

Feed the Future Innovation Lab for Livestock Systems



Integrated approach to enhance milk quality, dairy animal productivity, and milk consumption by vulnerable household members in rural Nepal

2023 – 2025

Improvements in dairy value-chains do not always correspond with improvements in human nutrition. A multi-dimensional intervention that provides mobile phone-based decision tools for farmers, improved forage varieties for livestock, price bonuses at milk collection centers for quality milk, and dairy consumption behavior change supports for households will improve dairy production, quality, prices, and household consumption. If access to technologies increases and availability of quality inputs is ensured, it will lead to increase in production and productivity reducing per unit production cost. If producers are trained and motivated through price incentives, the quality of produce will improve. If consumers are made aware of the nutritional value of quality milk, the demand for milk will increase and thus help in the overall flourishing of the dairy sector of the country.

Principal Investigator
Bhola Shankar Shrestha, Heifer Project International

Co-PIs

- Albert De Vries, University of Florida, USA
- Laurie Miller, Tufts University, USA
- Ram P. Ghimire, Nepal Agricultural Research Council, Nepal

Project Goal

The overarching goals are to strengthen the dairy sector in Nepal through productivity and quality improvements, to promote farmer economic development, and to increase milk consumption by vulnerable household members.

Objectives

- Improve the productivity of dairy animals through enhanced access to technologies, farm management tools and increased feed and fodder supply.
- Improve milk quality via adoption of Good Hygiene Practices through price incentives for farmers that stimulate delivery of quality milk to milk collection centers.
- Identify and overcome barriers to milk consumption for vulnerable household members.

Background

The Government of Nepal, as documented in the Agriculture Development Strategy (2014) has prioritized 'Dairy' as the second most important agricultural value chain after rice that has potential for economic contributions. The dairy animal productivity is generally poor associated mainly with poor access to technologies, inputs and services. The quality of produce is also sub-standard because of negligence, partly lack of knowledge among producer farmers and milk handlers, and absence of incentives/ lack of motivation for producing clean/hygienic and quality milk. Inadequate knowledge among people on the value of ASF consumption, and various barriers on consumption of milk and milk products, are some of the limiting factors for the dairy sector of Nepal not flourishing as it should have.

Approach

An interactive information and communication technology (ICT) platform will be developed and tested to improve dairy farmers' access to technologies. Digital information about basic animal husbandry practices and an interactive platform to facilitate linkage with experts on specific technologies will be provided to the 50+ dairy farmers in the treatment group. An equal number of dairy farmers will constitute the control group. Animal performance as well as economic outcomes for both groups will be compared.

For increasing access to quality feed and for promoting forage based dairy production to reduce costs of production,

Different summer, winter, and perennial forage crop varieties (leguminous and non-leguminous) that are in Nepal Agricultural Research Council's (NARC) development pipeline will be screened at project sites. Higher green biomass yield and higher nutrient content promising/selected varieties will be promoted for adoption and scaling up.

Both farmers and milk handlers will be trained in Good Husbandry Practices and Good Manufacturing Practices to promote clean and hygienic milk production. Premium prices for quality milk producers (low conductivity/low somatic cell count, SCC) will be piloted and its sustainability will be searched in collaboration with milk processors. National Dairy Development Board (NDDDB) will help in policy formulation and advocacy on a quality-based milk pricing system in the future.

Consumption of milk and other animal-source foods (ASF) by vulnerable household members is limited by multiple cultural, structural, and economic barriers, even in dairy-producing households. We will 1) characterize these barriers in detail, and 2) conduct a randomized controlled trial to test a multi-faceted behavior change intervention designed to increase ASF/milk consumption by young children, adolescent girls, and women of child-bearing age. Mothers, fathers, and adolescent girls will participate in intervention activities; novel outcome metrics will broaden understanding of impacts.

Additional Collaborators and Partners

- National Dairy Development Board, Nepal
- Nepal Dairy Pvt. Ltd.
- Pawan Dairy Pvt. Ltd., Nepal
- Shiva Ganga Dairy Pvt. Ltd, Nepal
- Dairy Development Corporation, Nepal



Project Website [Link](https://livestocklab.ifas.ufl.edu)

<https://livestocklab.ifas.ufl.edu>
www.feedthefuture.gov