

Small Ruminants, Big Opportunities

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With the diminishing opportunities in agriculture and the lack of water for assured irrigation, villagers in Rajasthan are turning more and more to goat-rearing, and are realizing its viability as a livelihoods option, opening up possibilities of enhanced income and self-sufficiency

In 2003, Asha (the name means Hope) became a goat-rearing farmer. She purchased 15 goats and a buck under the World Bank-funded District Poverty Initiative Project (DPIP), from a village 20 km away from hers. She invested Rs 32,000 in this venture, of which Rs 18,320 was provided by DPIP. She took a loan from the local money-lender for the remaining amount by mortgaging some of her belongings at the rate of three per cent per month.

Taking up goat-rearing as an income-generation activity proved to be a great blessing for her family. With the income she got from goat-rearing, she built a two-room, cement house. Three years ago when she needed money for the marriage of her son, she sold some of her goats for Rs 1,40,000. She used a part of this for the marriage.

Earlier, her family owned a camel, which her husband used to ferry illegally cut trees to the nearby market, earning thereby about Rs 60–80 on alternate days. They sold the camel and are focusing on goat-rearing alone. They earn a handsome income from rearing goats and lead a more dignified life now.

At the time of induction of goats, Asha had 15 animals with five kid goats. The first thing she did when she began goat-rearing was to de-worm and vaccinate her goats. She spends a lot of time looking after the goat kids and is seen feeding them milk with a bottle at times, and grooming and cleaning them at other times. She is very particular about hygiene, cleaning the goat-shed twice a day. Although she cannot read the names of the medicines, she can identify the ones that her animals may need by their colour.

As a result of her untiring efforts and dogged perseverance, her goats are healthy and there has been no mortality amongst her herd. At present, she has 120 goats worth more than Rs five lakhs at the current market rate. She has been selling male goats for the last ten years. In the last three years, the income from her goats has been Rs 63,000, Rs 1,27,000 and Rs 1,62,000. She has increased the parent herd size to 125.

From her goat-rearing income, she repaid all the loans taken to start the activity. She also provided financial support to one family in the village for their daughter's marriage last year. Things have really changed drastically for this family in the last ten years—it has transformed from being a family with high debts to a family that has assets worth Rs 5,00,000 at its disposal.

She proudly declares, "*Ye bakri mere jaanvar nahi hai, meri jaan hai. Bhai saab, ye sab bakri palan ka kamaal hai* (These goats are not just animals for me; they are my life. My life has changed because of goat-rearing).

The lives of other women—Geeta, Baby, Usha, Neelam and hundreds more—from the villages in the surrounding areas have been transformed after they decided to take up goat-rearing as their primary source of income.

REGIONAL CONTEXT AND RATIONALE

The PRADAN Dholpur team extended its work to the Sarmathura region of the district in 2002. Sarmathura region has two distinct topographies—one is the extension of the Aravalli range with laterite top-soil and sand-stone underneath and the other is the ravine area of the River Chambal with sandy soil and highly undulating land. The rainfall in this area ranges from 350–400 mm and the vegetation comprises thorny bushes and trees. The climate

is hot during the summers, with temperatures rising as high as 49 degrees Celsius, it's cold during the winters, with temperatures falling to four degrees Celsius.

The area is inhabited by the Thakur and Gurjar, the Meena (Schedule Tribes), and the Jatav (Schedule Castes) communities. The Thakurs earn their livelihood mainly through agriculture, livestock, stone mines and by migrating to cities to work as wage labourers. The primary source of livelihood of the Meenas and the Jatavs is working in sand-stone quarries as wage labourers; a few of them are engaged in livestock-rearing and agriculture. The Gurjars keep large herds of cattle and goats. People of every caste in this region rear livestock, mainly buffaloes and goats. The region is in the arid zone and has a vast forest cover of thorny bushes and plants; the goats are thus able to survive, even the drought years.

Rain is the only source of water in the *Daang* (the Sarmathura area is commonly known as the *Daang* region in the local language). Wells fail to provide drinking water to the villagers in the summer months, with more than 90 per cent drying up during that period. Such being the availability of water, agriculture in this region is primarily rain-fed. The stake, therefore, has gradually shifted to other sources of livelihood such as rearing of livestock. Moreover, the area is mostly inhabited by the Gurjar community for whom the traditional occupation has been livestock-rearing. For other villagers too, livestock-rearing is becoming a major source of income because the rocky terrain and the lack of irrigation restrict agriculture to subsistence levels only. For this reason, the area has a huge population of cattle (buffaloes, cows and goats).

