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Market preferences and live weight trends of sheep in Tirupati district: A study on marketing age and trade practices

¹Dr. D Indira, ²Dr. P Manoj, ²Dr. G Gangaraju and ²Dr. Z Naveen

¹Associate Professor, Department of LPM, C.V.Sc., Proddatur, Andhra Pradesh, India

²C.V.Sc., Proddatur, Andhra Pradesh, India

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Corresponding Author: Dr. D Indira

Abstract

This study investigates the marketing age preferences and live body weight trends of sheep traded across three market types in Tirupati district: Tirupati urban market, Gudur semi-urban market, and local village markets. Data were collected from 240 traders using structured interviews. Results indicate a strong preference for marketing sheep at an early age (3–6 months), especially in village markets (88.75%). The average live body weights increased progressively with age, from 15.3 kg at 3–6 months to 41.67 kg at above 18 months. However, no significant difference in weights was observed between market types. The widespread use of visual weight estimation in the absence of proper weighing systems emerged as a major concern. The study highlights the need for improved infrastructure and education to enhance transparency and profitability in the small ruminant market chain.

Keywords: Sheep marketing, Tirupati district, live weight, marketing age, rural markets, trader preferences, livestock trade

Introduction

Small ruminant farming plays a critical role in the livelihoods of rural communities in Andhra Pradesh. Among these, sheep rearing is a prominent source of income, especially in semi-arid regions like Tirupati district. Marketing practices significantly influence the profitability of sheep farming. However, limited research exists on the age at which sheep are marketed and the associated body weight trends in the region. This study aims to fill that gap by examining trader preferences for marketing age, average live body weights at different ages, and differences across market types. Insights from this research can help develop targeted interventions to optimize income generation for smallholder sheep farmers.

Materials and Methods

The study was conducted in Tirupati district, covering three types of markets: Tirupati urban market, Gudur semi-urban market, and selected rural village markets. A stratified random sampling method was used to select 240 respondents (80 per market), including traders and middlemen. Data collection was carried out through face-to-face interviews using a structured questionnaire, capturing details on preferred marketing age, weight estimation practices, and frequency of sale. Data were analyzed using descriptive statistics and ANOVA to identify differences in live weight across markets. A significance threshold of $p < 0.05$ was used.

Results and Discussion

The majority of traders (67.5%) across all markets preferred

to market sheep aged between 3 and 6 months. This trend was most pronounced in village markets (88.75%), Lavania *et al.* (2021) ^[2] Khushpreet Singh *et al.* (2020) ^[1], where early sales help farmers avoid extended feeding costs and obtain quick returns. In urban (Tirupati) and semi-urban (Gudur) markets, Shivakumar *et al.* (2019) ^[3] a similar trend was observed with slightly more balanced preferences across older age groups.

Live body weight analysis showed expected growth patterns with age: 15.3 kg (3–6 months), 27.03 kg (6–12 months), 35.87 kg (12–18 months), and 41.67 kg (above 18 months) Sundaramoorthy *et al.* (2021) ^[4]. Despite this progression, ANOVA results showed no statistically significant differences in weight between market locations, indicating uniform growth trends across the district.

A key challenge identified was the absence of weighing facilities in all markets. Traders relied on visual estimation, leading to inconsistencies and potential losses for farmers, especially less experienced ones. This practice reduces transparency and can result in unfair pricing, making the case for the introduction of digital weighing systems.

Table 1: Frequency distribution of traders based on the market age preference of sheep in Tirupati district

Markets Age	Tirupati market	Gudur market	Villages markets	Overall
3 to 6 months	48(60.0)	43(53.75)	71(88.75)	162 (67.5)
6 to 12 months	19(23.75)	19(23.75)	6(7.5)	44(18.33)
12 to 18 months	9(11.25)	11(13.75)	1(1.25)	21(8.75)
18 months and above	4(5.0)	7(8.75)	2(2.5)	13(5.41)

