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# Marketing Assessment of Sheep in Uttarkashi District of Uttarakhand

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**Abstract**
Sheep rearing is an important source of income in Uttarakhand. Many farmers in hilly areas are engaged in sheep rearing for their livelihood. To find out the price spread, producer's share in consumer's rupee and marketing efficiency of sheep, a study was conducted in Uttarkashi district of Uttarakhand. A total of 80 rearers were selected randomly from the Bhatwari block of Uttarkashi, Uttarakhand and a pre structured questionnaire was used to collect data from the rearers. Respondents were classified into three categories on the basis of number of sheep viz. small (having less than 50 sheep), medium (between 50-100 sheep), and large (more than 100 sheep). There were two marketing channels i.e., channel I (producer- consumer) and channel II (producer-retailer-consumer). Producer selling price was in Rs 3500 per sheep in both the channel. The marketing cost incurred by producer was Rs 46.75 per sheep in both the channels. The marketing cost incurred by retailer is Rs 239.69. Profit margin of retailer in channel was Rs 407.19 per sheep. In channel I, Producer's share in consumer's rupees was 98.64%. In channel II, Producer's share in consumer's rupees was 84.13% percent. It was concluded that in the absence of marketing agent, producer's share in consumer rupees increases. Hence there is need to strengthen the marketing structure of the study area.

**Keywords:** marketing efficiency, sheep rearers, marketing channel, cost, producer's share

## Introduction
According to the 20th Livestock census, Sheep ranks third in sheep population and the total sheep in the country is 74.26 million in 2019. Sheep rearing plays an important role in the large proportion of the livelihood of the small and marginal farmers. Animal husbandry has a Sheep is a beneficial class of small ruminants. It has multiple uses especially in hilly region. Sheep not only gives meat, wool and milk with this it (Ram) is used to carry load from one place to another. Sheep does not demand particular type of fodder it can feed many classes of weed easily and has capability to convert the weed into useful products. Sheep has an excellent body characteristic due to which sheep can climb the steep hill very easily and its thick fur helps to tolerate cold. Sheep rearing can give high returns with less investment. Hence sheep rearing is one of the best practices to generate income in hilly areas.

## Materials and Methods
Bhatwari block of Uttarkashi district of Uttarakhand state was selected as the study area, since this district have high population of sheep in Uttarakhand. Seven villages from the district have been selected where sheep rearing is practiced in an extensive system. To find out the socio-economic conditions of the sheep rearers of the study area, a total of 80 sheep rearers were chosen by simple random sampling technique. On the basis of number of sheep reared, the sheep rearers were classified as small, medium and large rearers.

**Table 1:** Classification of Sheep rearers

| S. No. | Size of Farm Group | Holding (No. of sheep) |
|---|---|---|
| 1 | Small Rearer | Below 50 |
| 2 | Medium Rearer | 50-100 |
| 3 | Large Rearer | More than 100 |

The pre structured questionnaire was used for the collection of data, and then collected data was calculated and analyzed by using average and percentage.
The period of the study was: 2020-21.

**Following methods were used to find out the result of the study**

**Producer's Share in Consumer's Rupee is calculated using the below formula**

**Marketing cost**

The total cost incurred on marketing by various intermediaries involved in the sale and purchase of the commodity till it reaches the ultimate consumer was computed as follow:

$$M = C_f+C_{m1}+C_{m2}+C_{m3}+\ldots\ldots\ldots\ldots\ldots\ldots+C_{mn}$$

Where,
M = Total cost of marketing
$C_f$= Cost borne by the producer farmer from the produce leaves the farm till the sale of the produce, and
$C_{mn}$= Cost incurred by the $i^{th}$ middlemen in the process of buying and selling.

**Marketable surplus:** Marketable surplus is a portion of total produce that a farmer can sell on the market to earn a profit. It excluded all the damaged product and the amount of produce taken or used by the produce.

$$MS = P-C$$

Where,
MS= Marketable surplus
P= Total Production
C= total requirements (family and farm)

**Marketing Margin of Middlemen:** Marketing margin refers to finished goods that are purchased and resold, and is the difference between the price at which you purchase a product and the price at which you sell the product through the distribution channel.

(a) Absolute margin = $P_{Ri} - (P_{pi}+ C_{mi})$

(b) $$\text{Per cent margin} = \frac{P_{Ri} - (P_{pi}+ C_{mi})}{P_{Ri}} * 100$$

**Producer's share in Consumer's Rupee:**

$$P = \frac{(C - M)}{M} \text{ X } 100$$

Where,
P = Producer's share in Consumer's Rupee
C =Consumers' rupee
M = Marketing cost

**Price Spread:** It is the difference between the price paid by consumers and the net price received by the producer for an equivalent quantity of farm produce.

Price spread = Total Marketing Cost+ Total Marketing Margin

**Marketing Efficiency:** It refers to the degree to which market prices reflect all available, relevant information. Marketing efficiency is a measure of market performance.
As the quality and amount increases, the market becomes more efficient reducing opportunities for arbitrage and above market returns.

$$\text{Marketing efficiency} = \frac{\text{Consumer price}}{\text{Total marketing cost + Maeketing margin}}$$

## Result and Discussion

**Table 2:** Marketing cost, marketing margin and producer's share of per sheep in channel I.(Value in Rs/ sheep)

| Channel 1: Producer-Consumer/Butcher | | | |
|---|---|---|---|
| **S. No** | **Particulars** | **Expenses** | **Percentage to consumer's price** |
| 1 | Charges borne by the producer | | |
| 2 | Consumer's price or producer's sale price | 3431.25 | 100 |
| 3 | Handling charges | 46.75 | 1.36 |
| 4 | Net price received by producer | 3384.53 | 98.64 |
| 5. | Producer's share in consumer's rupee (%) | 98.64% | |

Table 2 indicates that producer's sale price to consumer was Rs. 3431.25 and after paying handling charges of Rs. 46.75 net price received by the producer was Rs. 3384.53. Producer's share in consumer's rupees was 98.64% percent.

