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Impact of village livestock promoter on buffalo milk productivity in Nepal: A cluster randomised controlled trial

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Abstract

This study evaluates the effectiveness of the village livestock promoter (VLP) extension approach in improving buffalo milk productivity in Nepal's eastern Terai region. We conducted cooperative-level cluster-randomised controlled trial involving 27 cooperatives. All of these had identified VLP candidates, but only 14 randomly selected VLP candidates were offered the training and mentoring treatment during the observation period. VLPs are locally selected youth trained by experts in animal husbandry. They serve as community-based extension agents, providing advisory services, technical support, and facilitating input linkage. Using data from a 2-round panel survey of 1092 farmers and difference-in-differences estimates, we find that farmers in VLP-treated cooperatives experience a statistically significant increase in milk productivity of approximately 12% relative to the control group. The interaction effects further indicate that the effectiveness of the VLP intervention varies across farms and seasons. We observed a consistent and significant impact of the VLP approach among medium-scale farmers, in terms of herd size, but not among small- or large-scale farmers. Similarly, the interaction with seasonal conditions shows that the treatment effects are larger during the good production season compared to the less favourable season. This implies that VLPs work best with farmers having moderate resource endowments and when agro-climatic conditions are favourable. Our analysis further shows that the observed productivity gains are primarily driven by increased investment in animal health and higher technology adoption scores in households linked to treated VLPs relative to those served by non-treated VLPs. From a policy perspective, we recommend scaling up the VLP approach to provide farmers with efficient support for increased technology uptake and targeted training opportunities. These efforts enhance technology adoption and farmers' investment in animal health, thereby sustaining milk productivity in the buffalo sector.

Keywords: Livestock extension, milk productivity, technology adoption, village livestock promoter