Original Research Article

AN ECONOMIC ANALYSIS OF MARKETING COSTS, PRICE SPREAD, AND MARKETING EFFICIENCY OF MILK IN THE VISAKHAPATNAM DISTRICT OF ANDHRA PRADESH

ABSTRACT

The present study was undertaken to know the Marketing cost and margins, Price spread, Marketing efficiency of Buffalo and Cow milk. The study has been undertaken in the Paravada block of Visakhapatnam district. A total of 100 sample respondents are analyzed. Among these 55 are small farmers, 34 are medium farmers and 11 are large farmers. For buffalo milk, in channel-I, the overall average net price received by the producer is Rs. 49.43, and the consumer purchase price is Rs.56.07. In channel-II, The overall average net price received by the producer is Rs. 46.34, and the consumer purchase price is Rs.58.55. In channel-III, the net price received by the producer is Rs. 39.23, and the consumer purchase price is Rs.60. For cow milk, in channel-I, the overall average net price received by the producer is Rs. 36.50, and the consumer purchase price is Rs.45.22. In channel-II, The overall average net price received by the producer is Rs.33.93, and the consumer purchase price is Rs.48.87. In channel-III, the net price received by the producer is Rs.30.50, and the consumer purchase price is Rs.50. Market efficiency revealed that for buffalo milk Market efficiency of channel-I is high with 8.4, market efficiency revealed that for cow milk Market efficiency of channel-I is high with 5.18. Farmers should focus on the marketing channels where there are fewer intermediaries and can attain maximum profits. There is a need for an up gradation of the dairying technologies like for milking, usage of milking machines is more sophisticated than following the traditional methods.

Keywords: Marketing cost, marketing efficiency, marketing margin, Price spread.

INTRODUCTION

Agriculture acts as the spine of the Indian economy. Along with agriculture, animal husbandry and dairy are also integral parts of the Indian economy. Britishers used to call our economy a monsoon gamble as in the past our agriculture is mostly dependent on unpredictable monsoon rains. But these days, conditions were improved a lot and the government tried very hard to increase the net irrigated area through major irrigation projects are on-board. Even though the dairy sector is not much dependent on monsoons but fodder

and its availability are much more dependent on monsoons. The world's milk production reached nearly 906 million tonnes in 2020, appreciably there is a 2 percent rise from 2019 (11). This growth was shown in all geographical regions except in Africa, where the production remained stable. In India, milk output is 195 million tonnes in 2020. India is the largest milk producer in the entire world contributing 23 percent of world milk production (11). India's greatest step in turning the country from a milk deficient to a milk surplus is the "White Revolution" which led the country to the top over many years and showed a tremendous impact on the countries livestock population. As mentioned before dairy sector and animal husbandry are important subsectors of agriculture in the Indian economy. They grew at a CGAR of 8.15 percent during 2014-15 to 2019-20 (at constant prices). The livestock sector contributed 4.35 percent of the total GVA in 2019-20 [12]. Dairy farming is an important secondary source of income for millions of farmers, particularly marginal and women farmers. Attributed to total milk production in India, 48 percent of milk is either consumed at the producer level or sold to non-producers in rural areas. The balance of 52 percent milk is a marketable surplus available for sale to consumers in urban areas. Out of marketable surplus it is estimated that about 40 % of the milk sold is handled by the organized sector i.e. 20 percent by cooperative societies and 20 percent by private dairies and the remaining 60 percent by the unorganized sector [2][3]. Milk production in India reached 209.96 million tonnes in 2020-2021. The per capita availability of milk is 427 grams per day in 2020-2021 [12]. Andhra Pradesh is one of the agriculturally developed states in the country. Mixed cropping and livestock farming is the important farming system in the state which is used by more than 80 percent of rural households [1]. The main objective of the study is to estimate the marketing costs, marketing margins, price spread, and marketing efficiency of milk.

