Enhancing dairy-based livelihoods in India and Tanzania through feed innovation and value chain development approaches

Background

Feed is a key issue but enhancing feed availability requires a broad approach. Small-scale dairy production is an almost universal component of the farming enterprise among smallholders farming in mixed crop-livestock systems in Sub-Saharan African and South Asia. The availability of sufficient high quality feed is a key constraint to improving milk yields and hence dairy income for smallholders through intensification of smallholder dairy systems.

One response to this situation has been the attempt to introduce or promote improved feed technologies at farm level but this has rarely had the intended benefits and new approaches are required. This proposal therefore places feed in a broader context and acknowledges that enhancing feed supply has both technical and institutional dimensions. The proposed project will tackle feed scarcity from a value chain perspective and employ innovation system principles. The emphasis on value chain and innovation approaches will necessarily involve consideration of issues beyond feed including enhancing breed quality and health status of dairy cows.

The project will work on dairy value chains in India and Tanzania; in both countries milk already is an important commodity while projected supply-demand gaps for milk and milk products indicate a need for intensification. The project will form part of a larger body of work on dairy value chains in India and Tanzania encompassed in CGIAR Research Programme 3.7 (More milk, meat and fish, for and by the poor). Present diversity in institutional settings will allow lessons to be learned which can be applied in a range of contexts beyond this project.

Why India and Tanzania? We have selected India and Tanzania as our study countries, as they provide interesting and in some aspects contrasting situations, presenting opportunities for comparisons and learning. Dairy value chains in these countries are also a priority focus of the new CGIAR Research Programme on livestock and fish meaning there are considerable opportunities for synergies. In both countries many poor livestock keepers are engaged in dairy production and a variety of dairy production systems exist. Furthermore, the extent of dairy development varies considerably between countries. India has a long history of dairy development, most notably through the...
co-operative movement. In Tanzania, the development of milk market chains extending beyond the very local has only just begun. But the large and vibrant milk sector in neighbouring Kenya suggests the potential for similar development in Tanzania, given rising dairy demand for dairy products and similar agro-ecologies. Institutionally there are also interesting comparisons to be made between the two project countries. In India the government has been active for many years in the establishment of dairy cooperatives through the National Dairy Development Board (NDDB). Civil society is strong and rural development NGOs are a feature of the development environment. The private sector is also emerging as an important dairy player: recent examples of increased vertical integration in dairy production can be found in Andhra Pradesh, Rajasthan, Maharashtra and Bihar, amongst others. In Tanzania, the presence of numerous small-scale milk collectors and processors indicate an emerging market for milk processing. In both India and Tanzania average milk yields are far below their potential.

In both countries, dairy development has considerable potential to contribute towards reducing poverty: smallholder dairy production can successfully compete with larger scale operations where the household labour it uses has low opportunity costs, thus representing a promising option especially for poor households.

Overall goal and objectives
The overall goal of the project will be to contribute to improved dairy-derived livelihoods in India and Tanzania via intensification of smallholder production focusing on enhancement of feeds and feeding using innovation and value chain approaches.

The objectives of the project are three-fold:

- Institutional strengthening: To strengthen use of value chain and innovation approaches among dairy stakeholders to improve feeding strategies for dairy cows.

- Productivity enhancement: To develop options for improved feeding strategies leading to yield enhancement with potential income benefits.

- Knowledge sharing: To strengthen knowledge sharing mechanisms on feed development strategies at local, regional and international levels.

What activities are planned?
The project will deliver a range of outputs in the broad areas of institutional strengthening, productivity enhancement and knowledge sharing around improved feeding strategies for dairy animals. Outputs and their related activities are described briefly here:

1a. Mechanisms for enhancing innovation capacity through local stakeholder platforms to address dairy value chain constraints

The project will experiment with ways of enhancing innovation capacity among local dairy and livestock feed stakeholders. This will involve experimenting with the use of local innovation platforms to bring key actors together. The effectiveness of innovation platforms in strengthening linkages between key actors will be assessed along with the effect of enhanced innovation capacity on changes to feeding practices at farm level.