With the increasing shortage of green fodder and an abundant availability of grazing land, rearing of goats is becoming more popular.

Even in the levelled regions of the district, families with marginal or no land-holding and those who find it difficult to meet the cost of feeding a buffalo, prefer goat-rearing as a means of livelihood.

Given the above context, PRADAN intervened in the goat-rearing activity with a comprehensive livelihoods-promotion approach. With the support of DPIIP, the PRADAN team planned to make goat-rearing an income-generating activity. PRADAN helped over 800 families purchase over 9,000 goats in 30 villages.

There are, however, many challenges that make families reluctant to take up goat-rearing as an activity and secure a better remuneration.

Breed: The breed reared in the area is mostly of the local variety, a cross of the Jamunapari and other breeds, and is highly susceptible to diseases. Whereas the body structure of these goats is similar to that of the Jamunapari, the body is black with brownish parallel stripes on either side of the nose and the legs.

High mortality: Poor management practices, and the lack of vaccination and preventive care have resulted in over 35 per cent mortality rate among the kids and 8–10 per cent mortality amongst the adult goats.

Herd-size management: Small-holders keep four to ten animals and a family member is engaged the whole day in tending these animals in the forest. One person engaged for the whole day with a small number of animals is not economically viable and may be an indicator of disguised unemployment.

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Feeding pattern: The goats in the area depend on free-grazing in the forest land. The minimum requirement of dry fodder and concentrates for weight development are, therefore, not met. Free-grazing does not provide, to a large extent, the goats with their nutritional requirement.

Management practices: The goats receive minimum attention and care. Their housing facilities are inadequate and congested.

The goats are usually crammed into a small enclosure, open to the elements. This leads to outbreak of diseases such as pneumonia and other respiratory disorders. There is no proper arrangement to keep kids and they are mostly sheltered under baskets or low height enclosures, which often leads to their death by suffocation. The lack of awareness about hygiene and sanitation, the lack of proper ventilation in houses and the traditional practices of feeding, breeding, watering and rearing have had a severe impact on the goat and kid mortality, thereby affecting the economic viability of the activity.

Health practices: The health management of the goat is traditional, and primarily, home-based. Goats are very sensitive to diseases—both viral and bacterial. The common diseases prevalent in the region are PPR (*Peste Des Petits Ruminants*), also known as goat plague, Enterotoxemia (ET), liver fluke, diarrhoea, goat-pox, pneumonia, etc. But the absence of proper veterinary services in the region coupled with the lack of awareness among the

people has had a tremendous negative impact on the overall health scenario. Mass death of goats is not an uncommon feature; this often deters villagers from taking up goat-rearing as a full-scale livelihood activity. The vets of the region more inclined to tend to cattle, giving little or no priority to the goats. Low awareness about prevalent diseases and the absence of preventive measures such as regular de-worming and seasonal vaccination for, say, PPR and ET, result in high mortality in goats.

Marketing practices: The market for goats is fluctuating and exploitative. Traders come to the village, weigh the animals in a very crude manner (using their hands) and quote a rate, which is usually very low. The rate fluctuates depending on the demand-supply situation at that point in time. Farmers sell their goats and bucks to *khatiks* (local traders), based on an average rate of animals—decided on a rough estimation by the farmer and the trader. Often, farmers are forced to sell the goats at a rate much lower than prevailing market rates.

Insurance services: Little heed is paid to insuring animals. Insurance companies too are not very keen to insure goats and usually like to insure goats that have been purchased through projects or loans from mainstream financial institutions.

Lack of financial resources to invest: Farmers do not have access to financial services to either optimize the size of their herd or invest in making a shelter for the goats.

Goat-keeping is meant for the landless, the small or the marginal families. These families are encouraged to take loans either from their groups or other financial institutions, to buy at least five goats and a buck. They are then provided with the basic skills-set required to keep goats in a way that the animal mortality is less than five per cent and the farmers are able to earn at least Rs 25,000 from the third year onwards.

INTERVENTIONS

SAHELI (Federation) Promoting Goat-Rearing Activity

Saheli (Sangh for Empowerment and Livelihood) is a Federation of over 150 SHGs promoted by PRADAN in the Sarmathura region of Dholpur. This Federation was started in 2003, to act as a platform for peer learning, solidarity, togetherness and to promote goat-based livelihood activities among members.