LITERATURE REVIEW

Devaraja (2001) carried out price spread for liquid milk in various marketing channels in Karnataka and reported that marketing costs for three cooperative dairy plants were Rs. 0.92, Rs.2.04 and Rs. 0.60 per liter and for two private dairy plants it was Rs.0.80 and Rs. 0.60 per liter respectively in the channel Producer-Milk Plant-Consumer. The marketing margins were Rs, 0.02, Rs. -2.86 and Rs. 1.36 per liter of milk for co-operative dairy plants and for private dairy plants it was Rs. 1.08 and Rs. 0.16 per liter respectively and concluded that marketing margins was higher for private plants [10].

Sujatha *et al*., (2003) in their study on costs margins and price spread in marketing of milk in Chittoor district of Andhra Pradesh found that cost of marketing (per liter of milk) was least (Rs. 1.25) in Channel-V (Producer-Milk Vendor-Private Milk Booth) followed by Channel-II (Producer-Milk Vendor-Urban Consumer-Rs. 1.50), Channel-IV (Producer-Private Dairy/Milk Vendor-Distributor or Urban Consumer-Rs. 4.2) and Channel-III (Producer - Private Dairy or Private Milk Booth Distributor or Urban Consumer). Total marketing cost per liter of milk in the above channels was worked out as Rs. 1.25, Rs. 1.50, Rs. 4.2 and Rs. 4.40 respectively. They also found that Milk producers received a maximum price *i.e*., Rs.8.92 per liter of milk in Channel-I followed by Channel-V with Rs. 7.75, Channel-III and Channel – IV with Rs. 7.5 each, and Channel- II with least price of Rs. 7.15. The maximum price of Rs. 8.92 per liter of milk in Channel-I was obviously due to absence of any intermediary between producer and the consumer. It was concluded that the dairy farmers received the highest share of consumer's price in channel II apart from Channel-I which was direct channel [14].

Bankar *et al*., (2010) revealed that in channel-I (Producer - local consumer), price paid by consumer was Rs. 22.50 per liter of milk. Producer's share in consumer rupee was 93.68 per cent and price spread was fond to be Rs. 1.42. In channel II (Producer processor - sweetshop owner – urban consumer), producer's share in consumer's rupee was 85.84 per cent, purchase price of consumer was Rs. 25.00 while price spread was found to be Rs. 3.34. In channel-Ill (Producer - milk co-op. society - chilling plant - distributor consumer), price paid by consumer was Rs. 36.00 per liter of milk. Producer's share in consumer's rupee was 60.83 per cent and price spread was fond to be Rs. 14.10. It implied that net price received by producer was higher in channel-Ill but producer's share in consumer's rupee was higher in channel-I than channel-II and channel-III [6].

Basavarajappa, D.N *et al*.,(2012) The factors affecting milk production available for disposal were identified with the help of multiple regression model. It was observed that milk production (X1) in respective of milch animal (X3) and family size (X2) of milk producer has shown positive relationship. Milk production was also significant in case of small, medium and large farms. At the overall, it was found that family size and milk animals exhibited positive relationship with the marketable surplus. The variation ranged b/w 83.14 to 86.75 amongst the groups. Corresponding marketable surplus of milk was 88.68 per cent of the total milk production [7]

Bairwa *et al*., (2014) secondary data of Jaipur Dairy Cooperatives which were collected from the monthly progress reports, audit reports and other related records of Rajasthan Cooperative Dairy Federation, Jaipur dairy plant as well as from the milk collection/chilling centers. In order to study the marketing margin, the data were collected on different aspect viz., chilling charges, transportation cost and commission to milk collection cooperative societies, water and electricity charges, repairs and maintenance, depreciation and interest on capital expenditure from Jaipur Dairy Plant. The data were arranged in simple tabular form, and then simple averages and percentages were computed. It was found that product wise highest margin was loaded firm ghee (29.26%) and agencies-wise highest margin was also received from ghee which formed 76% of the total margins earned by distributors. These units margins of milk and milk products are important for policy and decision makers while making policies and developmental programs related to dairy sector for boosting the economy [5].

