



## Improving dairy animal productivity and income of dairy farmers through effective control of mastitis disease in Nepal

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### Objective

Increase the productivity of dairy animals and thus the income of smallholder dairy farmers through recommending appropriate strategies to control mastitis.

# Technology Package for Prevention and Control of Mastitis in Dairy Animals

Keshav Sah

## Introduction

- Dairy is the most important livestock subsector in Nepal, contributing to two thirds to the livestock share of GDP
- Dairy animals are key for rural livelihoods
- The most critical factor associated with low milk production is mastitis- a production disease causing economic losses to the farmers, challenges to the dairy processing industry, and possible health hazard to consumers.

## Methods

- Developed a technology package to control mastitis in dairy animals after identifying gaps in existing good husbandry practices (GHP)
- Developing a training package and provided training to vet technicians, government laboratory staffs and dairy farmers
- Assessed GHP and prevalence of subclinical mastitis (SCM) through baseline survey
- Conducted experiments to test efficacy of mastitis control technologies
- Established farmer's feed back mechanism based on conductivity test at dairy cooperative level.
- Assessed GHP and prevalence of mastitis through end line survey

After GHP training, most dairy farmers started adopting mastitis detection and control technologies.

The baseline survey of CMT showed high prevalence of SCM in cows (55%) and in buffalo (78%), which were reduced, after GHP training and adoption of the mastitis control technologies, to 28% in cows and 18% in buffalo.

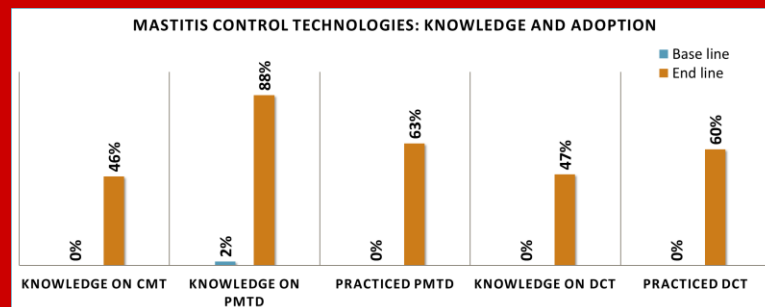


Figure 1: Changes in knowledge and adoption of mastitis control technologies measured during baseline (n=654) and end line (n=403) surveys.

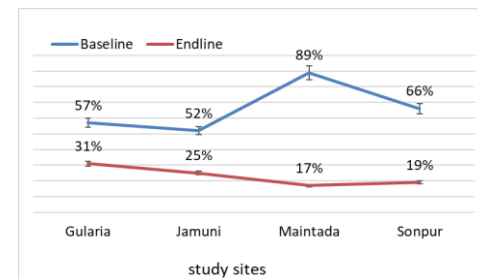


Figure 2: Prevalence of subclinical mastitis as measured using the California Mastitis Test (CMT) during the baseline and end line surveys at four study sites.

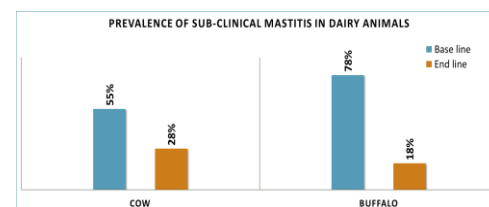


Figure 3: Prevalence of subclinical mastitis in cows (n=432) and buffalo (n=216) as measured using the CMT during the baseline and end line surveys.

## Outcomes

- GHP training manual developed targeting to smallholder dairy farmers
- Knowledge on SCM and CMT and adoption in mastitis control technologies (PMTD and DCT) improved significantly
- Minimized human health hazards due to use of the most sensitive antibiotics to treat mastitis
- Farmers feed back mechanism, to receive milk free from mastitis, established in dairy cooperatives
- Prevalence of SCM in dairy animals significantly decreased with in 6 months
- Studies strongly suggest that the mastitis technology package can be scaled across smallholder farmers within and beyond Nepal to control mastitis in dairy animals