

Income enhancement through community oriented sheep breed improvement

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In a developing country like India, the livestock sector is considered to be one of the fastest growing agricultural subsectors with a share of about 33% in agricultural GDP. Due to the rapidly increasing demand for livestock and its byproducts, this sector is considered more lucrative than others. In livestock, small ruminants play an important role in Indian economy by providing livelihood to two-thirds of the rural community.

Key words: Community, Livestock, Marwari sheep, Pure breed

SHEEP and goat contribute immensely to the agrarian economy, especially in areas where animal husbandry and dairy farming are not found economical and feasible. It also plays an important role in the security of a large population of landless as well as small and marginal farmer. The sheep population growth rate has been 1.19% compound annual growth rate for the period of 1992–2012 (Fig. 1).

In Rajasthan, sheep farming has been traditionally practiced for centuries and it is one of the most viable elements of the agro-economic system. According to the 19th Livestock census 2012, there are 577.32 lakh livestock in Rajasthan, which includes cattle (133.24 lakh),

buffalo (129.76 lakh), sheep and goats (307.46 lakh = 90.80+216.66 lakh) and others. The concentration of sheep population is high in western arid region (75%) of Barmer, Jaisalmer, Pali and Jodhpur districts, which have less than 300 mm annual rainfall. Among the major sheep breeds identified in the state, *Marwari* sheep breed with native tract of Marwar region occupies 41.5% of the total state sheep population and it was found concentrated in Barmer, Pali, Jodhpur, Sirohi, Jalore, Nagaur and Ajmer districts. In recent year, the development activities undertaken could not make much impact on protecting the *Marwari* sheep. This is

because sheep rearing continues to be a backward subsistence occupation, primarily in the hands of the poor, landless, small and marginal farmers who own either an uneconomical holding or no land at all, and thus graze their sheep on natural vegetation and crop stubbles supplemented by tree lopping.

Recent survey made by CSWRI, Bikaner also shows that the population of *Marwari* sheep is in downward trend, which causes serious concern for the sheep breeders. At present, only 11% pure *Marwari* sheep is observed in the existing local sheep population (Fig. 2). Therefore, for the sake of improving the farmers' income and

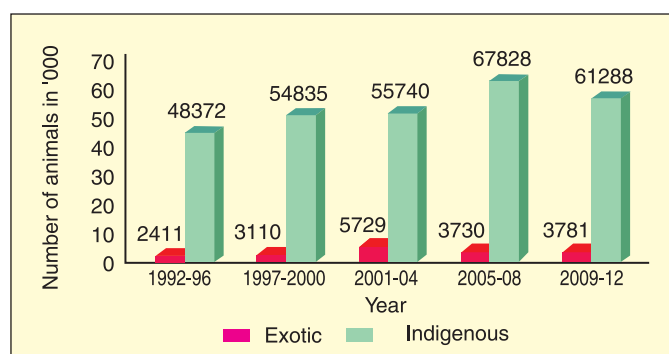


Fig. 1. Population trend of exotic and indigenous sheep in Rajasthan between 1992 to 2012

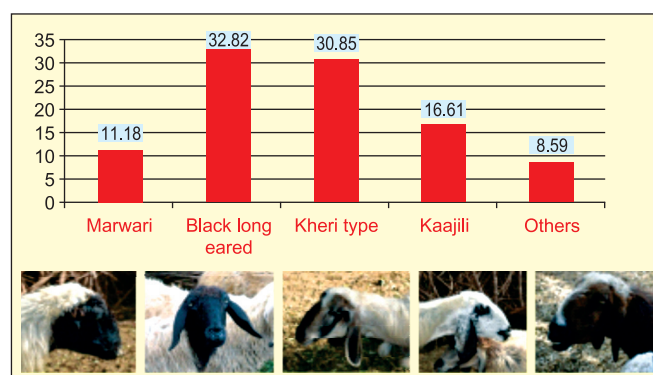


Fig. 2. Proportionate distribution of different strains of Marwari type sheep population Source: Survey report by CSWRI, Bikaner



Fig. 3. Technology uptake, benefit and spread of the Farmer FIRST Programme

to maintain genetic purity, the emphasis has to be given to upgrade the existing non-descript sheep population with comparatively high genetic merit animals like a pure breed of *Marwari* sheep.

Technology Implementation and Support

Shri Chavanda Ram, S/o Bija Ram, lives in Popawas village of Jodhpur. He is an illiterate farmer and for the last two decades, he maintains a flock of 60 sheep (includes *Marwari*, *Jaisalmeri* and non-descript type). As he does not have any formal education to start any enterprise of his own, he continued his father's occupation i.e. sheep farming. He constructed shelter with a thatched roof by using locally available materials in front of his *Kachha*-house and also tried to get pure breeds of *Marwari* and *Jaisalmeri* suited for arid condition, but he could not succeed. He obtained less money from sheep from the market due to non-descript animals in his flock. Further, he encountered problems like poor growth, low wool production with high mortality of lambs and adults in his flock.

In such condition, he came in contact with scientists working under Farmer FIRST Programme (FFP) of ICAR-CAZRI and explained his problems particularly about the non-descript poor quality sheep. A team of scientists of CAZRI visited his farm and advocated that there is a

need to upgrade the sheep population with the pure *Marwari* breed to increase body weight and wool yield with the phenotypic appearance of *Marwari* breed in the existing flocks. He was one among the 15 beneficiaries selected under community sheep improvement programme of FFP and he has been provided with the genetic superior *Marwari* ram, which was brought from Arid Regional Campus of ICAR-CSWRI, Bikaner during last week of March, 2017 to encourage improved sheep farming for improving production of body weight and wool yield traits in the flock (Fig. 3).

The livestock intervention particularly breed-improvement not only helped in improving the productivity in existing sheep flock but also helps in conservation of pure *Marwari* sheep in its native tract of arid zone. Mr Chavanda Ram showed keen interest to become a partner sheep farmer of this intervention and he assured to maintain the *Marwari* ram for improving genotypes of local sheep flocks and helps in providing the systematic data on body weight and wool production parameters to the institute under Farmer FIRST Programme.

He showed great enthusiasm in acquiring the skills required for scientific sheep farming and adopted the improved management practices and technologies viz. breeding

(superior rams), balanced feeding, healthcare including deworming and vaccination, etc. At present, he is maintaining 53 adult ewes, 1 breeding ram (CAZRI provided), 1 castrated male and 14 lamb under field condition. The average body weight of ram ranges from 22 kg at one year age and female 18 kg. The body weight of the lamb varies from 8-10 Kg. The cost of production was very less compared to returns what he received. He had sold more than 9 rams @ ₹ 4000/animal. Further, he opined that the lambs of *Marwari* genotype could walk much longer distance during grazing, are more resistant to diseases and can tolerate high environmental temperature, when compared to any local non-descript animals. He did not sell females because he is in the process of increasing his flock up to 100 adult females and more. After realizing the profit and future prospects for commercial sheep farming by Mr Chavanda Ram, the villagers of Popawas came forward to take up sheep farming as an enterprise and Mr Chavanda Ram also assured his support to the villagers for improved sheep farming and assured to supply pure *Marwari* rams and ewes in the society for conservation of this breed and livelihood.

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