- ILRI Livestock Brief "[Uncertainty in smallholder milk production in Tanzania: Implications for investment](#)", by Edgar E. Twine, Amos Omore and Julius Githinji, *ILRI* (2017)

Academic papers

- "[Exploring the Sustainability of the Cooperative model in Dairy: The Case of The Netherlands](#)", by Jos Bijman, *Sustainability Journal* (2018)
- "[Persistent challenges in safety and hygiene control practices in emerging dairy chains, the case of Tanzania](#)", by J. Ledo et al., *Science Direct, Food Control* (2019)
- "[Inequality regimes in Indonesian dairy cooperatives: understanding institutional barriers to gender equality](#)" by G.D.M. Wijers, *Agriculture and Human Values Journal* (2019)
- "[A customized assessment tool to differentiate safety and hygiene control practices in emerging dairy chains](#)", by J. Ledo et al., *Science Direct, Food Control* (2020)
- "[Which type of producer organization is \(more\) inclusive? Dynamics of farmers' membership and participation in the decision-making process](#)", by M. Mwambi, *Annals of Public and Cooperative Economics* (2020)

Knowledge networks

- [International Cooperative Alliance](#) (ICA): discussing challenges and solutions of collective action in dairy value chains with other experts on cooperatives.
- [International Centre of Research and Information on the Public, Social and Cooperative Economy](#) (CIRIEC): discussing opportunities and limitations of the collaboration among public sector, private companies, knowledge institutes and civil society for addressing wicked problems like food security and food safety.

Co-creation

- In the individual projects, active consultations, exchanges and knowledge sharing activities with farmer groups, farmer respondents and other grass root stakeholders have been organized to embed the research directly into existing structures and address existing needs. Thereby, the collaboration with local, regional and national governments institutions has been sought to ensure knowledge uptake and the sustainability of research results.
- At the program level, communication within the consortium, with stakeholders and with related projects has been used to allow for co-creation, feedback and reflection as well as changing agenda's and focus according to urgency.

Future research and activities

The integrated nature of dairy development activities was central to the Dairy Development Event of 27 November 2019 (organized with F&BKP and AgriProFocus). Using a food systems approach, the Event has identified six key areas for further research and interventions for dairy development: Contribute to affordable and nutritious diets; Keep milk safe; Strengthen inclusive and competitive value chains; Sustain the agro-ecological base; Strengthen the future dairy professional: training, education and extension; and Get the development, trade and investment policies right.

Consortium partners

- [Wageningen University & Research, Management Studies Group](#) (NL)
- [Royal Friesland Campina](#) (NL)
- [Agriterra](#) (NL)
- [International Livestock Research Institute](#) (ILRI) (Tanzania)
- [Sokoine University of Agriculture](#) (Tanzania)
- [Egerton University](#) (Kenya)

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Project websites

- [F&BKP Research Project page](#)
- [LIQUID website](#)
- [WUR project website](#)
- [LinkedIn Group](#)