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# 8. A Study of Goat Farming for Livelihood Improvement of Farmers of Maharashtra

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**Abstract**

Livestock is an important integral part to the sustainability of economy of this nation and livelihood improvement of farmers, especially resource poor tribal farmers. Programme is a developmental programme of Government of India meant solely for the development of tribal area throughout India. So a pilot study was made at few districts of Maharashtra villages of Baramati taluka, Pune, Maharashtra for the economic upliftment and livelihood improvement of tribal people with the object of overall development of tribal area.

It was revealed that implementation of goat farming by 20 farmers at Baramati taluka villages, located at Pune district of Maharashtra has benefitted tribal beneficiary immense fully. Survey report revealed that the average total income of the farmers at the beginning of the programme was Rs. 11,180 from all sources like agriculture, daily wage, but after four years of continuing this programme, farmer on an average earned Rs. 50,565 from goat farming, besides 12 goats were remaining in their heard. So, income of farmers has become more than triple in a period of four years through rearing of goat. Performance of Osmanabadi goat in the agro-climatic condition of Pune was also good with high growth and twinning per cent (53.40%).

**Keywords:** Goat farming, Livelihood improvement, Baramati Taluka, Maharashtra

## Introduction

Livestock sector plays an important role in socio economic development of our country. The livestock sector produced 135.6 million tonnes of milk, 69.8 billion eggs, 6.00 million tonnes of meat and 46.5 million kg of wool in 2012–13. This sector alone contributes nearly 25.6% of value of output at current prices of total value of output in agriculture sector. Livestock sector provides employment to 38 million people and among these 65 to 70% are small, marginal farmers and land-less labour. Therefore, livestock is an important integral part to the

sustainability of economy of this nation and livelihood improvement of farmers, especially resource poor tribal farmers. Maharashtra is rich source of livestock population. As per 20th Livestock Census (2019) in Maharashtra cattle, buffalo and goat population was 15.48, 5.59 and 8.44 million respectively. As per report of SEEDS (2007), Tribal Sub Plan (TSP) programme is a comprehensive strategic approach adopted by Government of India for the welfare and development of farmers in the country.

Goat is hardy animal that thrives on different agro- climatic condition with very limited resources. So, it is easy for the tribal people to manage goat with limited housing, feeding and management. Moreover, goat fetches very good income due to high demand and high price of mutton in local market. Osmanabadi breed of goat was chosen as it was dual purpose breed with high twinning per cent. So, a pilot study was done at Baramati Taluka villages of Pune district for the economic upliftment, self- employment and livelihood improvement of people with the overall development of rural area.

**Materials and Methods**

Benchmark survey was conducted intensively to know the status of farmers and animal husbandry practices of tribal dominated taluka of Pune district. Survey and interactive meeting with the farmers was arranged at Baramati Taluka villages, The area is basically hilly with undulating topography. Training was organized for the farmers on 'Goat farming' for up gradation of knowledge. So, after necessary training 20 farmers were selected in consecutive two years on the basis of economic condition, experience on goat farming and interest of the farmers. They were instructed to make and renovate low cost goat shed with locally available materials. Each and every farmer was given one unit of Osmanabadi goat consisting of one male and four female of age group around 12 months, 2 qt of pelleted goat feed, sapling of Marvel grass, and tarpaulin sheet for roofing the goat shed, feeder and watered, anthelmintic and mineral mixture. Initially goats were physically checked for health condition; afterwards number tags were put for insurance. Regular deworming was done thrice a year and afterwards enterotoxaemia vaccine was injected. Regular visit was made to farmers' door to check health of goat, treat sick animals, record data on live weight, kidding, morbidity, mortality and selling of goat. Moreover necessary information on scientific housing, feeding and management was imparted to the farmers for good health, production and reproduction of the animals directly or by arrangement of kissan gosthi. Animal health camps were organized in different villages of Baramati taluka for ensuring good

health of other livestock besides goat of that area. Study was conducted during end of 2023 up to the end of 2024. Finally collected data were analysed as per Snedecor and Cochran (1994).

