

Original Research Article

An Economic Analysis of Small Ruminants Marketing in Southern Karnataka

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Abstract

The small ruminants market in India is highly unorganized and typically involves local markets which are held weekly or bi-weekly at various levels, including village, block, town, and city. Farmers predominantly rely on middlemen to sell their livestock, who facilitate the transactions along the marketing chain. The marketing of small ruminants i.e. sheep and goat involves the procurement of animals at primary markets from farmers, selling these animals at local markets, and further distribution to terminal markets through wholesalers or commission agents. For sheep and goat farmers, selecting the appropriate marketing channel is crucial, as the benefits they receive are largely dependent on this choice. The chosen channel must minimize marketing costs while maximizing the farmer's share of the consumer's rupee. In the study area, four primary marketing channels were identified: (1) Farmer → Village Trader → Wholesaler/Butcher, (2) Farmer → Local Trader → Wholesaler/Butcher, (3) Farmer → Local Trader → Farmer, and (4) Farmer → Wholesaler → Distant Trader. The cost of marketing is a significant concern for sheep and goat farmers, encompassing expenses such as transportation, feeding, market fees, middlemen charges, personnel expenses, and loading/unloading fees. The average marketing cost per animal across various channels was ₹91.71, with transportation costs making up the largest portion (49.61%), followed by feeding costs (14.72%) and middlemen charges (17.01%). This highlights the challenges related to high transportation costs and inadequate market facilities, particularly for sheep and goat marketing. So, to improve the marketing efficiency and reduce costs for sheep and goat farmers, there is a need for the establishment of regulated markets for livestock and enhancing the transportation facilities in the rural areas to help farmers realize better prices for their small ruminants.

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Commented [RA3]: The abstract would benefit from revision to employ more precise scientific language, particularly as the results are predominantly presented in a conclusion format. It is recommended to incorporate phrasing such as "the results indicated..." and to utilize the past tense for verbs when discussing the results.

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Keywords: Small ruminants, marketing channels, marketing efficiency, transportation costs.

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Introduction

Livestock sector is one of the important sources of income and employment to rural people. Both livestock and agriculture are very much dependent on each other, where livestock contributes with its manure and draught power to agriculture whereas agriculture contributes with crop residues which are major source of feed to livestock. The fact is that combination of livestock rearing and crop production enables full utilization of farm. Livestock is also important with respect to providing nutritive food to families both in rural and urban areas.

From the ancient years in India, sheep and goat have an inseparable identity with the farmers. The ownership of the livestock is more evenly distributed with landless laborer's and marginal farmers owning bulk of livestock. They play a key part for the rearing community in India especially for the marginal and small farmers. The women in rural areas plays a very significant role with respect to animal husbandry and they are directly involved in the operations such as feeding, breeding and management of well-being and supervision of the animals. In addition they are like assets to the farmers, whenever there is a crop failure due to some natural causes and other adverse conditions. They may be also called as man's first helpmates providing him with meat, milk, wool and skin. If the livestock sector progress, it results in equitable growth of the rural economy particularly in reducing the poverty amongst the weaker sections. Spreading of livestock prosperity is more egalitarian, compared to land. Hence, from the fairness and livelihood viewpoint it is measured as significant module in poverty alleviation programmes. The fact is that combination of livestock rearing and crop production enables fuller utilization of farm. The major factor for raising the income and living standards of rural household are increase in desire for livestock products from the consumers.

The commercialization of livestock is on the rise as a result of market developments and financial incentives, and an increasing demand for high value commodities (animal protein) in the consumer market. A gradual shift is occurring towards intensively managed sheep and goat units from extensive units. The new marketing system is expected to improve marketing efficiency and induce a shift in sheep and goat production from subsistence to a commercial venture. This needs an integration of small scale producers on the supply chain as majority of sheep and goats are reared by the poor farmers.

Karnataka is one of the important sheep and goat producing state, it contributes around seven per cent to countries sheep and goat population. Sheep and goat rearing is the backbone of the economy of small and marginal farmers. There is a huge potential of common property resource in general and pastures and grazing land in particular. Large number of local and improved sheep and goat breeds are also available, most of small, marginal and landless famers depends on sheep and goat for their livelihood. There is a high demand for meat and meat products, wool and milk. However, limited studies on production and marketing aspect of sheep and goat have been conducted in Karnataka. Keeping this in mind the present study is conducted on economics of sheep and goat rearing in Karnataka to suggest suitable policy measures for encouraging sheep and goat keeping activities in the state.

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- Separate sections on the importance of livestock.
- A historical context.
- Current trends and challenges.
- Local context and knowledge gaps.