Brar *et al*., (2017) revealed that more than 50% of the milk produced is sold through unorganized sector by small and medium dairy farmers in Punjab state. Per liter price of milk received by the farmers was observed to be highest in Channel II (Producer -> Cooperative Milk Plant -> Consumer) i.e. Rs29.99 for small and Rs32.27 for medium farmers in summer and Rs27.69 for small and Rs30.27 for medium farmers in winter season. Price spread was found to be the highest in channel V (Producer > Milk Vendors Sweet Shops/Creameries -> Consumers) which is the longest milk marketing channel and lowest in channel II both in summer and winter season. Consequently, the channel II emerged as most [8].

Kumar *et al*., (2017) revealed that how efficiently are the marketing channels of cooperative and private organized dairy are operating to realize better prices and paying their producers a remunerative income. To achieve this 160 milk pourer farmers we are selected using probability proportional to size (PPS) from the list of producers who were supplying milk to any one of the agency from eight villages level milk chilling units from two districts of study area. Producers share in consumer's rupee was found to be (80.69), (70.81) and (69.18) per cent for channel III, Ian II respectively. The private organized channel were found more efficient than cooperative organized channel by obtaining higher efficiency percentages (4.64) and (4.18) per cent, and (43.23%), (22.05%) through Shepherd's index [13].

Chandra (2019) studied on marketing channels and efficiency of milk and milk products and found that the marketing channel with less middlemen involved is more efficient than

marketing channel with more middlemen i.e. higher the middlemen lesser the marketing efficiency [9].

RESEARCH METHODOLOGY

Locale of the study

Visakhapatnam is known as the "Jewel of the East Coast" and it is one of the smart cities in the country and the fourth cleanest city in India. It is the financial capital of the state. The length of the coastal line is 132 km on the coast of the Bay of Bengal. The area of the city is 682 square kilometers. It is situated between the Eastern Ghats and the Bay of Bengal. The district coordinates lie between 17.7041°N and 83.2977°E. The district is sharing boundaries with Vijayanagaram in the north, Orissa in the West, Bay of Bengal in the east, and East Godavari in the south [4].

Sampling Design

Multi-stage purposive cum random sampling technique was used for selecting the district, block, villages, and farmers.

Selection of District

There are 13 districts in the state of Andhra Pradesh, One district named Visakhapatnam was selected purposively. And Visakhapatnam is selected because there is a lot of potential for agriculture which needs to be made use of.

Selection of Block

A list of all the blocks in the district was prepared and one block namely Paravada was selected purposively.

Selection of Villages

A list of all villages of the selected block was prepared in ascending order based on the number of cattle reared and the top five villages were selected namely Paravada, Cheppurupalli, Naidupalem, Muthyalamapalem, and kalapaka.

Table 1: Distribution of Selected Sample Respondents in Different Groups

S.No	Village	Small farmers	Medium Farmers	Large farmers
1.	Paravada	10	7	3

2.	Cheppurupalli	12	6	2
3.	Naidupalem	10	7	3
4.	Muthyalamapalem	12	7	1
5.	Kalapaka	11	7	2
Total		**55**	**34**	**11**

Selection of sample respondents

A list of all the farmers involved in milk production in the selected villages was prepared. Further, these farmers were divided into three groups based on the number of milch animals viz.,

a) Small farmers (up to 2 milch animals)

b) Medium farmers (3-4 milch animals)

c) Large farmers (above 4 milch animals)

Samples of 20 respondents from each selected village were taken randomly, making a total sample of 100 farmers. Thus, the study was based on an intensive inquiry of 100 farmers selected randomly from 5 villages of the Paravada block of Visakhapatnam district.

Methods of data collection

Method of Inquiry

1) Primary data

Primary data was collected from the farmers by interviewing them personally with the help of a pretested schedule.