1b. Approaches for involving local stakeholders in analysis of feed-related aspects of the dairy value chain

Through local innovation platforms, the project will develop or strengthen tools and approaches for participatory value chain analysis with local actors, especially research actors, conducting the diagnoses. Such approaches are likely to vary with context and the location of the project in two countries will help to tease out some of these contextual differences and how to deal with them.

1c. Identification of intervention strategies emerging from dairy value chain analysis

Having identified key value chain constraints related to feed supply, the project will produce an inventory of intervention strategies including on-farm feeding interventions as well as more organizational and market-level interventions aimed at improving feed supply and enhancing use of existing feed. Such interventions could include training in business skills and better access to information for feed input suppliers, such as fodder seed traders and feed processors. The involvement of such private sector actors is likely to be critical to the upgrading of dairy value chains at study sites. Where other livestock services and inputs are provided in an integrated manner with feed, some interventions could address a wider range of service suppliers.
2a. Strategies for implementing local feed-related innovations emerging from stakeholder platforms with the potential to enhance dairy incomes

The project will experiment with strategies for identification, evaluation and on-farm testing of feed-related interventions through the activities of local stakeholder platforms. Thus, platform members will test promising feed-related interventions to deal with value chain constraints using action research cycles through, for example, agreed pilot interventions run by innovation platform members. Such an approach will lead to information on what feeding strategies work and are economically viable at the level of dairy cow productivity and dairy enterprise sustainability. Embedding intervention programmes within an innovation platform framework will leave capacity behind once the project completes. The specific feed-related interventions identified for project sites will not necessarily be automatically suitable for scaling out but the strategies for their identification and evaluation certainly will be.

2b. Methods for enhancing diffusion of local feed-related innovations among dairy smallholders with the potential for income benefits through productivity increases

Having identified workable interventions at project site level, these local successes will be used to influence local decision makers to bring about widespread change in feeding practices for enhanced productivity.

2c. Strategic lesson learning on appropriate dairy feeding strategies and technologies

Using data generated through the M&E process, quantitative and participatory analysis will be conducted ex-post on observed successes and failures of feed technology and strategy options, and the determinants identified. These will be synthesised across the two country project experiences, and packaged into practical tools for targeting feed options in other regions, and into global public good knowledge products for wider application. These practical tools will be applicable to a broad range of contexts and could be useful for application in a range of development projects.

3a. Mechanisms for sharing knowledge at local and regional levels

Existing knowledge pathways by which feed-related knowledge currently spreads at project sites will be identified and built upon through local stakeholder platforms. Knowledge pathways at local level will be assessed as part of a light baseline survey at the start of the project. At regional level, knowledge sharing pathways will be assessed as part of planned participatory value chain analyses. These pathways will be used to diffuse knowledge developed through project activities to bring about widespread knowledge sharing and to address knowledge gaps at points in the value chain where they exist. Project implementation in two countries will also provide opportunities for experimenting with south-south knowledge sharing approaches.

3b. Mechanisms for sharing knowledge across project countries and among global R4D projects

Since the value chain and innovation approaches, which form the core of this project, are also key elements of a range of other livestock R4D projects being implemented by ILRI, CIAT and other partners, especially CRP3.7, we will establish mechanisms to share lessons and experiences across the projects and with global communities interested in these topics.
Implementation and partnerships

The project will be co-ordinated by ILRI with CIAT acting as a major partner. Activities in each of the two target countries will be coordinated by a local country co-ordinator. In the case of India, local coordination will be the responsibility of ILRI while in Tanzania, CIAT will provide local coordination. A steering committee composed of the project co-ordinator, local country co-ordinators, representatives of the Indian and Tanzanian national partners, a representative(s) of IFAD and a representative of the CRP 3.7 will meet annually to assess project progress, provide guidance on future activities and develop opportunities for linking the ongoing activities of the project with wider national and CGIAR programmes.

A partnership scoping exercise is underway; we envisage considerable devolution of project implementation to national research partners. Furthermore we seek synergistic partnerships with development partners particularly for facilitation of local innovation platforms and development of value chains. These relationships will allow research outputs to be directly used by development partners.

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