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Commented [RA9]: contains repetitive statements about the interdependence of livestock and crop production; try to streamline to avoid redundancy.

Commented [RA10]: suggest including relevant statistical data or trends about sheep and goat production, which could provide more empirical backing to the claims made in the introduction.

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Data and Methodology

The study was carried out in Mandya and Mysuru districts of Karnataka. In recent years, in this region farmers are changing their method of rearing with respect to sheep and goat rearing, in which they are getting good profit from it. The bandur sheep breed which is the popular breed in this region is gaining more importance because of its meat quality. The sheep and goat rearing also acts as assets to the farmers. In southern part of Karnataka, Mandya and Mysuru districts have more population of sheep and goat (ref????).

For studying marketing aspects, four markets namely, Chunchunkatte, Kanchinkere, Malavalli and Krishnarajasagara were chosen, based on the size of the market for sheep and goat. From each of the selected market, five village traders cum local traders, five distant traders and five wholesaler cum butchers constituting 60 market intermediaries were chosen and interviewed personally using structured and pretested questionnaires to elicit required information (Table 1).

Table 1: Distribution of market intermediaries in selected markets

Sl. No.	Intermediaries	Name of the market				Total
		Kanchinkere	Chunchunkatte	Malavalli	KRS	
1	Village/ Local traders	5	5	5	5	20
2	Wholesaler/ Butcher	5	5	5	5	20
3	Distant trader	5	5	5	5	20
	Total	15	15	15	15	60

Nature and sources of data

General information regarding socio-economic status, size of land holdings, livestock inventory, costs and returns of sheep and goat rearing, constraints in sheep and goat rearing and other relevant data required for evaluating the objectives of the study were collected from 180 sample farmers, 60 market intermediaries using pre-tested, well-structured schedules through personal interview method.

Analytical tools used

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Commented [RA16]: Add statistical data

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Commented [RA18]: lacks detail on how the size of the market was determined and why these specific markets were selected.

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Commented [RA20]: The methodology should include information on how the 180 sample farmers were selected. Details about the sampling technique (random sampling, stratified sampling, etc.) and its justification should be included to ensure the representativeness of the sample.

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Price spread and producers share in consumers rupee were used to analyze efficiency of the different marketing channels. Price spread refers to the difference between price paid by the consumer and net price received by the producer. Higher the price spread lower will be the efficiency of marketing channel

producers share in consumers rupee (PSCR) is expressed in percentage as,

$$\text{PSCR} = (\text{Price received by producer} / \text{Price paid by consumer}) \times 100$$

Apart from Price spread and Producer share in consumer rupee, Price difference= Sale price- purchase price and Marketing Margin= Price difference- cost incurred by stakeholder was calculated to know the efficiency.

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RESULTS AND DISCUSSION

Marketing performance of sheep and goat farmers

Sheep and goat marketing is highly unorganized. The general features of sheep and goat markets are locally known as hat/animal fair/shandi, which are held weekly or bi-weekly at village, block or town and city level. Most of the sheep and goats reared by the farmers are sold in these markets through middlemen. There are three major activities along the marketing chain i.e. procurement of animals at primary market from farmers, selling of the animals at local market and terminal markets through wholesalers/commission agents.

The selection of marketing channel becomes imperative for the farmers since the real benefit accrued to them mainly depends upon choice of channel for disposal of their animals. The channel selected by them must account for minimum marketing cost and ensure higher share of consumer's rupee.

In the study area, following four important marketing channels were identified in marketing of sheep and goat.