2) Secondary data

Secondary data was collected from various sources like journals, articles, books, magazines, and particular websites apart from this data are collected from government offices like block offices, village panchayats, and veterinary offices.

Period of Inquiry

The study is conducted during the agricultural year 2021-2022.

Analytical tools and techniques employed

The following statistical formula was used for data analysis which are given below:

1. The weighted average of the variable x was calculated by using the following formula.

$$\text{Weighted average} = \frac{\Sigma W_i X_i}{\Sigma W_i}$$

Where,

W_i = Weight assigned

X_i = Value of the variable

Along with this tabular analysis is used to analyze the data.

2. Marketing cost and marketing margins were worked out using the following formula

$$\text{Marketing cost} = T_c = C_p + \sum_{i=1}^{n} M_{ci}$$

Where,

T_c = Total cost of marketing

C_p = Cost incurred by the producer in the marketing of his produce.

M_{ci} = Marketing costs incurred by middlemen or traders

Marketing margin

The fraction of the total amount between producer and consumer made by middlemen in different marketing channels is known as the marketing margin.

$$\text{Am} = P_m - (P_b + M_c)$$

Where,

Am = Absolute margin of the middlemen or traders

P_m = Selling price of the middlemen or traders

P_b = Buying price of the middlemen or traders

M_c = Marketing costs of the middlemen or traders

3. The marketing efficiency in milk marketing through different channels was compared by using the shepherd's formula:

$$Marketing\ efficiency = \frac{Consumer\ purchase\ price}{Total\ cost\ and\ margins}$$

Price spread:

The difference between the price paid by the consumer and the net price received by the producer was taken as the concept of spread.

RESULTS AND DISCUSSION

1. Marketing cost and margins, Price spread

Marketing cost and margins, Price spread of Buffalo milk

a) Channel-I (Milk producer – Consumer)

Table 1.1: Price Spread for buffalo milk in channel-I (Milk producer – Consumer)

(Rs. /liter) **(n=100)**

S.No	Particulars	Groups			
		Small	**Medium**	**Large**	**Overall average**
1.	Net price received by the producer	49.05 (87.4)	49.50 (88.2)	49.75 (88.9)	49.43 (88.2)
2.	Marketing cost incurred by the producer	7.10 (12.6)	6.61 (11.8)	6.20 (11.1)	6.64 (11.8)
a.	Handling charges	2.50 (4.5)	2.50 (4.5)	2.50 (4.5)	2.50 (4.5)
b.	Losses	1.95 (3.5)	1.80 (3.2)	2.03 (3.6)	1.93 (3.5)
c.	Misc. charges	2.65 (4.7)	2.31 (4.1)	1.67 (3.0)	2.21 (3.9)
3.	Producer sale price/ Consumer purchase price	56.15 (100)	56.11 (100)	55.95 (100)	56.07 (100)

(Figures in the parentheses indicate percentages to consumer purchase price)

Table 1.1, indicates the disposal of milk from producer to consumer directly without the involvement of middlemen. The overall average net price received by the producer is Rs. 49.43 and the marketing cost incurred by the producer is Rs. 6.64 and the overall average consumer purchase price is Rs. 56.07 and the producer's share in consumer rupee is 88.2 percent.

b) Channel – II (Milk Producer – Milk vendor – Consumer)

Table 1.2: Price spread of buffalo milk in the channel- II (Milk Producer – Milk vendor-Consumer)(Rs./liter) (n=100)