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The goat-rearing activity was initiated with the support of DPII, which provided a subsidy to SHG members for the purchase of 15 goats and one buck. The goat-rearing programme is run by the Federation and has been operational for over seven years now through its own resources. The Federation generates revenue from the community by providing services such as vaccinations, de-worming, mineral mixture and *rahat kosh* (insurance). At present, over

Table1: Intervention by the Federation in Goat Promotion in Sarmathura

Barriers/ Challenges	How the Federation Has Overcome These
Credit for goat purchasing	<ul style="list-style-type: none"> - Formed women's Self Help Groups (SHGs) - Helped SHGs take credit from the Federation and other financial institutions - Linked SHG members with government schemes and NABARD (National Bank for Agriculture and Rural Development)
Availability of quality breeding bucks	<ul style="list-style-type: none"> - Linked farmers to buck breeding farms from where bucks are purchased in bulk - Linked farmers with the veterinary department, which helped them get subsidized breeding bucks
Risk mitigation through mutuals	<ul style="list-style-type: none"> - Started <i>rahat kosh</i> (mutuals) at the Federation, to provide immediate relief to the farmer when a goat dies
Disease outbreak from time to time (such as PPR and ET)	<ul style="list-style-type: none"> - Trained farmers through para-vets to recognize symptoms of diseases and realize the importance of regular vaccination - Organized season-based health camps to ensure de-worming and vaccination of goats
Getting quality vaccines	<ul style="list-style-type: none"> - Purchased vaccines and other medicines in bulk and provided them to para-vets, who, in turn, use them in villages
High adult and kids mortality	<ul style="list-style-type: none"> - Organized season-based skill enhancement training (SET) programmes that focus on kid management, colostrum feeding, naval chord management, balanced rationing, regular de-worming and vaccination and creating awareness about better rearing and management practices, and goat shelter management (regular cleaning, ventilation and white-washing of the shelter)
Absence of health care for goats	<ul style="list-style-type: none"> - Created a pool of local youth to work as para-vets to provide health care services to the farmers at their door-step - Created a cadre of <i>Pashu Sakhis</i>, to provide SET to all goat-farmers
Small herd-size not economically viable	<ul style="list-style-type: none"> - Linked farmers to financial services and government schemes to take loans to increase the herd size to 15 goats and one buck
Market: margin does not reach the farmer	<ul style="list-style-type: none"> - Tried the following interventions: <ol style="list-style-type: none"> a. Take demand from outside and then sell the goats collectively b. Helped farmers link with the local veterinary department for some breeding bucks c. Invited traders from different places to the area

Risk Mitigation through *Rahat Kosh*

The Federation provides *rahat kosh* services to the farmers to mitigate risks arising from the mortality of goats.

This is a unique service started in 2004 by the Federation. One of the risk mitigation strategies has been to provide immediate financial support to the member if her goat dies. For the *rahat kosh*, members pool in a premium and this reserve of funds is used to provide relief to its members. Any member, who has at least five goats, can avail of the services of the *rahat kosh* after paying a premium of five per cent of the cost of the goat. The premium also involves round-the-year vaccination and de-worming of the insured animal. Against this premium, the goat-rearer is eligible to get financial support up to 75 per cent of the cost of the goat (cost at the time of becoming the member for this service) if her goat dies. For the claim settlement, the verification of the animal mortality is done through the *Pashu Sakhi* of that Cluster. She reports the death to the Cluster, which then informs the Federation. The Federation, after verification by its Executive Committee, issues a cheque in the name of the member.

1,600 families are engaged in this activity with an approximate herd size in the range of 24 to 35; the maximum number has even touched 120 goats per family. At present, the *Pashu Sakhis* (Women Community Resource Persons) are being financially supported by the Mahila Kisan Shashaktikaran Pariyojana (MKSP). The para-vets, however, charge for their services from the farmers. Para-vets earn between Rs 3,000–5,000 per month, by providing veterinary services to the farmers.

In order to motivate the poor farmers, the Federation has initiated the concept of giving gifts (goat kids) to very poor families. This gift is given on the condition that the family passes on such a gift to another very poor family, once it starts to earn from the activity.

CHALLENGES FOR THE FEDERATION

The Aravalli Plateau and the Chambal River Basin have large tracts of forests as well as unused land; goat-rearers use these lands for grazing. Although there is plenty of such land available in the region, there is need to promote pasture land development along with drought proofing measures. Because of

the erratic rainfall and because of the ensuing shortage of green fodder for larger animals, most of the farmers of this region prefer to rear goats.

Over the years, the demand for goat meat has been increasing and goat meat prices have also been rising. Given the proximity of Dholpur to bigger markets such as Agra, Gwalior and Delhi, the demand has been increasing steadily. The challenge is to organize the market and set strict terms of trading so that the farmers are not at a disadvantage. At present, goats are still bought on estimation and not by the actual weight of the animals, which is one of the reasons why farmers are not getting the price they might otherwise get.