Channel-I: Farmer-Village trader-Wholesaler/Butcher

Channel-II: Farmer-Local trader-Wholesaler/Butcher

Channel-III: Farmer-Local trader-Farmer

Channel-IV: Farmer-Wholesaler-Distant trader

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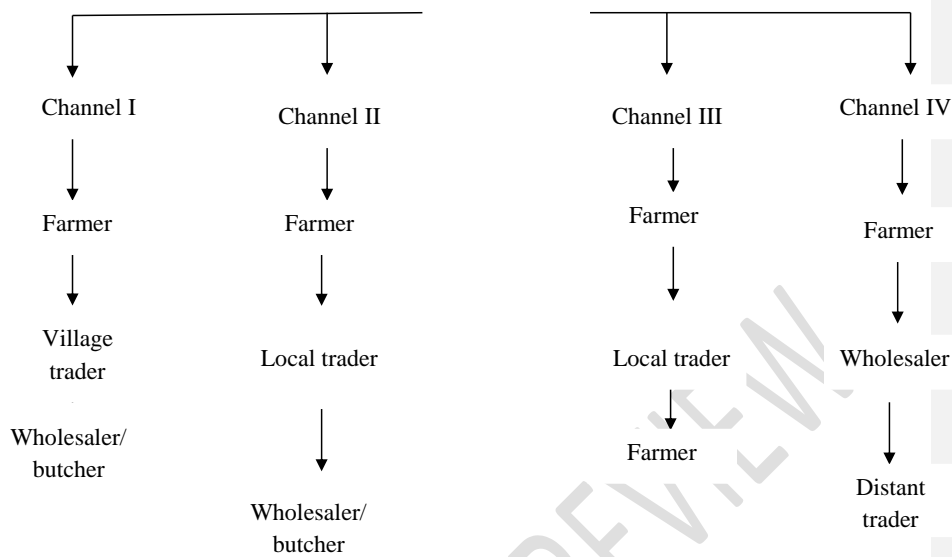
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Commented [RA27]: it is important to discuss how these roles specifically impact farmers' income. Can you explain how each type of trader (village trader, local trader, wholesaler) affects the income of farmers? What are the positive or negative implications of their roles in the marketing process for the farmers' earnings?"

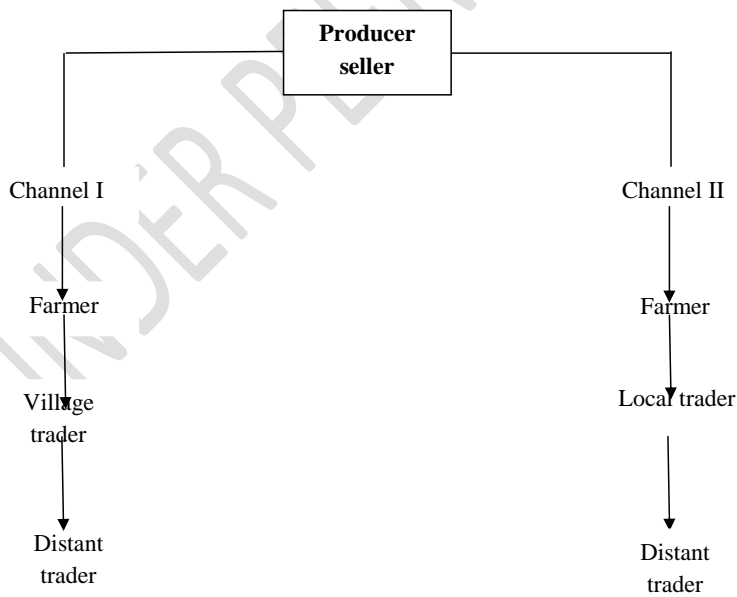
This addition would help clarify the importance of these roles in relation to the farmers' financial outcomes.

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Producer
seller



The market channels in wool marketing were identified in the study area, and it is given in below:



Channel-I: Farmer-Village trader-Wholesaler/Butcher

Channel-II: Farmer-Local trader-Wholesaler/Butcher

Marketing cost incurred by farmers

The marketing cost is the cost associated with delivering produce or service from farmers to consumers (ref?). The marketing cost of farmers includes expenses associated with transportation, feeding, market fee, middlemen charges, personnel expenditure and loading and unloading charges (ref?).

The average cost of marketing incurred by sheep and goat farmers is presented in Table 2. The cost incurred per animal was ₹ 91.71 per animal across different channels. Out of total marketing cost, transportation cost formed major component (49.61 %) followed by feeding cost (14.72 %), middleman charges (17.01 %), personnel expenditure (13.52 %), market fee (2.57 %) and loading and unloading charges (2.56 %).

An appraisal of components of marketing costs clearly revealed that, transportation charge form the most significant constituent of the total marketing cost incurred by the farmers.

Table 2: Marketing cost incurred by farmers

(₹/animal)

Particulars	Value	% to total
a. Transportation cost	45.5	49.61
b. Loading and unloading	2.35	2.56
c. Feeding cost	13.5	14.72
d. Market fee	2.36	2.57
e. Commission	15.6	17.01
f. Other expenses	12.4	13.52
Total cost	91.71	100

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Similar results were obtained for goats in Arun Pandit (2005) study on efficiency of male goat markets in the central alluvial plains of West Bengal. This was mainly due to non-availability of adequate transportation facilities in the villages and higher cost ranging from ₹ 20 to ₹ 50 per animal. However, feeding cost also formed major component of marketing cost because of inadequate market facilities wherein feed and fodder were not available. The other marketing cost components are commission and personnel expenditure. Therefore, sheep and goat should be regulated in accordance with food grain marketing at local, hobli and gram panchayath levels to minimize costs and improve efficiency and also transportation charges, feeding cost and personnel expenditure can be brought down for the benefit of the farmers.

