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## An analysis of value chains involved in sheep marketing in Andhra Pradesh

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### Abstract

Sheep value chains include all inputs and services that enable live sheep production through transporting, processing and marketing of outputs, to creation of added value products such as meat through consumption of the animal source foods and related products. Owing to the increased demand for meat and value products a study on “Value chain analysis of sheep farmers in Andhra Pradesh” was carried out to ascertain different channels involved in sheep production and marketing and their role in increasing meat production in Andhra Pradesh. Value chains that are most commonly followed were taken and presented with approximate values of cash flows in each step i.e., for the farmer sale price was calculated by the total sale price of animals/total number of animals and estimated margin per sheep purchased and sold were calculated based on the data obtained. Seven individual value chains were most commonly observed. Value chain II is very prevalent in villages and sheep in small numbers move through a lot of such chains across villages. Large volumes of sheep are being traded by chain V. The share that the farmer receives of the final value lies between 76 per cent to 81 per cent or about 78.5 per cent on an average.

**Keywords:** Value chain, stakeholder, butcher, primary trader, secondary trader

### Introduction

The concept of “value chain” was introduced by Porter (1985) [5] to describe the full range of activities, which are required to bring a product or service from conception, through the different phases of production, distribution to consumers and final disposal after use. As the product moves from one player in the chain to another, it is assumed to gain value (Hellin and Meijer, 2006) [4]. In the narrow sense value chain represents the internal activities a firm engages in when transforming inputs into output.

Value chain analysis (VCA) is a process where a firm identifies its primary and support activities that add value to its final product and then analyzes these activities to reduce costs or increase differentiation. The value chain is formed of primary activities that add value to the final product directly and support activities that add value indirectly. Primary activities include inbound logistics, production, outbound logistics, marketing, sales and services. Supporting activities include firm infrastructure, human resource development, procurement and technology development.

Sheep value chains include all inputs and services that enable live sheep production through transporting, processing and marketing of outputs, to the creation of added value products such as meat through consumption of the animal source foods and related products (Mohamadou, 2013) [7]. As per WHO standards, the daily requirement for protein is 63 gm per day. The average deficit of protein requirement is approximately 12.25 gm for vegetarians and 7.75 gm for non-vegetarians. Moreover, by 2050, it is expected that the population in India would increase by 34 percent and to fulfil the dietary recommended levels of livestock products by Indian Council for Medical Research (ICMR) for a population of 1.7 billion people, the livestock sector should produce 18.7 million tons of meat per annum and the ICMR suggests a threefold increase in production of meat. Keeping the above-mentioned facts in view, the study on “Value chain analysis of sheep farmers in Andhra Pradesh” was carried out to ascertain different channels involved in sheep production and marketing and their role in increasing meat production in Andhra Pradesh.

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## Methodology

keeping in view the general objective of the study, five traders, five butchers, and five consumers were selected from each Mandal through a simple random sampling technique and finally, the data were collected from 30 traders, 30 butchers, 30 consumers and 60 farmers from 3 districts constituting a total sample size of 150.

Value chains that are most commonly followed were taken and presented with approximate values of cash flows in each step i.e., for the farmer sale price was calculated by the total sale price of animals/total number of animals and estimated margin per sheep purchased and sold were calculated based on the data obtained.

## Results

Chains 1 to 7 which are mentioned below, represent the individual value chains which were most commonly observed. These value chains are presented with approximate values of the cash flows in each step and estimated margins per sheep purchased and sold.

In chain I the share of farmer was calculated by the sale price of the farmer/sale price of the butcher and was expressed in percentage. The share of the butcher was calculated by the market margin of the butcher/sale price of the butcher and was expressed in percentage.

**Chain 1: Rs. Animal**

Stakeholder	Purchase price	Cost	Sale price	Margin
Farmer	-	1457	4800-5000	3343-3543
Butcher	4800-5000	500	6304	804-1004

**Note:** Animal @ 9-12 months of age at 16 kg body weight

**Chain 2: Rs. Animal**

Stakeholder	Purchase price	Cost	Sale price	Margin
Farmer	-	1457	4800-5000	3343-3543
Primary trader	4800-5000	240	5140-5540	100-500
Butcher (village/town)	5140-5540	150	6304	614-1014

**Note:** Animal @ 9-12 months of age at 16 kg body weight

The primary traders purchased sheep from the farmers, in chain II and were regular suppliers of sheep to the local butchers in villages and cities which saved all quest and selection expenses for the butcher and guarantees the butcher's routine supply (Devendran *et al.*, 2012)<sup>[1]</sup>.