S.No	Particulars	Groups			
		Small	Medium	Large	Overall average
1.	Net price received by the producer	46.03 (78.9)	46.43 (79.2)	46.56 (79.3)	46.34 (79.1)
2.	Marketing cost incurred by the producer	2.80 (4.8)	2.80 (4.8)	2.80 (4.8)	2.80 (4.8)
3.	Vendor purchased price	48.83 (83.7)	49.23 (84.0)	49.36 (84.1)	49.14 (83.9)
4.	Marketing cost incurred by the vendor	6.97 (12.0)	6.91 (11.8)	6.85 (11.7)	6.91 (11.8)
a.	Handling charges	2.03 (3.5)	1.99 (3.4)	2.01 (3.4)	2.01 (3.4)
b.	Losses	1.50 (2.6)	1.33 (2.3)	1.35 (2.3)	1.39 (2.4)
c.	Transport charges	1.00 (1.7)	1.00 (1.7)	1.00 (1.7)	1.00 (1.7)
d.	Misc. charges	2.44 (4.2)	2.59 (4.4)	2.59 (4.4)	2.54 (4.3)
5.	Vendor margin	2.50 (4.3)	2.50 (4.3)	2.50 (4.3)	2.50 (4.3)
6.	Total marketing cost	9.77 (16.8)	9.71 (16.5)	9.65 (16.4)	9.71 (16.6)
7.	Price spread	12.27 (21.1)	12.21 (20.8)	12.15 (20.7)	12.21 (20.9)
8.	Vendor sale price/ Consumer purchase price	58.30 (100)	58.64 (100)	58.71 (100)	58.55 (100)

(Figures in the parentheses indicate percentages to consumer purchase price)

In table 1.2, the disposal of milk from producer to vendor then finally reaches to consumer. Here the Producer's share in the consumer rupee is 79.1 percent which is less than the channel-I because there one middleman is involved here between the producer and consumer i.e., the milk vendor. The overall average net price received by the producer is Rs. 46.34. And the marketing cost incurred by the producer is Rs. 2.80, the vendor purchased price is Rs. 49.14, Marketing cost incurred by the vendor is Rs. 6.91. And Vendor margin is Rs. 2.50.

The overall price spread of channel-II is Rs.12.21.And Finally, the vendor sale price or consumer purchase price is Rs.58.55.

c) Channel- III (Milk producer - Cooperative society – Cooperative milk plant - Consumer)

Table 1.3: Price spread of buffalo milk in the channel-III (Milk producer -Cooperative society – Cooperative milk plant – Consumer) (Rs. / liter) (n=100)

S.No	Particulars	Groups			
		Small	Medium	Large	Overall average
1.	Net price received by the producer	39.33 (65.5)	39.21 (65.3)	39.15 (65.3)	39.23 (65.4)
2.	Marketing cost incurred by the producer	2.25 (3.7)	2.30 (3.8)	2.20 (3.6)	2.25 (3.7)
3.	Co-operative society purchase price	41.58 (69.3)	41.51 (69.1)	41.35 (68.9)	41.48 (69.1)
4.	Marketing cost incurred by co-operative society	6.10 (10.2)	6.15 (10.2)	6.17 (10.3)	6.14 (10.2)
a.	Handling charges	1.10 (1.8)	1.00 (1.7)	1.15 (1.9)	1.08 (1.8)
b.	Losses	2.50 (4.2)	2.30 (3.8)	2.57 (4.3)	2.46 (4.1)
c.	Misc. Charges	2.50 (4.2)	2.85 (4.7)	2.45 (4.1)	2.60 (4.3)
5.	Co-operative society Margin	3.00 (5.0)	3.00 (5.0)	3.00 (5.0)	3.00 (5.0)
6.	Co-operative milk plant purchase price	50.68 (84.5)	50.66 (84.5)	50.52 (84.2)	50.62 (84.4)
7.	Marketing cost incurred by milk plant	7.32 (12.2)	7.34 (12.2)	7.48 (12.5)	7.38 (12.3)
a.	Transportation charges	2.00 (3.3)	2.00 (3.3)	2.00 (3.3)	2.00 (3.3)

