



Ratnagyan Thapa Magar, 42, is a lead farmer who received one of the improved male goats. Over the last year, his goat has fathered 250 kid goats for 75 families. Those 75 families were in turn able to either sell the larger offspring for higher profit or add to their herd of goats. [Photo by Jennifer Hardy/CRS]

# Goat Breed Improvement Interventions in Earthquake Recovery Project

A KNOWLEDGE GAINED REPORT<sup>1</sup>

## BACKGROUND

A massive earthquake in 2015 caused large scale losses to life and livelihoods of communities in Gorkha district in Nepal. CRS, through the three-year Gorkha Recovery and Resilience Project (GRRP), supported communities to restore their agricultural livelihoods as well as promote improved sustenance practices that are more profitable and resilient to future shocks. One such initiative was to apply a Private Service Provider (PSP) approach to goat breed improvement. A CRS needs assessment found that existing local goat breeds were slow-growing and small in size. Inbreeding over

a period of time heightened the problem. Though these Indigenous-goat breeds were hardy and adapted to the environment, communities needed breeds with higher faster growth rate which would enable them to sell goats in 7 to 9 month – compared to 12-14 months with traditional breeds – to reduce the risk of loss and speed up access to income.

## DECISIVE ACTIVITIES:

CRS adopted two Private Service Provider (PSP) models to help farmers and communities create a business model for sustainable access to breed improvement services:

<sup>1</sup> For further information, please write to Katherine Price, Country Representative ([katherine.price@crs.org](mailto:katherine.price@crs.org)) or Krishna Mohan, Technical Advisor-Livelihoods ([krishna.mohan@crs.org](mailto:krishna.mohan@crs.org))

- In areas where there were no farmer groups or cooperatives, individual farmers with strong experience in buck rearing chose to become PSPs, offering breed improvement services as an income-generating business.
- In area where farmer groups or cooperatives took ownership of the PSP role while delegating the day to day management to one of their members selected from within the group.

In both cases, the consultative PSP selection process was led by farmer groups and local communities.

- Based on consultations with experts from Government livestock agencies<sup>2</sup>, four breeds were promoted: Barbari, Boer, Jamunapari and Beetal. CRS oriented communities on the key production and physical characteristics of these breeds. Based on orientation, farmers selected the breed of their choice. Project staff facilitated community level discussions where groups decided the mating service fee (between \$.50 - \$2.00).
- PSPs and groups received basic orientation on management of bucks which included nutrition, health management and rotation



As most rural families in Nepal keep goats, CRS is helping farmers improve their income by helping them have healthier, large body size goats, able to be sold at a higher price. One problem was inbreeding over time, leading to small, sickly goats and higher mortality rates. CRS introduced outside “breeding bucks” (stud goats) to bring a more diverse genepool to herds of goats in a community. Partner staff identified lead farmers who had experience with goats and the resources to get the extra food and supplements the larger goat required. Other farmers in the community bring doe goats for breeding, and the resultant offspring are healthier and at the time they’re sold, nearly double the weight of local goats that had suffered from generations of inbreeding. To date, CRS has provided 54 stud goats / breeding bucks to communities in Gorkha. [Photo by Jennifer Hardy/CRS]

of bucks every 18-24 months to prevent inbreeding.

- The selected PSPs were trained on buck management, basic record keeping, and were linked with the nearest breeding farms where they could purchase bucks in the future.

## KEY RESULTS:

- The project distributed 54 bucks to 31 male and 23 female PSPs. All of breeding bucks survived, highlighting the project’s success in selection of locally appropriate improved breeds, procurement of quality bucks and adequate care by PSPs.
- All 54 PSPs have been functioning as businesses for the last 16 months as they provide goat breed improvement services to communities. The PSP selection process was vital in ensuring this continuity.
- Within the first 16 months of the project, nearly 2,300 does were mated and PSPs earned \$2,300 with benefit cost (BC) ratio of almost 12<sup>3</sup>. PSPs were satisfied with the earnings as they did not perceive the activity to be time and resource intensive. The PSPs also feel that they will increase their earnings in the future as demand increases for the breeding services.
- Communities reported the following key changes in goats after the introduction of the improved breeds:
  - Increase in number of kids due to twinning (and triplets in some cases)
  - Small durations repeated training like farmer field orientation on improve goat husbandry practices resulted more kids and income increase due to decrease in kidding interval.
  - Healthier kids with less incidence of diseases and mortality
  - Significant reduction in inbreeding and accompanying health problems
- Under similar management and feeding practices, the kids from improved breeds weighed 40-50% more than the local breeds

2. District Livestock Service Office (DLSO), Gorkha and Goat Research Centre, Bandipur

3. For BC analysis, only cost of those expenses were taken for which PSPs paid cash. Inputs like home labor, own feed, cost of buck (provided from project) were not considered.

at six months age and showed higher growth rate and feed conversion (amount of feed required to reach a certain amount of weight gain).