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The farmers sold sheep and goat in distant markets in the state as well as outside the states for realizing better prices. Further, lack of cheap and timely transportation facilities might be other reasons for higher transportation cost as expressed by majority of the farmers in the opinion survey. Therefore, it is suggested that transportation cost could be substantially reduced through pooling of small, scattered and isolated individual farms, especially at sponsored collection centers from where they could be lifted to the market.

Marketing costs of intermediaries, margins and price spread

A systematic analysis of costs and returns of various intermediaries involved in marketing of sheep and goat would help to know the various services rendered by these intermediaries and their economic performances in the marketing process (ref?). The price spread is one of the measures of market efficiency which indicates increase in the price of a commodity, as it changes hands from one intermediary to another in the marketing set up. The price spread includes marketing cost incurred and margin obtained by various middlemen (ref?).

In general, among all the selected channels mentioned above, price spread was found to be marginally higher in both channel-I (₹ 854) and channel-II (₹ 854) compared to channel-IV (₹ 810.26) and channel-III (₹ 370.23). However, magnitude of price spread was found to be lower in channel-III compared to other channels indicating higher share of producer's in wholesaler/butchers (92.08 %) price. Similarly, the producer share in consumer rupee was 85.04, 85.04 and 87.09 per cent in channel-I, II and IV respectively. Thus producer's share in the price paid by the wholesaler/butcher varied marginally across different channels.

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Table 3: Marketing costs, margins and price spread (₹/animal)

Particulars	Channel-I	Channel-II	Channel-III	Channel-IV
I. Sale price of animal				
a. Farmer	5468.40	5468.40	5468.40	5468.40
b. Village trader	5786.70	-	-	-
c. Local trader	-	5838.63	5838.63	-
d. Wholesaler/Butcher	6322.40	6322.40	-	5744.60
e. Distant trader	-	-	-	6278.66
II. Purchase price of animal				
a. Farmer(Consumer)	-	-	5838.63	-
b. Village trader	5786.40	-	-	-
c. Local trader	-	5468.40	5468.40	-
d. Wholesaler/Butcher	6322.40	5838.63	-	5468.40
e. Distant trader	-	-	-	5744.60

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III. Marketing cost incurred	-	-	-	-
a. Farmer	91.71	91.71	91.71	91.71
b. Village trader	234.56	-	-	-
c. Local trader	-	102.44	98.98	-
d. Wholesaler/Butcher	270.92	270.92	-	210.16
e. Distant trader	-	-	-	279.80
IV. Market margin earned				
a. Farmer	-	-	-	-
b. Village trader	318.30	-	-	-
c. Local trader		370.23	370.23	-
d. Wholesaler/Butcher	535.70	483.77	-	276.20
e. Distant trader	-	-	-	534.06
V. Price spread	854	854	370.23	810.26
VI. Producer share in Wholesaler/ Butcher price (%)	85.04	85.04	92.08	87.09

Table 4: Marketing costs, margins and price spread in wool marketing

(₹/kg)

Particulars	Channel- I	Channel- II
I. Sale price of animal		
Farmer	48.6	48.6
Village trader	62.5	-
Local trader	-	68.5
Distant trader	72.6	78.4
II. Purchase price of animal		
Farmer	-	-
Village trader	48.6	-
Local trader	-	48.6
Distant trader	62.5	68.5
III. Marketing cost incurred		
Farmer	-	-
Village trader	18.4	-
Local trader	-	18.4
Distant trader	20.6	20.6

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IV. Market margin earned		
Farmer	-	-
Village trader	13.9	-
Local trader		19.9
Distant trader	24	29.8
V. Price spread	37.9	49.7
VI. Producer share in Wholesaler/ Butcher price (%)	69.94	61.98

Out of the total price spread, margin accrued by different market functionaries formed major component in all channels (₹ 370.23 to ₹ 854/animal) followed by total cost of marketing (₹ 91.71 to ₹ 279.80/ animal) incurred by different market intermediaries.

The cost incurred by market intermediaries indicated that farmers spent ₹ 91.71 per animal followed by village trader (₹ 234.56) and wholesaler (₹ 270.92) in channel-I. Whereas, margin earned by village trader was ₹ 318.30 and wholesaler/butcher was ₹ 535.70. It is important to note that, marketing margin earned by wholesaler was higher in channel-I (₹ 535.70/animal) compared to other channel respectively and details are mentioned in Table 3. [Table 3: Move it here](#)

Marketing costs of intermediaries, margins and price spread in wool marketing

In general, among the two channels mentioned above, price spread was found to be marginally higher in channel-II (₹ 49.7) compared to channel-I (₹ 37.9). The producer share in consumer rupee was 69.94 per cent in channel-I and 61.98 in channel II respectively. Thus producer's share in the price paid by the wholesaler/butcher varied marginally across the channels.