POLICY IMPLICATIONS

Over the last decade, in Sarmathura region, there has been a change in policies to favour small ruminants.

1. In 2003–04, there was a large-scale outbreak of disease among goats; the PRADAN team was not able to diagnose this, given its limited knowledge of

goat-keeping. A sample was taken for testing, to identify the disease. The local veterinary department did not have any facilities to conduct the necessary tests. The sample was then taken to a Research Centre in Bareilly, where it was directed to Ranikhet. The sample tested positive for PPR. The same report was shown to the Animal Husbandry Department in Dholpur. It was only after this intervention detected the existence of the PPR that the veterinary department was informed and vaccination against the disease was made available. The Federation now purchases the vaccines from the department so that it can vaccinate the goats in the season against PPR.

2. The focus shifted from introducing breeds from outside the district to improving the existing breed, that is, the Sarmathura breed.
3. The Sarmathura region has been recognized by the Animal Husbandry Department of the Government of Rajasthan as a Goat Cluster (a region suitable for goat-keeping, given the geographical conditions and the large tract of grazing land availability). The Government of Rajasthan cleared a project for starting the Sarmathura Goat Resource Centre to be run and managed by the existing Federation on a PPP model.
4. The livestock department of the Government of Rajasthan has formed working committees to identify and compile best practices in goat-rearing in Dholpur, Alwar, Dausa, Ajmer and other districts of the State and to explore how *Pashu Sakhis* can be accredited through the veterinary university in Rajasthan.

THE WAY FORWARD

Given the experiences of the Federation in promoting goat-based livelihoods in the Chambal River Basin and the Aravalli Plateau region of Dholpur, a dedicated Resource Centre with the support of the government veterinary department and Rajeevika (Rajasthan Grameen Aajeevika Vikas Parishad) will be set up, with the following focus:

- To act as a training centre for goat-keeping farmers of the surrounding region
- To provide SET to farmers on better rearing and management practices in goat-keeping, optimum herd, breed improvement and quality buck-keeping
- To ensure input supply to goat-keepers such as de-wormers, vaccines (PPR, ET, etc.) as well as feed and fodder seeds
- To provide market linkages to goat farmers
- To provide insurance services (through *rahat kosh*) to mitigate risks
- To make breeding bucks suitable to the local conditions available

The Resource Centre will promote goat-based livelihoods in the region by:

- Identifying five progressive farmers from three Clusters, namely, Jhiri, Madanpur and Domai/Karoli, which are interested in running the buck/breeding, buck aggregation centres at each Cluster. A total five such centres (decentralized breeding farms) will be set up
- Training the farmers on model buck-keeping and buck-breeding, better rearing and management practices in goat-rearing, kid management, breeding practices and balanced feeding of the animals

- Educating farmers on the importance of hygienic, clean, well-ventilated housing with stall-feeding facilities and practices
 - Providing the identified progressive farmers with 50 good quality kids each (male and female) funded by the Resource Centre on its terms and conditions, thereby functioning as multiplier units in a decentralized manner. The Resource Centre will procure adult bucks and goats from Cluster Aggregation Centres—CACs—(one CAC will be established in three to four *panchayats*; it will be a part of the Federation, but will be run by the progressive farmers at the behest of the Federation) and then provide them either to government-sponsored schemes or to interested farmers on a cost basis
 - Marketing strategy: There will be two strategies:
 - “ Farmers will sell their goats and bucks to the CACs at the market price
 - “ The Centre will consider the demand from the market and pick up the animals from each CAC and then sell them to the trader/market at a price, keeping a margin to cover the operational cost.
- Haat system:
- All the CACs and the farmers will come together every quarter for a day at Sarmathura and sell their goats at better trading terms and conditions and also have the opportunity to purchase quality goats and bucks as per their needs
 - The aim will be to capture seasonal marketing opportunities such as Eid and other festivals
 - “ Organizing exhibitions to promote goat-based livelihoods, in which various stakeholders such as feed manufacturers, processing industries and pharmaceutical companies will be invited to participate, where:
 - The farmers will showcase the quality of the goats and bucks being reared by them.
 - The Centre will felicitate the best farmers to motivate other farmers to take up the activity
 - “ The Centre will also have its own farm for 300 quality bucks and goats so that it will be able to provide seed bucks to progressive farmers, who will then rear them for a fixed period of time and then sell them back to the Centre as per the terms and conditions.