**Table 3:** Marketing cost, marketing margin and producer's share of per sheep in channel 2 (Value in Rs/ sheep)

| Channel 2: Producer-Agent-Consumer/Butcher | | | |
|---|---|---|---|
| **S. No** | **Particulars** | **Expenses** | **Percentage to Consumer's Price** |
| **A.** | **Producer** | | |
| | Charges Borne by the Producer | 3431.25 | 84.13 |
| | Handling Charges | 46.75 | 1.14 |
| | Net received by producer | 3384.53 | 82.99 |
| **B.** | **Agent** | | |
| | Charges Borne by Agent | | |
| | Labour charges (Loading, Unloading and Handling charges) | 40.38 | 0.99 |
| | Storage charges | 37.81 | 0.92 |
| | Transport Charges | 117.50 | 3.06 |
| | Miscellaneous charges | 44.00 | 1.07 |
| | Total cost incurred by the agents | 239.69 | 5.87 |
| | sale price of Agent of consumer paid price | 4078.13 | 100.00 |
| | Net received by Agent | 3838.44 | |

| | | | |
|---|---|---|---|
| | Agent Margin | 407.19 | 9.90 |
| | Producer's share in consumer Rupee (%) | 82.99 | |

Table 3 shows that producer's sale price to retailer was Rs.3431.25. After paying handling charges of Rs.46.75 net price received by producer was Rs.3384.50. Agent incurred Rs.239.69 and agent's margin was Rs.407.19 and consumer's purchase price was Rs.4078.13. Producer's share in consumer's rupees was 82.99%.

**Table .4:** Marketing cost and margin in different marketing channels per sheep. (Value in Rs/sheep)

| S. No | Particulars | Channel I | Channel II | |
|---|---|---|---|---|
| | | Producer | Producer | Agent |
| 1 | Marketing Cost | 46.75 (1.36) | 46.75 (1.36) | 239.69 (5.87) |
| 2 | Consumer's Price | 3431.25 (100) | 3431.25 (100) | 4078.125 (100) |
| 3 | Purchase Price | | | 3431.25 (84.13) |
| 4 | Profit Margin | | | 407.19 (9.90) |

Note: Figures in parenthesis indicate percentage respective to column.

Table 4 shows that the producer's selling price was Rs.3431.25 in both channel I and channel II. The retailer's selling price in channel II was Rs.4078.125. The marketing cost incurred by produced in channel I and channel II was same i.e., Rs.46.75. The marketing cost incurred by retailer in channel II was Rs.239.69. Profit margin of retailer in channel two was Rs.407.19.

**Table 5:** Producer's share in consumer's rupee, total marketing cost and price paid by consumer in different functionaries in different marketing channels. (Value in Rs/sheep)

| S. No | Particulars | Different Marketing Channels | |
|---|---|---|---|
| | | Channel I | Channel II |
| 1 | Producer's share consumer's Rupee (%) | 98.64 | 82.99 |
| 2 | Agent's Margin | | 407.19 (6.70) |
| 3 | Total Cost of Marketing | 46.75 (1.13) | 239.69 (5.87) |
| 4 | Price spread | 46.75 (1.13) | 646.88 (11.57) |
| 5 | Consumer's Rupee | 3431.25 (100) | 4078.125 (100) |
| 6 | Marketing Efficiency | 73.39 | 6.30 |

Note: Figures in parenthesis indicate percentage respective to column.

Table 5 shows that percentage of producer's share in consumer's rupees in channel I and Channel II was 98.64% and 82.99% respectively. Marketing efficiency was higher in Channel 1 i.e., 73.39 while in channel II marketing efficiency was 6.30. Total marketing cost in channel I and channel II was Rs.46.75 and Rs.239.69 respectively.

**Table 6:** ANOVA for comparison of total marketing cost, total marketing margin, marketing efficiency and price spread

| Anova | | | | | | |
|---|---|---|---|---|---|---|
| **Source of Variation** | **SS** | **df** | **MS** | **F** | **P-value** | **F crit** |
| Rows | 18666096 | 3 | 6222032 | 290.1703 | 0.000341 | 9.276628 |
| Columns | 426483.8 | 1 | 426483.8 | 19.88948 | 0.020991 | 10.12796 |
| Error | 64328.06 | 3 | 21442.69 | | | |
| Total | 19156908 | 7 | | | | |

In the above ANOVA table in due to size group degree of freedom was 1, sum of square was 426483.8, mean sum of squares was 426483.8, F calculate value was 19.88948 and P value was 0.020991 which was less than the significant value 0.5 and F cal> Ftab. Hence, the result was significant.

In due to particulars degree of freedom was 3, sum of square was 18666096, mean sum of square was 6222032, F calculate value was 712.0838 and P value was 0.0003 which was less than the significant value 0.5. Hence, the result was significant.

## Conclusion

The present study reveals that there were the two existing marketing channels of sheep i.e., Channel 1: Producer ------- Consumer/butcher and Channel II Producer-----Agent------- Consumer/butcher. Producer's share in consumer's rupees was 98.64% in channel I**.** Producer's share in consumer's rupees was 84.13 % in channel II**.** The total marketing, marketing margin, and price spread in different marketing channels. Total marketing cost, marketing margin and price spread were higher in Channel II and Marketing efficiency was higher in Channel I i.e., 73.39 while in channel II marketing efficiency was 6.30. Hence, we can see that the price spread of sheep was higher in longest channel and conclude that marketing efficiency decreases with involvement of middleman.

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