- The PSPs have created a strong business plan for future purchase of bucks. So far, there have been four cases where the PSPs have voluntarily either exchanged their bucks with other PSPs or purchased a new buck to prevent inbreeding. In these four cases, the PSPs have sold the bucks for \$300-\$350 and purchased young bucks for \$200-\$250. This shows the financial feasibility and sustainability of the intervention as PSPs are able to replace their bucks without making additional investments from their fee earnings.
- The services have benefited ultra-poor and vulnerable households. Some PSPs have provided an option of paying fee in-kind (maize, millet, other byproducts or fodder) for poor households who may have difficulty paying in cash.

## RESULTS

*Kids from improved breeds weighed 40-50% more at six months age*

### KNOWLEDGE GAINED:

To identify the most significant knowledge gained CRS consulted the participants and community using qualitative tools, such as focus group discussions and key informant interviews, and participatory approaches that included a reflection workshop.

- Group-based PSPs are likely to be more inclusive, sustainable and effective due to a collaborative decision-making process, trouble-shooting support and availability of a peer learning platform.
- The individual PSP model allowed more autonomy to decide the terms of business and worked well in contexts where there is existing high and concentrated demand for breeding services. However, the project's success depends on a thoughtful PSP selection criteria and process, including

evaluating the person's past experience successfully rearing goats, especially bucks; ability to invest in good management of a buck, including food and veterinary care; strong desire to increase income; good reputation in the community; and someone who is easily accessible at a central location.

- A comprehensive and realistic business plan for replacement of breeding bucks is critical for sustaining the intervention.
- Providing breeding bucks with desirable purity (40-50%) was found to be more appropriate for the context. This strategy helped in better adaptation of the bucks to local conditions, including the local climate and farmers' preference for low-cost, less intensive management practices. At the same time, it was easier for PSPs to manage the bucks without significantly altering their management practices and investments.
- Higher growth rate allowed households to sell goats more frequently, thus increasing their cash flows and reducing cost and risks. Growth rate was reported to be the key criterion communities were seeking through breed improvement.
- Quick and visible positive results nudged communities to adopt other improved management practices like deworming and better nutrition.
- Strong planning and coordination with local government helped in identifying unserved areas, often remote and difficult to access, where there had not been prior opportunity to extend its breed improvement interventions due to lack of adequate funds and human resources.



Private service providers receiving buck after buck distribution ceremony. The photo was taken with program participants returning to their respective wards of Manabu VDC from the distribution site. [Photo by Ramkumar Shrestha/CRS]



As most rural families in Nepal keep goats, CRS is helping farmers improve their income by helping them have healthier, larger goats with reduced mortality, able to be sold at a higher price. [Photo by Jennifer Hardy/CRS]

- Exposure visits to breeding farms helped PSPs observe different breeds and interact with commercial goat farmers to understand the production and economic potential of breed improvement. This peer learning was found to be more effective than conventional training programs in building skills and expanding the outlook of PSPs on breed improvement.
- Limited access to livestock insurance services, especially in remote locations, is a challenge and can hinder the possibility of replacement in case of accidental death of a buck due to disease or attack by wild animals.

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## *Faster and greater profits selling goats motivated improvement in breeding practices*

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### KEY TAKEAWAYS:

The fundamental reason the breed improvement intervention success rates far exceeded the project targets was that it responded to a specific, strongly felt need by community members based on local experience and existing assets. CRS adopted a flexible approach, piloting both group-based and individual PSP models, adapted to the farmers' surroundings and logistics.

Strong coordination with government technical agencies and community-level facilitation helped to identify desirable breeds adapted to the local area and also profitable to the PSPs. This resulted in a comprehensive intervention in which local stakeholders, CRS, and funders created synergies achieving a positive result, and a future pathway for programming.