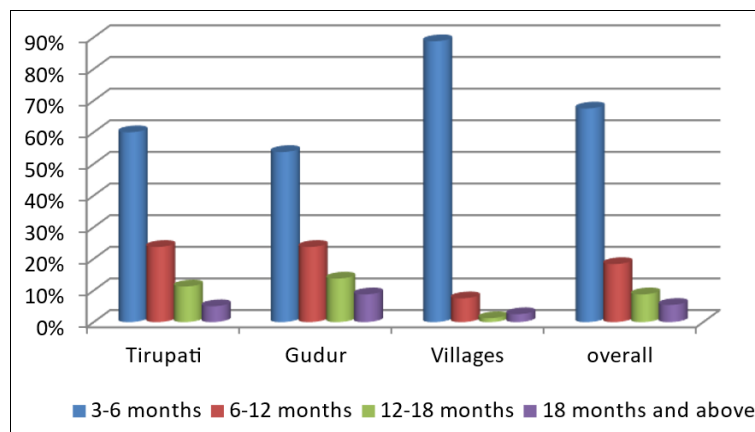


Fig 1: Graphical representation of average market age of sheep in selected markets of Tirupati district

Table 2: Average live market weight (kg) of sheep in various markets of Tirupati district

Sl.no.	Markets	3 to 6 months	6 to 12months	12 to 18 months	18 months & above
1.	Tirupati	15.6 ± 0.991	27.4 ± 0.859	35.5 ± 1.138	41.2 ± 2.440
2.	Gudur	16.5 ± 0.934	27.9 ± 1.059	37.2 ± 1.263	42.9 ± 1.410
3.	Villages	13.8 ± 0.680	25.8 ± 0.879	34.9 ± 1.636	40.9 ± 1.303
Overall		15.3 ± 0.532	27.03 ± 0.548	35.87 ± 0.78	41.67 ± 1.012
F-value		2.447	1.371	0.767	0.362
p-value		0.105	0.271	0.474	0.700

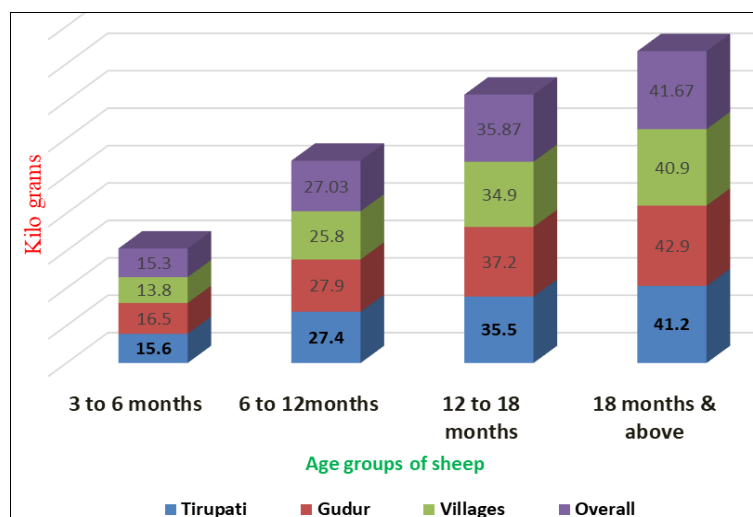


Fig 2: Graphical representation of average market weights of sheep at different age groups

Summary

The study found that early-age marketing of sheep is dominant in Tirupati district, with most traders preferring to sell animals at 3–6 months of age. While average weights increase with age, no significant differences were observed between markets. The lack of scientific weighing methods emerged as a critical issue affecting price accuracy and farmer income. Uniform growth trends across markets reflect similar rearing practices in the region.

Conclusion

The study concludes that sheep are predominantly marketed at a young age due to financial pressures and limited awareness of weight-based marketing advantages. The lack of weighing infrastructure exacerbates price estimation issues, often disadvantaging producers. There is an urgent need to introduce weighing systems, educate farmers on optimal marketing strategies, and promote sales of older, heavier sheep to maximize profitability. Such improvements

could enhance transparency, empower producers, and strengthen the small ruminant market system in Tirupati district.

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