**Chain 3: Rs. Animal**

Stakeholder	Purchase price	Cost	Sale price	Margin
Farmer	-	800	2803-3000	2003-2200
Primary trader	2803-3000	240	3143-3543	100-500
Farmer	3143-3543	657	4800-5000	1000-1200
Secondary trader	4800-5000	240	5140-5540	100-500
Butcher	5140-5540	150	6304	614-1014

In this chain, farmers sold the sheep to the primary trader at 3-6 months of age and the average weight of the animal is 10-12 kg and from primary traders, other farmers purchased the sheep and reared the sheep up to 9-12 months of age; the average weight of the animal was 16 kg and sale the animal to secondary trader and the butchers purchase the sheep from the traders.

**Chain 4: Rs. Animal**

Stakeholder	Purchase price	Cost	Sale price	Margin
Farmer	-	1457	4900-5100	3443-3643
Primary trader (Haat)	4900-5100	300	5300-5700	100-500
Butcher	5300-5700	150	6304	454-854

**Note:** Animal @ 9-12 months of age at 16 kg body weight

In this chain, on the day of the market, farmers get their sheep to the haat and the traders purchase the sheep from the farmers, and in turn, the trader sells the sheep to butchers in the town.

**Chain 5: Rs. Animal**

Stakeholder	Purchase price	Cost	Sale price	Margin
Farmer	-	1457	4800-5000	3343-3543
Primary trader	4800-5000	100	5000-5400	100-500
Secondary trader	5000-5400	100	5200-5600	100-500
Butcher	5200-5600	100	6304	604-1004

**Note:** Animal @ 9-12 months of age at 16 kg body weight

This chain consists of number of primary traders who buy from many farmers and haats and sell to secondary traders who supply to butchers in larger towns and cities. Many traders pool in to hire a single vehicle and transport their sheep from the haat. They have to pay the market charges for the haat and bribe during transit in addition to the transport rate. They also face the risk of losing sheep during transit which only adds to the cost. (Hegde. N 2015)<sup>[3]</sup>

**Chain 6: Rs. Animal**

Stakeholder	Purchase price	Cost	Sale price	Margin
Farmer	-	1457	4800-5000	3343-3543
Primary trader	4800-5000	240	5140-5540	100-500
Consumer	5140-5600	-	-	-

**Note:** Animal @ 9-12 months of age at 16 kg body weight

In temples and during festivals to appease goddesses, many people and families conduct animal sacrifices. Typically, it is a sheep that was slaughtered and its blood is given as a sacrament at the temple. As well as in local tribal cultures, it is deeply rooted in Hindu culture. It was normally the male sheep sacrificed at the temples, referred to as "portable". Traders, however, rather than sold it more for rearing, often buy lambs from farmers for this purpose. Before continuing to the ceremonies at the temple, individuals buy these sheep from these traders from nearby haats. This happens nearly all the year round and more so at such important festivals (Duguma *et al.*, 2012)<sup>[2]</sup>.

**Chain 7: Rs. Animal**

Stakeholder	Purchase price	Cost	Sale price	Margin
Farmer	-	1457	4800-5000	3343-3543
Consumer	4800-5000	-	-	-

**Note:** Animal @ 9-12 months of age at 16 kg body weight.

Some individuals at the time of animal sacrifices, marriages, functions and death ceremonies purchase the sheep for 9- 12 months directly from the farmers. The share of producer and all the value chain actors in the final consumer price with respect to all market chains are depicted in the following illustrations.

## Discussion

The share that the farmer receives of the final value lies between 76 per cent to 81 per cent or about 78.5 per cent on average. Large volumes of sheep are being traded by chain V. In certain cases, by collecting from a variety of farmers and haats and then supplying the butchers themselves, the secondary trader is bypassed and the trader fills the void (chain II). Chain II is very prevalent in villages and sheep in small numbers move through a lot of such chains across villages. Just the farmer and the butcher were included in the

chain I all of which share margins. This, though, under certain conditions, does not turn out to be the perfect chain for the butcher. It must be noted however, that if the search cost and the issue of regularity in supply of sheep can be sorted then this could be an ideal chain for the farmer in terms of the share they receive in mutual agreement with the butcher.

### **Conclusion**

However, at present, in the majority of cases, the farmer preferred to sell to traders. Selling to the traders was the easiest and most comfortable for the farmer since they get guaranteed cash when they need it, even though they are often left unsatisfied with the deal. In terms of revenue by chain IV, the opportunity cost for the farmer is higher, but it might not always be larger because there is a higher risk involved. Sales of the haat are not promised to the farmer, although the aggregator pays them then and there. Market and distribution linkages would allow farmers to scientifically price their sheep and gain better profits from sales. This opens up the opportunity to expand the sheep sector and allows it to greatly add to household income.

### **Conflict of Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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