**Results and Discussion**

Survey and interactive meeting with the farmers was organized on 10.11.123 and 16.2.14 at Baramati Taluka village of Pune district, for implementing programme. Around 60 farmers attended this programme. On the first occasion 32 farmers were interviewed for gathering information about livestock production system, farmer's profile, annual income etc. Tribal farmers (25) were interviewed in next occasion. Information was taken in pre constructed proforma for further planning and implementation of programme. So, altogether 57 farmers were interviewed and necessary information was collected in the Proforma. It was revealed (Table 1) that most of the farmers were male (59.65%) and having education levels 1–5th Std. (56.14%). Land holding of most of the farmers (38.60%) were 0.5–2.5 acre and main crop produced by them was rice (64.91%). 21.05% farmers reported landless labour, so they do not produce any crop. 43.86% farmers reported that they maintain bull for ploughing purpose and sometimes for pulling cart. However, 35.09% farmers maintained poultry birds for household consumption of egg and meat. Most of the farmers informed that they need training on goat farming (47.37%). It was found that annual income of farmers was Rs. 15,180 approximately from agriculture, daily wage, etc. Organized one day training programme on 28.2.23 for farmers on 'Goat farming for livelihood improvement' at Baramati, Pune. 38 farmers including 14 farmers of village, Baramati taluka of Pune district participated in the programme. Second training was also organized on 9.11.24 for tribal farmers on 'Goat farming for livelihood improvement' at Baramati, Pune, Maharashtra. 45 farmers consisting of 17 female and 28 male farmers participated. Third training programme was organised on 'Goat farming for livelihood improvement' for tribal farmers at Baramati, Maharashtra on 2.2.4. 58 farmers including 22 female farmers participated. Dhara et al. (2016) in a study found that the socio-economic status of the goat farmers mostly women farmers could be uplifted through training, particularly on goat husbandry.

Goat and other inputs were distributed to tribal farmers at Baramati taluka villages of Pune district under programme on 17.3.24. Around 75 farmers attended this programme. Similarly second phase of goat and other inputs distribution programme to tribal farmers was organized on 1.2.24.

Goats were being maintained in semi-open shed made of locally available materials i.e.

bamboo or wood with GI sheet or thatched roof and earthen floor. Few farmers made wooden platform to avoid dampness of floor. Few farmers made paddock with bamboo attached with the shed for roaming and exercise of goat for better health and production. Sometimes goats are allowed for grazing in fallow land and forest land.

Goats were fed with cut grass on the floor, sometimes grass or tree leaves were tied by rope from roof to create browsing facility. Sometimes they were allowed for grazing on range land. Tree leaves, acacia pod, weeds, etc. were also provided by the farmers. Besides those, pelleted feed was provided at 100 g twice daily. Marvel grass is a perennial grass easily available in Maharashtra. Even demonstration of planting Marvel grass sapling was done in the farmer's field with the object of feeding goats. Water was available throughout the day, but it was changed twice daily for maintaining hygienic condition and temperature of water.

**Table 1. Survey on farmer and status of agriculture done at Villages of Baramati Taluka of Pune district**

| Parameter | Number | Per cent (based on number of respondents = 57) |
|---|---|---|
| Sex | 57 | 100.00 |
| Male | 34 | 59.65 |
| Female | 23 | 40.35 |
| Education | 57 | 100.00 |
| Illiterate | 20 | 35.09 |
| 1 – 5$^{th}$ Std | 32 | 56.14 |
| 6 – 10$^{th}$ Std | 5 | 8.77 |
| Land holding of farmers | 57 | 100.00 |
| Land less | 12 | 21.05 |
| 0.5 – 2.5 acre | 22 | 38.60 |
| 2.6 – 5.0 acre | 12 | 21.05 |
| 5.1 acre and above | 11 | 19.30 |
| Types of crop produced | 76 | 133.33 |
| No crop | 12 | 21.05 |
| Rice | 37 | 64.91 |
| Wheat | 10 | 17.54 |
| Millet (Ragi) | 9 | 15.79 |
| Pulse (Urad, Arhar, Blackgram) | 4 | 7.02 |
| Vegetable (Onion, green pea, | | |
| green chilli, brinjal, tomato) | 4 | 7.02 |
| Types of livestock maintained | 82 | 143.86 |
| Bull (2 – 3 number) | 25 | 43.86 |

| | | |
|---|---|---|
| Cow (1 – 2 number) | 9 | 15.79 |
| He buffalo (1 – 2 number) | 18 | 31.58 |
| She buffalo (1 – 2 number) | 5 | 8.77 |
| Goat (2 – 10 number) | 5 | 8.77 |
| Poultry (5 – 50 number) | 20 | 35.09 |
| Training requirement | 57 | 100.00 |
| Goat farming | 27 | 47.37 |
| Poultry farming | 22 | 38.60 |
| Dairy farming | 8 | 14.03 |
| Average annual income | 57 | Rs. 15,180/- |