b.	Loading/unloading charges	0.75 (1.2)	0.75 (1.2)	0.75 (1.2)	0.75 (1.2)
c.	Handling charges	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)
d.	Chilling charges	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)
e.	Boiling charges	0.64 (1.1)	0.64 (1.1)	0.64 (1.1)	0.64 (1.1)
f.	Processing charges	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)
g.	Packing charges	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)	0.50 (0.8)
h.	Losses	0.67 (1.1)	0.69 (1.1)	0.83 (1.4)	0.73 (1.2)
i.	Misc. Charges	1.50 (2.5)	1.50 (2.5)	1.50 (2.5)	1.50 (2.5)
8.	Co-operative Milk plant Margin	2.00 (3.3)	2.00 (3.3)	2.00 (3.3)	2.00 (3.3)
9.	Total Marketing cost	15.67 (26.1)	15.79 (26.3)	15.85 (26.4)	15.77 (26.2)
10.	Price spread	20.67 (34.4)	20.79 (34.6)	20.85 (34.7)	20.77 (34.6)
11.	Consumer purchase price	60 (100)	60 (100)	60 (100)	60 (100)

(Figures in the parentheses indicate percentages to consumer purchase price)

In table 1.3, the disposal of the milk from milk producer which is collected by Co-operative society and then Co-operative milk plant then reaches to Consumer. Overall average of the Producer's share in consumer rupee is 65.4 percent in the channel –III which is less compared to the other two channels. The net price received by the producer is Rs. 39.23, the marketing cost incurred by the producer is Rs. 2.25, the Co-operative society Purchase price is Rs. 41.48, the marketing cost incurred by the co-operative society is Rs. 6.14, the Co-operative society margin is Rs. 3.0, the co-operative milk plant purchase price is Rs.50.62, the

marketing cost incurred by the co-operative milk plant is Rs. 7.38, the Co-operative milk plant margin is Rs. 2.0, The overall average total marketing cost is Rs.15.77 and the price spread is Rs. 20.77. The consumer Purchase price is Rs. 60.00.

Marketing cost and margins, Price spread of Cow milk:

a) Channel-I (Milk producer – Consumer)

Table 1.4: Price Spread for Cow milk in channel-I (Milk producer – Consumer)

(Rs. /liter) **(n=100)**

S.No	Particulars	Groups			
		Small	**Medium**	**Large**	**Overall average**
1.	Net price received by the producer	36.15 (80.0)	37.05 (82.1)	36.30 (80.1)	36.50 (80.7)
2.	Marketing cost incurred by the producer	9.05 (20.0)	8.10 (17.9)	9.00 (19.9)	8.72 (19.3)
a.	Handling charges	3.15 (7.0)	3.00 (6.6)	3.10 (6.8)	3.08 (6.8)
b.	Losses	2.80 (6.2)	2.45 (5.4)	2.70 (6.0)	2.65 (5.9)
c.	Misc. charges	3.10 (6.8)	2.65 (5.9)	3.20 (7.1)	2.98 (6.6)
3.	Producer sale price/ Consumer purchase price	45.20 (100)	45.15 (100)	45.30 (100)	45.22 (100)

(Figures in the parentheses indicate percentages to consumer purchase price)

In table 1.4, it indicates the disposal of milk from producer to consumer directly without the involvement of middlemen. The overall average net price received by the producer is Rs. 36.50 and the marketing cost incurred by the producer is Rs. 8.72 and the overall average consumer purchase price is Rs. 45.20 and the producer's share in consumer rupee is 80.7 percent.

b) Channel – II (Milk Producer – Milk vendor – Consumer)

Table 1.5: Price spread of cow milk in the channel- II (Milk Producer – Milk vendor-Consumer) (Rs. /liter) **(n=100)**