The cost incurred by market intermediaries indicated that butcher spent ₹18.4 per animal followed by distant trader (₹ 20.6) in channel-I. Whereas, in channel II, that local trader spent ₹ 18.4 per kg followed by distant trader (₹ 20.6). It is important to note that, marketing margin earned by distant trader was higher in channel-II (₹ 29.8/kg) compared to channel-I (₹ 24/kg) respectively and details are mentioned in Table 4.

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Reasons for sale of sheep and goat

The reasons for sale of sheep and goat were given in the Table 5. The results indicated that, the first and foremost reason opined by the extensive rearing farmers for sale of sheep and goat was to meet out the farm expenditure (76.66 %), followed by non-availability of grazing land (70 %), un-productive animals (46.66 %) and so on. In case of semi-intensive rearing labour problem (60 %) and to meet out farm expenditure (60 %) were the major reasons for the sale. The same reasons were noticed in case of intensive rearing farmers also.

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Table 5: Reasons for sale of sheep and goat by respondent farmers

Particulars	Extensive rearing farmers (60)		Semi-intensive rearing farmers (60)		Intensive rearing farmers (60)	
	Frequency	%	Frequency	%	Frequency	%
a. Disease outbreak	24	40	20	33.33	14	23.33
b. Surplus animals	16	26.66	28	46.66	42	70
c. Unproductive animals	28	46.66	26	43.33	26	43.33
d. To meet out family consumption expenditure	18	30	15	25	24	40
e. Repayment of loan	8	13.33	12	20	15	25
f. Labour problem	12	20	36	60	34	56.66
g. Inadequate space for shelter	14	23.33	12	20	16	26.66
h. To meet out farm expenditure	46	76.66	36	60	28	46.66
i. Non-availability of grazing land	42	70	16	26.66	4	6.66

The reasons for sale of sheep and goat revealed that to meet out his emergency needs of farm and family expenditure, non-availability of the grazing land, surplus animals, to safeguard animals from the disease outbreak and repayment of loans. This indicated that, sheep and goat rearing helps farmers to meet out his emergency needs including repayment of loans. Therefore, there is need to encourage sheep and goat rearing by both state and central government through providing subsidies for establishing sheep and goat farms. In addition to this NABARD and other financial institutions should come forward to provide short term and medium-term loan which would help to improve livelihood and nutritional security of the farmers through sheep and goat keeping activity. Therefore, there is need to encourage sheep

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Reasons for purchase of sheep and goat

The opinion of the buyers with respect to the purchase of sheep and goat were given in table 6. About 30 per cent of the buyers purchased sheep and goat mainly for resale of animals in the distant markets followed by reproduction purpose (23.33 %), slaughter purpose (20 %), to meet out home consumption (16.67 %) and to exhibit sheep and goat in village fair/customs (10 %). The reason for purchase of sheep and goat by the wholesaler and butcher were to resale animals in the distant markets and also for transporting animal to slaughter house.

Table 6: Reasons for purchase of sheep and goat

(n=30)

Particulars	Numbers	%
a. Resale	9	30
b. Family consumption	5	16.66
c. Slaughter purpose	6	20
d. Reproduction	7	23.33
e. Village fair/customs/benison	3	10
Total sample	30	100

Conclusion:

The marketing performance of sheep and goat farmers is significantly influenced by the highly unorganized nature of the market. Sheep and goat markets, known locally as *hat*, animal fairs, or *shandi*, are typically held weekly or bi-weekly at various levels, including village, block, town, and city levels. These markets serve as the primary venues for farmers to sell their livestock, often through middlemen, which adds complexity to the marketing chain. The marketing costs incurred by sheep and goat farmers encompass various expenses, such as transportation, feeding, market fees, middlemen charges, personnel expenses, and loading/unloading charges. The average cost of marketing per animal is approximately ₹91.71, with transportation being the most significant component, constituting nearly 49.61% of the total cost. These costs highlight the challenges faced by farmers in the marketing process, particularly due to the lack of adequate transportation facilities and the high associated costs, which can range from ₹20 to ₹50 per animal. Feeding costs are also substantial due to

inadequate market facilities that lack feed and fodder. So, there is a need to improve marketing performance and reduce costs for sheep and goat farmers, through Regulation of Markets, developing cheaper and more timely transportation, improving the availability of feed and fodder at market locations, ensuring farmers have access to distant and more profitable markets can help them realize better prices for their livestock.

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