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### Constraints faced by tribal livestock farmers in adoption of recommended animal husbandry practices in west Godavari district of Andhra Pradesh

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#### Abstract

Livestock rearing plays a significant role in ensuring livelihood security among tribal households; however, the adoption of recommended animal husbandry (A.H.) practices remains limited due to various socio-economic, technical, and institutional constraints. The present investigation was undertaken to identify the major constraints perceived by tribal livestock farmers in adopting recommended A.H. practices in West Godavari district of Andhra Pradesh. An ex-post-facto research design was employed, and a total of 288 tribal livestock farmers were selected through multistage sampling. Data were collected using a structured interview schedule and analysed using frequency, percentage, and ranking techniques. The results revealed that lack of proven breeding males, high cost of concentrates, inadequate awareness regarding preventive healthcare practices, low affordability for scientific animal sheds, and absence of organised milk marketing systems were the major constraints in dairy farming. In goat rearing, lack of knowledge on improved breeds, balanced feeding, preventive healthcare, scientific management practices, and non-remunerative prices offered by middlemen emerged as the most severe constraints. The study highlights the need for strengthening mobile veterinary services, capacity-building programmes, financial assistance for infrastructure development, establishment of organised marketing systems, and promotion of Farmer Producer Organisations (FPOs) to enhance adoption of recommended practices and improve the livelihoods of tribal farmers.

**Keywords:** Adoption constraints, animal husbandry, tribal farmers, west godavari

#### Introduction

India is characterised by vast socio-cultural diversity, with tribal communities forming an integral part of its population structure. According to the Census of India (2011) <sup>[1]</sup>, the tribal population accounts for 8.6 per cent of the total population, with a predominant concentration in rural areas. Tribal communities are often geographically isolated and socio-economically marginalised, relying primarily on agriculture and allied activities for their livelihood.

In the scheduled agency areas of West Godavari district of Andhra Pradesh, tribal populations inhabit hill settlements, riverside settlements, and lower agency tracts. Traditionally, shifting cultivation (podu) was widely practised; however, due to forest conservation regulations, many tribal households have transitioned towards settled agriculture. Livestock rearing serves as a vital subsidiary occupation, contributing to income generation, nutritional security, and risk mitigation. Despite the availability of scientifically recommended animal husbandry practices, their adoption among tribal farmers remains suboptimal due to multiple

interrelated constraints. Identifying and understanding these constraints is essential for designing effective extension interventions. Hence, the present study was undertaken to analyse the constraints faced by tribal livestock farmers in adopting recommended A.H. practices.

#### Materials and Methods

The study was conducted in West Godavari district, one of the scheduled districts of Andhra Pradesh. Three mandals with the highest tribal population were selected purposively. From each mandal, six villages were selected through multistage sampling. Further, 16 tribal livestock farmers from each village were selected using simple random sampling, resulting in a total sample size of 288 respondents.

A structured interview schedule was developed separately for dairy farming and goat rearing, consisting of 22 constraint statements for each enterprise. Responses were recorded on a two-point continuum ('Yes' = 2 and 'No' = 1). The collected data were analysed using descriptive

statistical tools such as frequency, percentage, and ranking to determine the relative severity of constraints. Prior informed consent was obtained from all respondents, and confidentiality of the information was maintained throughout the study.

### Results and Discussion

The tribal farmers in the study area reared both large and small ruminants, including cattle, buffaloes, sheep, and goats. Among the total respondents (n = 288), 266 households reported rearing dairy animals (cattle/buffalo), and 109 households reported rearing goats (the enterprises were not mutually exclusive). Constraints were analysed separately for dairy farming and goat rearing under five dimensions: breeding, feeding, healthcare, management, and marketing.

#### Constraints Faced by Tribal Dairy Farmers

**Breeding Practices:** Lack of proven breeding males emerged as the most severe constraint, followed by repeat breeding problems and inadequate access to timely artificial

insemination services. Similar breeding-related constraints among tribal livestock keepers have been reported earlier.<sup>[2, 7]</sup>

**Feeding Practices:** High cost of concentrates ranked first among feeding constraints, followed by lack of knowledge on azolla cultivation and balanced ration preparation. Seasonal scarcity of green fodder further compounded feeding challenges<sup>[3, 7]</sup>.

**Healthcare Practices:** Lack of awareness regarding preventive healthcare practices was perceived as the most critical constraint, followed by high incidence of diseases and distant location of veterinary institutions<sup>[4, 8]</sup>.

**Management Practices:** Low affordability for scientific animal sheds and low productivity of indigenous breeds were major management-related constraints. Inadequate access to institutional credit further limited adoption of improved practices<sup>[8]</sup>.

**Marketing Practices:** Lack of organised milk marketing systems and low milk prices were identified as the most severe marketing constraints<sup>[3]</sup>.

**Table 1:** Constraints Faced by Tribal Dairy Farmers (n = 266)

| Category   | Constraint                              | Frequency | Percentage | Rank |
|------------|-----------------------------------------|-----------|------------|------|
| Breeding   | Lack of proven breeding male            | 149       | 56.01      | I    |
| Feeding    | High cost of concentrates               | 244       | 91.73      | I    |
| Healthcare | Lack of preventive healthcare awareness | 207       | 77.81      | I    |
| Management | Low affordability for animal sheds      | 228       | 85.71      | I    |
| Marketing  | Lack of organised milk marketing        | 248       | 93.23      | I    |

#### Constraints Faced by Tribal Goat Farmers

In goat rearing, lack of knowledge on improved breeds, balanced feeding, preventive healthcare, and scientific management practices emerged as the most dominant

constraints. Marketing challenges, particularly exploitation by middlemen and lack of organised markets, significantly affected profitability<sup>[5, 6]</sup>.

**Table 2:** Constraints Faced by Tribal Goat Farmers (n = 109)

| Category   | Constraint                                   | Frequency | Percentage | Rank |
|------------|----------------------------------------------|-----------|------------|------|
| Breeding   | Lack of knowledge on improved breeds         | 107       | 98.16      | I    |
| Feeding    | Lack of knowledge on balanced feeding        | 109       | 100.00     | I    |
| Healthcare | Lack of preventive healthcare awareness      | 101       | 92.66      | I    |
| Management | Lack of scientific knowledge on goat rearing | 109       | 100.00     | I    |
| Marketing  | Non-remunerative price by middlemen          | 90        | 82.56      | I    |

### Conclusion

The study concludes that tribal livestock farmers face multifaceted constraints that significantly hinder the adoption of recommended animal husbandry practices. Addressing these constraints requires an integrated extension approach involving mobile veterinary services, targeted training programmes, financial support for infrastructure development, establishment of organised marketing channels, and promotion of Farmer Producer Organisations. Such interventions can enhance adoption levels and improve the socio-economic conditions of tribal livestock farmers.

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