S.No	Particulars	Groups			
		Small	Medium	Large	Overall average
1.	Net price received by the producer	33.90 (69.8)	34.10 (69.5)	33.80 (69.1)	33.93 (69.4)
2.	Marketing cost incurred by the producer	2.75 (5.7)	2.75 (5.6)	2.75 (5.6)	2.75 (5.6)
3.	Vendor purchased price	36.65 (75.4)	36.85 (75.1)	36.55 (74.7)	36.68 (75.1)
4.	Marketing cost incurred by the vendor	8.95 (18.4)	9.25 (18.8)	9.35 (19.1)	9.18 (18.8)
a.	Handling charges	2.85 (5.9)	3.10 (6.3)	3.20 (6.5)	3.05 (6.2)
b.	Losses	2.00 (4.1)	2.05 (4.2)	2.20 (4.5)	2.08 (4.3)
c.	Transport charges	1.00 (2.0)	1.00 (2.0)	1.00 (2.0)	1.00 (2.0)
d.	Misc. charges	3.10 (6.4)	3.10 (6.3)	2.95 (6.0)	3.05 (6.2)
5.	Vendor margin	3.00 (6.2)	3.00 (6.1)	3.00 (6.1)	3.00 (6.1)
6.	Total marketing cost	11.70 (24.1)	12.00 (24.4)	12.10 (24.7)	11.93 (24.4)
7.	Price spread	14.70 (30.2)	15.00 (30.5)	15.10 (30.9)	14.93 (30.5)
8.	Vendor sale price/ Consumer purchase price	48.60 (100)	49.10 (100)	48.90 (100)	48.87 (100)

(Figures in the parentheses indicate percentages to consumer purchase price)

In table 1.5, the disposal of milk from producer to vendor then finally reaches to consumer. Here the Producer's share in the consumer rupee is 69.4 percent which is less than the channel-I because there one middleman is involved here between the producer and consumer i.e., Milk vendor. The overall average net price received by the producer is Rs. 33.93. And the marketing cost incurred by the producer is Rs. 2.75, the vendor purchased price is Rs. 36.68, Marketing cost incurred by the vendor is Rs. 9.18. And Vendor margin is Rs. 3.00.

The overall price spread of channel-II is Rs.14.93. And finally, the vendor sale price or consumer purchase price is Rs.48.87.

c) Channel- III (Milk producer - Cooperative society – Cooperative milk plant – Consumer)

Table 1.6: Price spread of cow milk in the channel-III (Milk producer – Cooperative Society – Cooperative milk plant – Consumer) (Rs. / liter) (n=100)

S.No	Particulars	Groups			
		Small	Medium	Large	Overall average
1.	Net price received by the producer	29.90 (59.8)	30.70 (61.4)	30.80 (61.6)	30.50 (61.0)
2.	Marketing cost incurred by the producer	2.30 (4.6)	2.10 (4.2)	2.15 (4.3)	2.18 (4.4)
3.	Co-operative society purchase price	32.20 (64.4)	32.80 (65.6)	32.95 (65.9)	32.68 (65.4)
4.	Marketing cost incurred by co-operative society	8.62 (17.2)	7.80 (15.6)	7.60 (15.2)	7.97 (15.9)
a.	Handling charges	2.53 (5.1)	2.45 (4.9)	2.40 (4.8)	2.46 (4.9)
b.	Losses	3.34 (6.7)	2.55 (5.1)	2.40 (4.8)	2.76 (5.5)
c.	Misc. Charges	2.75 (5.5)	2.80 (5.6)	2.80 (5.6)	2.78 (5.6)
5.	Co-operative society Margin	2.50 (5.0)	2.50 (5.0)	2.50 (5.0)	2.50 (5.0)
6.	Co-operative milk plant purchase price	43.32 (86.6)	43.10 (86.2)	43.05 (86.1)	43.15 (86.3)
7.	Marketing cost incurred by milk plant	6.98 (14.0)	7.00 (14.0)	7.10 (14.2)	7.03 (14.1)
a.	Transportation charges	2.00 (4.0)	2.00 (4.0)	2.00 (4.0)	2.00 (4.0)
b.	Loading/unloading charges	0.75 (1.5)	0.75 (1.5)	0.75 (1.5)	0.75 (1.5)