Milking of goat was done by few farmers (Fig. 2). Average daily milk yield was found to be 400 ml/day which was utilized for household consumption. The initial body weight, i.e. birth weight of Osmanabadi kids was reported to be 2.20 to 2.38 kg in different housing systems in Konkan region of Maharashtra (Bharambe and Shinde 2014). So, in this present study better result was noticed.In another study Das et al. (2017) reported birth weight of Osmanabadi goat 2.445±0.084 kg in Konkan region of Goa which was also lower than the present findings.

So far in first phase 214 (108 M + 106 F) kids were born with single, twining and triplet per cent was found to be 42.42, 53.03 and 4.55% respectively. Similarly in second phase 122 kids (59 M + 63 F) were born with single, twining and triplet % was found to be 40.54, 54.05 and 5.41% respectively. So, overall single, twining and triplet per cent were recorded to be 41.75, 53.40 and 4.85% respectively. The winning percentage in Osmanabadi goat in Vidarbha region was reported to be 10.52% ranging from 0 to 26.31% (Sahare et al. 2009) which was much lower than the present findings. In the year 2022–23, 649 farmers visited our TSP programme at Gawandh village, Peint taluka of Nashik district and around 35 farmers started goat farming in small scale.

In phase 1, farmers sold goats and earned Rs. 701,300. In phase 2, farmers sold goats and earned Rs. 310,000. So, 20 farmers earned Rs. 1,011,300 by selling of 154 goats with an average gross income of Rs. 50,565 per farmer till the end of 2020. So, earning of tribal farmers has become more than triple in a period of four years through rearing of goat. Moreover, they had 155 goats in P1 (Table 2) and 96 goats in P2 (Table 3) after disposal of goats.

**Table 2. Herd strength of goat in phase 1**

| | Strength | Born | | Sacrificed | Strength |
|---|---|---|---|---|---|
| 2020 | 50 + 6 (R) = 56 | 76 | 14 | Nil | 118 |
| 2021 | 118 | 80 | 17 | 8 | 173 |
| 2022 | 173 | 58 | 28 | 62 | 141 |
| 2023 | 141 | 55 | 8 | 33 | 155 |

**Table 3. Herd strength of goat in phase 2**

| Date | Initial strength | New born | Death | Sold/ given to relative | Final strength |
|---|---|---|---|---|---|
| 2021 | 50 | 91 | 17 | 2 | 122 |
| 2022 | 122 | 31 | 31 | 26 | 96 |
| 2023 | 96 | 39 | 16 | 23 | 96 |

So, in total, 251 goats were remaining in the herd of farmers with an average of 12 goats per farmer. It was also reported by them that they utilized earned money for renovation of house, education purpose of children, treatment, marriage of daughter and purchasing agricultural inputs like power tiller, fertilizer, etc besides purchasing feed ingredients for their goats.

In phase 1, mortality of goat in 2020, 2021, 2022 and 2023 was 10.61, 8.59, 12.12 and 2.70% respectively with an overall mortality of 8.51%. Similarly, in phase–2, mortality of goat in 2018, 2019 and 2020 was 12.06, 20.26 and 11.85% respectively with an overall mortality of 14.72%. So while two phases were considered together overall annual mortality was found to be 11.62%.

So far two kissan gosthi were organized, one on 11.11.16 at villages, Baramati and another on 11.4.17 at village, Baramati taluka of Pune and 120 farmers attended altogether. Lecture on different aspects of goat husbandry was delivered. Afterwards problems of farmers and their necessary solutions were discussed at length. So far eight health camps were organized at different villages of taluka and 1,378 animals were treated and vaccinated. Farmers (320) were benefitted by availing treatment and immunization facility through these animal health camps.

**Conclusion**

So, implementation of goat farming by 20 women tribal farmers at Baramati taluka village, located at Pune district of Maharashtra has benefitted tribal beneficiary immense fully. Gross income of farmer became more than triple in a period of four years through rearing of goat. Therefore goat rearing helped the tribal farmers to enhance economic condition and self-employment which ultimately leads to food security and livelihood improvement. Organization

of different programmes such as training, kissan gosthi and animal health camps in the area increased their awareness about scientific animal husbandry practices significantly.

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