c.	Handling charges	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)
d.	Chilling charges	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)
e.	Boiling charges	0.64 (1.3)	0.64 (1.3)	0.64 (1.3)	0.64 (1.3)
f.	Processing charges	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)
g.	Packing charges	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)	0.50 (1.0)
h.	Losses	0.58 (1.2)	0.60 (1.2)	0.70 (1.4)	0.63 (1.3)
i.	Misc. Charges	1.25 (2.5)	1.25 (2.5)	1.25 (2.5)	1.25 (2.5)
8.	Co-operative Milk plant Margin	2.00 (4.0)	2.00 (4.0)	2.00 (4.0)	2.00 (4.0)
9.	Total Marketing cost	15.60 (31.2)	14.80 (29.6)	14.70 (29.4)	15.00 (30.0)
10.	Price spread	20.10 (40.2)	19.30 (38.6)	19.20 (38.4)	19.50 (39.0)
11.	Consumer purchase price	50.00 (100)	50.00 (100)	50.00 (100)	50.00 (100)

(Figures in the parentheses indicate percentages to consumer purchase price)

In table 1.6, the disposal of the milk from milk producer which is collected by Co-operative society and then Co-operative milk plant then reaches to Consumer. Overall average of the Producer's share in consumer rupee is 61.0 percent in the channel –III which is less compared to the other two channels. The net price received by the producer is Rs. 30.50, the marketing cost incurred by the producer is Rs. 2.18, the Co-operative society Purchase price is Rs. 32.68, the marketing cost incurred by the co-operative society is Rs. 7.97, the Co-operative society margin is Rs. 2.50, the co-operative milk plant purchase price is Rs.43.15, the marketing cost incurred by the co-operative milk plant is Rs. 7.03, the Co-operative milk plant margin is Rs. 2.0, The overall average total marketing cost is Rs.15.00 and the price spread is Rs. 19.50. The consumer Purchase price is Rs. 50.00.

2. Marketing efficiency:

a) Marketing efficiency of buffalo milk in different channels:

Table 2.1: Marketing efficiency of buffalo milk in different channels (n=100)

Channel	Consumer purchase price (Rs. / liter)	Total Marketing costs and margins (Rs. / liter)	Marketing efficiency
I	56.07	6.64	8.40
II	58.55	12.21	4.80
III	60.00	20.77	2.90

In table 2.1 marketing efficiency of buffalo milk in different channels is tabulated. And Market efficiency of channel-I is high with 8.4, followed by channel-II and channel-III with 4.8 and 2.9. In channel-I it is high because no intermediaries were involved and here farmers are getting more price than in other channels.

b) Marketing efficiency of cow milk in different channels:

Table 2.2: Marketing efficiency of cow milk in different channels (n=100)

Channel	Consumer purchase price (Rs. / liter)	Total Marketing costs and margins (Rs. / liter)	Marketing efficiency
I	45.22	8.72	5.18
II	48.87	14.93	3.27
III	50.00	19.50	2.56

In table 2.2 marketing efficiency of cow milk in different channels is tabulated. And Market efficiency of channel-I is high with 5.18, followed by channel-II and channel-III with 3.27 and 2.56 respectively. In channel-I it is high because no intermediaries were involved and here farmers are getting more price than in other channels.

CONCLUSION

The study on the economics of milk production in the Visakhapatnam district revealed that there is a need for more attention to milk production as there are major chances for increasing the production value. The limitations of the research work are time, budget and personal bias by the respondents during the interviews. Profits of the farmers is more in channel –I then followed by the channel-II and Channel-III for both buffalo and cow milk. But disposal of

milk is high in channel-III followed by channel-II then channel-I. Per liter of milk small farmers receiving more profit followed by medium farmers and then large farmers. Marketing efficiency of channel-I is high in both buffalo and cow milk as there are less middlemen/intermediaries are there and they are adding fewer marketing costs and margins then followed by channel-II and channel-III respectively. There is a need for training for farmers regarding dairy farming and how they can attain maximum profits. Dairy Cooperatives societies and Cooperative milk plants should come together and provide incentives to the farmers. Institutional sources should provide easy way loans to farmers up to certain limit with any collateral with fewer interest rates.

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